Midwifery 120 (2023) 103623

Contents lists available at ScienceDirect

Midwifery

journal homepage: www.elsevier.com/locate/midw

Review Article

The impact of social media influencers on pregnancy, birth, and early parenting experiences: A systematic review.

Rachelle M. Chee[a,*], Tanya S. Capper[a], Olav T. Muurlink[b]

[a] School of Nursing, Midwifery and Social Sciences, CQUniversity Australia, Level 20, 160 Ann Street, Brisbane, Queensland 4000, Australia
[b] School of Business and Law, CQUniversity Australia, Level 20, 160 Ann Street, Brisbane, Queensland 4000, Australia

ARTICLE INFO

Article history:
Received 6 March 2022
Revised 31 January 2023
Accepted 3 February 2023

Keywords:
Social media
Early parenting
Pregnancy
Influencers
Bloggers
Systematic review

ABSTRACT

Background: Pregnant and new parents are increasingly engaging with social media. The impacts of engaging with social media 'influencers' and 'bloggers' during a time of heightened vulnerability to influence, in particular, merits exploration.
Aim: To systematically review the literature to identify what is known about how following social media 'influencers' and 'bloggers' impacts pregnant and new parents' experiences and decision-making.
Methods: A search of CINAHL, World of Science, Medline, EMBASE and Google Scholar databases was undertaken in January 2023 to identify the literature focusing on the impacts of engaging with influencers or bloggers as pregnant or new parents. The reference lists of the included papers were hand-searched. Data were extracted from each paper, tabulated, and thematically analysed. The review was reported using the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.
Findings: Seventeen papers met the inclusion criteria and were included in the final synthesis. Thematic analysis revealed four overarching themes, which were 'sharing information', 'support', 'identity', and 'monetisation'.
Discussion: Social media influencers provide a network of peers amongst whom discussions, supportive behaviours, and information sharing take place. However, concern arises around the potential for combative interactions, the risk for transmission of misinformation, and the potential impacts of following influencers who are also qualified health professionals.
Conclusion: Existing research suggests that engaging with social media influencers can be both beneficial and harmful for pregnant and new parents. At the current time, it is unclear how exposure to the benefits or harm impacts personal experiences and decision-making.

© 2023 The Authors. Published by Elsevier Ltd.
This is an open access article under the CC BY-NC-ND license
(http://creativecommons.org/licenses/by-nc-nd/4.0/)

Introduction

Focusing solely on the dominant social media platform, Facebook (2021), over a third of the world's population engages with Facebook at least monthly. However, with the platform officially limiting its eligibility to those over 13 years of age, and with Facebook's banishment from China (Riberio et al., 2020), this figure is likely to represent a much higher proportion of those of childbearing age, particularly those outside China. The trend toward social media usage has likely been amplified as a result of the COVID-19 pandemic, with a sharp increase in traffic observed during this time; a social media census conducted by L&A Social in late 2020 (L&A Social, 2020) reported an average increase in social media usage of 30% in the pandemic's first year alone. During this period, there was also a trend towards increased use of social media for health-information seeking (Du et al., 2020; Neely et al., 2021). With social distancing being utilised to prevent the transmission of COVID-19, social media has proven to be a ready substitute for face-to-face social interaction (David & Roberts, 2021). It seems likely therefore that social media has become an effective means to retain shared experiences, information and advice related to pregnancy, birth, and early parenthood.

It is evident in the literature that persons of childbearing age commonly engage with social media for a variety of reasons. A 2019 integrative review by Gleeson et al. explored women's use of social media and online mothers' groups with relation to pregnancy, birth, and parenting. Whilst the primary reason for engagement was information-seeking, the sharing and discussion of common experiences was found to be integral in gaining emotional

* Corresponding author.
E-mail address: r.chee@cqu.edu.au (R.M. Chee).

https://doi.org/10.1016/j.midw.2023.103623
0266-6138/© 2023 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/)

support and community building at a time when the need for support is significant (Gleeson et al., 2019). Additionally, Baker and Yang (2018) conducted an exploratory study in which new parents were similarly found to engage with social media in pursuit of both information and support. Eighty-nine percent of those surveyed indicated that they accessed social media to seek advice about pregnancy and parenting, whilst 83.9% considered their "social media friends" to be a source of social support during motherhood (Baker & Yang, 2018, p. 32). Whilst there exists a body of evidence which examines social media use by pregnant and new parents, the impacts of engaging specifically with social media influencers have yet to be extensively explored.

Social media influencers are individuals who have built an online digital audience by sharing curated content illustrating the events of their everyday lives (McCorquodale, 2019). The appeal of the social media influencer, unlike that of the traditional celebrity, lies in their representation of their lives as being both relatable, trustworthy, and achievable to followers (McCorquodale, 2019). Influencers publish near to real-time, reactive content which communicates directly to audiences, creating a powerful presence in the every-day lives of followers (McCorquodale, 2019). It is not only a common, but often essential tactic for the influencer to engage in direct interaction with followers and to exhibit deeply personal aspects of their lives in order to maintain their online popularity and the benefits that accompany influencer status (Marwick, 2013). Consequently, the influencer is potentially uniquely positioned to affect the emotions, thoughts, and behaviours of followers, on both the conscious and subconscious levels. Due to the considerable physical, emotional, psychological, and social challenges (including relative isolation) which are faced during pregnancy, birth and the early parenting phase, those included in this group may be considered particularly vulnerable to the potential influence of social media influencers. Furthermore, if influencers—either through their 'day job' or simply the authority that comes from their position of fame on social media, take on the role of expert or mentor to women—then their behaviour may have potentially significant implications for their audience's physical and psychological wellbeing.

Rationale

Given the frequency with which persons of childbearing age engage with social media, the known risks of transmission of misleading information on social media, and the vulnerability associated with pregnancy, birth, and early parenting, it is important to explore how pregnant and new parents use social media and respond to the "influence" to which they are subsequently exposed. This review presents a systematic review of the literature which determines what is currently known about how following parenting influencers and bloggers impacts the experience of pregnancy, birth, and early parenting.

Review question

How are parents' experiences and decision-making influenced by following social media 'influencers' and 'bloggers' who generate content related to pregnancy, birth, and early parenting?

Methods

The 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021) guided this review.

Information sources

An electronic database search for primary, peer-reviewed studies was undertaken in January 2023 using CINAHL, Web of Science, Medline, and EMBASE. Next, a supplementary search was conducted using Google Scholar, to identify any additional literature that had not previously been captured. These databases were selected as they are considered most appropriate to ensure an exhaustive search and the capture of all relevant results (Bramer et al., 2017). The final stage of the search process included a manual search of the reference lists of the included papers for relevant additional papers.

Search strategy

Potential search terms were initially identified through a survey of the terminology used in blogs pertaining to pregnancy, birth, and early parenting. A preliminary search of Google Scholar using these terms was then carried out to verify their potential to reach results applicable to the review's objective. Terms which produced relevant results were agreed upon and used to construct the database search. Where pertinent terms were identified within the results of the Google Scholar search, which had not previously been identified, these terms were also selected for use in the database search.

The final search strategy was then formulated guided by the review question we sought to answer and the use of the PICO framework:

P (Population) – Pregnant and new parents.
I (Intervention) – Following social media influencers and bloggers.
C (Comparison) – N/A.
O (Outcome) – The influence following social media influencer and bloggers has upon pregnant and new parents experiences and decision-making

Multiple terms were utilised and combined resulting in a total of 125 The number of search combinations. These identical search term combinations were applied systematically across each database.

The terms "new parent*", "pregnan*", "birth", "early parent*", "postnatal", "parent*", "mother*", "father*", "yumm* mumm*", and "yumm* momm*" were each combined with the following terms individually using the Boolean operator 'AND'; "parent* influencer*", "family influencer*", "mumfluencer*, "momfluencer*", "parenting blog*", "mum* blog*", "mom* blog*", "dad* blog*", "vlog*", "sharent*", "social media influencer*", "social media use", and "social media"

The number of results captured within each database using this identical search strategy are presented in Fig. 1. The Modified PRISMA Flow Diagram.

Study selection

Using the aforementioned terms, the search generated 131 results, of which 47 were removed due to being duplicates. The remaining 84 papers were uploaded to the Rayyan (Ouzzani et al., 2016) software platform in blinded mode for review by each member of the team. Blinded mode enabled each member of the team to apply the eligibility criteria to the identified papers free from each other's influence. All conflicts in the decision were discussed and consensus reached. Forty-nine studies were removed based on title and abstract, leaving 35 for full-text assessment. Following full-text assessment, a further 18 papers were removed, leaving 17 for inclusion in the final synthesis. See Fig. 1 for the process by which the papers were reviewed and excluded.

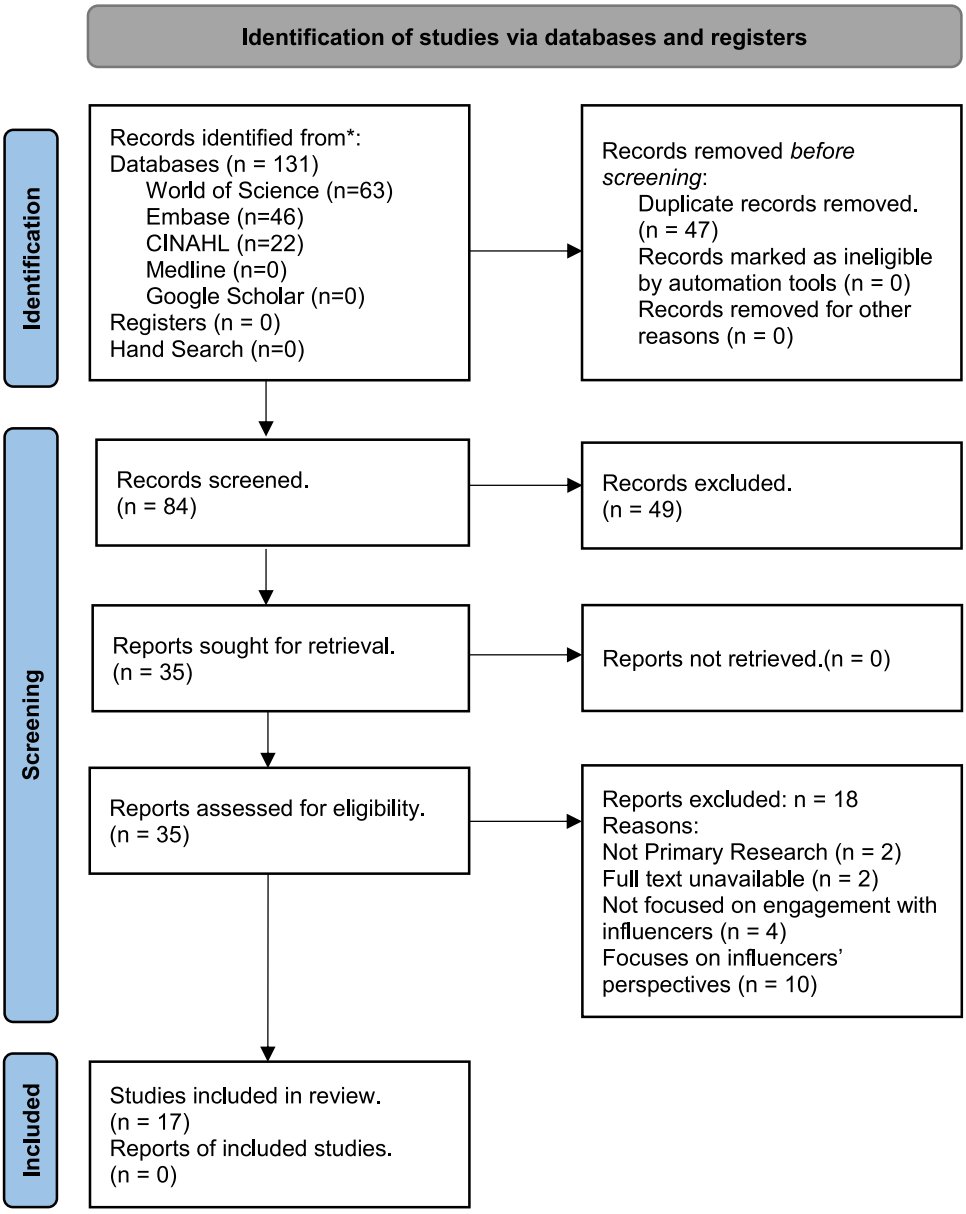

Fig. 1. Modified PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only (Page et al., 2021).

Eligibility criteria

Primary, peer-reviewed studies of qualitative, quantitative, and mixed-method design were considered for inclusion in this review. Qualitative studies addressed both social media influencers or bloggers and their impacts upon pregnant and new parents. Quantitative studies measured variables relating to being pregnant or the parent of a baby, alongside variables associated with engagement with social media influencer content. The following additional criteria for inclusion were applied: published in the English language between 2010 (prior to 'influencer' entering the popular lexicon in the current context)[1] and 2023, and full-text available.

The exclusion criteria included articles which were not original research, and absence of an explicit focus on pregnant or new parents' engagement with social media influencers or bloggers. The included papers are presented in Table 1.

[1] This was verified with a Google NGram analysis of the English language.

Reporting of bias and certainty of findings assessment

The potential for bias was assessed as part of the quality appraisal process which also evaluated the certainty in the body of evidence presented in the included papers as required by the PRISMA checklist (Page et al., 2021). This was guided by the mixed methods appraisal tool (MMAT) (Hong et al., 2018a) which was chosen as it lends itself to the appraisal of qualitative, quantitative, and mixed methods studies for the purpose of reporting in systematic reviews. The MMAT process includes a review of the risks associated with the study including attrition, bias, and performance, and suggests that a detailed summary of the assessable criteria should be composed to provide a qualitative explanation of the study quality (Hong et al., 2018b). Detailed appraisals of each paper were conducted by the first author and are available upon request. A quality score for each paper was calculated based on the percentage of quality assessment criteria that were met successfully (Hong, 2022), and is provided in Table 1. Hong et al. (2018b) suggested in the updated version of the MMAT tool that no paper is

Table 1
Summary and characteristics of included papers.

First author/ country	Type of study	Purpose	Sample	Data Collection	Key relevant findings	MMAT Quality score
Abetz et al. (2018) United States of America.	Qualitative. Feminist critique. Thematic analysis of blog posts.	To critique how 30 mommy bloggers describe the 'mommy wars', explain the origins of the mommy wars, and offer resolutions to the mommy wars.	Purposive sample of 30 mommy blogs posted May 10 -June 2017.	Grounded theory analysis of the publicly available blog posts	Social media provides mothers with opportunities to voice their 'lived experiences' and provide commentary on what constitutes 'ideal' mothering. Combative discourse is demonstrated by comments debating the superiority of parenting practices. Criticism and judgement of parenting practices is common within the commentary of parenting blogs.	80%
Abidin (2017). United States of America and Canada.	Qualitative ethnographically informed content analysis	Explores the concept of "calibrated amateurism" amongst family influencers and investigate the justification of the childhood labour in which children engage to provide family influencer content.	Two groups of family influencers on social media.	Analysis of screengrabs, archived comments, field notes tracking historical events in the influencer space.	The family influencers partake in calibrated amateurism, staged authenticity, and interact with followers beyond the digital realm as a means of maintaining and increasing engagement. Followers' reactions range from expressions of admiration and envy to criticism of the families' parenting and perceived over-sharing. Disdain for monetisation of the platforms is noted. Discusses the ways in which the families justify young digital labour.	80%
Bueckels et al. (2022). United Kingdom.	Quantitative.	Reports on two experiments measuring how mother's food assessments for their children are affected by exposure to sponsored posts by a brand versus a "mom influencer" (study one), and a "typical mom influencer v. an expert mom influencer" (study 2).	Study one included 81 mothers with an Instagram account and at least one child under 12 years. Study two included 169 mothers with the same inclusion criteria as study one.	Participants completed a questionnaire following exposure to an Instagram post by either a brand or a "mom influencer" (study one). Participants completed a questionnaire following exposure to an Instagram profile and a sponsored post belonging to either a "typical mom influencer" or an "expert mom influencer" (study 2).	Sponsored social media posts by "mom influencers" create higher purchase intention and perceptions of the appropriateness of the product for children's consumption, compared to posts made by the brand selling the food product. Social media posts by "expert mom influencers" create higher purchase intention and perceptions of the appropriateness of the product for children's consumption, compared to posts made by "typical mom influencers". This finding is consistent, regardless of whether the food promoted in the post is healthy or unhealthy.	100%
Egmose et al. (2022). Denmark.	Mixed-methods.	Examines mothers' experiences of support and the negative effects which result from following Instagram parent influencers, professional Instagram profiles, and a university-based Instagram profile titled Understanding Your Baby (UYB).	Two-hundred and seventy mothers aged between 21 and 41 years old, with at least one child under 6 years old.	Quantitative analysis of a questionnaire that explored measures related to Instagram usage, experience, and social comparison orientation. The qualitative component consisted of a content analysis of open-ended questions.	Mothers with higher levels of social comparison orientation felt more negatively affected by Instagram parent influencers but also experienced more support from following Instagram parent influencers. Mothers felt more supported by following professional Instagram profiles than they did by following parent influencers.	100%
Holiday et al. (2020) United States of America.	Quantitative	Uses a within-subjects, repeated-measure experimental design to examine how degrees of disclosure of sponsored posts disrupt mother consumers' responses either directly or indirectly, regarding perceptions of manipulative intent.	Fifty-two mothers residing in the south-western United States, ranging in age from 25 to 59.	Quantitative analysis of a questionnaire completed after exposure to 4 stimuli (Instagram posts).	Findings indicate adverse responses to posts when promotional disclosure was carried out subtly in the form of "brand-tagging". However, when brands were explicitly promoted, feelings of manipulative intent increased affective response to the posts.	100%

(*continued on next page*)

Table 1 (*continued*)

First author/ country	Type of study	Purpose	Sample	Data Collection	Key relevant findings	MMAT Quality score
Hunter (2016). Canada.	Qualitative	Examines how mommy blogs are positioned as democratising and radical and the transition to blog monetisation.	Three major mothering blog threads on *Get off my Internets*: Hey Natalie Jean/Nat The Fat Rat, Dooce.com, and Love Taza. The mommy blogger threads analysed in this research were chosen because they are three of the most popular threads (in terms of posts and views) in the mommy blogger forum.	Grounded theory analysis of threads	Two major themes were identified in an attempt to explain the backlash directed towards mommy bloggers who have monetised their platform: "loss of authenticity" and "blogs as performance", wherein the blog becomes akin to regular entertainment, rather than a place of community. Sub-themes identified within the "loss of authenticity" theme were "blogging to sell products rather than tell stories" and "curating content by sanitising blog content and using clickbait".	100%
Jenkins et al. (2020) United States of America.	Qualitative	An analysis of parent vaccination opinions expressed online. Using a codebook adapted from previous research, content analysis was conducted to evaluate comments on parenting blog posts related to vaccination.	Comments on parenting blog threads – e.g., pro- and anti-vaccine comments.	Content analysis of comments posted on parenting blogs related to vaccination.	Commenters were commonly requesting or evaluating source credibility for both pro- and anti-vaccine comments (24% and 36%). Twenty-five percent of comments did not align with current health guidelines. Twenty-seven percent of comments were of an "attack" nature, of which 60% were pro-vaccination. Thus, blog comments may not be reliable for information-seeking parents.	100%
Kirkpatrick et al. (2022). United States of America.	Quantitative	To demonstrate presence of harmful effects on new mothers following exposure to idealised portrayals of motherhood on social media.	Four-hundred and sixty-four mothers with a child under 4 years old were recruited via a Qualtrics panel.	Quantitative analysis of responses given following exposure to stimuli (Instagram portrayals of motherhood).	New mothers made greater comparisons to non-idealised depictions of motherhood presented by everyday mothers rather than influencers. Idealised portrayals of motherhood by influencers resulted in greater envy, but not greater anxiety.	100%
Lee et al. (2021) United States of America.	Quantitative	Focuses on social media influencers and investigates potentially positive forms of usage on psychological well-being (i.e., happiness), including how "fear of missing out" impacts consumer response to social media influencers.	Six hundred and four male (45%) and female (55%) participants aged 18-24, in the United States of America.	Secondary data that were originally collected by an advertising agency and sourced from the Pollfish U.S. subject pool.	Social media influencer (SMI) activities in Generation Z consumers are key mechanisms in linking happiness and fear of missing out. Whilst fear of missing out is negatively associated with happiness, it is positively associated with increased SMI visit frequency. Visit frequency was positively associated with purchase frequency. Visit frequency and purchase frequency were both independently positively associated with happiness.	60%
Lehto (2020) Finland.	Qualitative	Analyses four posts of two Finnish mommy blogs and their comments. The article investigates how these blogs mobilise their readers through confessions and criticisms of everyday motherhood.	Four Finnish mommy blog posts (Project Mama And Lähiömutsi) and their user comments.	Analysis of four mommy bloggers and their user comments. Posts that addressed the norms of contemporary motherhood were purposefully extracted from the blogs.	Demonstrates that judgemental and critical dialogue takes place in the comments in response to a wide variety of parenting practices that might frame the contemporary mother as a "bad mom". The concept of the "bad mom" as the new normal in a realm where all manner of parenting practices are criticised is embraced by some.	80%

(*continued on next page*)

Table 1 (*continued*)

First author/ country	Type of study	Purpose	Sample	Data Collection	Key relevant findings	MMAT Quality score
Meleo-Irwin et al. (2017) United States of America.	Mixed methods with numerical data indicating the occurrence of identified themes by year of publication	Examines the decision-making discussions around paediatric vaccination that take place on parenting blogs.	The 25 most popular blogs identified using Blogmetrics website's "ultimate rankings" system.	Analysis of blogs and discussion of vaccination	Posts were thematically categorised. Fifty-two percent of posts were categorised as strongly vaccine-discouraging. Use of scientific evidence within the blogs was uncommon, however one outlying blog featured supporting evidence in 64% of posts. Bloggers has a range of standpoints on the issue, whilst commenters visited the blog sites to promote their viewpoint and encourage others.	100%
Orton-Johnson (2017) United Kingdom.	Qualitative	Focuses on the confessional-style postings of the "bad mummy", in which stories of frustration and maternal failings are shared via blogs.	Thirty-two mothers who regularly read mummy blogs, aged 18-45, residing in either the United States, the United Kingdom, or Australia.	Analysis of interviews	Followers use blogs as a form of social surveillance, in which the norms of offline parenting are re-established in the online realm. Followers access parenting blogs for reassurance regarding their parenting shortfalls, however, face negative judgement if they do not conform with the blogger or general consensus	100%
Ouvrein (2022). Belgium.	Quantitative	Aims to demonstrate greater levels of anxiety and uncertainty is experienced amongst women who interact more with mother influencers on Instagram	Eight-hundred and three women who were either mothers or pregnant with their first child.	Quantitative analysis of responses to a survey exploring a range of measures.	Mothers who more often visit profiles of influencers have lower parental self-efficacy scores. However, pregnant women without children developed a higher perceived parental self-efficacy when they visited the profiles of mother influencers more often. Mothers who often compared themselves with mother influencers had lower perceived parental self-efficacy.	100%
Prinds et al. (2020) Denmark.	Qualitative	Explores the experience of the postpartum body in Danish first-time mothers.	Eleven first-time Danish mothers	Analysis of interviews	Bloggers, the fashion industry, the fitness industry and official health care recommendations provide overlapping discourse which hold women to account for the state of their bodies.	100%
Steiner et al. (2017) United States of America.	Qualitative	Explores how parenting blogs enable parents to debate decisions made in parenthood.	Comments made in response to two posts on the *New York Times Motherlode* blog	Analysis of comments	Blogs are places in which parents can seek advice and support regarding how best to raise their children. They are also a place to analyse, explore and debate topics and challenges the project of modern parenting.	100%
Tamminga et al. (2020) United States of America.	Mixed methods, with numerical data being used to find rates of engagement with posts	Evaluates the social media context in which parents make decisions about their children's sun protection methods and use of sunscreen,	Fifty-six blog posts and the ensuing 2661 comments from the top 25 parenting blogs in the USA as of 13 August 2019	Mixed-method analysis on parenting blogs	Parenting blogs are a source of both information and misinformation with regards to chosen photoprotection methods for children. Whilst 41% of original posts made reference to at least on piece of scientific evidence, only 1.1% of comments utilised scientific evidence to support their standpoint.	100%
Whitehead (2015) United States of America.	Qualitative	Explores how evangelical Christian mother blogs comprise a space in which infant loss is collectively memorialised,	Mothers who have suffered infant loss. Unclear about the number of participants.	Narrative research of a blog belonging to a mother who suffered infant loss and the ensuing commentary.	The blog attracted over 1300 comments offering support and sharing their own stories of infant loss. Blogs may serve as a space for collective infant memorialisation and support for those who have experienced infant loss.	40%

excluded based upon its quality. As a result, all seventeen papers remained in the review.

Data extraction and synthesis

The data extraction template used as part of this review was previously developed by the authors. The data was extracted and tabulated by the first author under the following group headings - first author and country of origin, type of study, the purpose of the study, the sample of participants, how the data was collected, the key relevant findings (see Table 1). Each of the included papers were read by each team member independently, the extracted data was discussed, and then any key omissions were added to the table.

The thematic synthesis method described by Lucas et al. (2007) was utilised to analyse and synthesise the data, as it lends itself to the synthesis of both qualitative and quantitative data for the purpose of presentation in systematic reviews. In accordance with this method, each researcher conducted an independent thematic analysis of the papers which was guided by the review question to extract findings (Lucas et al., 2007). The team then met to identify repetition between extracted findings and to reconcile themes that were identified across the included studies (Lucas et al., 2007). As a result, four main themes were evident in the lives of pregnant and new parents who follow and interact with them: '*sharing information*', '*support*', '*identity*', and the importance played by '*monetisation*' in the content shared by influencers. Each of these themes are explored in greater detail in the following section.

Findings

Study characteristics

All seventeen papers included in this review aimed to explore an aspect of social media use by pregnant or new parents with particular focus on how social media influencers or bloggers impact their experiences. Eleven of the studies were undertaken in North America; nine in the United States of America (USA) (Abetz & Moore, 2018; Holiday et al. 2020; Jenkins & Moreno, 2020; Kirkpatrick & Lee, 2022; Lee et al., 2021; Meleo-Irwin et al., 2017; Steiner et al., 2017; Tamminga & Lipoff, 2020; Whitehead, 2015), one in Canada (Hunter, 2016), and one undertaken in both the USA and Canada (Abidin, 2017). There were six European studies: one each from Belgium (Ouvrein, 2022), and Finland (Lehto, 2020), and two each from the United Kingdom (UK) (Bueckels & De Jans, 2022; Orton-Johnson, 2017), and Denmark (Egmose et al., 2022; Prinds et al., 2020).

It was difficult to determine the total number of participants across the studies as the majority (nine) of the included studies had examined and analysed the contents of anonymous online blogs with no clear accounting of participant numbers. In studies that stated the number of participants, the number ranged from eleven to over eight hundred. Gender of participants was difficult to determine, however one study did explicitly state that 45% of the participants were male (Lee et al., 2021). It was not consistently possible to determine whether the participants were first-time parents, their level of education, employment status, ethnicity, or whether they had support from family and friends. The qualitative studies, in particular, lacked demographic specificity.

Overview of study methodologies

Nine of the seventeen studies included in this review were qualitative, five were quantitative and three employed a mixed methods approach. Of the nine qualitative studies, five employed varying methods of content and thematic analysis of the collected data (Abidin, 2017; Jenkins & Moreno, 2020; Lehto, 2020; Prinds et al., 2020; Steiner & Bronstein, 2017), whilst three of the qualitative studies specifically employed a grounded theory analysis (Abetz & Moore, 2018; Hunter, 2016; Orton-Johnson, 2017). The remaining qualitative study was a narrative research article (Whitehead, 2015). The qualitative and mixed methods studies drew data either directly from blog posts/threads (Abetz & Moore, 2018; Abidin, 2017; Hunter, 2016; Jenkins & Moreno, 2020; Lehto, 2020; Meleo-Irwin et al., 2017; Steiner & Bronstein, 2017; Tamminga & Lipoff, 2020; Whitehead, 2015), from interviews (Orton-Johnson, 2017; Prinds et al., 2020), or from a questionnaire (Egmose et al., 2022). The five quantitative studies sourced data from questionnaires (Bueckels & De Jans, 2022; Holiday et al., 2020; Kirkpatrick & Lee, 2022; Ouvrein, 2022) and secondary data originally gathered by an advertising agency (Lee et al., 2021).

Themes

Theme 1: Sharing information

The term 'influencer' suggests the primary motive of these parties is to 'influence' rather than be influenced, however four of the studies identified that parents who engaged in providing comments on a social media post related to parenting did so with the intention of *receiving* **or** *giving* information (Jenkins & Moreno, 2020; Meleo-Irwin et al., 2017; Orton-Johnson, 2017; Tamminga & Lipoff, 2020). Orton-Johnson (2017) describes how parenting blogs are not only a place where ideas are sought, but also where followers share ways of thinking about mothering which are different from the mainstream or "usual" advice. This sharing of information—more often 'views'—sees both influencers and readers commenting and reading. In such exchanges, social media may advertently help establish normative behaviour, with online information providing guides to the "norms and limits of acceptability" in offline parenting practices (Orton-Johnson, 2017. p. 6). Users are thereby able to measure their parenting experience or behaviours against those sharing in the online parenting world.

The dominant direction of influence that emerges in these studies is from the influencer to the influenced, however, researchers have also identified the role of the influenced in peer-to-peer efforts to exchange information and influence behaviour. Whilst the Orton-Johnson study identified information-receiving as a result of engagement with parenting blogs, three studies indicated that commenting on a post for the purpose of *giving* information (or sharing views) is common. Those who offer what they perceive to be information do so by means of commenting on a blog or social media post and responding to the comments of others. A content analysis evaluating comments made on parenting blog posts regarding paediatric vaccination identified most commenters as being givers of information (32%), compared to a smaller number of commenters who were categorised as seekers of information (7%) (Jenkins & Moreno, 2020)—or evaluators/commentators. A second study was identified which also analysed the comments made in response to blog posts focusing on paediatric vaccination (Meleo-Erwin et al., 2017). In this study, the authors found that comments were three times more likely to discourage vaccination than to encourage it (Meleo-Irwin et al., 2017). Whilst the findings from the selected blogs cannot be generalised across all parenting blogs, an important finding was that commenters used the platform to promote their personal standpoint on the topic at hand (Meleo-Irwin et al., 2017), and the weight of this information may not match the advice of professionals. This behaviour was also apparent in a study analysing parents' blog comments relating to their preferred methods of sun protection for their children (Tamminga & Lipoff, 2020). Two of the studies which noted com-

menters' information-sharing behaviours also examined the frequency with which influencers cited evidence to support their claims. Tamminga and Lipoff (2020) observed that 41% of original posts cited at least one piece of scientific evidence. However, within the comments, the citation of scientific evidence occurred in only 1.1% of comments. Similarly small numbers were demonstrated by Meleo-Erwin et al. (2017), who observed the citation of scientific evidence in 7% of comments. Tamminga and Lipoff (2020) also noted that references to non-specific media sources (3.4%) and personal experience (2.2%) were more common than references to scientific evidence. Furthermore, both Jenkins and Moreno (2020) and Tamminga and Lipoff (2020) noted the presence of comments offering information which failed to align with current clinical recommendations. Overall, studies concluded that the use of scientific evidence to support the information delivered in comments was relatively infrequent (Meleo-Erwin et al., 2017; Tamminga & Lipoff, 2020).

Theme 2: Support

Support was a commonly identified theme in a number of the included studies. Support pertains to parents' use of social media as a means of having contact and building what they perceive to be connections with relatable people who are experiencing similar things, thereby reducing a sense of isolation. In particular, mothers with a higher tendency to engage in social comparison experience higher perceptions of support from engagement with parenting influencers (Egmose et al., 2022). Furthermore, Lehto (2020) observes that when influencers use posts to contemplate their parental struggles and perceived shortcomings, the ensuing supportive discourse which emerges between the influencer and their followers contributes to the maintenance of a "virtual peer support network" (p. 666). Steiner and Bronstein (2017) determined that parenting blogs not only provide a space in which parents can seek support when encountering major parenting issues but are also a public forum in which commenters can "critique, explore and analyse the entire modern project of parenting" (p. 72). Thus, the sharing of common experiences facilitates perceptions of reciprocal support between the commenter and the influencer, and also between the individual commenters.

Notably, nearly all studies which made reference to the theme of *support*, did so with regards to commenters providing supportive comments in response to those who expressed the same points-of-view (Lehto, 2020; Meleo-Irwin et al., 2017; Orton-Johnson, 2017). To varying degrees, however, each of these studies also identified that when the commenter expressed a viewpoint or practice counter to that of the influencer or another commenter, responses were less likely to be supportive and more combative discourse was observed (Abetz & Moore, 2018; Lehto, 2020; Meleo-Irwin et al., 2017; Orton-Johnson, 2017; Steiner & Bronstein, 2017). The exception to this was Whitehead's (2015) study, which focused on the shared experience of infant loss. The sharing of experiences in the context of pregnancy and infant loss was noted to be immensely therapeutic for bloggers and readers alike, without mention of combative or hostile interaction (Whitehead, 2015). It is possible that this is due to the sensitive nature of the topic addressed. It should be noted, however, that the blogs examined in this study were those of US evangelical Christian communities; thus, the results cannot be assumed to be consistent amongst secular populations or those of other religious groups.

Theme 3: Identity

The theme of *identity* was observed in four of the included studies. The identity of the pregnant person or parent as a follower of influencers encompasses perceptions of self which are garnered in two ways: one, by perceiving the image and lifestyle of the influencer as an aspirational target and, two, by engaging with the influencer-facilitated virtual support network. Prinds et al. (2020) describe a sentiment communicated by some mothers that "looking like a mother" is not worth pursuing, even though motherhood was found to be a generally strengthening experience. The authors go on to note that bloggers, along with multiple other societal influences, collectively convey images of how a woman's body *should* look (Prinds et al. 2020). Such idealised portrayals of motherhood by influencers result in greater envy amongst mothers (Kirtpatrick & Lee, 2022). Furthermore, mothers who often visit influencer profiles, and thus more frequently compare themselves to influencers, have lower perceptions of parental self-efficacy (Ouvrein, 2022). Conversely, Orton-Johnson (2017) observed a more positive effect of engaging with influencers. The author suggests that engaging with parenting blogs can be transformative, as the shared experience of early parenthood enables women to understand, shape and define their new identity as a mother (Orton-Johnson, 2017).

Theme 4: Monetisation

Some of the studies captured in the review raised the question - is the role of the social media influencer really to influence, or is engagement with followers merely a pathway to profit? It is common for influencers to monetise their platforms by sharing material in which a product or service is marketed to followers on behalf of a commercial entity. Influencers who engage in these practices are typically mandated by a national regulatory authority to provide clearly distinguishable disclosure of advertorial content (Australian Influencer, 2021; The Committee of Advertising Practice, 2014). The ways in which followers perceive and are motivated by the monetisation of influencer blogs and social media accounts was explored in five studies, with the studies suggesting that followers are not passive objects of influence. Abidin (2017) and Hunter (2016) drew attention to followers' comments which openly communicated their disdain for the influencers' use of their platforms to market third-party products or services. Abidin (2017) highlighted that enjoyment of gifted products is often overplayed in such posts, yet the comments of followers indicate that such practices are distinguishable and perceived to be executed with manipulative intent. Interestingly, the study by Holiday et al. (2020) found that the practice of "brand-tagging" in sponsored social media posts neither positively nor negatively affected engagement and that the explicit disclosure of sponsored posts actually increased positive reactions to the content (Holiday et al., 2020). Similar findings were reported by Bueckels and De Jans (2022), who found that sponsored social media posts by "mom influencers" created higher purchase intention and perceptions of product-appropriateness for their child, than posts disseminated by the brand marketing the product. Higher purchase intention and perceptions of product-appropriateness were observed even further when the "mom influencer" was identifiable as an "expert" with regard to the type of product being marketed (Bueckels & De Jans, 2022).

One study addressed the monetisation of blogs by measuring associations between happiness, purchase frequency of products featured in sponsored posts, and fear of missing out (FoMO) (Lee et al., 2021). FoMO was defined as "a pervasive apprehension that others might be having rewarding experiences from which one is absent" (Przybylski et al. 2013, p. 1841). The results demonstrated a cascade of associated behaviours beginning with a negative association between FoMO and happiness, progressing to positive associations between FoMO and visit frequency, visit frequency, and purchase frequency, and thus a positive association between happiness and both visit frequency and purchase fre-

quency (Lee et al., 2021). It should, however, be noted that only 15% of the social media influencer platforms accessed by the participants were parenting-themed, and that only persons of Generation Z (aged 16-24) were included in the sample.

Discussion

The seventeen studies included in this review revealed that following social media influencers or bloggers during pregnancy and early parenthood has a number of potential risks and benefits, but a more nuanced view of the influencer emerged, counter to that of a marketer disguised as an authority.

Generally, there appears to be agreement that social media influencers and the audiences they attract give rise to a potential source for information, including information relating to identity, misinformation, and support, as well as being a means to monetisation. They are also a flashpoint of *exchange* of information, with peer-to-peer influence and even reverse influence (from the follower to the influencer) emerging. Using media terminology, the 'information' shared is often closer to 'views' than 'news', with influencers unlikely to clearly and regularly draw on empirical evidence to underpin their content. For pregnant or early parents who are navigating the challenging transition to parenthood, influencers provide a readily accessible and relatable community in which topics related to pregnancy, birth and early parenthood can be explored and discussed amongst peers. Whilst this aspect of the influencer appears to be of great benefit to pregnant or new parents, conversely, the studies included in this review indicate that engaging with influencers may present equal potential for non-beneficial or even harmful interactions.

Again, counter to the view of social media influencers as relatively benign 'fronts' for a marketing drive, interlaced within the findings of several of the studies is an undercurrent of *combative interaction* amongst the influencer and their communities. Combative interaction was demonstrated with regards to a multitude of topics including, but not limited to, paediatric vaccination (Jenkins & Moreno, 2020; Meleo-Irwin et al., 2017), children's sun-protection methods (Tamminga & Lipoff, 2020), parenting styles, and everyday parenting decisions (Lehto, 2020; Steiner & Bronstein, 2017). One study observed that combative interaction went as far as making personal attacks (Lehto, 2020). According to Abetz and Moore (2018), criticism and judgement of parenting practices is pervasive within the commentary of parenting blogs, and motherhood is significantly competitive by nature, and more broadly impoliteness is a commonly observed characteristic of social media (Teneketzi, 2021). The transition to parenthood takes place within a landscape of biological, psychological, social, economic and behavioural challenges (Saxbe et al. 2018), which place the individual at risk of further biological and psychological sequelae. Thus, it is possible to suggest that partaking in the combative interactions found in influencers' communities might increase vulnerability to stress and even compromised mental health during this time of transition. The papers do not allow this hypothesis to be adequately tested.

Vulnerability during the time of transitioning to parenthood must also be considered with regards to the uptake of information, and more concerningly, misinformation. It has been noted in the literature that the most common reason for pregnant or early parents to access social media is to glean information (Baker & Yang, 2018; Gleeson et al., 2019; Wright et al., 2019; Zhu et al., 2019), suggesting that this information-seeking behaviour is driven by uncertainty. However, social media has also been established as a realm in which uncertainty is often created, where information travels rapidly and may be published by anyone with an internet connection, with no requirement for fact-checking or peer review (Smailhodzic et al., 2016; Wright et al., 2019). Though few, the studies included in this review indicate that the inclusion of supporting scientific evidence was uncommon in influencer posts (Tamminga & Lipoff, 2020), and sparse at best within the ensuing commentary (Jenkins & Moreno, 2020; Meleo-Irwin et al., 2017). The observed lack of supporting evidence in these posts presents a considerable risk of misinformation within the realm of pregnancy and early parenting influencers. In a vacuum of inaccurate, non-evidence-based information, combined with the lack of clarity about the degree to which posts are, in effect, paid advertisements, or otherwise a source of income to the influencer, consumers need to be warned of the risks of uncritically consuming influencer 'advice'.

What must also be considered with regards to the provision of influencer-related misinformation is the uncritical manner within which the consumers of social media may accept information from these sources—despite the evidence in these studies suggesting that followers can and do 'fight back' against the information they do not agree with. Those who knowingly or unknowingly create misinformation are largely those without the review mechanisms associated with official or institutional affiliation (Wang et al., 2019). Whilst logic dictates that appropriately qualified individuals and professional or government bodies are best positioned to provide accurate information, such information can be challenging to comprehend and fail to arouse interest in populations with varied levels of health, digital, media and/or science literacy (Scherer & Pennycook, 2020). Social media is easy to access, often easy to digest, and even addictive (Montag et al., 2019). Wang et al. (2019) note that misinformation, sensationalised news, and rumours tend to be considerably more popular than evidence-based information in social media. When the broad audience for social media appears inclined to accept information from informal sources over accredited sources, consideration must be given to the likelihood of pregnant or early parents doing the same. Postpartum, women are likely to suffer sleep deficits that impact the processing of emotional (Tempesta et al., 2010) and cognitive information (Grossi et al., 2015). Time-poor and fatigued, the ease with which social media 'information' may be accessed by women should be of concern to health practitioners such as midwives (Chee et al., 2023).

Whilst it has been observed that health information from informal sources is frequently preferred over official sources, consideration should be given to social media influencers who are also health professionals. Such individuals may be able to combine the 'relatability' of a peer, with the credibility of a professional, however possessing influencer status as a health professional may have professional and ethical implications. Health professional influencer profiles are not uncommon throughout social media and they evidently utilise their platforms to provide educational opportunities and insights, among other purposes (Kerr et al., 2020). Health professionals, including nurses, doctors and pharmacists, are consistently ranked as the most trusted professions (Roy Morgan, 2021), and whilst it has been acknowledged that social media channels are powerful tools for communicating about health care with the potential to improve health outcomes (Moorhead et al., 2013), the effects of engaging with health professional influencers have yet to be thoroughly examined. However, it is possible that whilst these trusted health care professional influencers are well positioned to provide positive health information, the potential for harm and the spreading of misinformation is magnified where health care influencers are receiving financial compensation to publish content. Thus, it is possible that health care professional influencers are potentially *more influential* with regards to health-related topics owing to their appeal as both an 'influencer' and a 'credible source'.

Limitations

Social media is a relatively recent phenomenon, and it should thus not be surprising that the scholarly literature examining its impact on a particular area of practice/behaviour should be immature. The lack of specificity in the demographics of the studies is disappointing, itself limiting the degree to which study findings can be generalised. Studies also lack true longitudinal design, removing the potential for important causal relationships—for example between heavy social media use and particular parenting practices—to be explored. In addition, the relatively small pool of literature focusing on the impact of influencers on pregnancy, childbirth and early parenthood means that broad trends cannot yet be determined; the conclusions we were able to draw were necessarily based in each case on a handful of studies. The studies included had a wide range of designs ranging from well-structured quantitative approaches (Holiday et al., 2020; Meleo-Irwin et al., 2017; Tamminga & Lipoff, 2020) to opportunistic or *ad hoc* designs (Lee et al., 2021), as well as a range of foci, from health specific topics such as sun protection and vaccination (Tamminga & Lipoff, 2020), through to adverse, tragic events, such as infant loss (Whitehead, 2021). Loosening the inclusion criteria, and including demographic data, would have led to a broader and perhaps more representative range of studies but would have reduced the focus on the role of the influencer, where it is clear more research is required.

Conclusion

A relatively small body of research that focuses on pregnant or early parents' engagement with social media influencers currently exists, and there is clear opportunity for further systematic and well-designed research in this field. Whilst it was observed that social media influencers and their online communities are potential sources of information and support, consideration must be given to the potential for harm to be suffered by pregnant and early parents because of engagement with influencers. Where the influencer has the dual identity of health care professional, there arises further potential for conflicts of interest between their professional role and the commercial or other interests which drive their content. As there is evidently an absence of literature on this topic, further research is clearly required to further elucidate the far-ranging impacts of pregnant and new parents' engagement with social media influencers.

Ethical Approval

Not applicable.

Citation of excluded paper	Reason for exclusion
Howell, W. L. J. (2010). Mom-to-mom Blogs: Hospitals invite women to share experiences: Mommy blogs are catching on as a way to let parents interact, compare notes. *Hospitals & Health Networks, 84*(10), 18.	Not primary research
Lazard, L., Capdevila, R., Dann, C., Locke, A., & Roper, S. (2019). Sharenting: Pride, affect and the day-to-day politics of digital mothering. *Social and Personality Psychology Compass, 13*(4), e12443. https://doi.org/10.1111/spc3.12443	Not primary research
Kuznetsova, A., Sood, N., & Milanaik, R. (2020). An analysis of parental opinions of human milk sharing options. *Pediatrics, 146*(1_MeetingAbstract), 144-145. https://doi.org/10.1542/peds.146.1MA2.144	Full-text unavailable
Milanaik, R., Fruitman, K., Teperman, C., & Sidhu, S. (2019). A pediatrician's nightmare: Frequency of use and parental perceived efficacy of non-approved infant sleep products. *Pediatrics, 144*, (2 _MeetingAbtract). https://doi.org/10.1542/peds.144.2MA1.00k	Full-text unavailable
Bryan, M.A., Evans, Y.N., Gower, A., & Moreno, M.A. (2023). Does exposure to pediatrician or parent blog content influence infant safe sleep practices? *Maternal and Child Health Journal.* https://doi.org/10.1007/s10995-022-03579-z	Not focused on engagement with influencers
Lukoff, K., Moser, C., & Schoenebeck, S. (2017). Gender norms and attitudes about childcare activities presented on father blogs. *Human Factors in Computing Systems,* May 17, p. 4966-4971. https://doi.org/10.1145/3025453.3025767	Not focused on engagement with influencers
Nagl, M., Jepsen, L., Linde, K., & Kersting, A. (2021). Social media use and postpartum body image dissatisfaction: the role of appearance-related social comparisons and thin-ideal internalization. *Midwifery*, 100, 103038. https://doi.org/10.1016/j.midw.2021.103038	Not focused on engagement with influencers
Oscarsson, M.G., Medin, E., Holstrom, I., & Lendahls, L. (2018). Using the Internet as source of information during pregnancy - a descriptive cross-sectional study among fathers-to-be in Sweden. *Midwifery, 62*, 146-150. https://doi.org/10.1016/j.midw.2018.04.008	Not focused on engagement with influencers
Archer, C. (2019). Social media influencers, post-feminism and neoliberalism: How mum bloggers' 'playbour' is reshaping public relations. *Public Relations Inquiry, 8*(2), 149-166. https://doi.org/10.1177/2046147x19846530	Focuses on influencers' perspectives
Archer, C. (2019). How influencer 'mumpreneur' bloggers and 'everyday' mums frame presenting their children online. *Media International Australia, 170*(1), 47-56. https://doi.org/10.1177/1329878x19828365	Focuses on influencers' perspectives
Barnes, R., & Potter, A. (2021). Sharenting and parents' digital literacy: an agenda for future research. *Communication Research and Practice, 7*(1), 6-20. https://doi.org/10.1080/22041451.2020.184781	Focuses on influencers' perspectives
Blum-Ross, A., & Livingstone, S. (2017). "Sharenting," parent blogging, and the boundaries of the digital self. *Popular Communication, 15*(2), 110-125. https://doi.org/10.1080/15405702.2016.1223300	Focuses on influencers' perspectives
Burke-Garcia, A., Kreps, G. L., & Wright, K. B. (2018). Perceptions about disseminating health information among mommy bloggers: quantitative study. *JMIR Research Protocols, 7*(4), e116. https://doi.org/10.2196/resprot.7764	Focuses on influencers' perspectives
Campana, M., Van den Bossche, A., & Miller, B. (2020). #dadtribe: Performing sharenting labour to commercialise involved fatherhood. *Journal of Macromarketing, 40*(4), 475-491. https://doi.org/10.1177/0276146720933334	Focuses on influencers' perspectives
Fox, A. K., & Hoy, M. G. (2019). Smart devices, smart decisions? implications of parents' sharenting for children's online privacy: An investigation of mothers. *Journal of Public Policy & Marketing, 38*(4), 414-432. https://doi.org/10.1177/0743915619858290	Focuses on influencers' perspectives
Pettigrew, S., Archer, C., & Harrigan, P. (2016). A thematic analysis of mothers' motivations for blogging. *Maternal & Child Health Journal, 20*(5), 1025–1031. https://doi.org/10.1007/s10995-015-1887-7	Focuses on influencers' perspectives

(*continued on next page*)

Citation of excluded paper	Reason for exclusion
Ranzini, G., Newlands, G. E., & Lutz, C. (2020). Sharenting, peer Influence, and privacy concerns: A study on the Instagram-sharing behaviors of parents in the United Kingdom. *Social Media + Society, 6*(4). https://doi.org/10.1177/2056305120978376	Focuses on influencers' perspectives
Scheibling, C. (2020). The culture of fatherhood 2.0: Exploring the "tiny public" of dad bloggers in North America. *Feminist Media Studies, 20*(6), 813-830. https://doi.org/10.1080/14680777.2019.1617764	Focuses on influencers' perspectives

Declaration of Competing Interest

None declared.

CRediT authorship contribution statement

Rachelle M. Chee: Data curation, Formal analysis, Investigation, Resources, Writing – original draft, Writing – review & editing, Visualization. **Tanya S. Capper:** Conceptualization, Methodology, Data curation, Formal analysis, Investigation, Writing – original draft, Writing – review & editing, Resources, Visualization. **Olav T. Muurlink:** Conceptualization, Methodology, Data curation, Formal analysis, Investigation, Resources, Writing – original draft, Writing – review & editing, Visualization.

Funding

Not applicable.

Acknowledgments

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

References

Abetz, J., Moore, J., 2018. Welcome to the mommy wars, ladies": Making sense of the ideology of combative mothering in mommy blogs. Commun. Cult. Crit. 11 (2), 265–281. doi:10.1093/ccc/tcy008.

Abidin, C., 2017. #familygoals: Family influencers, calibrated amateurism, and justifying young digital labor. Soc. Media Soc. 3 (2), 1–15. doi:10.1177/2056305117707191.

Baker, B., Yang, I., 2018. Social media as social support in pregnancy and the postpartum. Sex. Reprod. Healthc. 17, 31–34. doi:10.1016/j.srhc.2018.05.003.

Bramer, W.M., Rethlefsen, M.L., Kleijnen, J., Franco, O.H., 2017. Optimal database combinations for literature searches in systematic reviews: a prospective exploratory study. Syst. Rev. 6 (1), 245. doi:10.1186/s13643-017-0644-y.

Bueckels, E., De Jans, S., 2022. 'My mom got influenced by yours': The persuasiveness of mom influencers in relation to mothers' food assessments and decisions. Appetite 178, 106269. doi:10.1016/j.appet.2022.106269.

Chee, R., Capper, T., Muurlink, O., 2023. Midwifery care and social media. Br. J. Midwifery 31 (2). doi:10.12968/bjom.2023.31.2.112.

David, M.E., Roberts, J.A., 2021. Smartphone use during the COVID-19 pandemic: social versus physical distancing. Int. J. Environ. Res. Public Health 18 (3), 1034. doi:10.3390/ijerph18031034.

Du, H., Yang, J., King, R.B., Chi, P., Yang, L., 2020. COVID-19 increases online searches for emotional and health-related terms. Appl. Psychol.: Health Well Being 12 (4), 1039–1053. doi:10.1111/aphw.12237.

Egmose, I, Thode Krogh, M., Stuart, A.C., Wahl Haase, T., Back Madsen, E., Vaever, M, 2022. How are mothers negatively affected and supported by following parenting-related Instagram profiles? a mixed-methods study. Acta Psychol. 227, 103593. http://doi.org/10.1016/j.actpsy.2022.103593.

Australian Influencer, Marketing Council., 2021. Australian influencer marketing code of conduct, 1st ed. https://static1.squarespace.com/static/5f741c44029c373fe632e647/t/61541570a9213843c53d7adb/1632900464874/AIMCO_Code_Practice_August+2021.pdfAccessed. (Accessed November 2021).

Gleeson, D.M., Craswell, A., Jones, C.M., 2019. Women's use of social networking sites related to childbearing: an integrative review. Women Birth 32, 294–302. doi:10.1016/j.wombi.2018.10.010.

Grossi, G., Perski, A., Osika, W., Savic, I., 2015. Stress-related exhaustion disorder–clinical manifestation of burnout? A review of assessment methods, sleep impairments, cognitive disturbances, and neuro-biological and physiological changes in clinical burnout. Scand. J. Psychol. 56 (6), 626–636. doi:10.1111/sjop.12251.

The Committee of Advertising Practice. (2014). The CAP code: The UK code of non-broadcast advertising and direct & promotional marketing. https://www.asa.org.uk/static/47eb51e7-028d-4509-ab3c0f4822c9a3c4/bbca4ed3-9b41-4c6b-8d13299664f119be/The-Cap-code.pdf. Accessed 21st October 2021.

Facebook. (2021, October 25). FB earnings presentation Q3 2021. https://s21.q4cdn.com/399680738/files/doc_news/Facebook-Reports-Third-Quarter-2021-Results-2021.pdf. Accessed 13th January 2022.

Hong, Q.N. 2022. Questions on the MMAT version 2018. http://mixedmethodsappraisaltoolpublic.pbworks.com/w/page/71030694/FAQ. Accessed 18th January 2023.

Hong, Q.N., Pluye, P., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., O'Cathain, A., 2018a. Mixed Methods Appraisal tool (MMAT), Version 2018. IC Canadian Intellectual Property Office, Industry Canada.

Holiday, S., Densley, R.L., Norman, M.S., 2020. Influencer marketing between mothers: the impact of disclosure and visual brand promotion. Journal of Current Issues and Research in Advertising 42 (4), 236–257. doi:10.1080/10641734.2020.1782790.

Hong, Q.N., Gonzalez-Reyes, A., Pluye, P., 2018b. Improving the usefulness of a tool for appraising the quality of qualitative, quantitative and mixed methods studies, the mixed methods appraisal Tool (MMAT). J. Eval. Clin. Pract. 24 (3), 459–467. doi:10.1111/jep.12884.

Hunter, A., 2016. Monetizing the mommy: Mommy blogs and the audience commodity. Inf., Commun. Soc. 19, 1306–1320. doi:10.1080/1369118X.2016.1187642.

Jenkins, M.C, Moreno, M.A., 2020. Vaccination discussion among parents on social media: a content analysis of comments on parenting blogs. J. Health Commun. 24, 232–242. doi:10.1080/10810730.2020.1737761.

Kerr, H., Booth, R., Jackson, K., 2020. Exploring the characteristics and behaviors of nurses who have attained microcelebrity status on Instagram: content analysis. J. Med. Internet Res. 22 (5), e16540. doi:10.2196/16540.

Kirkpatrick, C.E., Lee, S., 2022. Comparisons to picture-perfect motherhood: How Instagram's idealized portrayals of motherhood affect new mothers' well-being. Comput. Hum. Behav. 137, 107417. doi:10.1016/j.chb.2022.107417.

Lee, J.A., Bright, L.F., Eastin, M.S., 2021. Fear of missing out and consumer happiness on Instagram: a serial mediation of social media. Cyberpsychology Behav. Soc. Netw. 24 (11), 762–766. doi:10.1089/cyber.2020.0431.

Lehto, M., 2020. Bad is the new good: negotiating bad motherhood in Finnish mommy blogs. Fem. Media Stud. 20 (5), 657–671. doi:10.1080/14680777.2019.1642224.

Lucas, P.J., Baird, J., Arai, L., Law, C., Roberts, H.M., 2007. Worked examples of alternative methods for the synthesis of qualitative and quantitative research in systematic reviews. BMC Med. Res. Methodol. 7 (1), 4. doi:10.1186/1471-2288-7-4.

Marwick, A.E., 2013. Status Update: Celebrity, Publicity, and Branding in the Social Media Age. Yale University Press.

McCorquodale, S., 2019. Influence: How Social Media Influencers are Shaping our Digital Future. Bloomsbury Business.

Meleo-Erwin, Z., Basch, C., MacLean, S., Scheibner, C, Cadorett, V., 2017. To each his own": discussions of vaccine decision-making in top parenting blogs. Hum. Vaccines Immunother. 13 (8), 1895–1901. doi:10.1080/21645515.2017.1321182.

Moorhead, S.A., Hazlett, D.E., Harrison, L., Carroll, J.K., Irwin, A., Hoving, C., 2013. A new dimension of health care: Systematic review of the uses, benefits, and limitations of social media for health communication. J. Med. Internet Res. 15 (4), e85. doi:10.2196/jmir.1933, e85.

Montag, C., Lachmann, B, Herrlich, M., Zweig, K., 2019. Addictive features of social media/messenger platforms and freemium games against the background of psychological and economic theories. Int. J. Environ. Res. Public Health 16 (4), 2612. doi:10.3390/ijerph16142612.

Neely, S., Eldridge, C., Sanders, R., 2021. Health information seeking behaviors on social media during the COVID-19 pandemic among American social networking site users: Survey study. J. Med. Internet Res. 23 (6), e29802. doi:10.2196/29802, e29802.

Orton-Johnson, K., 2017. Mummy blogs and representations of motherhood: "Bad mummies" and their readers. Soc. Media Soc. 3 (2), 1–10. https://www.doi.org/10.1177/2056305117707186.

Ouvrein, G., 2022. Mommy influencers: Helpful or harmful? The relationship between exposure to mommy influencers and perceived parental self-efficacy among mothers and primigravida. New Media Soc. (0) 0. doi:10.1177/14614448221086296.

Ouzzani, M., Hammady, H., Fedorowic, Z., Elmagarmid, A., 2016. Rayyan — a web and mobile app for systematic reviews. Syst. Rev. 5 (210). doi:10.1186/s13643-016-0384-4.

Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Mulrow, C.D., et al., 2021. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 372, n71. doi:10.1136/bmj.n71.

Prinds, C., Nikolajsen, H., Folmann, B., 2020. Yummy mummy – the ideal of not looking like a mother. Women Birth 33, e266–e273. doi:10.1016/j.wombi.2019.05.009.

Przybylski, A.K., Murayama, K., DeHaan, C.R., Gladwell, V., 2013. Motivational, emotional, and behavioral correlates of fear of missing out. Comput. Hum. Behav. 29, 1841–1848. doi:10.1016/j.chb.2013.02.014.

Ribeiro, F.N., Benvenuto, F., Zagheni, E., 2020. How biased is the population of Facebook users? comparing the demographics of Facebook users with census data to generate correction factors. In: Proceedings of the 12th ACM Conference on Web Science, pp. 325–334.

L & A Social. (2020). Social media census 2020. https://landasocial.com/wp-content/uploads/2020/10/SocialMediaCensus.pdf?mc_cid=e2db9aa443&mc_eid=8596c19f53. Accessed 21st October 2021.

Saxbe, D., Rossin-Slater, M., Goldenberg, D., 2018. The transition to parenthood as a critical window for adult health. Am. Psychol. 73 (9), 1190–1200. doi:10.1037/amp0000376.

Scherer, L.D., Pennycook, G., 2020. Who is susceptible to online health misinformation? Am. J. Public Health 110 (S3), S276–S277. doi:10.2105/AJPH.2020.305908.

Smailhodzic, E., Hooijsma, W., Boonstra, A., Langley, D.J., 2016. Social media use in health care: a systematic review of effects on patients and on their relationship with healthcare professionals. BMC Health Serv. Res. 16 (1), 442. doi:10.1186/s12913-016-1691-0.

Steiner, L., Bronstein, B., 2017. Leave a comment: mommy blogs and the everyday struggle to reclaim parenthood. Fem. Media Stud. 17 (1), 59–76. doi:10.1080/14680777.2017.1261840.

Tamminga, M.A., Lipoff, J.B., 2020. Understanding sunscreen and photoprotection misinformation on parenting blogs: a mixed-method study. Pediatr. Dermatol. 38, 88–91. doi:10.1111/pde.14411.

Tempesta, D., Couyoumdjian, A., Curcio, G., Moroni, F., Marzano, C., Ferrara, M., 2010. Lack of sleep affects the evaluation of emotional stimuli. Brain Res. Bull. 82 (1), 104–108. doi:10.1016/j.brainresbull.2010.01.014.

Teneketzi, K., 2021. Impoliteness across social media platforms: a comparative study of conflict on youtube and reddit. J. Lang. Aggress. Confl. doi:10.1075/jlac.00066.ten.

Roy Morgan. (2021, April 27). Roy Morgan image of professions survey 2021. http://www.roymorgan.com/findings/8691-image-of-professions-2021-april-2021-202104260655. Accessed 21st October 2021.

Wang, Y., McKee, M., Torbicka, A., Stuckler, D., 2019. Systematic literature review on the spread of health-related misinformation on social media. Soc. Sci. Med. 240, 112512. doi:10.1016/j.socscimed.2019.112552.

Whitehead, D., 2015. The story God is weaving us into": narrativizing grief, faith, and infant loss in US evangelical women's blog communities. New Rev. Hypermedia Multimed. 21 (1-2), 42–56. doi:10.1080/13614568.2014.983559.

Wright, E.M., Matthai, M.T., Meyer, M., 2019. The influence of social media on intrapartum decision making. J. Perinat. Neonatal Nurs. 33 (4), 291–300. doi:10.1097/JPN.000000000000377.

Zhu, C., Zheng, R., Zhang, W., Evans, R., Rongrong, H., 2019. Pregnancy-related information seeking and sharing in the social media era among expectant mothers: qualitative study. J. Med. Int. Res. 21 (12), e13694. doi:10.2196/13694.