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“They need to see breastfeeding so that they know how to do it”: the construction of motherhood through Instagram brelfies

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Abstract

Background An offshoot of selfie taking is the “Brelfie” – a self-image capturing breastfeeding. Brelfie images and accompanying text are particularly useful to understanding how parents see themselves in their role within the digital age. The aim of this research was to understand how women posting #brelfies construct breastfeeding, motherhood, and identity through this modality.

Methods This study used content analysis to examine 173 Instagram posts consisting of 199 Instagram breastfeeding images. The first author used open coding to create three visual representations and seven visual categories (e.g. focus on mother, child or both) from the corpus of data. An inductive interpretive thematic analysis was then performed to investigate the accompanying in post texts. Results were then analysed using chi-square tests. Although England was most prevalent, the Instagram search gleaned posts from nine other countries and posters used eight different languages.

Results Content analyses indicated three types of visual image (breastfeeding portrait, breastfeeding selfie, and breastfeeding baby portrait) were tagged as brelfies, this supported the seven visual themes. Textually, three themes were developed: *Breastfeeding as a Natural and Magical Journey*, *Breastfeeding as Female Empowerment*, and *Breastfeeding as a Struggle with the Desire for Support and Normalization*. When analysed, breastfeeding portraits were associated with captions around the theme of female empowerment. The themes of a natural magical journey and struggle for support and normalisation were not related to any of the types of photos. Non-English language text was associated with the theme of the struggle.

Conclusions This research supports the idea that mothers depict breastfeeding as largely positive, but that there are still perceived barriers and a voiced need for support. The type of brelfie presented and the language/cultural origin of the text could inform their intended message, thus helping understand how the parents see themselves. Brelfies should be encouraged to post this media to potentially help signpost to other breastfeeding parents that they are not alone in their breastfeeding journey.

Keywords Brelfie, Digital motherhood, Identity, Breastfeeding, Selfie, Self-images

Background

The evolution of the smartphone has fundamentally changed how people all over the world interact with photography, by making it easier to photograph oneself and one’s environment [1]. This is particularly true considering the emergence of the selfie, a form of self-representation through a photograph, typically taken via

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smartphone and posted on a social media website [2]. Research on selfies has lagged behind the phenomena itself [3], and current research on selfies tends to focus on self-related variables, such as personality traits [2], and self-perceptions, including self-objectification and self-esteem [4, 5].

An offshoot of this type of photograph is the “brelfie” [6], a portmanteau of the words selfie and breastfeeding, to describe a specific genre of self-photography that focuses on a woman in the act of nursing a child [7]. This form of expression became popular in 2014 after Alyssa Milano, a famous actress with millions of followers, posted photos on her Instagram and twitter accounts of her breastfeeding her child [8]. There were mixed public reactions to Milano’s posts, which ultimately resulted in the emergence of the brelfie as a worldwide social phenomenon driven by mothers. Both everyday women and other famous women began to post these breastfeeding selfies, and by early 2015 Netmums, a prominent UK website for mothers, had announced that sharing a brelfie was the top parenting trend of the year [9].

We can view many idealised representations of breastfeeding in relation to that of the Virgin Mary breastfeeding Jesus, from the fifth to the thirteenth centuries [10]. Across many religions throughout history including Christianity, Islam and Judaism, Mary breastfeeding Jesus is signified through paintings, statues and other artifacts as a symbol of religious devotion, of prayer, penitence and of duty [11]. Whilst there are many different interpretations of the signification of Mary and Jesus, Mary is still viewed as the ‘perfect mother’ across many cultures [12]. This then poses many challenges for women attempting to breastfeed, although, as Olson [13], argues, ‘Through the ingestion or production of miraculous milk, those who sought the Virgin Mary could embody the absent saint within themselves’. As researchers in this paper, our understandings of contemporary representations of breastfeeding are to some extent informed by such historical images, statues and artifacts of the Virgin Mary and Jesus.

Social media and digital motherhood

Motherhood is a particularly important transitional period where identity shifts drastically [14, 15]. This renegotiation of identity impacts many different spheres; from work, to intimate partner interactions, to one’s place within the larger family [15–18]. Thus, according to identity theory, new parents will have a need to identify or confirm their new maternal identities, as these identities come with internalised meanings of what it is to be a new parent [18].

Increasingly, new mothers use social media to negotiate and express their new maternal identities, and

interact online with other mothers. For example, many mothers express maternal identities through their own pages on sites such as Instagram, Facebook, and Twitter, whilst others have developed their own ‘mummy blog’ to share their experiences. Women can also communicate with other mothers via dedicated Facebook groups or other more bespoke spaces for negotiating motherhood such as the online forum Mumsnet [19–21]. Manago and colleagues emphasise that the way that social networking sites are set up, facilitates the convenient delivery of efficient, personalised social resources which in turn creates a personalised experience tailored to the individual mother prioritising her autonomy [22]. Conversely, self-expression on these platforms potentially reaches 100’s of people [23], making this an ideal place to assert one’s maternal identity.

Breastfeeding, social media and the “Brelfie”

The transition to parenthood may be a key time for nursing mothers to engage in self-presentation online, as it is a major adjustment period where women are navigating new roles as well as new identities [14] with embedded role expectations, one of which is breastfeeding [18]. Breastfeeding is endorsed by the WHO and UNICEF who recommend babies are exclusively breastfed until 6 months and that breastfeeding should continue for up to two years in combination with complementary foods. In countries such as the UK, breastfeeding is promoted as the preferred method of infant feeding owing to the reported health benefits for mothers and babies [e.g., [24, 25]. Knaak considers that whilst on the one hand this is positive since it promotes breastfeeding as a basic reproductive right, improving access to breastfeeding support and increasing uptake; on the other hand, breastfeeding has become imbued with morality [26]. As such, it has been argued that breastfeeding is integral to ‘good mother’ ideologies [26] and research shows that women internalize this, highlighting breastfeeding as a means of achieving a ‘good mother’ identity [26, 27]. ‘Brelfies’ may then represent a means of enacting and displaying ‘good motherhood’ within online social networks.

Self-presentation theory lays out two potential motivations for engaging in self-presentation behaviours like brelfies [28]. The first is to encourage the audience to think favourably about the individual and the second is to prop one-self up as the ideal self [28]. Both motivations may appear plausible here since, through brelfies women may invite favourable evaluation from others by exhibiting a key tenet of good motherhood and, in addition, in this transitional phase of life they may be able to present to a virtual audience a self that they would like to be ideally. Therefore, looking at how women post brelfies and the accompanying text may give insight into not only

how breastfeeding mothers see themselves, but also how they want to be perceived.

Whilst private breastfeeding is typically endorsed, responses to breastfeeding in public spaces are more polarised [29]. Kent and colleagues found that the acceptability of breastfeeding in public is narrowly defined; to avoid negative evaluation women must achieve 'discretion' [30]. Not doing so risks accusations of dispositional traits which are perceived as incompatible with motherhood, such as being exhibitionist, inconsiderate and selfish, therefore compromising access to a 'good mother' identity.

Brelfies (arguably a form of (online) public breastfeeding) have been highlighted as transformational in terms of historical representations of nursing mothers [31], however they have not been without their criticisms. Whilst self-promotion is more accepted in online spaces and is often a key feature of 'selfies', women who post brelfies may need to navigate a fine line of acceptability in a number of ways. Firstly, although in displaying breastfeeding they are displaying a core tenet of 'good mothering', this position is troubled through the potential to invite accusations of digital narcissism via the concept of 'sharenting'—a term which describes the practice of oversharing about one's children or family through social media [32, 33].

Further, Boon and Pentney assert that brelfies occupy a liminal space, one between sexuality and motherhood, which is not easily integrated into the typical 'selfie culture' values that the world is used to viewing [34]. Accepting the brelfie as an intimate maternal message rather than a narcissistic or sexual message, can polarize views and create a divide as to the "acceptability" of the photo. Indeed, these posts have pushed Facebook to rewrite their rules based around what constitutes an acceptable photo of the breast, thus rewriting the public discourse on this platform [35].

The brelfie also creates another intersection polarising the genre, and this is the intersection between public and private self. Whereas with the selfie, 'private' moments are rarely pictured, breastfeeding is typically considered or expected to be private [6, 36], and as such the viewer might experience dissonance in relation to such images which constitute a private act 'made public' by sharing online. On the other hand, in doing so, it has been argued that the brelfie is subverting social norms about appropriate public displays of women's bodies [37] and potentially transforming a typically private act that can seem lonely, difficult and all-encompassing [38] into a more familiar and social one [6, 36]. Yet, in addition, since subjective norms in favour of breastfeeding have been found to predict intention to breastfeed [39], it may be that sharing brelfies within online communities can contribute to the

normalisation and thus de-stigmatisation of breastfeeding [40] as well as improving initiation intentions within those communities [36].

Past studies on brelfies have examined different ways mothers and other individuals online look at and talk about the medium [34, 37, 40]. One study analysed two collections of brelfies, spurring conversations about brelfie acceptability [34]. Based on this in-depth study of online conversations around the brelfie, a study was devised to look more broadly at the brelfie hashtag and analysed brelfie hashtag variations, finding 6,752 hits on social media and focusing on the conversations around brelfies [37]. The researcher identified seven themes using discourse analysis and concluded that women who post brelfies are actively engaging in a specific type of feminist activism in promoting breastfeeding via social media where it may otherwise be ignored by mainstream media. However, no visual analysis was completed as the study was focused only on a cultural analysis of text meaning [37].

A third study examined photos with hashtags related to breastfeeding, and analysed images and captions to find out how self-representation was enacted by mothers who used the 'brelfie' hashtag [40]. This study focused on how some parents tried to keep their children's privacy intact, whilst also creating a public discourse about breastfeeding.

The present research: Aims and research questions

This study elaborates on past research by examining how breastfeeding is constructed within Instagram posts labelled #*brelfie*, through both visual imagery and accompanying captions. Because new motherhood is a major adjustment period where women are navigating new identities, and shifts in lifestyle [14], examining brelfie images and the text that accompanies them is particularly useful for understanding how women see themselves in their roles as parents. Instagram was chosen to be the platform where brelfie data were gathered, as it is more image focused than Facebook or Twitter [41]. Women typically use a photo to present themselves with accompanying captions which focus on the image presented. Some research argues that this type of media facilitates a sense of intimate social presence which connects people differently than the more text focused social media platforms such as Facebook and Twitter [41]. Because this research aims to gain an understanding of women posting brelfies, Instagram was considered the most appropriate site to use.

A mixed methods visually led approach was used whereby qualitative thematic analysis of caption and image was undertaken alongside a broadly quantitative content analysis of Brelfie photos. We considered that

the selection of both quantitative and qualitative methodologies lent fairness to both methods and was important in regard to meeting the overall focus and research questions underpinning the study. The focus of the study was to explore how women frame breastfeeding, motherhood and identity in relation to others via brelfies. Subsequently, the research addressed the following questions which mapped onto the quantitative and qualitative dimensions of the study:

RQ1. How do breastfeeding mothers represent themselves in images labelled #brelfie on Instagram?

RQ2. How is breastfeeding constructed within #brelfie posts on Instagram?

RQ3. Are there differences between the mothers' images, their language and the textual themes of their messages?

Methods

Sample

Ethical approval was granted by the Psychology Ethics Committee at a University in the UK. Data were collected through Instagram, a free, accessible, searchable platform. A search for posts labelled "#Brelfie" was performed on 20 March 2020, gleaning 87,175 posts containing this hashtag. Based on Terry and colleagues' rationale for secondary source data collection, the first 200 posts that met the criteria for a brelfie were extracted, i.e., contained an image of the mother with a child/children who are latched or seemingly latched to the mother's breast in the act of feeding, irrespective of who had taken the image [42, 43]. Thus, posts labelled brelfie that did not include an image of breastfeeding were not extracted, since these posts were not in line with the definition of brelfie [7] used in this study. Extracted posts consisted of images and text-based captions written by the user. No comments posted by other users were extracted.

From the initial sample of 200 posts, we then excluded posts containing videos, advertisements and drawings ($n=27$). Some posts contained multiple images. For these posts, we included all images that met the brelfie criteria in our analysis. This resulted in a final sample of 173 posts consisting of 173 captions and 199 photos. If the text-based captions were in languages other than English, the text was translated via google translate. The languages used and countries mentioned in the captions can be found in Table 1. All posts were uploaded between the months of January 2019—March 2020.

Analytic procedure

Content analysis of images

The first phase of analysis of imagery was drawn on elements of a content analysis, but used a more subjective

Table 1 Languages used in text-based captions and mentioned countries

Country Mentioned	N (Percent)
United Kingdom	134 (77.5%)
Australia	5 (2.9%)
France	4 (2.3%)
Netherlands	3 (1.7%)
Russia	2 (1.2%)
Poland	6 (3.5%)
Germany	2 (1.2%)
Portugal	12 (6.9%)
Spain	4 (2.3%)
Panama	1 (0.6)
Total	173 (100%)
Language Used	N (Percent)
English	139 (80.3%)
French	4 (2.3%)
Dutch	3 (1.7%)
Russian	2 (1.2%)
Polish	5 (2.9%)
German	2 (1.2%)
Portuguese	13 (7.5%)
Spanish	5 (2.9%)
Total	173 (100%)

Note: 173 text-based captions were analysed

approach than the classic content analysis [44]. First, the first author engaged in open coding to group photo data and thus describe the phenomena in order to understand it better [44]. While engaging in open coding it became clear to the first author that there were patterns in the way women represented themselves. These fine-grained differences under #brelfie were identified, interpreted and named image representations. The image representations criteria were exhaustive so that single photos only fit into one category which enabled us to count how many images fit into each group. Details of this subjective criteria can be found in Table 2.

A further, less subjective coding was undertaken resulting in the development of seven relevant categories relating to the research questions, i.e., categories that relate to how breastfeeding mothers present themselves / the act of breastfeeding on Instagram. For this second phase, the categories were refined in consultation with the second author and another coder to produce a clear coding strategy. Though the author engaged in open-coding, allowing categories to be interpreted from the dataset, it is important to note that this was informed by her position as a researcher and as a current breastfeeding mother. Categories for this phase of content analysis included (1) image focus, (2) image taken by self/other,

Table 2 Coding categories for both phases of content analysis

Coding Category	Definition	Inter rater Reliability Kappa value
Phase I: Image Representation	Breastfeeding portrait = 1 Photo of mother breastfeeding her child taken by another person where both the mother and child can be seen in the act of breastfeeding Breastfeeding selfie = 2 Photo is composed of mother and child breastfeeding and mother is taking the photo at arms length or in a mirror. This is more akin to the traditional selfie Breastfeeding baby portrait = 3 only child and breast is visible in this image and child is latched onto the breast	.887
Phase II: Focus	Who is the focus of the image? 1 = Mother 2 = Baby, or 3 = Equal	.801
Self/Other	This category refers to who was capturing the breastfeeding image: self or other. Images were coded as 1 = Selfie (Image of the self taken by self e.g., through a mirror, arm angled as though holding a camera) or 2 = Portrait, or 3 = Unclear	.992
Tree of Life	Tree of Life is a popular filter that overlays breastfeeding photographs with the image of a tree. More specifically, the image of a tree's roots are laid over the woman's breast and the tree trunk comes through the child's mouth and there are blooms laid out on the child's head. For an example, see Fig. 1. This filter is sourced by the Picsart app. 0-No 1-Yes	1.00
Location	Location was coded two ways. The first was whether the mother was 1 = outside, 2 = inside, and 0 = unclear	.978
Public/private	It was also coded for whether the photos were in public areas like restaurants, parks, or various public spaces. These were coded as 1 = public, 2 = private, 3 = unsure	.932
Face	Presence of mother's face & head was coded as 0 = Absent 1 = partially visible or fully visible	.956
Gaze	Direction of the mother's gaze was coded as either 1 = Looking at the baby, 2 = Looking at the camera, or 0 = gaze somewhere else/unable to determine	.939

(3) tree of life, (4) image location, (5) public/private, (6) face visibility, and (7) parent gaze. These categories were also exhaustive and could be counted to make the variables quantifiable. The coding criteria in both phases for these representations were initially developed by the first author, however they were refined through conversations around the different codes within the imagery with a second coder with no children and the public involvement of a breastfeeding group, a peer supporter, and a lactation consultant. The members of the breastfeeding group, the peer supporter and the lactation consultant knew that the first author was looking at breffies and consented to give their own opinions about what they thought were the most important aspects of the breffie. The first author was a breastfeeding peer supporter at the time, so was able to share updates on a weekly basis. Details of the coding criteria and levels of analysis around quantification for these seven categories and the image representations created by examining and interpreting the corpus of photos are supplied in Table 2.

Once the coding criteria were established, the first author then coded images as per the criteria described in Table 1. A research assistant then coded a subset of the images using the same criteria. A high level of inter-rater reliability was found for all categories.

Thematic analysis of captions

A thematic analysis [43, 45] was carried out to determine how women who are posting breffies constructed

breastfeeding, motherhood, and identity through the captions attached (this did not include hashtags other than #breffie) to visual representations of breastfeeding on Instagram. An inductive, interpretive thematic analysis was performed by the first author who followed Braun and Clarke's six step approach where 1) initially there was a familiarisation with the set of the 174 remaining captions [43, 45]. This was followed by 2) the creation of an initial coding scheme and then by 3) an analysis of how different codes combined to create themes (e.g. the power of breastfeeding, the ups and downs of breastfeeding). During the third stage, four themes were identified, however after 4) reviewing the themes, it became apparent that there were 2 overlapping themes seen throughout the data set (breastfeeding as a journey and breastfeeding as natural) and thus these two were combined as one making three themes in total. 5) Finally, the themes were named and 6) the report was written.

Reflexivity

We took the notion of reflexivity and subject positioning in research as a key consideration as it was important to think about how our social positions served to inform our approach throughout this project work right from its inception to the aims, the findings and the write up of this study. The first author, who performed the majority of the analyses, is currently a breastfeeding mother to her second child. She has actively posted breffies and engaged in this since the birth of her first child in 2014.

Therefore, she has “insider” knowledge of the digital breastfeeding community through her own, largely positive, experiences. The second author is supporting a currently breastfeeding mother and is also an ally for those women that choose to breastfeed children. The third author has previously breastfed two children but did not post ‘brelfies’ during this time. The positions of the researchers involved with this study informs the way that we have approached this study and we take a stance of being supportive to those mothers who are breastfeeding their children as well as recognising that wider societal pressure to breastfeed may have troubling implications for those that may have difficulties with breastfeeding or who do not choose to breastfeed.

Analysis plan

The content and thematic analysis will be examined through chi-square tests of association to determine whether 1) there are relationships between the image representations and the counts of the 7 categories of content analysis. 2) Whether relationships exist between the content of the visual image representations and themes in each post and 3) if the language used (English or Non-English) in each post is associated with, content and themes of each post.

Results

Brelfies and visual representations

The first, more subjective content analysis found three types of #brelfies (breastfeeding portrait (BP), breastfeeding selfie (BS), and breastfeeding baby portrait (BBP)). The three image representations of brelfies were related to different visual content, however this also could be conceptualised on a spectrum. They scaled from BPs being taken far away from the breastfeeding pair to the BBPs close ups of babies. From the public outdoor space of the BP to private indoor space with the BSs and then further to unidentifiable space around the BBP. From mother’s face and head visible in the BP, to slightly occluded in the BS and absent in the BBP, and from mother’s gaze at baby in the BP, to camera in the BS, to absent in the BBP. See Fig. 1 for a visual representation of this spectrum.

Each brelfie photo was coded under one of the three distinct types of visual content. Mothers that incorporated more than one photo in their post sometimes used different combinations of the three image representations.

The subsequent content analysis of the photos provided data around the three types of image representations. Seven areas of content were analysed in relation to the three types of image representation. Counts and percentages can be found in Table 3.

When focus was considered (mother, baby, equal), chi square analyses indicated significant differences in the counts between the focus of the BBP and the other two types of image representation $\chi^2(1, N=199)=136.83, p<0.001, \phi=0.83$. Almost all BBPs were focused on babies rather than mothers or both. BPs and BSs did not differ in their focus.

Self/other was analysed finding that 95.6% of the BPs were taken by another, 98.6% of the BSs were taken by the self, and in 73.8% of the BBPs it was unclear who was capturing the image. There were four cells with counts below five, so a chi square analysis was not undertaken.

Out of the 25 tree of life brelfies, 24 (96%) were coded as BBPs zero (0%) were coded as BSs, and one (4%) was coded as a BPs. Tree of life brelfies constituted (39.34%) of the total 61 BBPs.

Content analysis also looked at location (public, private). Chi square analyses found that BPs were associated with outside photos while BSs were not $\chi^2(1, N=133)=5.63, p=0.018, \phi=-0.21$. More BPs were taken in a public place $\chi^2(1, N=133)=18.13, p<0.001, \phi=-0.37$. BBPs were not included in these analyses, as there were no clues as to where they were taken.

Face visibility (visible, not visible) also differed between types of photo. BBPs had less counts of face visibility than BSs and BPs $\chi^2(2, N=199)=134.19, p<0.001, \phi=0.83$. Thus, when parent gaze (on baby, on camera) was considered, BBPs were not included. BPs were associated with gaze on the baby, whereas in the BSs the parent’s gaze was on the camera $\chi^2(2, N=112)=44.17, p<0.001, \phi=0.63$.

Thematic analysis of captions

A thematic analysis of the text accompanying the brelfies was performed and three main textual themes were developed. These themes were; breastfeeding as a natural and magical journey, breastfeeding as female empowerment, breastfeeding as a struggle with the desire for support and normalisation. The visual representations are abbreviated at the end of each extract (BP, BS, BBP). Please refer back to Fig. 1 for examples.

- 1) Breastfeeding as a natural and magical journey.

This theme encapsulates the idea that breastfeeding is natural. Women described how breastfeeding would and does fit into their everyday lives, as a “natural” process.

I nurse her to sleep every night. I feel her small body relaxing against mine □ She stops playing with her hair, she lets go of my hand. Sometimes she will release the grip she has on me. Otherwise I gently

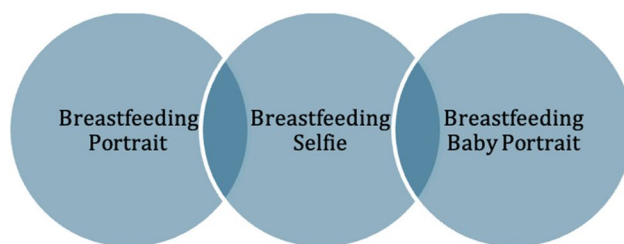


Image Representations and Categories of Content Analysis

Focus on mother or both	Focus on mother or both	Focus on baby
Taken by another	Taken by self	Unclear
Less use tree of life filter	Less use tree of life filter	More use tree of life filter
More outdoor space	More indoor space	Unclear
More public space	More private space	Unclear
Mother's Face visible	Mother's face visible	Mother's face not visible
Parent's gaze on baby	Parent's gaze on camera	No gaze pictured



*Note Second photo in breastfeeding baby portrait is an example of a tree of life brelfie

Fig. 1 Image representations in reference to categories of content analysis

wet my finger and slide it between her lips to stop the incredible suction that nature has given her.

- One BBP and three BP: Photo group 71

Here, the poster initially describes the bedtime routine which is a typical parenting experience, subsequently emphasising the way that her baby is imbued with the “power” of suction which all babies will naturally possess.

Breastfeeding was also described as ‘magical’. However, magical did not always mean easy for these women, and this was voiced.

It is difficult, magical, exhausting, primal, time consuming, etc. But, never for a second would I consider not taking this path when I was blessed with the ability to do so.

-BP: Photo 165

Table 3 Frequencies of content analysis relations to the image representations

Content Analysis Categories		Categories in the Data Set	Type of BF Image Representation		
			Frequency	Portrait	Selfie
Image Representation	Breastfeeding Portrait	68 (34.17%)	--	--	--
	Breastfeeding Selfie	70 (35.17%)	--	--	--
	Breastfeeding Baby Portrait	61 (30.65%)	--	--	--
	Total	199	--	--	--
Focus	Mother	60 (30.15%)	27 (39.71%)	33 (47.14%)	0 (0%)
	Baby	77 (38.69%)	5 (7.35%)	12 (17.14%)	60 (98.36%)
	Equal	62 (31.15%)	36 (52.94%)	25 (35.71%)	1 (1.64%)
	Total	199	--	--	--
Taken by self/other	Self	79 (39.69%)	1 (1.47%)	69 (98.57%)	9 (14.75%)
	Other	73 (36.68%)	65 (95.59%)	1 (1.43%)	7 (11.48%)
	Unclear	47 (23.61%)	2 (2.94%)	0 (0%)	45 (73.77%)
	Total	199	--	--	--
Tree of Life	Filter used	25 (12.56%)	1 (1.47%)	0 (0%)	24 (39.34%)
	Filter not used	174 (87.43%)	67 (98.52%)	70 (100%)	37 (60.66%)
	Total	199	--	--	--
Location	Outside	22 (11.05%)	16 (23.53%)	6 (8.57%)	0 (0%) ^a
	Inside	132 (66.33%)	50 (73.53%)	61 (87.14%)	21 (34.43%) ^a
	Unclear	45 (22.61%)	0 (0%)	0 (0%)	45 (100%)
	Total	199	--	--	--
Public/private	Public	129 (64.82%)	44 (64.71%)	64 (91.43%)	21 (34.43%) ^a
	Private	25 (12.56%)	22 (32.35%)	3 (4.29%)	0 (0%) ^a
	Unclear	45 (22.61%)	0 (0%)	0 (0%)	45 (100%)
	Total	199	--	--	--
Face of mother	Absent	74 (37.18%)	5 (7.35%)	10 (14.29%)	59 (96.72%)
	Present	125 (62.81%)	63 (96.92%)	60 (85.71%)	2 (3.28%)
	Total	199	--	--	--
Gaze	Looking at Baby	55 (27.64%)	44 (64.71%)	8 (11.43%)	3 (4.92%) ^a
	Looking at Camera	60 (30.15%)	13 (19.11%)	47 (67.14%)	0 (0%) ^a
	Looking Elsewhere	7 (3.52%)	0 (0%)	1 (10%)	6 (90%) ^a
	Total	122	--	--	--

^a Note only variables used in the main analyses are reported, thus some percentages do not add up to 100%. The image representation variables that were not used in the main analyses are starred. Gaze category "looking elsewhere" does not include the photos with an absent mother's face

This poster highlights the mixed intense emotions that comprised their experience of breastfeeding. Magic was sometimes described as a dissociative state of exhaustion and elation. This mixed feeling is echoed below.

I adore having his sweet peach fuzzy head just under my chin, easily accessible for kisses and snugs. My mind is in a fog from lack of sleep, my breast has a patch of eczema under the nipple from being moist with milk all the time, my to-do list is never done, yet I feel oh so happy to be here.

-BS: Photo 51

All of these sentiments described breastfeeding as a part of a mother's autobiographical passage into the role

of motherhood, and the idea of breastfeeding as being a transitional, magical, and transformational stage of not just their life, but the life of the child also.

A child is brought into the world and a mother and child may begin their breastfeeding journey (some for a short time, some for a long time.) A mother may nurse her child, watching them go from newborn, infant, to toddler.

-Two BBPs and one BP: Photo group 1

Many mothers posted about memories of the past, where they are now in their journey and how this fitted into their new future as a mother. The transitional nature of breastfeeding and it being fleeting was also used in

conversations about moments and how these moments make the women feel.

Resistance, closeness and love in one .. it's just our time ☐. Daughter fed 14 months, the duchess will be shorter (assuming 6 months, unless she extends a little bit). I remember weaning as the worst adventure with motherhood ... Seriously ... We endured it terribly ... At the same time, pampered 1.5-year-old child is a pick. I have to enjoy this time while I can .(Polish translation).

-BBP: Photo 129

This moment of transition was also something that was anticipated with wonder.

Long live feedings on demand and galore 😊 What will I miss when our milky adventure is over. (French Translation). -BS: Photo 189

2) Breastfeeding as female empowerment.

Breastfeeding was also constructed as a form of empowerment for women exclusively:

To understand the real power of human milk means that you are really empowering women. They have something that is really unique that men don't have.

-Two BSs: Photo group 14

This was linked to gender issues more broadly where breastfeeding was positioned as something unique that women have over men and as a form of empowerment that should be exploited in the interests of women.

Many of the women in this theme posted messages of solidarity, togetherness, and support which were positioned as being not only empowering to the poster, but also to the viewers of the post. There was a sense of being in a group of women with similar experiences, and the solidarity these women felt and wanted to share with others as a result of their breastfeeding experiences.

Here's a snapshot of an ordinary moment feeding my 31 month old.

Solidarity to mamas here with me, and hope this opens the mind of even

1 person ☐☐☐

-BS: Photo 76.

Many of these messages were aimed to inspire other mothers, focusing first on the woman's personal experience, and then moving to an in-group message usually calling to all mothers (whether breastfeeding or not) explaining that they are worthwhile, doing the right thing, and most prolifically, are understood.

But most of all I would learn to enjoy and cherish my own company so when those late nights appear to be the hardest time of my life.. I can stand up as I sway my baby back to sleep, look in the mirror and smile.... Because either way at the end of the day with all the 'I could of and I would of' We as mothers do it anyway, we feel like we are barely surviving but really Mummas, we are striving! ☐☐☐

-Two BPs and two BBPs: Photo group 70

3) Breastfeeding as a struggle with the desire for support and normalization.

In these captions parents articulated what breastfeeding was for them, challenging the idealised notion of how breastfeeding is presented to the general public. Posting a brelfie for some women also amounted to a challenge to the stigma and a means of normalising breastfeeding.

BREASTFEEDING IS NATURAL ♥ Not only to highlight the beauty of breastfeeding, but also to reduce the outdated stigma associated with breastfeeding in public, and thus reduce prejudice around the subject.(Portuguese translation).

-BBP: Photo 86

For some posters normalising breastfeeding also meant looking to the community and the next generation to literally and figuratively make breastfeeding seen.

Women need to see brelfies. They need to see breastfeeding so that they know how to do it. Children need to see this so that they know that it is normal for a baby to breastfeed.(Portuguese translation).

-Four BSs: Photo 196

Some positioned breastfeeding as natural in order to rebuff any criticism. In many messages women talked about help and hindrance to their breastfeeding through support systems or the lack thereof. Women would talk about the shame that society is making them feel by simply feeding their children and how they hope other parents don't feel this lack of support. Often for this theme, women were asking broader society to accept breastfeeding. For some women, posting a brelfie may enable them to obtain the support and endorsement for breastfeeding that is missing from the wider public space.

Society's idea of acceptable crept in and made me feel a little shame. I kicked it to the curb though because this beautifully soft and worn body has nursed that little lamb for 14 months. So instead of shame, I'm celebrating this brilliant body that has not only carried me through 30 years of life but also created 3 miracles. -BP: Photo 128

This narrative was about parenting usually and life with a child. Negative breastfeeding moments touch on different types of breastfeeding stress and pain.

Breastfeeding was a difficult journey for me. I thought that because it was natural, it would also be easy. It's not...I know my story is not the same as other women's stories, some are easier and some are a lot harder. At times I just had to quit because of lack of knowledge or support and with my last baby I was 100% successful. This isn't to take away from formula feeding moms, I was one as well, but rather to say that it took real dedication, education and a little bit of Grace for me to finally exclusively breastfeed.

-BP: Photo 24

It also focused on positive breastfeeding experiences. For example, *I love to feed, when she cuddles up to me sucks looking at my eyes and then often falls asleep sweetly* (Polish Translation; BS, Photo 92). Usually when a negative was mentioned, it would be followed directly by a positive.

I stuck it out—through the cracked, bloody, sometimes infected, sometimes low producing, excruciatingly painful first 3-4 months of our time together. It definitely wasn't how I envisioned the first months of motherhood to be. BUT we made it. And now at 6 months postpartum, we are breastfeeding champs ☐☐ So shout out to all the women who have turned mothers who fought to make a dream come true—no matter how big or small.

-BBP: Photo 13

This poster emphasises the considerable struggles that she experienced breastfeeding, but also describes her success through perseverance. She calls other mothers in a similar situation who may have had similar or different parenting challenges, highlighting perseverance as commendable.

Themes were sometimes overlapping, so that one post could be categorized as incorporating one, two or all three of them.

Relations between themes and visual image representations

The three types of brelfie (BP, BS, BBP) did not relate to the themes of the natural magical journey $\chi^2(2, N=173)=0.46, p=0.796$, or the struggle for support $\chi^2(2, N=168)=4.43, p=0.109$, however the types of brelfie did differ in terms of the theme of female empowerment. BPs were more likely to talk about female empowerment than BSs or BBPs $\chi^2(2, N=168)=6.04, p=0.049, \phi=0.19$.

Relations between language, themes and visual image representations

The three types of brelfie (BP, BS, BBP) were not associated with language (English/Not English) $\chi^2(2, N=173)=2.56, p=0.278$, the theme of the natural magical journal $\chi^2(2, N=173)=1.84, p=0.175$, or female empowerment $\chi^2(2, N=167)=2.60, p=0.107$, however there was an association between not using the English language and using the theme of the struggle for support more often Fisher's Exact $p=0.011$.

Discussion

This research aimed to discover what women post visually and textually when they engage with the Instagram platform to examine how breastfeeding, motherhood, and identity are represented, as well as what motivates women to post brelfies. Our findings suggest that brelfie images can be separated into three image representations (please see Fig. 1 for visual examples). In this final section of the paper, we explore the extent to which these three representations map back to historical representations of the Virgin Mary and Jesus, as discussed in the Background section to this paper. The three representations include motherhood and breastfeeding, as well as the constructions of breastfeeding and motherhood within accompanying text are diverse. Messages of empowerment were more likely to be found with BPs.

The finding that brelfies can be divided into three categories could bring to light that women are representing themselves as mothers differently in this transitional time in their lives. Perhaps these mothers are using the photographs to not only show others that they are a mother, but also so they can look at one of these brelfies and recognize themselves for the first time as a mother, and a certain type of mother at that. The three types of photos (*The BP, the BBP, and the BS*) could be seen as on a spectrum in many ways. From images of public to private space, to the visibility of the mother's face being present or absent. These dichotomies pertaining to body and space above are spoken about in the breastfeeding literature consistently [35–37, 46], as a woman cannot be two things at once, although the ideal Western mother is many things at the same time [47].

As a part of the visual narrative of motherhood on Instagram, this triad of visual representations in brelfie suggests that mothers could see themselves in three different ways based on the type of photo presented; 1) contextualized as a nursing mother in society, 2) performing an embedded task of motherhood, and 3) in an all-encompassing relationship between her body and child. Cultural expectations of motherhood match these three “selves”

[47]. All three types of brelfie could document different pieces of the maternal and feminine identity, therefore by posting the photo, the mother is asserting herself as an active participant in the mother role. Mothers could see themselves in all three roles, but choose to present just one role, or many by using multiple brelfies in a post. Indeed, some of the grouped photos had different types of brelfies in one post.

The first identity is the mother's relationship with broader society and the world. In the BPs mothers are having their photo taken usually outside of the house by another individual observing and potentially with other onlookers who may not approve. Motherhood can be thought of as an interchange between internal and social worlds, as being a mother is both inherently individual and social [16]. This act of bringing breastfeeding into the social sphere as a social act could be part of this identity. It could also be why these photos were associated with accompanying text themes around female empowerment when statistically analysed. This area of maternal identity focuses on the mother as seen by others.

The second identity could have to do with the BS looking at the embedded "duty" of motherhood by feeding one's child [48]. The mother is more visible in these photos, gazing at the camera more with face and head more visible. The focus is on the new mother in her role, usually in the privacy of her own home. This could be because the woman wants to focus on her new identity and how the act of breastfeeding is now a part of her rather than something separate.

The final identity verification is the one which claims that the mother is caring for her children with unconditional love and devotion, a western ideal for "good" mothers [47, 48]. The focus for the BBP is solely on feeding and providing for her baby rather than the mother herself. The tree of life filter which was applied to almost half of this type of photo is a good example of the idea that a mother is nurturing and providing for baby with her breast milk. The idea of mother as providing unconditional love and devotion to her children arguably is akin to that of Virgin Mary with Jesus, similar to what was discussed at the start of the paper, in terms of breastfeeding as creating a spiritual connection and communion with the divine [2].

The accompanying text also can be categorized into three themes (*Breastfeeding as a Natural and Magical Journey*, *Breastfeeding as Female Empowerment*, and *Breastfeeding as a Struggle with the Desire for Support and Normalization*). In the first theme breastfeeding was often acknowledged by the reader and writers that the journey was emotionally intense [49]. Mother's often described breastmilk as being a natural magical antidote,

or substance that straddled the world between natural and supernatural. They also reported being in awe of what their own bodies could do. This is congruent with the literature, as it suggests women that breastfeed have a greater appreciation of their bodies seeing them as an instrument to nourish their baby rather than an object [50]. Again, the 'magical' aspects of breastfeeding would appear to also link to a practice that is beyond human and arguably into the realms of the spiritual and of the divine [2].

The female empowerment, and breastfeeding as a struggle and needing support and normalization themes sometimes overlapped in that mothers wanted to share sentiment or advocate for breastfeeding through both of these avenues. This has been reported in other past breastfeeding studies [37, 40]. However, within the empowerment theme there was also the theme of being in an in-group which gave mothers advocates and like-minded advocates. This form of empowerment has not been addressed as much in the literature.

Language use was associated with the theme of breastfeeding as a struggle with the desire for support and normalisation in that those using non-English languages were more likely to be writing captions around this theme. These results highlight the individual's language relates to their messaging which is congruent with literature around culture as a variable which can impact on breastfeeding "success" [51]. It will be important in future research to investigate cultural interpretations of brelfies.

Implications and applications

Conventional public health messages that aim to promote breastfeeding have many limitations, since they tend to depict breastfeeding as a simple act of volition [46, 51], and many times present it as a moral imperative, not thinking about how difficult it is for some women to accomplish [49, 51]. In the #brelfie social media space, real life breastfeeding women share their curated images, perspectives, and thoughts. Thus #brelfies could potentially bring breastfeeding to the public using a more realistic and person-oriented narrative than seen from typical public health campaigns and therefore may prove useful for public health bodies who wish to promote breastfeeding. However, it would first be important to determine through further research whether women find this space to be welcoming, or not. For example, future research could analyse the comments beneath to determine the reactions that women receive from others in response to these posts—that is, are these positive and welcoming, or more critical of women who post brelfies. Further work could be done to determine how women feel about about posting brelfies—for example if the act of posting a brelfie is cathartic or whether posting or

viewing brelfies is beneficial in other ways, such as making women feel as part of a community of breastfeeding mothers or combating the loneliness that some women feel when breastfeeding [4].

Limitations

Limitations for this study include having to use only a very small subset of brelfies. The brelfies on Instagram that were used were only from those who made their profiles public. Brelfies are widely shared between breastfeeding mothers on breastfeeding support websites, and mothering websites. It might be interesting to examine whether these publicly shared brelfies were different in any way than those shared by private users. The posts were also taken from a 14-month cohort January 2019 – March 2020. Furthermore, having a larger sample would avoid chi-squares with cell counts under 5, which were found in some chi-squares in the sample, so these should be interpreted with caution although using Fisher's exact test still gleaned significant results. There are limitations to content analysis as a method for analysing images, particularly photographs, since we only have the manifest content to go on and little information about the sociocultural context in which the photograph was taken or the meaning or intention behind the photographs for the poster [52], which ultimately we needed to infer. A thematic analysis of the captions generated alongside the Brelfies was conducted to shed further light on these aspects. However, despite this, since there was no interview with the mother alongside the assessment of these images, it is not possible to determine if they would agree with the interpretations made. Future research could focus on a sample of mothers describing their own brelfies and their rationale for posting.

Another limitation that could influence future research is the lack of context for the photos and captions. The data is detached from the women who are central to it. This could be better understood by interviews that could also focus on posters of brelfies and their demographics to examine if there are differences in life circumstances, socioeconomic status or culture. This would answer questions around prevalence amongst different demographics and could elucidate researchers to the results around the association between language and struggle for support theme. Furthermore, although this was beyond the scope of our study, investigating hashtags would be an important step in further understanding brelfie dialogue and language. Another angle to consider in terms of advertising and normalising breastfeeding could be examining mothers who have and have not posted brelfies to see

if their experiences differ. One possibility of investigating the impact of brelfies on these parents could be to ask mothers if they had stories of inspiration or breastfeeding support around brelfies. A study like this could help to determine what types of messages might resonate with mothers, when and in what context. It would also be useful to look at how partners view brelfies to determine whether this might encourage them to support breastfeeding differently or even provide perspective for them about how their significant other may be thinking or feeling.

Conclusions

Overall, this study found that women are using brelfies to positively represent their different identity shifts, and to discuss breastfeeding as a mother. In this transitional time, they are finding a concrete form of representation not just to physically recognize themselves as mothers for the first time, but also to show their followers their new identity, thus actualizing themselves as breastfeeding mothers.

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Authors' contributions

P.E.D. Conceived of the study, sought ethical approval, gathered all data, analysed and interpreted data, and wrote the manuscript. A.B. Gave insight into the method section of the manuscript, wrote the manuscript and edited the final draft. K.B. Provided knowledge around the relevant literature, Gave insight into the method section of the manuscript, wrote the manuscript and edited the final draft.

A.B. Gave insight into the method section of the manuscript, wrote the manuscript and edited the final draft.

K.B. Provided knowledge around the relevant literature, gave insight into the method section of the manuscript, wrote the manuscript and edited the final draft.

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Data availability

No datasets were generated or analysed during the current study.

Declarations

Ethics approval and consent to participate

Ethics approval was given for this project on the 17th of March 2020 by York St John University. Ethics approval code RECPSYC00007.

Consent for publication

Not Applicable.

Competing interests

The authors declare no competing interests.

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