RUNNING HEAD: Attitudes to Breastfeeding in Public

Title: A pilot study of the impact of brief exposure to images of breastfeeding mothers on attitudes towards mother's breastfeeding in public.

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Abstract

The wider societal attitudes held towards mothers' breastfeeding in public seem to impact infant feeding choices. The present study employed an online (N = 396) experimental pre-test post-test design set to examine whether a *mere exposure effect* of briefly viewing and rating the valence of four different images of public breastfeeding (i.e., mother and baby alone, females in background, males in background, and females and males in background) would impact on participants' attitudes towards a mother breastfeeding in public. There was a marginal increase in the positive attitudes towards public breastfeeding at Time 2 when compared with Time 1 following exposure to the four images. These findings support a potential positive mere exposure effect in enhancing attitudes towards breastfeeding in public. This suggests a greater use of promotional material using visual stimuli may improve societal acceptance of breastfeeding in public.

Keywords: Breastfeeding attitudes, Public breastfeeding, Infant feeding, Societal support, Media promotion.

Attitudes toward public breastfeeding are generally negative and stand in sharp contrast to the clear data on the positive impacts of breastfeeding. For example, Spurles and Babineau (2011) investigated the attitudes of young adults and found that on average, women expressed emotional and social concern for the mother and/or witnesses, suggesting that the mother should respect others' comfort levels and envisage possible reactions. Many male participants felt breastfeeding was generally inappropriate in restaurants or near others who are eating, despite being in support of mothers breastfeeding in public (Spurles & Babineau, 2011). In another study, 21% of men agreed or strongly agreed that they felt embarrassed when an unknown mother breastfed in front of them (Vaaler et al., 2011).

In fact, the substantial body of literature on the attitudes and knowledge held toward public breastfeeding reflects similar stances among women (Fairbrother & Stanger-Ross, 2010), men (Magnusson et al., 2017), adolescents (Giles, Connor, McClenahan, & Mallet, 2010; Goulet, Lampron, Marcil, & Ross, 2003), prenatal mothers (Dungy, McInnes, Tappin, Wallis, & Oprescu, 2008), and student populations (Foss & Blake, 2019; Kavanagh, Lou, Nicklas, Habibi, & Murphy, 2012; Marrone, Vogeltanz-Holm, & Holm, 2008). While the findings are sometimes mixed, a theme that generally emerges is that (1) breastfeeding in public should be discrete, preventing exposure of a mother's breast, and (2) the mother should consider others' perspectives (e.g., fellow diners in a café), so as to guard herself from negative judgment, and in particular, an unsolicited male gaze (Sheehan, Gribble, & Schmied, 2019). This is problematic considering the growing consensus that wider societal attitudes contribute towards mothers' infant feeding choices (Brown, 2016, 2017; Foss & Blake, 2019; Henderson, Kitzinger, & Green, 2000; Leahy-Warren, Creedon, O'Mahony, & Mulcahy, 2017).

Feeding choices have significant impacts on both child and mother. The World Health Organization (WHO) states that "exclusive breastfeeding is recommended up to 6 months of

age, with continued breastfeeding along with appropriate complementary foods up to two years of age or beyond" (WHO, 2018). Breastfeeding is associated with health benefits for the mother such as a reduced risk of breast and ovarian cancers, osteoporosis, and Type 2 diabetes (Victora et al., 2016), and for the child, including a reduction in middle ear infections, gastroenteritis, respiratory infections, asthma, obesity, diabetes, childhood leukemia, and sudden infant death syndrome (Ip, Chung, Raman, Trikalinos, & Lau, 2009). For some mothers, the risk of developing maternal postpartum depression increases when they stop breastfeeding before they are ready (Ip et al., 2009).

Despite consensus on the importance of breastfeeding, exclusive breastfeeding rates for infants at six months are 38% globally. In many countries, these rates decline sharply between childbirth and the six-month mark. For example, in a UK infant feeding survey (McAndrew et al., 2012) found the breastfeeding initiation rate to be high at 81%. However, by one-week post-partum, this reduced to 69%. This trend continued to 55% at six weeks, and by six months only 34% of mothers in the UK continue to breastfeed (McAndrew et al., 2012). An important part of the WHO's (2018) global target to improve nutrition by 2025 is the goal to increase exclusive breastfeeding for infants up to six months by at least 50% In this way, while promoting breastfeeding to mothers making feeding choices is important, as important will be supporting mothers that have chosen to breastfeed in continuing to do so.

This may not be possible without a shift in societal attitudes toward public breastfeeding to better support mothers in the days, weeks, and months following their infant's birth (Morris, Zarate de la Fuente, Hoddinott, & McInnes, 2016; Sheehan et al., 2019). Infant feeding choice is a complex, multifaceted decision-making process (Koerber, Brice, Tombs, 2012; Sheehan, Schmied, & Barclay, 2010; Stuebe & Bonuck, 2011) and influenced by many people with direct and indirect contact with the mother and infant. For example, the choice of whether to breast or bottle-feed for some mothers might be influenced

by immediate and extended family, friends, health professionals, peers, and even incidental contacts when breastfeeding mothers encounter the public (e.g., Scott, Binns, & Aroni, 1997; Sheehan et al., 2019).

In a comprehensive review of the literature, Rollins et al. (2016) concluded: (i) society is not yet supportive enough for most women who want to breastfeed; (ii) countries can improve breastfeeding rates by scaling up interventions, policy, and programmes; (iii) successful breastfeeding is a collective societal responsibility; and (iv) no studies have specifically piloted family or community level interventions to increase societal acceptance or approval of breastfeeding. Acker (2009) proposes mechanisms that might be directly relevant to such interventions, in suggesting that negative attitudes toward breastfeeding in public are, at least in part, attributable to this being an unfamiliar image when compared with breastfeeding in private (Foss, 2013; Foss & Blake, 2019; Sheehan et al., 2019). In other words, negative attitudes toward public breast feeding may be attributable to the *mere exposure effect* (Zajonc, 1968), whereby attitudes toward target stimuli become increasingly positive with repeated exposure. The mere exposure effect has been demonstrated in terms of increased liking for a wide range of stimuli, (e.g., Bornstein, 1989; Montoya, Horton, Vevea, Citkowicz, & Lauber, 2017, Zajonc, 2001).

Could simply seeing more images of mothers' breastfeeding really improve wider societal attitudes to be more supportive and accepting of breastfeeding in public places? While it has been suggested that greater exposure to imagery of mothers breastfeeding in public would be beneficial in normalizing this biological behavior (Acker, 2009; Austen, Dignam, & Hauf, 2016; Brown, 2016, 2017; Foss, 2013; Foss & Blake, 2019; Gearhart & Dinkel, 2016), to our knowledge to date there have been no studies specifically investigating mere exposure effect and attitude change towards mothers' breastfeeding in public.

A brief intervention facilitating mere exposure, if successful, could have utility for potentially leading to improved societal support for mothers' breastfeeding in public (Rollins et al., 2016). The study has two principle aims: to examine a) if exposure to such images could increase the positive attitudes held by the participants, and b) to see if there is a difference in perceived liking among the four images presented. It was predicted that there would be a significant increase in positive attitudes from time 1 to time 2 following exposure to the four images (Hypothesis 1). Furthermore, it was expected that Image 1 of the mother and infant breastfeeding with no other people in the background would be viewed significantly more positively than all three other images (Hypothesis 2), while Image 2 of the mother and infant breastfeeding with females in the background would be viewed significantly more positively than Image 3 with males in the background (Hypothesis 3).

Method

Participants.

Ethical approval was granted via the University of Chichester Research Ethics Committee. A sample of $N = 396$ participants (male $N = 15$, female $N = 380$, one preferred not to say) were recruited using a snowball-sampling method to an online survey through a variety of social media platforms and email networks[1]. The participants age groups in years were; 18-24 (7%), 25-34 (39%), 35-44 (38%), 45-54 (5%), 55-64 (3.7%), 65-74 (0.3%). The sample consisted mostly of people from the United Kingdom (89.6%). The remaining participants (9.4%) were from countries such as the USA, Australia, and New Zealand.

[1] These platforms and online networks included Facebook and Twitter pages such as: Breastfeeding Uncovered, Fatherhood Institute, Dad Info and Portsmouth Breastfeeding Network. The survey was also emailed to the following organizations; West Sussex Public Health Department, Family information service and Chichester District Council. Participants from the University of Chichester student participation scheme were also recruited.

Materials

Iowa Infant Feeding Attitudes Scale (IIFAS).

This is a 17-item measure of knowledge and attitudes to infant feeding held by mothers and their support network (Mora et al., 1999, α = 0.86). Participants responded to each item using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Sample items include *"The nutritional benefits of breast milk last only until the baby is weaned from breast milk"* and *"Formula-fed babies are more likely to be overfed than breastfed babies".* The current study showed α = 0.89 demonstrating strong reliability.

Attitudes to Breastfeeding in Public Scale (ABPS).

This was a self-developed 20-item scale by the authors for the purposes of the present study and measured attitudes towards mothers breastfeeding in public. The scale was designed to assess attitude change between the pre-test and post-test and is rated on a 5-Likert scale where 1 (strongly disagree) to 5 (strongly agree). An extensive review of the breastfeeding literature was conducted that looked for key themes to serve as the basis for generating the items in this new scale. Example statements include *"Seeing a mother breastfeeding in public is not acceptable in our society"* and *"It is acceptable to breastfeed infants in public in our society"*. There were 10 positively-framed items and 10 negatively-framed items. Negatively-framed items were reverse scored. A higher score indicated a more positive attitude to breastfeeding in public. The data collected in the present study demonstrated high internal consistency reliability for T1 (α = 0.82) and T2 (α = 0.84).

Fairbrother & Stanger-Ross Scale (FSRS, 2010) and Four Images of Breastfeeding in Public

The FSRS was used to assess how much participants agreed or disagreed with a set of adjectives. In this study, the scale was shown to participants at T2 on viewing each of the four images of a mother breastfeeding in the same public location (i.e., a café/restaurant) with

perceived privacy as a variable. The images were designated as follows: Image 1 was the Control Condition with the mother and infant – no other people in the background; Image 2 included two females in the background; Image 3 included two males in the background; while Image 4 included a mixture of both females and males in the background. After exposure to each image, participants were asked to state how much they agreed or disagreed with that particular image using 14 adjectives: Seven positive (*practical, healthy, beautiful, natural, inspirational, intimate, and sexy*) and seven negative adjectives (*embarrassing, disgusting, weird, disturbing, shameful, indecent, and obscene*) on a 7-point Likert scale where 1 was Strongly Disagree and 7 was Strongly Agree (Fairbrother & Stanger-Ross, 2010). The data from this study found responses to the adjectives to be highly reliable (α = 0.93).

Procedure.

The study was an online survey pre-test post-test design, with all measures and materials on Qualtrics, with attitudes to breastfeeding in public data collected at two-time points, Time 1 (T1) and Time 2 (T2). T1 was shared via a weblink on social media. The first set of questions included demographic information and the IIFAS. Participants then completed the self-developed Attitudes to Breastfeeding in Public Scale (ABPS), followed by a message that they would receive an email with a weblink to complete T2 of the study seven days later. At T2, a series of four images of a mother breastfeeding in a public place were presented. For each image presented, the list of adjectives (Fairbrother & Stanger-Ross, 2010) were presented in random order by selecting the randomizer function within Qualtrics to avoid potential order effects. The ABPS was subsequently administered. The time taken to complete T2 was approximately 10 minutes.

Data Management and Analysis.

Only participants who had completed all questions at T1 were sent the link to complete T2. An email reminder was sent if a completed response for T2 was not received within two days. Responses with incomplete data for T2 or both T1 and T2 were removed from the data set ($N = 106$ out of a total $N = 502$). The analysis was carried out on the remaining complete datasets (final $N = 396$).

IIFAS. The 8 negative items from the 17-item scale were reverse scored. A new variable was created to identify the mean average score for each participant.

ABPS. The ten negative items from the 20-item ABPS were reverse scored. A new variable was created to identify the mean average score for each participant for T1 and T2.

FSRS. For each of the four images presented, the 7 negative items from the 14-item adjectives scale were reverse scored. A new variable was created to calculate the mean average score for each participant.

Results

For each hypothesis, preliminary analysis was performed to ensure no violation of the assumption of normality, linearity and homoscedasticity. A Pearson product moment correlation analysis examined the relationship between IIFAS score and each of the four images using the FSRS average score for liking and found that the IIFAS score had strong positive correlations with Image 1: $r(394) = .53$, $p < .001$, Image 3: $r(394) = .51$, $p < .001$, and Image 4: $r(394) = .51$, $p < .001$, respectively. The IIFAS and Image 2 (Females in background) had a medium positive correlation, $r(394) = .47$, $p < .001$ (Cohen, 1988). The relationship between APBS score at T2 and each of the four images using the FSRS average score for liking showed a medium positive correlation for Images 1 and 2, $r(394) = .31$, $p < .001$ and $r(394) = .33$, $p < .001$, respectively. For Images 3 and 4 there were small positive correlations with NS Attitude score, $r(394) = .3$, $p < .001$ and $r(394) = .3$, $p < .001$,

respectively. Pearsons correlation coefficients were also calculated to explore the relationship between the ABPS average attitudes measured at T1, T2, and IIFAS. There was a small positive correlation between the ABPS average attitude score at T1 and the IIFAS $r(394) = .11$, $p = .034$, and a small positive correlation between ABPS average attitude score at T2 and the IIFAS, $r(394) = .17$, $p = .001$.

A paired samples *t*-test was conducted to test the hypothesis that mean NS scores would be higher (i.e., more positive) at T2 than T1. Although small, there was a marginally significant statistical difference between T1 ($M = 3.96$, $SD = .51$) and T2 ($M = 3.99$, $SD = .53$), $t(395) = -1.7$, $p = .045$ (one-tailed), with a Cohen's *d* effect size of .09, showing a minimal effect size (Cohen, 1988). Thus, hypothesis 1 was supported.

A one-way repeated measures ANOVA was conducted to compare the total liking scores on the FSRS across the four images of a mother breastfeeding in public. As Mauchley's test of sphericity is not assumed, the Greenhouse-Geisser result is reported, $F(3, 1185), = 5.67$, $p = .001$, $np^2 = .014$, a small effect size. Follow-up paired samples *t*-tests (with Bonferonni corrected *p* value of .0125) revealed a significant difference between average scores in Image 1 ($M = 6.2$, $SD = .40$) to Image 2 ($M = 6.1$, $SD = .44$), $t(395) = 3.47$, $p = .001$. Liking for Image 1 was not significantly higher than for Image 4, $t(395), = 3.22$, $p = .014$, nor significantly higher than for Image 3 $t(395) = .31$, $p = .39$. Thus, hypothesis 2 was not supported overall, although there was some partial support. It should be acknowledged that while the results have revealed significant differences between the images that the range in mean scores is small ($M = 6.18$ to $M = 6.23$).

A Paired samples *t*-test showed a significant difference between mean liking score for Image 2 ($M = 6.1$, $SD = .44$) and Image 3 ($M = 6.2$, $SD = .43$), $t(395) = -3.21$, $p < .001$.The mean liking rating decreased -.03 with a 95% confidence interval ranging from -.05 to -.01.

Thus, hypothesis 3 was not supported, and in fact a significant difference was found in the opposite direction to that predicted.

Discussion

This study set out to investigate if simple exposure could increase the positive attitudes held by participants toward breastfeeding in public. Even brief exposure to four simple photographs of a mother breastfeeding in public resulted in a slight, but significant increase in positive attitudes held by participants post-exposure compared with pre. These results demonstrate further support for the mere exposure effect. It may be possible to enhance wider societal attitudes in order to potentially facilitate greater community support and acceptance of public breastfeeding (Brown, 2016; Rollins et al., 2016). The present brief intervention could be added to a suite of potential simple cost effective interventions such as poster campaigns (Austen et al., 2016). Of particular importance to exposure-based campaigns may be images that include other people to help perceptions of acceptability of breastfeeding in public rather than exclusively using images of mother and infant alone and in private (Magnusson et al., 2017). Furthermore, post-exposure attitudes toward public breastfeeding were significantly correlated with total liking of the images, supporting the notion that exposure improves liking, which, in turn, increases positive attitudes (Zajonc, 2001).

Differences among liking scores between images were revealed, such that Image 1 of the mother and infant alone was viewed most positively. This could be because of the perceived privacy of the context in the image (Magnusson et al., 2017). Because images of mothers' breastfeeding are rarely seen (Acker, 2009), and, when they are seen most often include only mother and infant, this could also be attributable to pre-experimental exposure, which could contribute to the perceived appropriateness of privacy (Magnusson et al., 2017).

Contrary to hypotheses, Image 2 with females in background was the least liked of all the images, and was associated with significant lower liking scores than Image 3 with males in background. This could be attributable to confounds such as the mother's expressions and body position or the proximity of the bystanders. For example, these participants, consistent with the extant literature (Spurles & Babineau, 2011), shared views that mothers ought to be considerate of other people's perceptions and comfort levels. It may be that the close proximity of the female bystanders in Image 2 amplified the percieved lack of privacy (Magnusson et al., 2017). Replications should address these possible confounds by standardizing such aspects of the images or systematically varying them across multiple images within the male or female conditions.

Limitations

This pilot study provides some interesting yet preliminary results with a number of limitations that must be acknowledged. First, there was no control group, which allowed for accounting of individual differences via within-participant variability. However, it is possible that the increase observed in positive attitudes could be simply be due to a regression-to-the-mean effect, albeit unlikely. Second, the attitude to breastfeeding in public was assessed using a novel scale (i.e., ABPS) developed for the purposes of this study as there were no suitable established instruments focusing specifically on attitudes toward public breastfeeding. While the ABPS scale appears an initially promising assessment tool due to correlation patterns and estimates of internal consistency, it should undergo a series of construct, discriminant, and criterion-related validity checks in future studies to more clearly establish psychometric properties of the instrument.

Third, the images were not standardized to control for possible confounding variables. Future research should include investigations of what such variables may be, and how they might be used to amplify the exposure effect. Fourth, as the majority of participants sampled

were UK residents and mothers themselves, the results may not generalize to a broader population. The present study aimed to recruit broadly and specifically targeted male-focused groups, but future iterations may need more general incentives to promote recruitment of a broad range of participants. Lastly, it may be the case that as the recruitment messages to participate were linked to websites and social media platforms it could be the case that there was quite a high proportion who already held positive attitudes towards public breastfeeding as the recruitment link could feasibly have been shared by like-minded individuals or groups. Hence, with a more diverse range of participants it is possible that a wider variety of attitudes to mothers breastfeeding in public might be more apparent before and after the brief intervention administered here.

Future research

Combining qualitative (e.g., Gearhart & Dinkel, 2016; Leahy-Warren et al., 2017) and quantitative approaches (e.g., Foss & Blake, 2019) could be a beneficial avenue for future research. For example, conducting qualitative focus group interviews (e.g., Koerber et al., 2012) or a content analysis strategy such as that employed by Sheehan et al. (2019) could help provide a more nuanced understanding of current views towards breastfeeding in public and more in-depth discussion of the potential impact and likely overall efficacy of viewing images such as those in the current study on societal perceptions of, and attitudes towards, public breastfeeding. Future replications might also investigate potential differential impacts across participant variables such as education level (Dungy et al., 2008; Mora et al., 1999) or age (Hoddinott, Kroll, Raja, & Lee, 2010). These kinds of data could also serve to inform parametric studies on exposure effects of specific images with particular groups.

Implications of this research.

These preliminary results have provided some support for the mere exposure effect and that it may complement any existing approach employed by organizations such as the

NHS in the UK (NICE, 2006), or through peer-support (Grant et al., 2018). Coupled with posters (Austen et al., 2016), leaflets (Brookes, Harvey, & Mullany, 2016), and television media (Foss, 2013; Foss & Blake, 2019; Gearhart & Dinkel, 2016), the present methodology could be included in a potentially promising package of brief interventions to facilitate a wider acceptance of breastfeeding in public among the wider society. Though interventions working directly with mothers are needed, indirect approaches are an important part of challenging attitudes held by family members, policy makers, and the public at large (Brown, 2016). Moreover, such exposure may help to reduce the fear some mothers or expectant mothers may face from negative societal responses (Morris et al., 2016; Sheehan et al., 2019).

This present pilot study suggests further research on brief, exposure-based interventions is worth pursuing, along with psychometric validation of assessments of attitudes toward public breastfeeding. Such pursuits will not ony contribute to the scientific progress around breastfeeding, but will serve to support public health communication interventions that improve the health of women and infants, and over time, benefit society as a whole.

References

Acker, M. (2009). Breast is best…but not everywhere: Ambivalent sexism and attitudes toward private and public breastfeeding. *Sex Roles*, *61*(7-8), 476–490. doi.org/10.1007/s11199-009-9655-z

Austen, E. L., Dignam, J., & Hauf, P. (2016). Using breastfeeding images to promote breastfeeding among young adults. *Health Psychology Open*, *3*. doi.org/10.1177/2055102916671015

Bornstein, R. F. (1989). Exposure and affect: Overview and meta-analysis of research, 1968–1987. *Psychological Bulletin*, *106*(2), 265–289. doi.org/10.1037/0033-2909.106.2.265

Brookes, G., Harvey, K., & Mullany, L. (2016). ‘Off to the best start’? A multimodal critique of breast and formula feeding health promotional discourse. *Gender and Language*, *10*(3), 340–363. doi.org/10.1558/genl.v10i3.32035

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

Brown, A. (2017). Breastfeeding as a public health responsibility: A review of the evidence. *Journal of Human Nutrition and Dietetics*, *30*(6), 759–770. doi: 10.1111/jhn.12496

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*, *2nd ed*. Lawrence Erlbaum Associates Publishers.

Dungy, C. I., McInnes, R. J., Tappin, D. M., Wallis, A. B., & Oprescu, F. (2008). Infant feeding attitudes and knowledge among socioeconomically disadvantaged women in Glasgow. *Maternal and Child Health Journal*, *12*(3), 313–322. doi.org/10.1007/s10995-007-0253-9

Fairbrother, N., & Stanger-Ross, I. (2010). Reproductive-aged women’s knowledge and attitudes regarding infant-feeding practices: An experimental evaluation. *Journal of Human Lactation*, *26*(2), 157–167. doi: 10.1177/0890334409352853

Foss, K. A. (2013). "That's not a beer bong, it's a breast pump!" Representations of breastfeeding in prime-time fictional television. *Health Communication, 28*(4)*,* 329-340. doi:10.1080/10410236.2012.685692

Foss, K., & Blake, K. (2019) "It's natural and healthy, but I don't want to see it": Using entertainment-education to improve attitudes towards breastfeeding in public. *Health Communication*, *34*(9), 913-930. doi: 10.1080/10410236.2018.1440506

Gearhart, S., & Dinkel, D. (2016). Mother knows breast: A content analysis of breastfeeding in television network news. *Health Communication, 31(7),* 884-891. doi: 10.1080/10410236.2015.1012631

Giles, M., Connor, S., McClenahan, C., & Mallet, J. (2010). Attitudes to breastfeeding among adolescents. *Journal of Human Nutrition and Dietetics*, *23*(3), 285–293. doi: 10.1111/j.1365-277X.2010.01048.x

Goulet, C., Lampron, A., Marcil, I., & Ross, L. (2003). Attitudes and subjective norms of male and female adolescents toward breastfeeding. *Journal of Human Lactation, 19*(4), 402-410. doi: 10.1177/0890334403258337

Grant, A., McEwan, K., Tedstone, S., Greene, G., Copeland, L., Hunter, B., … Paranjothy, S. (2018). Availability of breastfeeding peer support in the United Kingdom: A cross-sectional study. *Maternal & Child Nutrition*, *14*(1), e12476. doi: 10.1111/mcn.12476

Henderson, L., Kitzinger, J., & Green, J. (2000). Representing infant feeding: Content analysis of British media portrayals of bottle feeding and breast feeding. *BMJ : British Medical Journal*, *321*(7270), 1196–1198. doi: 10.1136/bmj.321.7270.1196

Hoddinott, P., Kroll, T., Raja, A., & Lee, A. J. (2010). Seeing other women breastfeed: How vicarious experience relates to breastfeeding intention and behavior. *Maternal & Child Nutrition*, *6*(2), 134–146. doi: 10.1111/j.1740-8709.2009.00189.x

Ip, S., Chung, M., Raman, G., Trikalinos, T. A., & Lau, J. (2009). A summary of the agency for healthcare research and quality's evidence report on breastfeeding in developed countries. *Breastfeeding Medicine*, *4*(s1), S17-S30. doi.org/10.1089/bfm.2009.0050

Kavanagh, K. F., Lou, Z., Nicklas, J. C., Habibi, M. F., & Murphy, L. T. (2012). Breastfeeding knowledge, attitudes, prior exposure, and intent among undergraduate students. *Journal of Human Lactation*, *28*(4), 556–564. doi: 10.1177/0890334412446798

Koerber, A., Brice, I., & Tombs, G. (2012). Breastfeeding and problematic integration: Results of a focus-group study. *Health Communication, 27*(2)*,* 124-144. doi: 10.1080/10410236.2011.571754

Leahy-Warren. P., Creedon, M., O'Mahony, A., & Mulcahy, H. (2017). Normalizing breastfeeding within a formula feeding culture: An Irish qualitative study. *Women & Birth, 30*(2), e103-110. doi: 10.1016/j.wombi.2016.10.002

Magnusson, B. M., Thackeray, C. R., Van Wagenen, S. A., Davis, S. F., Richards, R., & Merrill, R. M. (2017). Perceptions of public breastfeeding images and their association with breastfeeding knowledge and attitudes among an internet panel of men ages 21–44 in the United States. *Journal of Human Lactation*, *33*(1), 157–164. doi: 10.1177/0890334416682002

Marrone, S., Vogeltanz-Holm, N., & Holm, J. (2008). Attitudes, knowledge, and intentions related to breastfeeding among university undergraduate women and men. *Journal of Human Lactation*, *24(2)*, 186–192. doi: 10.1177/0890334408316072

McAndrew, F., Thompson, J., Fellows, L., Large, A., Speed, M., & Renfrew, M. J. (2012). *Infant feeding survey 2010*. UK Health and Social Care Information Centre. https://sp.ukdataservice.ac.uk/doc/7281/mrdoc/pdf/7281_ifs-uk-2010_report.pdf

Montoya, R. M., Horton, R. S., Vevea, J. L., Citkowicz, M., & Lauber, E. A. (2017). A re-examination of the mere exposure effect: The influence of repeated exposure on recognition, familiarity, and liking. *Psychological Bulletin*, *143*(5), 459–498. doi: 10.1037/bul0000085

Mora, A. de la, Russell, D. W., Dungy, C. I., Losch, M., & Dusdieker, L. (1999). The Iowa Infant Feeding Attitude Scale: Analysis of reliability and validity. *Journal of Applied Social Psychology*, *29*(11), 2362–2380. doi.org/10.1111/j.1559-1816.1999.tb00115.x

Morris, C., Zaraté de la Fuente, G. A., Williamfu, C. E. T., & Hirst, C. (2016). UK views toward breastfeeding in public: An analysis of the public's response to the Claridge's Incident. *Journal of Human Lactation*, *32*(3), 472–480. doi.org/10.1177/0890334416648934

NICE. (2006). NICE - Clinical Guidance 37. Retrieved 9 April 2019, from https://www.nice.org.uk/guidance/cg37/chapter/1-Recommendations

Qualtrics UK. (2019). https://www.qualtrics.com/uk/

Rollins, N. C., Bhandari, N., Hajeebhoy, N., Horton, S., Lutter, C. K., Martines, J. C., … Victora, C. G. (2016). Why invest, and what it will take to improve breastfeeding practices? *The Lancet*, *387*(10017), 491–504. doi.org/10.1016/S0140-6736(15)01044-2

Scott, J. A., Binns, C. W., & Aroni, R. A. (1997). The influence of reported paternal attitudes on the decision to breastfeed. *Journal of Paediatric Child Health, 33*(4), 305-307. doi.org/10.1111/j.1440-1754.1997.tb01605.x

Sheehan, A., Gribble, K., & Schmied, V. (2019). 'It's ok to breastfeed in public but….' . *International Breastfeeding Journal, 14*, 24. doi: 10.1186/s13006-019-0216-y.

Sheehan, A., Schmied, V., & Barclay, L. (2010). Complex decisions: Theorising women's infant feeding decisions in the first 6 weeks after birth. *Journal of Advanced Nursing, 66*(2), 371-380. doi:10.1111/j.1365-2648.2009.05194.x

Spurles, P. K., & Babineau, J. (2011). A qualitative study of attitudes toward public breastfeeding among young Canadian men and women. *Journal of Human Lactation*, *27*(2), 131–137. doi: 10.1177/0890334410390044

Stuebe, A. M., & Bonuck, K. (2011). What predicts intent to breastfeed exclusively? Breastfeeding knowledge, attitudes, and beliefs in a diverse urban population. *Breastfeeding Medicine, 6*(6), 413-420. doi.org/10.1177/0890334414526058

Vaaler, M. L., Castrucci, B. C., Parks, S. E., Clark, J., Stagg, J., & Erickson, T. (2011). Men's attitudes toward breastfeeding: Findings from the 2007 Texas behavioral risk factor surveillance system. *Maternal and Child Health Journal*, *15*(2), 148–157. doi: 10.1007/s10995-010-0605-8

Victora, C. G., Bahl, R., Barros, A. J., França, G. V., Horton, S., Krasevec, J., … Rollins, N. C. (2016). Breastfeeding in the 21st century: epidemiology, mechanisms, and lifelong effect. *The Lancet*, *387*(10017), 475–490. doi: 10.1016/S0140-6736(15)01024-7

WHO. (2018). World Health Organization Breastfeeding. Retrieved 23 October 2018, from WHO website: http://www.who.int/topics/breastfeeding/en/

Zajonc, R. B. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology Monograph Supplement*, *9*(2), 1-27. doi.org/10.1037/h0025848

Zajonc, R. B. (2001). Mere Exposure: A gateway to the subliminal. *Current Directions in Psychological Science*, *10*(6), 224–228. doi.org/10.1111/1467-8721.00154