View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Ulster University's Research Portal

WILEY

Accepted Author Manuscript

"This is the peer reviewed version of the following article: Black, R., McLaughlin, M., & Giles, M. (2020). Women's experience of social media breastfeeding support and its impact on extended breastfeeding success: A social cognitive perspective. British Journal of Health Psychology, 25(3), 754-771. [e12451], which has been published in final form at https://doi.org/10.1111/bjhp.12451. This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Use of Self-Archived Versions."

https://authorservices.wiley.com/author-resources/Journal-Authors/licensing/self-archiving.html

Women's experience of social media breastfeeding support and its impact on extended breastfeeding success: a social cognitive perspective.

Introduction

A plethora of research has demonstrated there are significant health benefits of breastfeeding for both mother and child. A meta-analysis conducted by Victora et al. (2016) reported a reduction in child infections, malocclusion, an increase in intelligence and possible reduction in obesity and diabetes as some of the benefits for the child. Additionally, they found breastfeeding to increase maternal protection against breast cancer. Moreover, breastfeeding can decrease women's chances of developing ovarian cancer and type two diabetes (Jäger et al., 2016; Li et al., 2014).

As a result of these benefits The World Health Organisation (WHO, 2018) recommends breastfeeding "exclusively for the first 6 months of life and continued with safe and adequate complementary foods for up to 2 years or beyond" (p6). Despite this, according to the 2010 Infant Feeding Survey (IFS) breastfeeding rates in the UK are the worst in Europe with only 81% of mothers initiating breastfeeding, 34% still breastfeeding at 6 months and <1% at 12 months postpartum (McAndrew et al., 2010). Global comparisons highlight the severity of this problem; at 12 months postpartum prevalence rates of 35% (Norway) and 16% (Sweden) have been reported in Europe and 27% in the USA, with the highest rates found in low-income countries such as the sub-Saharan Africa, south Asia and parts of Latin America (Victora et al., 2016).

1 Perhaps somewhat surprising given the observed prevalence rates is that
2 nearly all women are biologically able to breastfeed with few suffering from medical
3 conditions limiting their physical ability to breastfeed successfully (WHO, 2018).
4 However, whether a mother breastfeeds or not would appear to be influenced by a
5 number of socioeconomic, cultural and individual factors. For example, the impact of
6 social and cultural attitudes can cause women to choose not to breastfeed or stop
7 prematurely, particularly if they have been subject to a negative experience when
8 breastfeeding in public (Rollins et al., 2016). Leeming, Williamson, Lyttle and
9 Johnson (2012) posited the added pressure of women to practice socially sensitive
10 lactation, where they feel the need to only feed discreetly or away from others, causes
11 many to cease breastfeeding altogether.
12 Women's experience of the healthcare system, including healthcare
13 professionals' attitudes towards breastfeeding and the reported lack of breastfeeding
14 skills, can also have a significant impact on breastfeeding initiation and continuation
15 (Rollins et al., 2016) coupled with individual factors such as a lack of maternal
16 confidence and poor self-efficacy (Brown, Dodds, Legge, Bryanton & Semenic,
17 2014). According to Bolling, Grant, Hamlyn and Thornton (2007) the pain associated
18 with bad latch and worries about supply are the most common reasons for early
19 cessation. Research suggests that women are most susceptible to giving up during the
20 first six weeks postpartum (Brown et al., 2014) with many describing their struggle
21 with the physical challenges exemplified by the lack of support from health-care
22 professionals (Redshaw and Henderson, 2012, p28). Certainly, in the UK there is a
23 substantial gap in the availability of NHS peer support services and coverage within
24 areas varies greatly (Grant, et al. 2017). Grant et al. (2017) also highlighted that the
25 training, supervision and peer support roles varies substantially between the services.

This variation in available services may account for many women’s decisions to source alternative means of support. As a consequence, Fox, McMullen and Newburn (2015) postulate that effective social support in addition to guidance from skilled practitioners would enable women to overcome challenges associated with breastfeeding, providing them with confidence in their own abilities to achieve their breastfeeding goals (see also WHO, 2003).

Indeed, Ingram, Rosser and Jackson (2004) provided evidence to suggest that peer and community support increased women’s confidence in breastfeeding by providing them with the opportunity to see others breastfeeding and talk about their experiences. Similarly, a qualitative study by Hoddinott and Pill (1999) found that breastfeeding initiation was influenced more by embodied knowledge gained from seeing other women breastfeed than from gaining theoretical knowledge on the benefits. They also acknowledged that breastfeeding is a skill often acquired through seeing others. Although, it is worth noting that social influences are not always positive and can negatively impact on breastfeeding women by increasing feelings of failure and judgement (Brown, 2016; Regan and Brown, 2019), the research evidence suggests that seeing the successes of others with similar goals can strengthen an individual’s belief that they too possess the skills and ability to succeed. Therefore, social support from peers can be a powerful way to gain self-efficacy.

An expanding source of social support has come from widespread access to high speed Internet. Online health information seeking behaviours have been found to be most commonly exhibited by women; they often seek online support groups to provide them with education and social support (Higgins, Sixsmith, Barry & Domegan, 2011). Research into online social support identified that the types of social support available off-line is also found on-line (Eastin and LaRose, 2004);

1 these include emotional support, instrumental support, informational and network
2 support. A study by Herron, Sinclair, Kernohan and Stockdale (2015) aimed to
3 conceptualise online breastfeeding support and found a number of factors; women
4 often turned to online support due to a lack of face to face support, they found it more
5 convenient and felt they were not inconveniencing others. Additionally, they noted
6 women's awareness of the opportunity to reciprocate.

7 The use of social media (SM) for online support has seen a considerable
8 increase in users. 2019 saw 3.484 billion users globally, an increase of 9% on the
9 previous year (Hootsuite, 2019). The biggest SM penetration came from Saudi Arabia
10 at 99%, the UK had 67% penetration (45 million active users), whilst the lowest level
11 of SM penetration was found in Ghana, Kenya and Nigeria. Furthermore, SM usage
12 has found Facebook FB to be the biggest SM platform with 2 billion active users.
13 Alianmoghaddam, Phibbs and Benn (2018) aimed to explore the influence of SM on
14 exclusive breastfeeding up to 6 months. They considered the type of breastfeeding
15 support women accessed including health websites, forums, SM sites and smartphone
16 apps. They found FB to be the most popular social networking platform for
17 breastfeeding support and highlighted the importance of SM and the internet for
18 promoting breastfeeding in a digital age. They posit that the mothers who are from the
19 generation known as "Generation Y" require reliable online feeding information and
20 smartphone apps may provide a good option for breastfeeding promotion. Further
21 evidence in support of this is demonstrated by Skelton et al. (2018) who explored
22 women's use of SM groups in breastfeeding mothers throughout the USA. They
23 concluded that online support groups provide a positive influence on breastfeeding
24 attitudes, knowledge and behaviours through the creation of a community of support
25 to normalise and empower.

As the current breastfeeding rates demonstrate, knowledge and promotion of the benefits of breastfeeding alone is not sufficient, therefore developing a theory-based intervention to improve breastfeeding outcomes would be beneficial. Theory based research that facilities the understanding of factors which are associated with any given health behaviour can enable the development and evaluation of interventions. There are a number of behaviour change theories that have been developed which can be utilised for health behaviour research. In light of the evidence into online SM support groups' ability to create interactive online breastfeeding communities, the emphasis on women's confidence in breastfeeding success, and the impact of goals on breastfeeding outcomes, it is postulated that Social Cognitive Theory (SCT) is a suitable framework for understanding the factors associated with breastfeeding behaviours and how women are influenced by their membership of SM groups. According to Bandura (1997), individuals are active agents in their own development, they are self-reflective, self-organising and self-regulating. SCT suggests that an individual's behaviour depends on the interplay between person, environment and behaviour which is termed reciprocal determinism. Therefore, behaviour is determined by the interaction of a number of factors: personal goals, self-efficacy, outcome expectancies and social structural factors (Bandura, 1997).

Edwards, Jepson and McInnes (2018) provided a qualitative analysis of the perspectives of women and midwives on breastfeeding initiation using SCT. They found that the use of SCT enabled the focus of a situation specific analysis with rich exploration of experiences and understanding of breastfeeding initiation behaviour rather than a mere description of the behaviour. Key SCT constructs associated with their themes of expectations, knowledge and experiences were; out-come expectancies, self-efficacy and vicarious experience. This demonstrates the suitability

of investigating breastfeeding outcomes using SCT as a theoretical framework. However, their focus was on the initiation of breastfeeding, whereas the focus of the current study was the effect of SM on breastfeeding duration which fills a gap within the current literature.

In light of the above, the aim of the study was to explore the use of SM for breastfeeding support by seeking the experiences and perspectives of primiparous mothers (first time mothers) in Northern Ireland, whilst also considering the value of SCT as a theoretical framework for understanding those experiences.

Methods

Design

The study adopted an exploratory qualitative approach using semi-structured face-to-face interviews to gain the subjective experiences of participants who are members of the private members only SM FB group "Breastfeeding in Northern Ireland" (BFNI). Private FB groups allow any FB user to find the group but not view posts until they are added as members. This allows members to post and share privately within the group. This was considered appropriate to allow the researchers to investigate the value of SCT for helping to understand the experiences of women seeking online social support.

Participants and Procedure

Participants were recruited using purposive sampling through the FB page Breastfeeding in Northern Ireland (BFNI). This was deemed to be the most

appropriate method for providing a sample representative of the population (Lavakras, 2008). BFNI is a volunteer led independent group set up by passionate women consisting of volunteer peer supporters, experienced breastfeeding mums and IBCLC's. The content provided varies from general peer support and light-hearted content to scientific literature when requested or required. Advice is given mother to mother but well moderated and when necessary administrators step in to ensure evidence-based information is being provided.

The inclusion criteria were: all primiparous mothers over the age of 18 who have initiated breastfeeding. This was to gain an insight into both the experiences of women who fed for the WHO recommended term of 6 months and those who didn't. The term 'successfully breastfed' referred to having fed their children breast milk either directly from the breast or via exclusive pumping and included those who adopted a combination feeding approach using formula and breast milk. The exclusion criteria included anyone who had suffered birth trauma or postnatal depression as this demographic was deemed beyond the scope of this study. The demographic information collected can be found in Table one.

[Table one here]

Permission for recruitment of participants was gained via email from the administrators of BFNI. The lead researcher was the main point of contact for the administrators and once email confirmation was gained for the recruitment of participants within the group all contact moved to each individual participant via private FB message.

1 Mothers were invited to take part in the research via an advertisement posted onto the
2 BFNI page. Informed consent was obtained prior to each interview. The researcher
3 explained to participants that their identity would be anonymised and that they had
4 right to withdraw at any time.
5 It was decided that the interviews would continue to the point of saturation to ensure a
6 full investigation of the phenomenon was undertaken. This was achieved in the first
7 round of recruitment when it was noted that the interviews were producing similar
8 content. Once the first set of participant's interviews had been transcribed it was
9 decided that a second round of participant recruitment was not required.
10 Eleven women gave consent to be interviewed however two did not meet the
11 criteria and one was unable to arrange a suitable time for interview. Eight interviews
12 were successfully conducted by the lead author between March and April 2018.
13 Participants received a £10 gift voucher as remuneration.
14 Interviews lasted between 20- 40 minutes, were conducted in English, audio
15 recorded and transcribed verbatim. All participants and individuals mentioned within
16 the interviews were assigned pseudonyms which have been used throughout to protect
17 their identity. Following completion, all participants were debriefed and provided
18 with relevant contacts should they have required some support.
19
20 ***Data Analysis***
21 Analysis was undertaken using the principles of theoretical thematic analysis
22 and was underpinned by the epistemological assumptions of constructivism. It
23 followed a largely deductive method and adopted a six-phase process as described in
24 Braun and Clarke (2006).

Phase one began by reading and re-reading the participants' transcripts. This enabled the author to familiarise themselves with the data, whilst considering the social cognitive themes they expected to find reflected within the participant interviews. Following this, initial note taking and exploratory comments were made and possible suggestions for codes were noted. Phase two involved generating initial codes (e.g. "confidence", "goals", "information", "supported", "normal") which was recorded manually alongside initial notes. The third stage involved analysing the data on a broader level and looked for themes within the codes. Themes were identified at a semantic level in an attempt to understand the significance of the patterns and their broader meanings within the context of social cognitive theory. Phase four reviewed the themes and sought to identify similar themes to be merged and enabled renaming of themes to ensure internal homogeneity and external heterogeneity (Braun & Clarke, 2006). Phase five defined the superordinate and subordinate themes. Following the identification of the themes the researcher removed themselves from analysis for a period of a week before returning to ensure reliability of the coding. This is in line with the recommendations by Joffee and Yardley (2004) and provided a method of test-retest as a method of reliability. Two other authors read through transcripts independently and themes were discussed collectively until a consensus was reached.

Ethical Considerations

The study was conducted in accordance with the British Psychological Society (BPS) ethical guidelines. Ethical approval was obtained from the University Research Ethical Committee prior to commencement of the study. As the researcher was working alone, the lone worker policy was adhered to and all interviews were carried

out in public coffee shops. Care taken to choose a private area and to ensure participants were comfortable before commencing the interviews.

Results

From the interview data it was clear that the prominent social cognitive concept of “self-efficacy” permeated throughout each. Dennis (1999) cites four information sources that influence breastfeeding self-efficacy. She posits that individuals choose, perform and maintain a particular behaviour based on performance accomplishments such as previous breastfeeding experiences either positive or negative; vicarious experiences, which often involve watching other women successfully breastfeed; verbal persuasion such as the supportive encouragement provided by the members of BFNI; their physiological state such as stress or fatigue. Each of these factors was demonstrated within the participant’s experiences of the group. The participants described a number of factors that seemed to have an impact on their perceived self-efficacy and ultimately on breastfeeding success. These factors are presented here as subordinate themes; “education”, “accessibility”, “normalising”, “extended goals” and “online community”. Table 2 provides an overview of these themes and their relationships to SCT. The value of SCT in understanding breastfeeding experiences will be further explored in the discussion.

(Table Two Here)

Increased Self-Efficacy

The concept of self-efficacy was perceptible throughout all of the interviews as many of the themes appeared to be linked to the way a participant gained self-efficacy belief. The mothers have gained self-efficacy belief with the help of BFNI in different ways. For some, the group's support provided them with confidence that they could breastfeed no matter what others thought.

> Elizabeth: its sort of give me confidence to not really care about the rest of societies opinions as long as I am happy with my own mothering and parenting.

In the quote below Heather's ability to reciprocate and extend her knowledge out to others bolstered her own self-efficacy giving her feelings of empowerment.

> Heather: Knowing that there are other mummies at the other end of their phone or computer too, (…) sometimes you feel empowered because you look at a question and you have a wee answer for someone else. (…) maybe a mum is maybe three or four days in and whilst I am only so many months into my journey of motherhood I kinda have a bit of an answer for someone else.

Another salient demonstration of increased self-efficacy came from Patricia who described the experience of the group as 'it's, it's just your motivation that you can see these women who are feeding their three year olds and it's just amazing like (.) I can do that.'

The subordinate themes presented below highlight the number of ways the women's experiences of BFNI encouraged and supported them and increased their confidence and self-efficacy beliefs.

1

2 *Education*

3 For several of the participants, the greatest benefit of being a member of BFNI was
4 the plethora of information available. They highlighted how this information is often
5 evidence backed and provides more practical information than the NHS currently
6 provides. 'I think it's very supportive, very supportive. It's not just (.) primarily it's
7 backed by research and the research is there posted and the articles are great'
8 (Rebecca).

9

10 In the excerpt below Catherine discusses how the group gave her a sense of
11 preparedness prior to having her baby, which increased her confidence in her ability
12 to breastfeed.

13

14 Catherine: I probably know most of my knowledge from that particular group or at
15 least it mentioned stuff I had never heard of before like blebs and stuff like that so
16 then I was able to go and Google it and be like kind of well prepare for all
17 eventualities even before I had her (…)

18

19 For Sarah this idea of being prepared for any possible challenges was also important.
20 For her it wasn't a conscious awareness but one that came with reading other
21 member's posts. This exemplifies how social modelling can increase self-efficacy and
22 impacts on breastfeeding behaviour in a positive way.

23

24 Sarah: So then I had mastitis.... I think I had it cause I felt really sick. (…) I felt really
25 like fluey and the only reason I knew about it was because of the thing, the
26 breastfeeding group thing on Facebook (…) So thank god but that page, just you

> don't (.) you don't know you're reading it but you're taking it in. Even if it's not concerning you, you're still, it's there you're taking it in and it will, it will be a wee bit of a twinkle in the back of your head, oh here I've seen this before.

The view of the group being a source of education was particularly pertinent for those participants who had other considerations such as their own medication or had been prescribed medication for their baby. In the next excerpt Fiona discusses how the group signposted her to places where she was able to find information on medication which is safe for breastfeeding mothers, giving her peace of mind that it was safe to continue breastfeeding.

> Fiona: Yes it's been a great place to go even for things even like medication and stuff like that and even people with the same condition that I have (…) especially bad days when I have been in a lot of pain I can go though the search tool in the group and find out, you know, well, what can I take? You know, and a lot of references to the BNF and things like that so, (…) it's been a great tool since having her.

In another example of education through signposting, Sarah found out through the group about a lactation consultant that was able to advise her on some reflux medication that had been prescribed to her daughter.

> Sarah: I had to give her medication that I really wasn't happy about but Caroline the lactation consultant (…) I just asked her and she said no you're doing (.), cause I read like a thing about reflux and I was like no actually she's not. Cause it actually made it worse.
>
> Researcher: And how did you find out then about Caroline?
>
> Sarah: Through that breastfeeding page (laughs) it's a lifeline like it really is.

Accessibility

A prominent theme within all participants' interviews was how accessible support is from an online social media group. 'It's so much more accessible you know, you're sitting at home and you're having a struggle you can just go on and look' (Patricia).

Each participant described situations when they asked for help at any time of the day or night and were quickly given advice and support. Both Fiona and Elizabeth describe times where they found themselves feeling vulnerable and alone in the early hours of the morning but with the help of BFNI they were able to find comfort and reassurance.

> Fiona: You know you could go there at two o'clock in the morning and ask a question and somebody is going to respond to you because there is other mummies in the same position as you at two o'clock in the morning.

> Elizabeth: it was later that night that my milk came in and I had engorgement so I was up at three o'clock in the morning crying my eyes out on the page and within like twenty minutes of posting I had like ten replies. So like I thought that that really settled me do you know.

As well as using BFNI for 24-hour support, it also seemed important that they were able to access the specific information and support they needed, therefore providing them with tailored support for free. For Suzanne and Rebecca, it was the ability to get

1 different advice, not the “one size fits all” method that is apparently often adopted by
2 the NHS.
3
4 Suzanne: You know it’s (.) you can take your time sit back and read through all the
5 posts, read through everybody's advice or you know see what you can come up with.
6 You know because the same thing doesn’t help for everybody. You know.
7
8 Rebecca: I think so because you know what the workshop is like the information is
9 force-fed down your throat it may not be compatible to you or easily understood by
10 you whereas the Facebook group you can just dip in and out (…) find stuff that
11 interests you and will help you in a tailored way.
12
13 For Elizabeth the group provided access to advice from peers and professionals
14 without cost, something she felt was an added advantage as it made it accessible to all
15 regardless of social class.
16
17 Elizabeth: It is accessible to all whereas somebody mightn’t have the money to be
18 able to get a lactation consultant out and, emm, or do you know they mightn’t know
19 what services are available through the NHS or Sure Start, you know more or less
20 everyone has a Facebook account.
21
22 The accessibility of SM support groups provides a way to promote a mother’s sense
23 of agency by enabling her to access the support she requires when she needs it.
24
25 *Online Community*

The existence of an online community was paramount in ensuring the participants felt supported in their breastfeeding journey and encouraged success. For Claire the advantage of the group included feeling a community surrounded her where she felt comfortable enough to ask a question without feeling like she was a burden on anyone.

> Claire: you don't feel like you are putting anybody out. Like it's a community. Like you ring your doctor, you ring your midwife thinking god they probably think they have more important things to do, they haven't got time to answer my call about why her nappy looks bad (…) so it's the fact that it's always there and people are always willing to help.

Similarly, Sarah highlighted how the group gave her a sense of community that was behind her and supporting her through all the challenges: ' it's like a wee community and I will always remember the saying "don't give up on a bad day" and that stayed with me'. In addition, Elizabeth expressed the value of having both professional support and peer support:

> I think that it's great that there are so many health professionals active on it as well. You know you recognise names coming up of lactation consultants and midwives who would, you know, respond frequently so I think it's nice to have a balance of professional advice coming through with, you know, real stories with people who are relating and as I say some are experienced.

Normalising

1 Some of the participants spoke about how the group helped to normalise
2 breastfeeding for them. They felt supported, like they were not alone and that their
3 natural instinct to breastfeed was “normal” and the biological way to feed a child.
4
5 Fiona: You know what else was my motivation, people getting shout outs. You know
6 that people would be sitting at home, or people would be out and about and they were
7 like oh shout out to the mum who was feeding in such and such. I was like that’s
8 really really good that’s really nice.
9
10 For some women it was the group’s ability to debunk many of the misconceptions of
11 breastfeeding that helped to normalise it for them.
12
13 Elizabeth: Definitely sort of normalising it and there didn’t have to be a cut-off point
14 at six months, it’s sort of give me confidence to not really care about the rest of
15 society’s opinions as long as I am happy with my own mothering and parenting
16
17 *Extended Goals*
18 Many of the women began their breastfeeding journey with a goal in mind for
19 how long they would feed for; for some women that goal was shorter than others.
20 Sarah talked about how the difficulties of the initial week made her take it week by
21 week and as the interview progresses, she expressed how being part of the group has
22 saved her breastfeeding journey.
23
24 Researcher: so did you have any goals then?
25 Sarah :Ehh six weeks.
26 Researcher: Six weeks (.) ok

1 Sarah: Well it was kind of like initially just get through the first week because it was
2 absolutely hateful (…)
3 Sarah: if I didn't, if I didn't have that group I wouldn't be where I am now. It's been
4 the only thing that's kept me going (…)
5
6 For other women, the education and support from the group has enabled them to alter
7 their goals and aim for natural term weaning.
8
9 Rebecca: Well originally before I came across the Breastfeeding in Northern Ireland
10 page I think originally my goal was to get to the minimum six month period and now
11 having educated myself my goal is probably to get to either the age of two or a
12 natural weaning point or when I get pregnant again and I can't.
13
14 Heather: For me like with him being 3 months my partner said "well that's you nearly
15 half way through feeding him" and I was like no…it's kind of moved my goal posts
16 further along, rather than something that imminent.
17
18 **Discussion**
19 ***Summary of results***
20 The aim of the study was to answer the question 'how do women experience
21 breastfeeding support via SM: can it aid extended breastfeeding success?' We have
22 attempted to understand the phenomenon of SM for breastfeeding support and have
23 explored the value of SCT in understanding its use as a theoretical framework. The
24 analysis highlighted women used BFNI to provide them with increased self-efficacy
25 belief, which was facilitated by the group's ability to provide education, a sense of
26 community, the normalisation of breastfeeding, easy access to support and extend

their breastfeeding goals. It is therefore posited that the symbiotic relationship between members of the SM group facilitates greater breastfeeding success and a longer duration of breastfeeding through the central concept of SCT: reciprocal determinism (Bandura, 1998).

The analysis identified self-efficacy belief as the overarching theme; each participant described situations where BFNI had positively impacted on their breastfeeding journey, providing them with the skills and confidence to successfully breastfeed. In addition, they described how it has given them the self-assurance to feed in public regardless of the social stigma. This point is sustained in the work of Brown et al. (2007) who postulated that a lack of maternal confidence and self-efficacy can lead to negative effects on breastfeeding and contributes to early cessation.

SCT suggests that perceived self-efficacy is increased through mastery experiences. It posits that it operates as “one of the determinants which regulates motivation, and affects behaviour by working alongside goals, outcome expectations and environment” (Bandura, 1998, p.627). It also posits that should an individual experience easy successes, then they will be more easily discouraged when they are faced with challenges (Bandura, 1998). This was evident in the analysis, which found that BFNI provided each of the participants with peer support, enabling them to overcome challenges in a way that appears to promote a sense of self-efficacy. Additionally, the interview data demonstrated how self-efficacy can be increased through observational learning thus demonstrating one of the ways the SCT of behaviour change can be used to promote breastfeeding behaviours. By seeing other mothers online, who they consider similar to themselves, succeed through their challenges provides them with a sense that they also possess the capabilities to

succeed (Bandura, 1998). An equally significant concept within SCT, reciprocity, was identified in the data as impacting self-efficacy. Herron et al. (2015) explored women's use of online breastfeeding support and highlighted that the women showed awareness of the opportunity to reciprocate. They observed the presence of upstream indirect reciprocity by women using online breastfeeding support; a phenomenon which appears to be present within the current data.

The subordinate themes were identified as factors which came from membership of the group and which positively impacted self-efficacy belief. The theme around the groups' ability to educate highlighted the different types of support accessible through online SM support groups. This reflects the findings of Gray (2013) who reported that 80% of requests for breastfeeding support online were for informational support. Additionally, it echoed Gray's findings regarding the use of instrumental support online by providing help and resources from lactation consultants. Therefore, by providing the members the resources to educate themselves promoted their self-efficacy belief and sense of agency.

The theme of accessibility also demonstrated how SM support groups provide a way to promote a mother's sense of agency by enabling her to access the support she requires when she needs it. According to Bandura (1998), "people act as agents over their own environment, drawing on their knowledge, cognitive and behavioural skills to produce desired results". (p.1181) Self-efficacy beliefs are inextricably linked to a person's sense of agency; people's beliefs about their ability to effect change and exercise control over events are central to the concept and this is demonstrated within the accessibility theme.

Given that there is much debate surrounding the topic of breastfeeding, and in particular the cultural debate around breastfeeding in public, it was not surprising that

many of the participants talked about normalising breastfeeding when referring to advantages of the FB group. As mentioned previously, the determinants of breastfeeding are complex and the feeling that women are required to practice socially sensitive lactation can increase the chances of women deciding to cease early (Leeming et al., 2012). Therefore, the women's experience of the group aiding in normalising breastfeeding facilitated them to feel comfortable breastfeeding in public. Furthermore, feelings of pride and purpose that participants expressed can be described in terms of SCT as outcome expectancies. Posited by Bandura (1997), outcome expectancies are the perceived consequences of performing a behaviour. They can be both positive and negative, which subsequently can have a positive or negative effect on self-efficacy: known as self-efficacy expectancy. In the context of normalising, the group's ability to elicit positive outcome expectancies for participants, through the normalising of breastfeeding, increases the frequency of the breastfeeding behaviour.

A salient point was how the data illustrated the groups' ability to provide a community feel and highlighted the impact it can have on their breastfeeding journeys. It concurs with Fox et al. (2015) who found that mothers valued the combination of peer support and professional support; the emotional need for support from mothers like themselves to enable them to continue breastfeeding is apparent across every interview. Moreover, the online community theme demonstrated that SM support groups are able to provide both emotional support and network support; providing group members with comfort during times of stress and a sense of belonging. The use of these forms of support in online communication for breastfeeding support was also demonstrated by Gray (2013) as being particularly relevant to breastfeeding mothers.

Goals are a key motivational process within SCT and according to Bandura (1998) goals are rooted in a value system, they serve as guides and incentives to health behaviours such as breastfeeding. When using goals as a self-motivation tool, individuals react to their behaviour and depending on whether they perceive it to be positive or negative they will adjust their goal aspirations accordingly. It is postulated that the group has given the participants' the self-efficacy belief to extend their breastfeeding goals with many women even expressing an interest in natural term weaning.

Limitations and Implications for practice

When considering the implications of the findings it is important to consider the population from which the study sample was drawn, as participants were drawn from an individual FB group that was for Northern Irish members only. It may be pertinent to reflect on whether the women's experiences would have been different had they been members of another SM support group for breastfeeding or a worldwide group; are their experiences group-specific or do they reflect the experience of social media support in general? Therefore, future research may want to incorporate a number of different SM groups that provide breastfeeding support when recruiting participants. In addition, the sample consisted of a relatively affluent group of white mothers who lived with partners and were above the age of 28; their cultural context may have impacted on the experience of the group and contributed to their sense of self-efficacy through having more support at home and more extensive life experience. Research conducted by Mannion, Hobbs, McDonald and Tough (2013) highlighted the impact of partner support on maternal breastfeeding confidence with active verbal encouragement from partners eliciting an increase in confidence.

Conversely, ambivalent partners who were more concerned about "best for baby" led to women feeling less confident about breastfeeding. This is an interesting point as partner support could have a direct impact on breastfeeding outcomes but could also impact on women's decision to seek out support from online mediums. Therefore, women may find the support required to increase their confidence online when they don't have the support at home. It also raises questions surrounding the negative impact of SM on personal relationships. Could the use of SM support groups put a strain on personal relationships when parenting ideals are not shared? Additionally, is also important to note the limitations of SM usage in terms of global health inequalities. It could be suggested that the use of SM for peer support could widen the gap between the more affluent countries and those form lower income countries such as those that are noted to be lower SM users.

Furthermore, in regard to sampling, the participants in this study were all primiparous mothers the implication of this is that the data is limited to those who are novices. The experiences of women who are attempting to breastfeed whilst caring for other children or even tandem feeding toddlers and babies may be pertinent when considering if SM support can aid extended breastfeeding. The impact of parity on breastfeeding intention and duration is linked to prior breastfeeding and ignores social norms (Kloeblen-Tarver, Tompson & Miner, 2002); therefore, how multiparous women experience SM support may elicit different themes. Research that looks at how multiparous women experience SM breastfeeding support is suggested to ensure a comprehensive investigation.

A pertinent point to consider is the researcher's own preconceptions of breastfeeding support through SM. As the primary researcher was tandem feeding two children at the time the study was being conducted the researcher could have more

easily identified with the challenges breastfeeding brings and the various nuances involved when using SM as a source of breastfeeding support, therefore identifying them as the main themes. It should be considered that certain patterns or themes found within the data may have elicited more interest to the researcher and again impacted on them being identified as prominent themes.

It is, however, also important to note the limitations of SCT. This research has highlighted the ability of SCT to provide the mechanisms of action for breastfeeding behaviours in the context of SM support groups but in terms of intervention design it cannot provide the active content of the intervention (Bourne, Ivanova, Gainforth and Jung, 2019). Therefore, to translate these findings into a behaviour change intervention for breastfeeding requires consideration. Meta-theories such as the Theoretical Domains Framework (TDF) provides a guide to demonstrate how theoretical insights on behavioural processes can be mapped to behaviour change techniques (Atkins et al*.,* 2017).

In addition, future research could aim to use quantitative measures to further test the applicability of SCT as a means of measuring breastfeeding behaviours and intention with a larger sample.

However, our findings have a number of implications for informing practice. The promotion of breastfeeding has typically been idealistic and often negated to highlight possible difficulties for breastfeeding mothers and subsequently don't demonstrate how there are breastfeeding solutions (Kukla, 2006). This research has demonstrated that to improve breastfeeding rates care must be taken to improve on the education of breastfeeding and its challenges. The participants expressed how their lack of preparedness impacted their breastfeeding experience, which reflected the sentiments of the participants cited by Redshaw and Henderson (2012). By targeting

1 breastfeeding education for both mothers and their partners in the prenatal stage it
2 could help prepare them for the physical and emotional challenges of breastfeeding
3 and the impact it can have on relationships. It is hoped that through earlier and more
4 comprehensive education it would result in more women being willing to persist
5 through challenges, encourage them to seek professional help when required and
6 indeed inform them of where they can go for help.

7 Another significant factor emphasised in the analysis was the impact of having
8 support available twenty-four hours a day and particularly peer support. This builds
9 upon the research by Herron et al (2015) who identified one of the attributes of online
10 breastfeeding support as being "accessibility". As can be seen from the participants'
11 interviews in the current study, breastfeeding is not a practice that is reserved for
12 daytime; therefore, it requires support to be available around the clock. With no
13 current helplines in the UK available past midnight, it could be suggested that these
14 online SM support groups are providing a service that is of great need. Therefore, we
15 should be questioning why support such as this has become secondary to other
16 breastfeeding support services.

17 A further consideration of SM usage is the potential impact it can have on the
18 wider social and cultural views of breastfeeding which were highlighted by Pain,
19 Bailey and Mowl (2001). SM support groups have the potential to challenge
20 ideologies such as the negativity surrounding feeding in public space, and the belief
21 that you have to wean before going back to work due to unsupportive male
22 environments. It does this by providing a place whereby women are able to empower
23 and inform each other. Additionally, it can help transcend social divides by bringing
24 together women from all class backgrounds to support each other to breastfeed.

1 Given the applicability of SCT to the participant's accounts of their
2 experiences we propose considering applying SCT when developing future
3 breastfeeding promotion campaigns; according to Bandura (1997) "a comprehensive
4 approach to health promotion requires changing the practices of social systems that
5 have widespread detrimental effects on health rather than the solely changing the
6 habits of individuals". (pp. 623). Additionally, with the prevalence of people turning
7 to mobile health the development of an SCT based mobile app to support and educate
8 women may provide a cost-effective way for governments to increase breastfeeding
9 rates.
10 *Conclusion*
11 In conclusion, the study has demonstrated that for the women who took part in
12 this study, being a member of the online SM group has provided them with the self-
13 efficacy belief to succeed and the network support to make them feel like they are not
14 alone. Importantly, it has given them the courage and determination to extend their
15 feeding goals and, in many cases aim for natural term weaning. The authors suggest
16 that this study adds to the existing literature into online breastfeeding support by
17 proposing a theory of behaviour change, which has the potential to be applied to
18 interventions with the aim of increasing breastfeeding rates and duration. It has aided
19 in furthering the understanding of how women use SM to gain different types of
20 support and the impact SM has on social and cultural views of breastfeeding. Of
21 particular salience is that, through the use of social media women are able to access
22 support at a distance. The recent impact of the covid-19 pandemic has highlighted the
23 benefits of an online support network and has made the findings of this study more
24 pertinent.

Furthermore, by adopting a qualitative approach we were able to consider the socioeconomic, cultural and individual factors impacting breastfeeding, from the viewpoint of breastfeeding mothers.

References

Alianmoghaddam, N., Phibbs, S., & Benn, C. (2018). "I did a lot of Googling": A qualitative study of exclusive breastfeeding support through social media. *Women and Birth.* https://doi.org/10.1016/j.wombi.2018.05.008

Atkins, L., Francis, J., Islam, R. *et al.* A guide to using the Theoretical Domains Framework of behaviour change to investigate implementation problems. *Implementation Science* **12,** 77 (2017). https://doi.org/10.1186/s13012-017-0605-9

Bandura, A. (1997) Self-Efficacy: the exercise of control, W. H. Freeman, New York.

Bandura, A. (1998). Health Promotion from the Perspective of Social Cognitive Theory. *Psychology & Health, 13* (4), 623–649. https://doi.org/10.1080/08870449808407422

Bolling, K., Grant, C., Hamlyn, B., & Thornton, K. (2007). Infant Feeding Survey 2005. London: *The Information Centre for Health and Social Care*.

Jessica E Bourne, Elena Ivanova, Heather L Gainforth, Mary E Jung, Mapping behavior change techniques to characterize a social cognitive theory informed physical activity intervention for adults at risk of type 2 diabetes mellitus, *Translational Behavioral Medicine*, ibz008, https://doi.org/10.1093/tbm/ibz008

Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology*,Vol 3 No 2. pp. 77-101.

British Psychological Society. (2018). Code of Ethics and Conduct Guidance. https://doi.org/10.1177/0969733008095390

Brown CRL, Dodds L, Legge A, Bryanton J, Semenic S. (2014) Factors influencing the reasons why mothers stop breastfeeding. *Canadian Journal of Public Health, 105*, 179–85.

Brown, A. (2016). What do women really want? Lessons for breastfeeding promotion and education. *Breastfeeding Medicine*, *11*(3), 102–110. https://doi.org/10.1089/bfm.2015.0175

Eastin, M. S., & Larose, R. (2005). Alt . support : Modelling social support online. Computers in Human Behaviour, 21 (6), 977-992. https://psycnet.apa.org/doi/10.1016/j.chb.2004.02.024

Edwards, M. E., Jepson, R. G., & McInnes, R. J. (2018). Breastfeeding initiation: An in-depth qualitative analysis of the perspectives of women and midwives using Social Cognitive Theory. *Midwifery*, *57*(October 2017), 8–17. https://doi.org/10.1016/j.midw.2017.10.013

Fox, R., Mcmullen, S., & Newburn, M. (2015). UK women ' s experiences of breastfeeding and additional breastfeeding support : a qualitative study of Baby Café services. *BMC Pregnancy and Childbirth*, 1–12. https://doi.org/10.1186/s12884-015-0581-5

Grant, A., Hunter, B., Mcewan, K., Tedstone, S., Greene, G., Copeland, L., Brown, A. (2017). Availability of breastfeeding peer support in the United Kingdom: A cross-sectional study. *Maternal and Child Nutrition, 14*, 1–10.

Gray, J. (2013). Feeding On the Web : Online Social Support in the Breastfeeding Context. *Communication Research Reports, 30* (1), 1-11. https://doi.org/10.1080/08824096.2012.746219

Herron, M., Sinclair, M., Kernohan W. G., & Stockdale, J. (2015). Tapping into authentic presence: key components arising from a concept analysis of online breastfeeding support. *Evidence Based Midwifery, 13*(3), 76–83.

Higgins O, Sixsmith J, Barry MM, Domegan C. (2011) A literature review on health information- seeking behaviour on the web: a health consumer and health professional perspective. *Stockholm: European Centre for Disease Control*.

Hoddinott, P., & Pill, R. (1999). Qualitative study of decisions about infant feeding among women in east end of London. *BMJ (Clinical research ed.)*, *318*(7175), 30–34. https://dx.doi.org/10.1136%2Fbmj.318.7175.30

Hootsuite (2019). The global state of digital in 2019 report. Retrieved from https://hootsuite.com/pages/digital-in-2019

Ingram, J., Rosser, J., Rm, M., & Rm, D. J. (2004). Breastfeeding peer supporters and a community support group : evaluating their effectiveness. *Maternal and Child Nutrition, 1,* 111–118.

Jäger, S., Jacobs, S., Kröger, J., Fritsche, A., Schienkiewitz, A., Rubin, D., Schulze, M. B. (2014). Breast-feeding and maternal risk of type 2 diabetes: a prospective study and meta-analysis. *Diabetologia, 57*(7), 1355–1365. https://doi.org/10.1007/s00125-014-3247-3.

Joffe, H., & Yardley, L. (2003) Content and Thematic Analysis In D. F Marks, L, Yardley (Eds) *Research Methods for Clinical and Health Psychology.* (pp. 56-68). University of Southampton SAGE Publications Ltd.

Kloeblen-Tarver, A., Thompson, N.J., & Miner, K.R. (2002). Intent to breast-feed: The impact of attitudes, norms, parity, and experience. *American Journal of Health Behaviour, 26* (3), 182-187. https://doi.org/10.5993/AJHB.26.3.3

Kukla, R. (2006). Ethics and ideology in breastfeeding advocacy campaigns. *Hypatia*, 21, 157–180.

Lavrakas, P. J. (2008). Encyclopedia of survey research methods Thousand Oaks, CA: Sage Publications, Inc. doi: 10.4135/9781412963947

Leeming, D., Williamson, I., Lyttle, S., & Johnson, S. (2013). Socially sensitive lactation: Exploring the social context of breastfeeding. *Psychology and Health*, *28* (4), 450–468. https://doi.org/10.1080/08870446.2012.737465

Li, D.-P., Du, C., Zhang, Z.-M., Li, G.-X., Yu, Z.-F., Wang, X., Li, P.-F., Cheng, C., Liu, Y.-P., Zhao, Y.-S. (2014). Breastfeeding and ovarian cancer Risk: a systematic review and meta-analysis of 40 epidemiological studies. *Asian Pacific Journal of Cancer Prevention, 15*(12), 4829–4837. https://doi.org/10.7314/apjcp.2014.15.12.4829

1 Mannion, C. A., Hobbs, A. J., McDonald, S. W., & Tough, S. C. (2013). Maternal
2 perceptions of partner support during breastfeeding. *International breastfeeding*
3 *journal*, *8*(1), 4. https://doi.org/10.1186/1746-4358-8-4
4
5 Mcandrew, A. F., Thompson, J., Fellows, L., Large, A., Speed, M., & Renfrew, M. J.
6 (2012). *Infant Feeding Survey* 2010.
7
8 Pain, R., Bailey, C., & Mowl, G. (2001). Infant feeding in North East England:
9 Contested spaces of reproduction. *Area*, *33*(3), 261–272.
10 https://doi.org/10.1111/1475-4762.00030
11
12 Redshaw M, Henderson J. Learning the hard way: expectations and experiences of
13 infant feeding support. *Birth Issues in Perinatal Care, 39 (1)* 21–9.
14 https://doi.org/10.1111/j.1523-536X.2011.00509.x
15
16 Rollins, N.C., Bhandari, N., Hajeebhoy, N., Horton, S., Lutter, C.K., Martines, J.C.,
17 Piwoz, E.G., Richter, L.M., Victora, C.G., 2016. Why invest, and what it will take to
18 improve breastfeeding practices? *The Lancet 387*, 491–504.
19 https://doi.org/10.1016/S0140-6736(15)01044-2
20
21 Shepherd, L., Walbey, C., & Lovell, B. (2017). The Role of Social-Cognitive and
22 Emotional Factors on Exclusive Breastfeeding Duration. *Journal of Human Lactation,*
23 *33*(3), 606–613. https://doi.org/10.1177/0890334417708187
24

World Health Organization. (2003). Global strategy for infant and young child feeding. Geneva: *World Health Organization*. Geneva. Retrieved from http://www.who.int/nutrition/topics/global_strategy_iycf/en/

WHO/UNICEF Guideline (2018). Protecting, promoting and supporting breastfeeding in facilities providing maternity and newborn services: the revised baby-friendly hospital initiative *World Health Organisation*, Geneva.

Victoria, C., Bahl, R., Barros A., Franca, G., Horton, J., Krasevec, J., Murch, S., Sankar, M., Walker & N., Rollins, N (2016). Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The Lancet, 387,* 475-490. https://doi.org/10.1016/S0140-6736(15)01024-7

Table 1 Participant demographic information

Participant	Age	Marital Status	Breastfeeding Duration	Feeding method	NIMDM17
Heather	28	Co-habiting	3 Months	EBF	508
Fiona	30	Married	9 weeks	C	779
T Sarah	29	Co-habiting	9 Months	EBF	761
Suzanne	33	Co-habiting	11 Months	EBF	524
Claire	33	Married	11 Months	EBF	707
Rebecca	35	Married	10 Months	EBF	707
Elizabeth	28	Co-habiting	10 Months	EBF	41
Catherine	31	Married	13 Months †	EBF	747

1 Feeding Method – Exclusive (EBF), Combination (C), Exclusive Pumping (EP).
2 NIMDM17 – Northern Ireland Multiple Deprivation Measure: ranked from 1 (most deprived) to 890
3 (least deprived). † - No longer feeding
4
5
6
7
8
9
10
11
12
13
14
15 **Table 2 Example codes, themes and relationship to SCT constructs**

Codes	Theme	Relationship to SCT
Confidence, knowledge, signposting, preparedness, information	Education	Self-efficacy & agency increased by advancement of knowledge and ability to self-help
24-hour, free for all, in control, filling a gap in support, instant support	Accessibility	Increased agency by taking control of difficult situations. Self-efficacy by increasing confidence through support at any time of day
"it's normal", feeding in public	Normalising	Vicarious experiences, self-efficacy social modelling, outcome expectancies
Natural term/self-weaning, feeding older children, goals	Extended Goals	Outcome expectations
Loneliness, connections, supportive, security, village, reassurance	Online Community	Verbal encouragement, perceived self-efficacy

1
2
3
4
5
6
7
8