

Review Article

From the Cradle to the Web: The Growth of “Sharenting”—A Scientometric Perspective

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“Sharenting” is an internet trend in which parents report detailed information or repeatedly post pictures, videos, and other content about their children on social media. Due to the duality of sharenting, which takes place online but has offline consequences, it is essential to understand the implications of sharenting for real-world parenting and child development. The present work analyzes references in the existing literature and links among published articles to better understand sharenting, evidence for it, and major topics associated with it and to uncover the gaps in the literature. Citation analysis of the current literature mainly focuses on risks and benefits related to sharenting practices, especially for the children, and on ethical and privacy concerns. Future studies should investigate the psychological mechanisms that drive sharenting-related behaviors in parents and multidisciplinary approaches to the phenomenon. With a broader perspective on these issues, practitioners and professionals in family studies will be able to delineate guidelines for informative interventions to increase awareness about the causes and consequences of publicly sharing child content.

1. Introduction

Social media platforms are an integral part of daily life. Online personal profiles are no longer solely personal spaces to meet new and old friends but have transformed into a virtual sphere to express and share texts, pictures, and videos of personal experiences, including parenting. “Sharenting,” an amalgamation of “sharing” and “parenting,” is an emerging internet trend wherein parents post detailed information about their children [1, 2]. Sharenting first appeared as a term on the internet in 2013, and the phenomenon has since grown rapidly in popularity and was named in a scientific publication for the first time in 2015 [3]. Social media represents an integral part of parents’ lives [2], with 91% of mothers using at least one social media platform in the United States (see Moms and Media study [4]). Parents’

multimedia content posts on social media about their children include pictures, videos, and other media [5]. Parents post about their children on social media for many reasons, to solicit support, to share experiences, to seek advice related to parenting challenges and concerns [2, 6–8], to stay in touch and update family and friends about their child’s development [2], to record developmental milestones [9], and to collect memories [3, 9]. Taken together, these reasons parents post together afford parents a platform on which to build a community and feel part of a group through mutual support [10–12]. These posts also articulate with the increasing popularity of online parenting interventions [10, 13–15]. However, parental preoccupation with social media has diverse consequences, from how parents define the nature of parenting [16], communicate parenting strategies with others [17], and cope with parental stress [18] all the way

to how distracted they are when interacting with their offspring [19, 20]. Parents' displays of their children online expose a conflict between consent and privacy and the age of children being posted [21–24], highlighting the ethical issues of sharenting especially when parents make a career out of their social media profiles of their children [3, 25, 26]. In consequence of its social popularity and developmental importance, sharenting is drawing the attention of researchers to better understand the trend and its implications. This article updates our understanding of the scientific literature and identifies disciplinary areas most involved in the sharenting phenomenon. This study highlights how parents utilize sharenting as a form of support for themselves, such as parenting groups, and for advice. However, in doing so, the privacy of children is implicated.

2. The Present Study

The present study is aimed at gaining a better understanding of sharenting by identifying the evidence for it, the most relevant publications, the major associated topics, and gaps in the burgeoning literature. To this purpose, a scientometric approach using a document cocitation analysis (DCA) [27, 28] is applied to analyze references in the existing literature on sharenting as well as the relevance of publications in the field. This approach clusters publications by common research domains, reveals areas covered in the literature and gaps, and identifies articles that have contributed significantly to a literature. Results of this scientometric exploration offer insight into research and publication trends in a field, documenting how many articles have been published on the topic, how different works are linked to each other, and which scientific fields developed more issues related to this topic. The scientometric approach has been already employed in very different fields, spanning from neuroscience [29, 30] to education. For example, Carollo et al. [31] identified trends in published literature in developmental disabilities in different parts of the world. Rashid and colleagues studied the impact of the research in social support in education in 43 years (1977–2020) [32]. Due to the relative novelty but significance of sharenting, a scientometric analysis of emerging issues was deemed to be useful to analyze references in the existing literature and the relevance of publications in the field, to unearth gaps in the literature, and to identify articles that have contributed significantly to literature. The present report also emphasizes the need to consider the consequences on sharenting, especially considering the pervasive use of social media.

3. Material and Methods

For the present study, relevant publications were downloaded from Scopus, following standard and established scientometric procedures [28]. A total of 287 scientific publications, published between 01 January 1998 and 02 August 2021, were available on Scopus when using the following search string: "TITLE-ABS-KEY ("sharenting" OR "digital parenting" OR "online parenting" OR "social media parenting" OR "Facebook parenting" OR "Instagram parent-

ing" OR "online parent* sharing" OR "mother* online" OR "father* online" OR "parent* online") AND (LIMIT-TO (LANGUAGE, "English"))). 2013 was the year in which the term "sharenting" was introduced, but the sample of publications collected through Scopus also covers 1998 to 2013 because Scopus keywords were selected to analyze the origins and initial developments that led to sharenting before establishment of the term *per se*. Scopus was preferred over other similar search engines because of its wider coverage in terms of numbers of indexed journals and augmented similarity between the topic of interest and the focus of the service [33]. The wider inclusion criteria adopted in the database search could incorporate references not strictly related to sharenting, but to side-topics involving similar mechanisms.

3.1. Data Import on CiteSpace. Scientometric analysis was conducted using CiteSpace software (version 5.8.R1) [34]. The 287 downloaded articles were imported into the software, and 12,587 of the 12,966 (97.08%) total references cited by 287 downloaded articles were considered valid. A reference is classified as "valid" if it contains the seven main bits of information: author, year of publication, title, source, volume, pages, and DOI [28]. Among the valid records, 133 references reported "anonymous" as first author and were discarded using an *ad-hoc* Python script as they were not eligible for analysis because they were not interpretable for different reasons (e.g., document identifiers, such as authors' names and title, were missing). Generally, negligible losses of references (1.0–5.0%) occur when importing data in CiteSpace software due to data irregularities that cannot be processed [34]. Altogether, 12,454 references from the downloaded articles were included for scientometric analysis (Figure 1).

3.2. Document Cocitation Analysis (DCA) and Optimization of Parameters. To uncover the main research domains that shape the contemporary sharenting, a document cocitation analysis (DCA [35]) was employed. DCA is based on the frequency with which two or more papers are cited together in source articles [36]. DCA assumes that frequent cocitations among articles reflect common research trends and intellectual domains in a literature [27]. Based on these principles, the network that results from a DCA is composed of documents that are frequently cited together as well as documents that cite them (which, in this case, were the articles initially derived from Scopus).

A balanced network of documents was obtained by optimizing the parameters that drive and influence the DCA. To do so, several DCAs were computed by setting each time one of three different node selection criteria, namely, g-index, TOP N, and TOP N%, as in Carollo et al. [30, 31, 37], and their results were compared. The various node selection criteria define the criterion that is adopted *a priori* to select articles to include in the network. Therefore, node selection criteria strongly determine the final network of articles. Specifically, the g-index reflects citation scores of an author's top publications [38, 39]. The g-index represents the largest number that equals the average number of

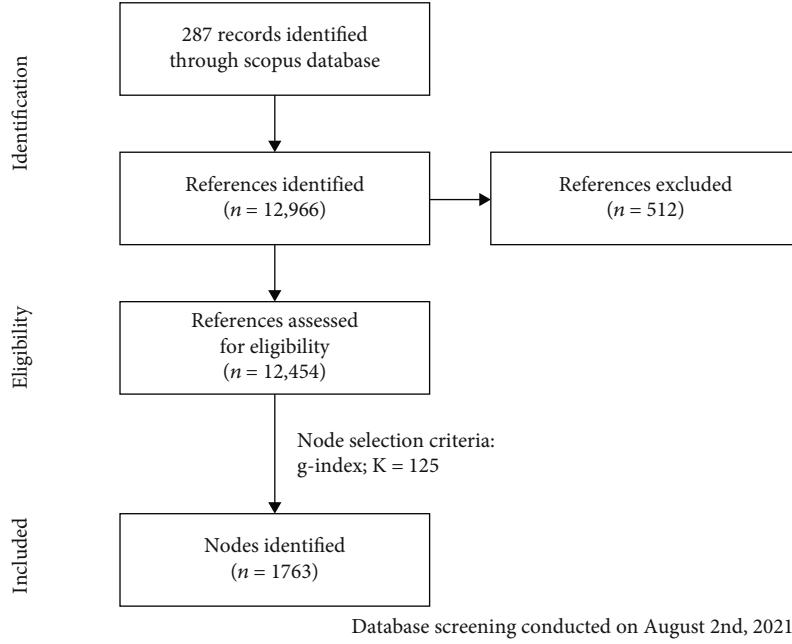


FIGURE 1: PRISMA flowchart for search criteria and reference eligibility.

citations of the most highly cited g publications [34]. Conversely, TOP N and TOP $N\%$ are criteria that select all the N or $N\%$ most cited documents within a time slice (which in this study was always kept at the value of 1 year) as network nodes [28]. To find the final optimal network, node selection criteria were varied together with their scale factor values. The scale factor refers to the numeric value chosen as a threshold for associated node selection criteria. Specifically, DCA networks that adopted the following node selection criteria were compared: g-index with scale factor k set at 125, 100, 75, 50, 25, and 15; TOP N with scale factor N at 50 and 15; and TOP $N\%$ with scale factor N at 50 and 10. The overall effects on the network's structural metrics and the number of nodes included and clusters identified were the criteria determining the final decision on node selection criteria and the scale factor's value to use in the final DCA. Eventually, the g-index with k at 125 proved to be the optimal criteria and, therefore, was used to generate the final network of articles.

3.3. Metrics. In CiteSpace, results are described using two metrics: structural and temporal. Structural metrics encompass *modularity-Q*, *silhouette scores*, and *betweenness centrality* indexes. Modularity- Q ranges from 0 to 1 and indicates the degree to which the network can be decomposed into single groups of nodes, also called modules or clusters [40]. High values of modularity- Q imply a well-structured network [27]. Silhouette scores measure the inner consistency (i.e., cohesion and separation) of the modules into which the network is divided [41]. Values of silhouette range from -1 to +1, with larger values representing a cluster's high separation from other modules as well as internal consistency [42]. Betweenness centrality represents the degree to which a node functions as a bridge to connect an arbitrary pair of nodes in the network [28, 43]. Betweenness

centrality values range from 0 to 1, with higher scores typically obtained by groundbreaking and revolutionary works in the scientific landscape [44]. Temporal metrics include *citation burstiness* and *sigma*. Citation burstiness is calculated through Kleinberg's algorithm [45] and indicates an abrupt increase in the number of citations that an article received within a given time frame [46]. Sigma is computed with the equation $(\text{centrality} + 1)^{\text{burstiness}}$ and gives information about a document's novelty and its influence on the overall network [47]. In this study, modularity- Q and silhouette score were used to examine the overall configuration of the generated network and the identified clusters of cited and citing references. Additionally, the attributes of network's single nodes were examined using both betweenness centrality and temporal metrics.

4. Results

4.1. Document Cocitation Analysis. The optimized network obtained for the final DCA consisted of 1763 nodes and 5516 links, which means that each node in the network was connected with 3.13 other references on average. Furthermore, the network had a modularity- Q index of 0.9587 and a weighted mean silhouette score of 0.96. Taken together, these results indicate that the nodes form a network which is divisible into separate modules, each of which is homogeneous (see Figure 2). Twelve major clusters were identified within the network (see details in Figure 2 and Table 1), the four largest of which will be further discussed in the next section. The largest cluster, cluster #0, consisted of 97 nodes and had a silhouette score of 0.91, and the references composing it were, on average, published in 2016. Following, cluster #1 was a group of 77 nodes with a high silhouette score of 0.98 and a publication year that, on average, was 2013. Cluster #2 is the third largest cluster and consisted

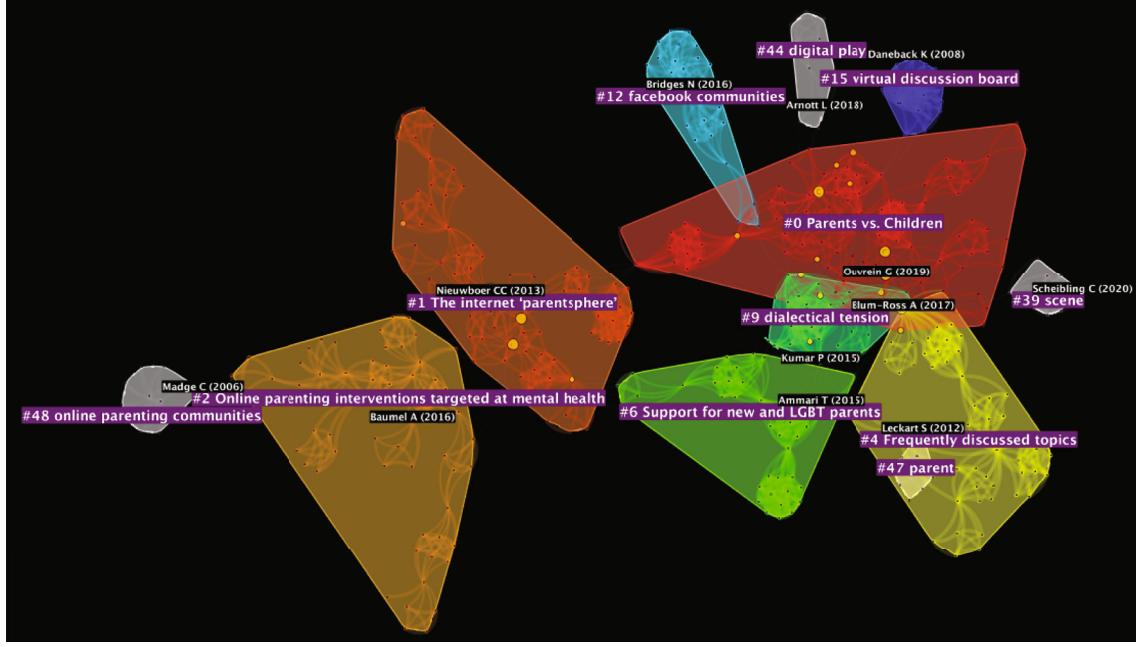


FIGURE 2: Network of publications generated through the document cocitation analysis (DCA). The major clusters are highlighted and grouped by color.

TABLE 1: Metrics of the 12 clusters identified with the document cocitation analysis (DCA). Log-Likelihood Ratio (LLR) label is automatically generated by the software.

| Cluster ID | Size | Silhouette | Mean year | LLR label | Proposed label |
|------------|------|------------|-----------|-------------------------------|--|
| 0 | 97 | 0.91 | 2016 | Mummy influencer | Parents vs. children |
| 1 | 77 | 0.98 | 2013 | Veterans perception | The internet “parentsphere” |
| 2 | 63 | 0.99 | 2012 | Online behavior | Online parenting interventions targeted at mental health |
| 4 | 53 | 0.96 | 2013 | Asynchronous discussion board | Frequently discussed topics |
| 6 | 41 | 0.98 | 2015 | Advocacy privacy | - |
| 9 | 32 | 0.94 | 2016 | Dialectical tension | - |
| 12 | 28 | 0.97 | 2015 | Facebook communities | - |
| 15 | 23 | 1.00 | 2009 | Virtual discussion board | - |
| 39 | 11 | 1.00 | 2016 | Scene | - |
| 44 | 10 | 0.99 | 2016 | Digital play | - |
| 47 | 10 | 1.00 | 2016 | Parent | - |
| 48 | 10 | 0.99 | 2005 | Online parenting communities | - |

of 63 nodes with a high silhouette score of 0.99 and was, on average, published in 2012. Cluster #4 was a group of 53 nodes with a silhouette score of 0.96 and an average publication year of 2013. The most recent are clusters #0, #9 (mean year of publication = 2016; size = 32; and silhouette = 0.94), #39 (mean year of publication = 2016; size = 11; and silhouette = 1.00), #44 (mean year of publication = 2016; size = 10; and silhouette = 0.99), and #47 (mean year of publication = 2016; size = 10; and silhouette = 1.00). All the 12 clusters are reported in Table 1.

In the network resulting from the document cocitation analysis, 24 references showed a citation burst in their history with $\gamma = 0.50$, where γ reflects the sensitivity of the node’s burst detection [45]. Among the 24 references, 8 belonged to cluster #0, 7 belonged to cluster #1, 3 belonged

to cluster #2, and 1 belonged to cluster #4. Among the three articles with the strongest magnitude of citation burst, 2 belonged to cluster #1 and 1 belonged to cluster #48. The article with the highest burst index was authored by Madge and O’Connor and scored a citation burst of 4.21, which began in 2010, four years after its publication in 2006 [48]. The document with the second highest citation burst was authored by Enebrink and colleagues, with a citation burst of 4.33 and lasted from 2017 to 2018 [49]. The document with the strongest magnitude of citation burst was authored by Nieuwboer and colleagues, with a value of 4.35 and began in 2016 [50]. Among the 24 references, Madge and O’Connor and scored a citation burst of 4.21, which began in 2010, four years after its publication in 2006 [48], and Baker and colleagues [51] had the longest citation bursts in the

TABLE 2: Identifying characteristics of the 22 publications with high citation burstiness metrics generated in the DCA.

| Reference | Strength burstiness | Year | Beginning of burstiness | End of burstiness | Burst duration | Sigma | Centrality values |
|----------------------------|---------------------|------|-------------------------|-------------------|----------------|-------|-------------------|
| Nieuwboer et al. [50] | 43.49 | 2013 | 2016 | 2019 | 3 | 1.06 | 0.01 |
| Enebrink et al. [49] | 43.32 | 2012 | 2017 | 2018 | 1 | 1.03 | 0.01 |
| Madge and O'Connor [48] | 42.06 | 2006 | 2010 | 2014 | 4 | 1.02 | 0.01 |
| Breitenstein et al. [52] | 39.34 | 2014 | 2017 | 2019 | 2 | 1.19 | 0.04 |
| Marasli et al. [1] | 31.14 | 2016 | 2019 | 2021 | 2 | 1.06 | 0.02 |
| Metzler et al. [53] | 30.55 | 2012 | 2017 | 2019 | 2 | 1.00 | 0.00 |
| Leaver [54] | 23.88 | 2015 | 2019 | 2021 | 2 | 1.03 | 0.01 |
| Brosch [2] | 23.32 | 2016 | 2019 | 2021 | 2 | 1.01 | 0.00 |
| Kumar and Schoenebeck [9] | 19.55 | 2015 | 2019 | 2021 | 2 | 1.02 | 0.01 |
| Baker et al. [51] | 18.87 | 2017 | 2017 | 2021 | 4 | 1.03 | 0.02 |
| Jones et al. [55] | 17.42 | 2013 | 2017 | 2019 | 2 | 1.01 | 0.01 |
| Hall and Bierman [56] | 17.42 | 2015 | 2017 | 2019 | 2 | 1.03 | 0.02 |
| Baumel et al. [57] | 16.92 | 2016 | 2019 | 2021 | 2 | 1.00 | 0.00 |
| Feil et al. [58] | 16.75 | 2008 | 2015 | 2016 | 1 | 1.00 | 0.00 |
| Gibson and Hanson [59] | 16.75 | 2013 | 2015 | 2016 | 1 | 1.02 | 0.01 |
| Daneback and Plantin [60] | 16.43 | 2008 | 2013 | 2016 | 3 | 1.01 | 0.01 |
| Ammari et al. [61] | 16.36 | 2015 | 2019 | 2021 | 2 | 1.08 | 0.05 |
| Duggan et al. [6] | 16.19 | 2015 | 2017 | 2018 | 1 | 1.07 | 0.04 |
| Wagner et al. [62] | 2.72 | 2018 | 2019 | 2021 | 2 | 1.00 | 0.00 |
| McDaniel et al. [63] | 2.06 | 2012 | 2014 | 2016 | 2 | 1.00 | 0.00 |
| Rothbaum et al. [64] | 2.06 | 2008 | 2013 | 2016 | 3 | 1.00 | 0.00 |
| Chalklen and Anderson [65] | 1.91 | 2017 | 2019 | 2021 | 2 | 1.02 | 0.01 |

TABLE 3: Citing articles in cluster #0 identified using the DCA. Values of Global Citing Score (GCS), Local Citing Score (LCS), and coverage are reported for the citing articles. GCS stays for the total number of citations a paper received in Scopus. LCS indicates the number of citations a paper received in the dataset of the current study. Coverage refers to the number of articles in the cluster that were cited by the paper.

| n | Citing article | Cluster 0 | | | Coverage |
|---|-----------------------------|-----------|-----|-----|----------|
| | | Year | GCS | LCS | |
| 1 | Verswijvel et al. [8] | 2019 | 8 | 0 | 16 |
| 2 | Jorge et al. [25] | 2021 | 0 | 0 | 16 |
| 3 | Lipu and Siibak [66] | 2019 | 11 | 0 | 13 |
| 4 | Blum-Ross [3] | 2015 | 59 | 0 | 12 |
| 5 | Siibak and Traks [21] | 2019 | 4 | 0 | 12 |
| 6 | Ouvrein and Verswijvel [67] | 2019 | 18 | 0 | 11 |
| 7 | Barnes and Potter [68] | 2021 | 1 | 0 | 9 |
| 8 | Klucarova and Hasford [69] | 2021 | 0 | 0 | 7 |
| 9 | Sarkadi et al. [70] | 2020 | 2 | 0 | 6 |

network, with durations of four years, from 2010 to 2014 and from 2017 to 2021, respectively. Regarding the sigma metric, the article with the highest value was published by Breitenstein and colleagues, with a value of 1.19 [52]. For a

TABLE 4: Citing articles in cluster #1 identified using the DCA. Values of Global Citing Score (GCS), Local Citing Score (LCS), and coverage are reported for the citing articles. GCS stays for the total number of citations a paper received in Scopus. LCS indicates the number of citations a paper received in the dataset of the current study. Coverage refers to the number of articles in the cluster that were cited by the paper.

| n | Citing article | Cluster 1 | | | Coverage |
|---|---------------------|-----------|-----|-----|----------|
| | | Year | GCS | LCS | |
| 1 | Sherman et al. [71] | 2016 | 30 | 0 | 16 |
| 2 | Collins et al. [10] | 2019 | 2 | 0 | 16 |
| 3 | Haslam et al. [11] | 2017 | 27 | 0 | 13 |
| 4 | McGoron et al. [72] | 2018 | 6 | 0 | 12 |
| 5 | Suárez et al. [73] | 2018 | 5 | 0 | 12 |
| 6 | Zhang et al. [74] | 2018 | 5 | 0 | 11 |
| 7 | Suárez et al. [75] | 2016 | 13 | 0 | 9 |
| 8 | Suarez et al. [76] | 2016 | 8 | 0 | 7 |
| 9 | Tully et al. [77] | 2018 | 7 | 0 | 6 |

complete overview of the results of the DCA, refer to Table 2.

The most active citing articles for cluster #0 are reported in Table 3. It is important to mention that 17 documents

TABLE 5: Citing articles in cluster #2 identified using the DCA. Values of Global Citing Score (GCS), Local Citing Score (LCS), and coverage are reported for the citing articles. GCS stays for the total number of citations a paper received in Scopus. LCS indicates the number of citations a paper received in the dataset of the current study. Coverage refers to the number of articles in the cluster that were cited by the paper.

| Cluster 2 | | Year | GCS | LCS | Coverage |
|-----------|---------------------|------|-----|-----|----------|
| n | Citing article | | | | |
| 1 | Dworkin et al. [78] | 2013 | 57 | 0 | 11 |
| 2 | Baker et al. [79] | 2017 | 29 | 0 | 11 |
| 3 | Baker et al. [51] | 2017 | 45 | 0 | 10 |
| 4 | Owen et al. [80] | 2017 | 3 | 0 | 9 |
| 5 | Boyd et al. [81] | 2019 | 8 | 0 | 7 |

TABLE 6: Citing articles in cluster #4 identified using the DCA. Values of Global Citing Score (GCS), Local Citing Score (LCS), and coverage are reported for the citing articles. GCS stays for the total number of citations a paper received in Scopus. LCS indicates the number of citations a paper received in the dataset of the current study. Coverage refers to the number of articles in the cluster that were cited by the paper.

| Cluster 4 | | Year | GCS | LCS | Coverage |
|-----------|-----------------------|------|-----|-----|----------|
| n | Citing article | | | | |
| 1 | Das [82] | 2017 | 10 | 0 | 12 |
| 2 | Appleton et al. [83] | 2014 | 18 | 0 | 12 |
| 3 | Ammari et al. [61] | 2015 | 70 | 0 | 10 |
| 4 | Pettigrew et al. [84] | 2016 | 28 | 0 | 9 |

belonging to the papers cited there were not included in the discussion as they were articles not written in English ($N = 5$; 6.94%), were papers related to statistical methods ($N = 2$; 2.78%), or were websites ($N = 1$; 1.39%).

Table 4 reports the most active citing articles for cluster #1. For this cluster, 5 documents belonging to the cited articles were not included in the discussion because full-text versions could not be found ($N = 4$; 8.69%) or were websites ($N = 3$; 6.52%).

In Table 5, the most active citing articles for cluster #2 are reported. For this cluster, 2 documents were not included in the discussion of the cited papers as the publications were not found ($N = 1$; 1.75%) or were websites ($N = 1$; 1.75%).

In Table 6, the most active citing articles for cluster #4 are reported. In the discussion of this cluster, 5 cited articles (11.36%) were excluded because it was not possible to retrieve the full-text articles.

5. Discussion

5.1. Document Cocitation Analysis. The contents of the four major clusters automatically identified through the DCA network, corresponding to cluster #0, cluster #1, cluster #2, and cluster #4 are discussed in detail below. Documents included in the analyzed reference list that were not scientific articles, available in full text, or written in English are excluded from the discussion.

5.1.1. Cluster #0: Parents vs. Children. As reported in the articles referenced in this cluster, sharenting infringes on the privacy of children and blurs privacy boundaries that, from the teenagers' perspective, parents are expected to have for their children [3, 8, 21, 25, 66–68, 70]. Barnes and colleagues and Blum-Ross and colleagues found it ironic that parents are expected to protect their children from digital media [85]; yet, in sharenting parents expose children to online risks [3, 68]. The exhibition of children on the internet brings into question the idea of consent and privacy and the age of the children being posted [21–24] and exposes ethical issues of sharenting especially when parents make a career of social media profiles involving children [3, 25, 26]. Parents who start a career as influencers out of sharenting attempt to promote popularity and connection with their audience based on emotional disclosure [25, 86]. Specifically, Jorge and colleagues focus on family blogging and “mumpreneurs,” meaning women who combine business enterprise with childrearing [86], highlighting different models of childrearing corresponding to specific emotional engagement: media with low levels of sentimental content and more professional material, “struggling” mothers that results inspiring to others, positive attitudes underlying emotional rewards that derive from relationships with a child, and a less idealized motherhood [25]. However, the “oversharenting” paradox comes into question where frequent parental sharing negatively affects the desire of people contemplating the content to associate with these parents [69]. The need to distance from oversharenting behavior might stem from the view that sharenting behavior is perceived as a sort of social norm violation. Hence, instead of building connections, these parents may discourage other parents from associating with them.

Sharenting has created relationship tensions between parent and child [8, 21, 66, 67, 70]. Some children trust their parents and accept being posted online [67] but sometimes still express frustration [66, 67]. As they grow up, adolescents describe contradictions between the image they are trying to construct online for themselves and the posts their parents have shared about them [22, 54], which may create embarrassing situations for them especially when they use the internet as a platform to express themselves [87]. Additionally, they may subconsciously fit the stereotypes and identities created by their parents [88] instead of having the freedom to express themselves. Adolescents who are more concerned about their online privacy are also more likely to disapprove sharenting [8]. Over time, the adolescent's perceived intrusion could create significant tension and distress in the parent-child relationship [21]. To avoid conflicts, parents should ask for their children's permission before taking a picture or posting about them—even for children younger than 5 years of age (see <https://www.esafety.gov.au/parents/children-under-5/online-safety-for-under-5s-bookletSafety.gov.au>) and respect children's boundaries, such as what types of posts can be shared, how often, and with whom [66, 67]. This conduct reflects the ethical rules and common practices in conducting research in developmental science, where child consent is required (see <https://www.srcd.org/about-us/ethics-and-integritySRCD>

.com). Hence, it is essential that parents become educated about the effects of sharenting and how their children might feel about being posted online [1].

5.1.2. Cluster #1: The Internet “Parentsphere.” The internet acts as a platform of support for parents and can be utilized in many ways, such as for information and education [51, 79, 89, 90–92]. This cluster refers to sharenting as information about children is exposed and narrated through parents' experiences. Although reporting information is not a direct way to expose children online, the recognizability results in an equal mechanism to sharenting. Online parenting interventions are growing increasingly popular, because immediate accessibility permits parents to reach and overcome impediments to in-person participation [10, 13–15]. The convenience of using the internet to obtain support from other parents and as a source of information is a key motivator for parents to use social media [10, 11]. Haslam and colleagues reported a positive correlation between parents who use social media more and the support they receive online when discussing and managing child conduct problems [11]. The online parenting intervention, ParentWorks, was aimed at increasing participation of both mothers and fathers in a self-directed parenting program [10, 77]. Tully and colleagues also explored the awareness and participation of fathers in ParentWorks, termed “The Father Effect,” as fathers tend to be underrepresented in parenting programs although their participation is essential to the effectiveness of many interventions [77]. During the 8-week media campaign, fathers reported having more exposure to the campaign than mothers. Furthermore, those who were exposed to the campaign were significantly more likely to endorse the importance of father participation in parenting programs than those who were not exposed to the campaign [77]. Although not strictly related to sharenting, the increasing role of digital technologies in parental practices, especially due to comparing and sharing of personal experiences about mothering and fathering, might in turn lead to greater online exposure of children's personal information, similarly to the sharing mechanisms.

Cluster #1 also highlights the shortcomings of the internet when it comes to accessibility and usability for low-socioeconomic status parents and those who are illiterate [72, 73, 75, 76]. McGoron and colleagues [72] reported that most low-income parents included in their studies expressed interest in participating in internet-based parenting training. In the first study, a small percentage (1.9%) reported having no access to the internet, suggesting that, although reduced, there is still a risk that the population of parents in need might not be reached. Additionally, most parents also visited at least once the website of a program developed to encourage parents to do five daily parenting activities and promote positive development in their young children. However, in-depth use of the intervention was reported at 9% [72]. This gap could be explained by a lack of understanding on how to use the platform. This finding was also reported by Suarez and colleagues [75, 76], where parents with less education and internet experience were less able to utilize the internet for parenting purposes and to seek information about their

child. Hence, there is need for interventions to address and assist parents who are less familiar with the online environment [93, 94], especially since online parenting programs result in greater confidence in parenting capacities and a sustained increase in parental role satisfaction daily [73].

Cluster #1 includes a publication on the shared perception of parenting in parents with posttraumatic stress disorder (PTSD) [71]. Considering the cited papers related to this article, it emerges that the internet is effective in assisting families with a parent suffering from PTSD [71, 74, 95, 96]. Similarly, parents and educators of special needs children enjoyed less stress and anxiety after attending mindfulness programs, which in turn improved the quality of their parenting and teaching [97, 98]. Monitoring and working on psychological well-being are essential as higher levels of certain PTSD symptoms are associated to diminished satisfaction in parenting for mothers [99]. Hence, there is potential for online mental health-oriented strategies to be incorporated into parenting interventions, especially for military families, who might resent additional sources of stress. As stated in the Material and Methods, the incorporation of these references, not strictly related to sharenting, might be due to the wider inclusion criteria adopted in the methods of the current analysis.

5.1.3. Cluster #2: Online Parenting Interventions Targeted at Child's Mental Health. Some references in this cluster focused on online parenting interventions that were targeted at the mental health of parents or children. In both cases, the interventions were aimed at improving the quality of the parent-child bonding. As mentioned above, participation in online parenting interventions, especially those concerning specific subgroups of a population like children diagnosed with mental health issues, suggests that there is overlap between sharing information and anecdotes online about one's parental experiences with a child and a more direct way to share children's content through media platforms (i.e., photos or videos of the children). Articles gathered in cluster #2 zoomed in on the parents' use of the internet to support themselves to obtain more appropriate parenting strategies [60, 100, 101]. This support also extended to the online community of other parents [102]. Parents usually utilized the internet for parenting information and social support [78], and support received online is perceived as more useful than in-person support [51]. In this regard, Boyd and colleagues discovered that a Facebook parenting group intervention for mothers with postpartum depression was better received than an in-person support group [81]. Specifically, mothers in the social media support group showed greater improvement in parenting competence and a steeper decline in depressive symptoms compared to the mothers in an in-person support group. Attendance in the social media support group was significantly better than the in-person support group at 83% and 3%, respectively. This difference could be due to the increased accessibility and convenience that an online platform provides mothers. In fact, it is possible that parents from lower socioeconomic status do not have access to the internet and are unable to receive the support the internet

can provide [51, 103]. Based on the references in this cluster, it is evident that the internet is a platform for parents to learn and receive support from other parents by sharing their own experiences with their children.

5.1.4. Cluster #4: Frequently Discussed Topics. Within this cluster, authors highlight frequently discussed topics online. Here, the use of internet fora to express themselves and seek comfort from social support online was emphasized [82, 84, 104, 105]. Articles highlighted the importance of birthing cultures and experiences that shape postpartum emotional well-being of new mothers. The different cultural nuances that influence the experience of motherhood will, in turn, shape infant care. Online fora where mothers post about their emotional feelings and thoughts are viewed as more acceptable. Many mothers turn to the internet for support after facing trauma from birth. It is significant that they are able to find comfort from others online [82, 84, 104]. Additionally, a variety of fora and social media are used by mothers to form social bonds with others and cope with the stresses of being a mother [84, 106]. This use is also termed as “Mommy blogging” and mothers are able to enhance their psychological well-being through it [84, 107, 108]. Online discussion fora also play an essential role for parents who seek to understand their children’s health and well-being [83, 109, 110]. With the pervasiveness of the internet, online discussion fora are able to support health professionals in assisting parents to obtain accurate information about their child’s health, in an environment that asks to share information on specific conditions and situations concerning the child’s health. Parents utilize online discussion fora to seek and share advice, obtain social support, and offer evaluations on more traditional offline services [83, 105], including advice from health professionals [83]. This cluster also highlighted the role of fathers in parenting [111] and the use of social media to document fatherhood experiences [61, 112]. Fathers appear to seek support online to learn how to fit in their new parental role. The focus on a targeted parent not only underlines the importance to consider parents in their individual maternal and paternal role but also highlights the need for better online spaces to sustain men in their transition to fatherhood [61, 112]. This cluster included different topics on online discussion fora and the ability of these fora to educate and support parents in their journey becoming parents and connecting with their child.

5.2. Limitations. Despite being descriptive, the scientometric approach presents some methodological limitations. First, the collection of papers included in the analysis depends on the keywords utilized in the bibliographic search. Consequently, other terms or combination of terms may address sharenting but may not have been included. At the same time, we attempted to be inclusive with the keywords used, and scientific articles are generally indexed by multiple keywords; hence, it is likely that a preponderance of the relevant literature was included in this analysis. Second, the DCA approach is based on the quantity of citations and cocitation patterns in references retrieved and does not provide

insights about motivations behind the citations (i.e., controversial outcomes or replications). Third, latest publications might have not been included in the analysis due to their recent inclusion in scientific journal archives, although some articles published in 2021 were included in cluster #0.

6. Conclusions

The present study analyzed the references in the existing literature and connections among published articles to better comprehend sharenting, evidence for it, and the main topics associated with it and to unveil the gaps in the literature. The cocitation approach permitted identifying and clustering thematic domains and highlighted four main areas that developed between 2012 and 2016 (see Table 1). These clusters were labeled and discussed from the largest to the smallest, respectively, “Parents vs. Children,” “The internet parentsphere,” “Online parenting interventions targeted at the child’s mental health,” and “Frequently discussed topics.” Both citing and cited papers in the different clusters suggest that most research has focused on parents’ activities online (i.e., blogging, interventions, and support) and only a few investigations involved the consequences in offline relationships in the family environment. Results from the DCA suggest that research attention to sharenting is increasing as the amount and size of clusters published in recent years exceed publications in earlier years. Sharenting has two sides: on the one hand, its positive effects include the possibility to seek support, to compare different experiences, to disseminate information about specific conditions of children like psychological and neurodevelopmental disorders, and to offer space for self-expression for mothers and fathers. On the other hand, however, sharenting negative implications arise from revealing too much information about one’s own child, who may not agree, especially at more advanced stages of development, with having their information or pictures posted online in public spaces, feeling like they have their privacy intruded from their parents. Nonetheless, sharenting is an increasingly relevant phenomenon that needs to be explored in greater detail. Sharenting involves social media exposure, quality of the parent-child relationship, ethical and privacy concerns, psychological motivations underlying parental online behavior, and attitudes toward social media. Because sharenting takes place mainly in online social platforms, it demands continuous requests for pictures, videos, and brief reels that might alter spontaneous family interactions with the parents, siblings, and significant others. As such, future studies should consider long-term effects of sharenting, especially when it involves prolonged exposure of the child to social media sites, and untoward consequences for the quality of parent-child bond. A deeper understanding of sharenting would permit parents to adopt more aware and sensitive behaviors, considering and balancing risks related to their child’s future online experiences with benefits associated with support to parenting in the short and in the long run. Sharenting concerns the child’s privacy, parental well-being, and the quality of parent-child bonding.

Data Availability

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Conflicts of Interest

The authors declare no conflict of interest.

Authors' Contributions

I.C. was responsible for the conceptualization. I.C., A.C., and G.E. were responsible for the methodology. A.C. and G.G. were responsible for the formal analysis. A.C., I.C., M.H.B., and G.E. were responsible for the investigation. A.C. and I.C. were responsible for data curation. A.A.L. and I.C. were responsible for writing original draft preparation. A.A.L., I.C., A.C., M.H.B., A.L., and G.E. were responsible for writing, review, and editing. A.C. was responsible for the visualization. I.C., M.H.B., and G.E. were responsible for the supervision. I.C., A.L., and G.E. were responsible for the funding acquisition. All authors have read and agreed to the published version of the manuscript. Ilaria Cataldo and An An Lieu contributed equally to this work.

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