

# Maternal Wellbeing Infant Feeding and Return to Paid Work

## Technical Report 2: Attitudes Surveys

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# 1. Attitude Survey Questions and Samples

The British Social Attitudes (BSA) Survey is UK representative long running annual survey which collects information on people's social, political and moral attitudes. The survey has been running since 1983 and using random population sampling. We funded a module in the 2022 British Social Attitudes Survey. In 2022 the BSA used a mixed-mode design (as it has done since 2020) using web and telephone surveys (with no face-to-face interviews as had been the case prior to 2020). The BSA survey is designed to be representative of adults over 18 living in private households in the UK. Addresses were selected (from the Postcode Address File) with equal probability, with up to two people at an address invited to participate. A weight (BSA22\_final\_wt) was provided which weights for non-response (either household non-response or an individual in a household) and uses calibration weighting to make the response sample resemble the characteristics of the UK population in terms of age, sex, education, tenure, ethnicity, economic activity and region. Therefore, all analysis is undertaken with the data weighted using this provided weight

The full questions asked in our attitudes to breastfeeding module are provided in Appendix 1. Several demographic characteristics were collected including sex, age, ethnicity, religion, individual income, highest educational qualification, marital status, tenure, economic activity, nationality and number of adults/children in the household. 2,202 respondents completed the breastfeeding module.

In April 2022 we also undertook a Pilot Survey using the online research platform Prolific<sup>1</sup> which targeted a representative sample (based on sex, age and ethnicity) of 1000 respondents (we obtained 1,013 response) which allowed us to ask more questions than in the BSA. Questions asked in the Pilot Survey can be found in Appendix 2.

## *Characteristics of Samples*

If we compare demographics (Table 1.1) between the two datasets we find there are similarities in terms of sex, ethnicity (the Pilot Survey has a slightly bigger proportion from minority ethnic groups), marital status and having ever had a child. The BSA respondents tends to be on average a bit older than the Pilot Survey respondents, with the Pilot Survey having more in the 24-44 range. The sample from the Pilot Survey are more educated and more likely to be employed.

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<sup>1</sup> Prolific is an online research platform that connects researchers with research participants, from among Prolific's pool of potential participants. Researchers can select participants based on characteristics or select a representative sample (based on sex, age and ethnicity). For more information about Prolific see, <https://www.prolific.com/researchers>

Table 1.1: Comparison of Demographic Characteristics of the BSA and Pilot Survey Samples

	<b>BSA</b>	<b>Pilot</b>
<b>% women</b>	51.3	51.2
<b>% white</b>	87.5	85.4
<b>18-24</b>	11.0	8.6
<b>25-34</b>	17.1	21.3
<b>35-44</b>	16.1	20.1
<b>45-54</b>	15.4	15.1
<b>55-64</b>	17.6	22.9
<b>65+</b>	22.9	11.9
<b>Employed</b>	60.7	70.8
<b>Has a degree</b>	34.6	49.9
<b>Married/cohabiting</b>	67.6	65.8
<b>Has had a child</b>	65.3	65.6

*Statistics for BSA are weighted using the weight provided by the BSA; this weight account for non-response and to match the underlying UK population in terms of age, sex, education, tenure, ethnicity, economic activity and region.*

In both surveys respondents were asked two broad questions in relation to their experience of breastfeeding: whether they knew if they had been breastfed and whether any of their children had ever been breastfed (for at least a month).

As reported in table 1.2, slightly more respondents in the BSA than in the Pilot Survey sample(36% compared to 34%) reported having been breastfed as baby, with similar proportions having been fed with formula (28%). Interestingly a much higher proportion in the Pilot sample stated they did not know how they were fed (21% compared to 12%) – this may warrant further investigation. More reported in the BSA having been fed with both breastmilk and formula (24% compared to 17%).

Table 1.2: Do you know whether you were fed with breastmilk or formula milk when you were a baby?

	<b>BSA</b>	<b>Pilot</b>
<b>Fed with breastmilk entirely or almost entirely</b>	36.4	33.8
<b>Fed with formula entirely or almost entirely</b>	27.5	27.6
<b>Fed with both breastmilk and formula milk</b>	24.1	17.5
<b>Don't know</b>	12.0	21.1
<b>N</b>	2,190	1,013

*Statistics for BSA are weighted using the weight provided by the BSA; this weight account for non-response and to match the underlying UK population in terms of age, sex, education, tenure, ethnicity, economic activity and region.*

In contrast there is a very similar distribution of response to whether their children were fed between the two survey samples (table 1.3). Around 34-35% reported not having any children. Of those who did have children the majority (70%) stated they were breastfed.

Table 1.3: Were any of your children fed with any breastmilk for at least a month?

	BSA	Pilot
<b>Yes</b>	45.7	45.41
<b>No</b>	18.94	19.25
<b>I have never had any children</b>	34.42	34.75
<b>Don't know</b>	0.94	0.59
<b>N</b>	2,194	1,013

*Statistics for BSA are weighted using the weight provided by the BSA; this weight account for non-response and to match the underlying UK population in terms of age, sex, education, tenure, ethnicity, economic activity and region.*

## 2. Summary Statistics of Attitudes Survey Questions

In this section we provide the general statistics of the questions in the BSA and Pilot Surveys.

### Breastfeeding in Public

Respondents were asked where they had seen someone breastfeeding in the past month with this question was intended to capture exposure to breastfeeding in public. Table 2.1 shows that more respondents in the Pilot sample than in the BSA sample reported having seen someone breastfeeding in public. In both samples the majority (63% in the BSA sample and 57% in the Pilot sample) had not seen someone breastfeeding in public. The most commonly reported place was a café or restaurant followed by a park, with the least commonly reported place the workplace.

Table 2.1: 'Where, if anywhere, have you seen someone, who you do not know, breastfeeding their child in public in the past month?'

	BSA	Pilot
<b>In a café or restaurant</b>	28.30	35.54
<b>On public transport</b>	8.31	11.06
<b>In a park</b>	16.96	22.31
<b>In a workplace</b>	4.23	2.76
<b>Other</b>	6.13	
<b>I have not seen anyone</b>	62.51	57.06
<b>N</b>	2,195	1,013

*[in the Pilot Survey there was no "if anywhere" included in the question]*

Individuals were asked if breastfeeding in public was acceptable, those in the Pilot sample were also asked about specific places. As shown in Table 2.2 the proportion stating breastfeeding in public is acceptable was very similar between the two samples (there were minor differences in the proportion reporting unacceptable and don't know, with more in the BSA sample stating don't know). There was some variation according to the place with in a park deemed the most 'acceptable' place followed by a café or restaurant. 93% thought it was acceptable to breastfeed in front of friends and family. On public transport followed by in a workplace were deemed the most 'unacceptable' places. Interestingly 11% said they did not know in terms of breastfeeding in a workplace, with only 75% saying this is acceptable. This may reflect this is deemed the most 'formal' of places or they are unsure about legislation relating to breastfeeding in the workplace. As seen in Table 2.1, the workplace was also the place where the fewest had seen someone breastfeeding (possibly also relating to the fact they might know their work colleagues).

**Table 2.2: 'Is it acceptable or unacceptable for a mother to breastfeed a child in public?'**

	<b>Acceptable</b>	<b>Unacceptable</b>	<b>Don't Know</b>
<b>In public (BSA, N=2,000)</b>	88.3	5.43	6.27
<b>In public (Pilot, N=1,013)</b>	88.45	6.52	5.03
<b>Pilot only (N=1,013)</b>			
<b>In a café or restaurant</b>	83.42	11.15	5.43
<b>On public transport</b>	79.66	14.12	6.22
<b>In a park</b>	92.79	4.24	2.96
<b>In a workplace</b>	75.02	13.62	11.35
<b>In front of friends and family</b>	92.99	3.55	3.46

Whilst the vast majority stated that breastfeeding in public was acceptable, we dug a bit deeper. Firstly, we asked about whether women should cover up, which is likely to be a more 'revealing' and 'reactive' question. Table 2.3 shows the range of responses on a scale of Strongly Agree to Strongly Disagree, with also a cross tabulation by whether the individual thought breastfeeding in public was acceptable or not. More in the Pilot sample (43%) strongly agreed or agreed that women should cover up compared to the BSA sample (33%). As one might expect a very high proportion (90-92%) of respondents who thought breastfeeding in public was unacceptable strongly agreed or agreed women should cover up. There are a group among the acceptable group who think women should cover up (27% in the BSA and 38% in the Pilot sample) – again this question may be more 'revealing' than just asking whether breastfeeding in public is acceptable.

**Table 2.3: ‘How much do you agree or disagree with the following statement: Mothers should always cover up when breastfeeding in public’**

<b>Whether acceptable in public</b>				
	All	Acceptable	Unacceptable	Don't know
<b>BSA [N=2,199]</b>				
<b>Strongly Agree</b>	9.94	5.15	68.23	27.16
<b>Agree</b>	23.11	21.93	22.43	40.1
<b>agree nor disagree</b>	32.63	34.69	0.58	31.47
<b>Disagree</b>	16.1	18.17	0	0.74
<b>Strongly disagree</b>	18.23	20.06	8.76	0.53
<b>Pilot [N=1013]</b>				
<b>Strongly Agree</b>	13.82	8.59	74.24	27.45
<b>Agree</b>	29.42	29.24	18.18	47.06
<b>agree nor disagree</b>	22.21	23.33	4.55	25.49
<b>Disagree</b>	19.45	21.88	1.52	0
<b>Strongly disagree</b>	15.1	16.96	1.52	0

In the BSA respondents were asked how comfortable they were with someone breastfeeding near them. As shown in Table 2.4, 62% stated they were very comfortable or comfortable, with 26% neither comfortable or uncomfortable and 12% uncomfortable or very uncomfortable. Those who have seen someone recently breastfeed in public are more likely to state they are very comfortable. It may be that exposure increases how comfortable someone feels or those who feel more comfortable may have more exposure to breastfeeding mothers. Almost all those who feel very comfortable state breastfeeding in public is acceptable, and the level of acceptable decreases as the level of comfort decrease. However, those who are very uncomfortable are more likely than those who are uncomfortable to state it is acceptable. Likewise, the proportion saying women should cover up increases as the level of comfortableness decreases, except again for the very uncomfortable group. Those who state they are very uncomfortable maybe more self-aware.

**Table 2.4: ‘How comfortable or uncomfortable do you feel if a mother breastfeeds near you in a public place?’.**

	<b>Seen someone BF in last month</b>		<b>% Acceptable</b>	<b>%Cover up</b>
	All	Yes	No	
<b>Very comfortable</b>	36.76	48.78	29.65	99.38
<b>Comfortable</b>	25.19	22.24	27.03	96.27
<b>Neither comfortable nor uncomfortable</b>	25.69	17.15	30.6	82.22
<b>Uncomfortable</b>	5.99	4.84	6.69	44.10
<b>Very uncomfortable</b>	6.38	7	6.02	58.92
<b>N</b>	2,201	870	1,325	



In the Pilot Survey we asked if respondents ‘Are you aware of legislation protecting the right to breastfeed in public?’ of which only 24% were aware of the legislation.

We also asked in the Pilot Survey, to help capture more details on exposure to infant feeding where they had seen breastfeeding or formula feeding. The results are presented in Table 2.5. Slightly more said they had not seen anything about breastfeeding (45%) than for formula feeding (42%). The most common place to see something about breastfeeding is social media whereas the most common place to see formula feeding is advertisements.

**Table 2.5: ‘Where have you seen, heard or read anything about breastfeeding or formula feeding in the past 12 months? Please select all that apply’**

	<b>Breastfeeding</b>	<b>Formula feeding</b>
<b>TV or radio programme</b>	21.13	23.79
<b>TV or radio advert</b>	8.49	27.44
<b>Newspaper or magazine article</b>	14.31	12.14
<b>Newspaper or magazine advert</b>	5.13	11.45
<b>Social media post</b>	28.43	17.67
<b>Advertisements or promotions in shops</b>	5.23	19.64
<b>Other</b>	3.85	2.76
<b>I have not seen, heard or read anything in the past 12 months</b>	45.01	42.05

### **Perceived Child Health Benefits**

We had fewer questions in the BSA so asked a general question relating to the health benefits of breastfeeding vs formula feeding. We had more room in the Pilot Survey so asked more specific benefits (albeit on a very simple agree-disagree scale – following what previous attitude surveys had done).

As seen in Table 2.6, there is a slightly different distribution of responses for the two samples, as to whether respondents think breastmilk fed or formula fed babies are healthier. The final column in Table 2.6 excludes the don’t know option from the BSA responses as this was not included in the Pilot question. More in the Pilot Survey state that breastmilk fed babies are healthier. Within the Pilot sample the split between breastmilk fed babies being healthier and there much not much difference either way is similar but in the BSA there is more of a leaning towards there not being much difference.

Overall both sets of responses suggest that the view that breastfed babies are healthier is held by at most 50%.



**Table 2.6: In general, would you say that breastmilk fed babies are healthier, formula-milk fed babies are healthier, or is there not much difference either way?**

	BSA	Pilot	BSA (exc. don't know)
<b>Breastmilk fed babies are healthier</b>	41.7	50.15	44
<b>Formula-milk-fed babies are healthier</b>	1.45	0.39	1.53
<b>There is not much difference either way</b>	52.1	49.46	54.7
<b>Don't know</b>	4.74		
<b>N</b>	2,199	1,013	2,081

In the Pilot Survey we asked about benefits on the basis of a set of statements (on a scale of strongly agree to strongly disagree – for display purposes strongly agree and agree has been combined as has strongly disagree and disagree). Benefits relating to child health are reported in Table 2.7. A very high proportion (strongly) agreed (84%) that breastmilk gave the best start for the baby but there was less agreement with other statements. Potentially neither agree/disagree captures don't know. The highest agreement was with ear, chest and stomach infections. Few agreed that breastmilk is lacking in iron or the formula fed babies were at increased risk of SIDs. The last two comments report the % who strongly (agreed) with each statement) split by those who thought breastmilk fed babies were healthier and those who felt it did not make much difference (those who felt formula fed babies were healthier were relatively few). The agreement with the statements is higher among those who think breastmilk babies are healthier, as expected but it is difficult to infer much as to why they think breastmilk fed babies are healthier.

**Table 2.7: Breastfeeding vs Formula Feeding Benefits Beliefs for the Child**

	Agree	Disagree	Neither agree/ disagree	% Agree	
				Breastmilk healthier	Not Much Difference
<b>Breastmilk ensures the best start for the baby</b>	84.41	4.54	11.06	98.6	70.5
<b>Breastmilk is lacking in iron</b>	3.76	44.42	51.83	4.3	3.0
<b>Breastfed babies get fewer ear, chest and stomach infections</b>	46.3	10.36	43.34	66.5	25.7
<b>Formula fed babies are at increased risk of sudden infant death syndrome</b>	8.09	43.93	47.98	13.2	3.0
<b>Breastfeeding helps protect children from childhood cancers</b>	20.34	22.7	56.96	33.9	6.6
<b>Bottle fed babies develop early tooth decay</b>	9.18	46.1	44.72	14.6	23.2
<b>Formula fed babies are more likely to develop obesity and obesity related illness</b>	14.12	45.7	40.18	3.6	5.0

The BSA asked individuals which they felt was the preferable way to feed a baby: 'Some people think feeding babies breastmilk is preferable, others think feeding babies formula milk is preferable. In your view what is usually the preferable way'. 47% said with breastmilk, 5.16% said with formula milk, 43% said with a combination of breastmilk and formula milk, with 5% stating don't know. Again it is difficult to infer why they answered this way but this does show that relatively few thinks feeding the baby formula alone is the best way. 68% (31%) of those who said with breastmilk was the preferable way stated that breastmilk fed babies were healthier (it makes no difference either way), compared with 23% (73%) of those who thought combination feeding was preferable stating breastmilk fed babies were healthier (it makes no difference either way). Therefore, whilst beliefs about child health is one part of the story individuals may be considering other factors. We then looked at other factors relating to 'benefits' to the mother and other 'benefits' to the child of different infant feeding methods.

### **Perceived Mother/Partner Benefits**

In the BSA there were fewer questions relating to the mother compared to those asked in the Pilot Survey, and none related to the 'health' benefits. Table 2.8 reports the strongly agree-strongly disagree statements used in the Pilot sample. Looking at Table 2.8 and Table 2.9 the % stating neither agree/disagree tend to be higher for the more 'evidence' based statements (in the case of Table 2.8 relating to pregnancy weight and cancer risk). This may imply that there is a lack of knowledge (or trust) or apathy if we interpret these as potential 'don't know', 'don't care'.

**Table 2.8: Perceived Benefits Beliefs for Mother/Partner**

	<b>Agree</b>	<b>Disagree</b>	<b>Neither agree/disagree</b>
<b>Mothers bond better with their children when they breastfeed</b>	65.74	15.99	18.26
<b>Feeding the baby with formula milk takes the pressure off the mother</b>	79.17	6.51	14.31
<b>Breastfeeding makes it difficult for the partner to bond with the baby</b>	18.85	62.39	18.76
<b>Breastfeeding helps mothers lose their pregnancy weight</b>	39.69	16.09	44.23
<b>Breastfeeding reduces the risk of breast and ovarian cancer in women</b>	30.8	11.55	57.65

In the BSA respondents were asked in terms of 'Feeding the baby with formula milk takes the pressure off the mother'(see Table 2.9) so it is difficult to compare to the Pilot question of when the question is asked in terms of pressure. 79% (strongly) agreed feeding the baby with formula milk takes the pressure off (see Table 2.8). When

expressed in terms of strain 40% felt that feeding with the baby was less of strain for the mother.

**Table 2.9: ‘Would you say that in general feeding a baby with formula milk rather than breastmilk is more or less of a strain for a mother, or does it make little difference either way?’**

	%
<b>A lot less strain</b>	11.83
<b>Somewhat less of a strain</b>	28.28
<b>Makes little difference either way</b>	37.5
<b>Somewhat more of a strain</b>	13.22
<b>A lot more strain</b>	3.74
<b>Don't know</b>	5.41
<b>Total</b>	2,195

Two questions relating to bonding were asked in the BSA, in relation to bonding with the mother and partner. As shown in Table 2.10 more respondents think breastfeeding makes bonding (a lot/somewhat) better for the mother (43%) than for the partner (24%), with the majority thinking it does not make much difference either way (52% for the mother and 65% for the partner). The picture is quite different to when individuals are asked on a scale of strongly agree to disagree as in table 11. 65% (strongly) agreed that the mother bonds better with the baby when they are breastfed and 19% (strongly) agreed that breastfeeding makes it harder to bond with the partner.

**Table 2.10: Breastfeeding and Bonding**

	<b>Mother</b>	<b>Partner</b>
<b>A lot better</b>	19.34	4.98
<b>Somewhat better</b>	24.09	19.37
<b>It does not make much difference either way</b>	51.6	65.34
<b>Somewhat worse</b>	0.09	3.86
<b>A lot worse</b>	0.38	0.61
<b>Don't know</b>	4.49	5.83
<b>N</b>	2,196	2,198

*Do you think that mothers who breastfeed bond better or worse with their children compared to those who bottle feed, or does it not make much difference either way?*  
*Do you think the partner of a mother bonds better or worse with their children when the baby is bottle fed compared to being breastfed, or does it not make much different either way?*

## Other Perceived Beliefs

We asked several other perceived beliefs in both the BSA and Pilot samples, mainly relating to beliefs about normal infant feeding behaviour. Again, in the Pilot Survey we asked statements on agree/disagree scale (see Table 2.11) and then the chosen questions were adapted in the BSA.

**Table 2.11: Other Beliefs: Pilot Sample**

	Agree	Disagree	Neither agree/ disagree
<b>Breastfeeding can help babies' brains develop</b>	58.04	6.71	35.24
<b>Babies that are given formula milk sleep better than breastmilk fed babies</b>	18.56	32.48	48.96
<b>You can only tell if the baby is getting the right amount of milk by using formula</b>	19.84	57.75	22.41
<b>Breastfed babies cry a lot more than formula fed babies</b>	8.19	51.62	40.18

Firstly, given the recent press on the impact of breastfeeding on educational attainment and the empirical evidence relating to cognitive development, we include a question about cognitive development (Table 2.12). This was phrased differently in the Pilot and the BSA. When the question (as in Pilot) is phrased in terms of brain develop (maybe less contentious) 58% (strongly) agreed that breastfeeding can help babies brain develop, when it was phrased into terms of cleverness (as in the BSA) only 12% stated that breastmilk fed babies are clever (with the overwhelming majority at 81% thinking it does not make a difference either way).

**Table 2.12: In general, do you think that breastmilk fed babies grow up to be cleverer, formula-milk fed babies grow up to be cleverer, or does it not make much difference either way?**

	%
<b>Breastmilk fed babies are cleverer</b>	12.37
<b>Formula-milk fed babies are cleverer</b>	0.28
<b>There is not much difference either way</b>	81.16
<b>Don't know</b>	6.19
<b>N</b>	2,196

We then asked questions to capture beliefs around sleep and how babies are fed. In the BSA sample 18% (Table 2.13) stated they thought formula fed babies slept much/a bit better than breastfed babies which is very similar to the 19% (Table 2.11) who agree or strongly agree that 'Babies that are given formula milk sleep better than breastmilk fed babies' in the Pilot sample. There is a difference in terms of the other categories which may reflect that in the BSA there was an option of 'it doesn't make difference' whereas those who think it does not much difference may have responded 'disagree' rather than necessarily 'neither agree/disagree' to the Pilot question.

**Table 2.13: 'Do you think that babies who are fed with formula milk sleep better than babies who are fed with breastmilk, sleep worse, or does it not make much difference'**

	%
<b>Sleep much better</b>	6.46
<b>Sleep a bit better</b>	12.45
<b>It does not much difference either</b>	67.14
<b>Sleep a bit worse</b>	5.27
<b>Sleep much worse</b>	0.85
<b>Don't know</b>	7.83
<b>N</b>	2,197

We asked about whether using formula was the best way to know if a baby is getting the right amount of milk. In the BSA 9% said breastmilk and 34% said formula (table 17), compared with 20% in the Pilot sample (Table 2.14) agreeing that 'You can only tell if the baby is getting the right amount of milk by using formula'. The questions were worded differently with the Pilot question using 'the only way' and BSA using the context of 'easier'.

**Table 2.14: 'Is it easier to tell whether the baby is getting the right amount of milk if you are using breastmilk or formula milk, or is there not much difference either way?'**

	%
<b>Breastmilk</b>	8.69
<b>Formula milk</b>	34.13
<b>Not much difference either way</b>	49.85
<b>Don't know</b>	7.34
<b>N</b>	100

## Breastfeeding and Work

We then asked some questions relating to breastfeeding and work. Slightly different questions were asked in the two surveys.

In the BSA respondents were provided with a scenario and then asked to consider how easy it would be to continue to feed her child breastmilk (the question was meant to reflect in general and not just whilst they were at work).

In the Pilot Survey respondents were asked what they thought was the best way a baby should be feed whilst the mother was at work, at different ages (3 months, 6 months, 12 months). Here the scenario implied whilst the mother was at work rather than in general as in the BSA question but the aim was to see if responses were different as the child got older.

In the BSA scenario (Table 2.15) the majority (80%) thought it would be difficult to continue to give a child breastmilk when they returned to work. In this scenario the child is 6 months old. Unfortunately for the Pilot question the survey software prevented us from making columns mandatory but the majority answered each column. At 3 months an extremely high proportion stated expressed milk and this proportion fell rapidly by 12 months, with more saying a mixture by 6 months and more formula by 12 months (see Table 2.16). This may implicitly relate to how long respondents think a child should be breastfed for or how long they think the benefits last for.. We did ask in the Pilot (Table 2.20) survey at what age they think babies should be feed until.

**Table 2.15: In general, how easy or difficult do you think that it would be for the mother to continue to feed her child breastmilk?**

	%
<b>Very easy</b>	3.58
<b>Somewhat easy</b>	12.29
<b>Somewhat difficult</b>	59.86
<b>Very difficult</b>	20.28
<b>Don't know</b>	4
<b>N</b>	2,195

*Full question: Imagine a mother who is breastfeeding and who returns to work in an office six months after having a baby.*

*In general, how easy or difficult do you think that it would be for the mother to continue to feed her child breastmilk? [INFO: either by breastfeeding or by expressing breastmilk which she or other caregivers feeds to the baby]*



**Table 2.16: Best Way to Feed a Baby Whilst Mother at Work**

	<b>3 months</b>	<b>6 months</b>	<b>12 months</b>
<b>With expressed milk</b>	82.33	33.87	16.13
<b>With formula milk</b>	4.52	16.78	46.29
<b>With a mixture of expressed milk and formula milk</b>	13.15	49.35	37.58
<b>N</b>	996	1001	998

An opinion question was asked in both surveys of the role of employers in supporting breastfeeding employees. Again there were subtle differences in the wording of the question. In the BSA question it was phrased in terms of employers making it possible whilst in the Pilot question it was phrased in terms of accommodating (which implies more onus on the employer). The distribution of the questions (Table 2.17) was quite different between the two surveys. In the BSA 65% (strongly) agreed with the statement whilst 86% (strongly) agreed in the Pilot question. But both sets of responses (Table 2.17) suggest the majority agree that supporting breastfeeding employees in the workplace is the responsibility of employers.

**Table 2.17: Employers responsibility to accommodate breastfeeding**

	<b>BSA</b>	<b>Pilot</b>
<b>Strongly Agree</b>	29.54	47.98
<b>Agree</b>	35.49	38.01
<b>Agree nor disagree</b>	23.38	7.21
<b>Disagree</b>	6.61	5.53
<b>Strongly disagree</b>	3.27	1.28
<b>Don't know</b>	1.71	
<b>N</b>	2,194	1,013

*BSA: Please indicate how much you agree or disagree with the following statement: It should be the responsibility of employers to make it possible for mothers to breastfeed or express breastmilk while at work.*

*Pilot: Please indicate how much you agree or disagree with the following statement: It is the responsibility of employers to accommodate mothers who want to breastfeed or express milk in the workplace*

In both surveys we gave a list of potential policy changes that might support breastfeeding mothers in the workplace. The BSA rephrased the question in terms of what might help whilst the Pilot question was more in line with which policies they think should be (in favour of) introduced .

BSA question:

Here are some measures people have suggested employers could take to support families with babies. Which of the following do you think would help support mothers who breastfeed their children?

Extend paid paternity/partner leave from two weeks to four weeks

Extend fully paid maternity leave from 6 weeks to 6 months

Wherever possible, provide a private room where mothers can express and store milk

Allow parents with babies to work flexible hours

None of these

Don't know

Pilot Question:

Which, if any, of the following do you think that employers should provide? Select all that apply

Paternity/paid partner leave extended from two weeks to four weeks to provide support for mothers who want to breastfeed

Fully paid maternity leave extended from 6 weeks to 6 months so mothers can breastfeed for longer

A private room for breastfeeding mothers to express and store milk at work, where possible

Flexible work schedules, such as flexible break times, for breastfeeding mothers

None of the above

The Pilot sample were more in favour of each policy; this could reflect the subtle difference in the wording (change to 'help' in the BSA survey from 'should provide' in the Pilot) or how the options were phrased (Table 2.18). But in general respondents were more in 'favour' of within workplace policy than parental leave policies.

**Table 2.18: Suggested Workplace Policies**

	<b>BSA</b>	<b>Pilot</b>
<b>Extend paid partner leave</b>	43.33	61.01
<b>Extend paid maternity leave</b>	51.34	60.61
<b>A private breastfeeding room</b>	67.52	77.2
<b>Flexible work schedules</b>	70.98	81.34
<b>None of these</b>	3.01	2.07
<b>Don't know</b>	2.23	
<b>N</b>	2,195	1,013

## Natural Term Breastfeeding

We wanted to understand attitudes around natural term breastfeeding and when respondents think children should stop breastfeeding.

In the BSA we provided a couple of reference points whilst in Pilot we asked the same question but gave the option of a specific age (rather than reference points) or a mother should breastfeed as long as she and the child want to. In the BSA 56% stated a mother should breastfeed her child as long as the mother and child want (Table 2.19) compared to 70% in the Pilot sample. In the BSA 21% thought a mother should stop at 6 months and a further 17% thought at 12 months.

**Table 2.19: 'When do you think a mother should stop breastfeeding her child?**

	%
<b>When they can be introduced to solids around 6 months</b>	21.31
<b>When they can be introduced to cow's milk around 12 months</b>	17.32
<b>A mother should breastfeed as long as she and the child want to</b>	56.3
<b>Don't Know</b>	5.07
<b>N</b>	2,193

In the Pilot Survey we then asked respondents who selected a specific age, the age at which they thought a child should stop breastfeeding by (in months). There was some heaping at 6 months, 9 months and 12 months but we also got some very specific months which may reflect when they stopped or their partner stopped (we know if their children were breastfed but no more detail than that). Interestingly those who answered this question tended to answer older ages with 66% stating 12 months or more.

**Table 2.20: 'Please specify in months the age you think a child should stop being breastfed by.**

	%
<b>Less than 6 months</b>	9.48
<b>6 months</b>	12.75
<b>7-11 months</b>	11.76
<b>12 months</b>	24.51
<b>13-23 months</b>	18.95
<b>24+ months</b>	22.55
<b>N</b>	306

### 3. Spontaneous perceptions: Analysis of free 3-word associations

As part of our Pilot attitudes survey, respondents were asked to provide three words that spontaneously come to mind regarding the three different forms of infant feeding: breastfeeding (BF), formula feeding (FF), and expressing breastmilk (EF). Free word association is a valuable tool that can capture authentic perceptions, emotions, and expectations surrounding societal phenomena and social practices such as infant feeding. Most of people's decisions are determined by a constellation of spontaneous experiential, affective and reasoning factors (Kahneman, 2003) and exploring people's spontaneous word associations can offer insights into their experiential thought processes unlike experiments conducted in laboratory settings. By understanding these associations, we can identify why certain feeding methods are preferred, the benefits and concerns they evoke, and any biases or stigmas they carry.

The survey gathered a total of 1,013 responses: 519 from female and 494 from male participants. While participants were asked to provide three single words, many offered phrases or even short sentences, reflecting their need to provide additional context. For instance, some participants provided adjectives like 'best' or 'good' while others elaborated with phrases like 'is best for the baby' or 'good for the mother'. Many responses included therefore functional words (e.g., 'is', 'and'), which were excluded to focus solely on meaningful content words, that is, nouns, verbs, adjectives, and adverbs. Notably, no repetition of content words occurred within individual responses, meaning a word frequency of 40 represents responses from 40 unique participants. The responses were categorized into three corpora - one each for BF, FF, and EF - and further divided by sex (male and female). All corpora were uploaded onto the linguistic software programme Sketch Engine for further analyses.

To identify dominant/shared perceptions, we focused on words mentioned at least 20 times, as this threshold sufficiently indicates common views. The word lists are presented in Table 2.1. Additionally, we examined the frequencies of specific words such as 'stigma', 'guilt', and 'shame' to explore potential stigmas associated with each feeding method.

Table 2.1:

<b>ALL_BF</b>	<b>Freq.</b>	<b>ALL_FF</b>	<b>Freq.</b>	<b>ALL_EF</b>	<b>Freq.</b>
natural	399	easy	184	convenient	158
bond	302	convenient	173	healthy	130
healthy	240	expensive	172	baby	124
baby	234	bottle	151	milk	104
mother	111	baby	130	time	102
good	102	can	91	can	96
Milk	81	feed	86	natural	84
health	77	not	76	good	78

child	63	convenience	76	easy	68
Love	57	milk	70	mother	60
breast	48	mother	63	best	57
nutrition	45	good	62	consuming	53
nurture	36	healthy	55	breast	53
Feed	36	bond	50	work	51
comfort	36	feeding	46	bottle	46
normal	31	cost	43	feed	46
closeness	31	powder	42	feeding	45
convenient	30	formula	39	pump	45
happy	28	unnatural	38	compromise	43
painful	27	less	36	convenience	39
Food	27	more	36	bonding	38
cheap	27	breast	36	hard	35
pressure	25	quick	36	difficult	34
Care	23	time	34	easier	33
feeding	23	artificial	32	mum	32
Free	23	child	32	helpful	30
breastfeed	22	help	31	help	30
Time	22	ease	31	storage	29
Hard	22	sterilise	29	practical	29
convenience	22	share	29	health	28
Can	21	breastfeed	28	partner	27
difficult	20	food	28	useful	25
woman	20	choice	27	less	25
loving	20	helpful	26	fridge	25
		nutrition	25	ease	24
		necessary	25	bottles	24
		make	24	worlds	24
		partner	22	formula	23
		parent	22	better	23
		chemical	21	dad	23
		father	20	child	22
		get	20	happy	22
		alternative	20	mothers	22
		happy	20	expressing	22
				choice	21
				babies	21
				fed	21
				express	21
				working	20
				sharing	20

Reading the most shared words, it became clear that there were five dominant meaning categories to which respondents referred when prompted to think spontaneously about BF, FF and EF. These categories can be defined as follows:

1. *Health and Nutrition*: Words related to health, nutrition, and feeding (e.g., 'healthy', 'feeding', 'nutrition')
2. *Positive Emotional Associations*: Words reflecting bonding, love, happiness, and nurturing (e.g. 'bonding', 'loving', 'happy', 'close')
3. *Social Actors*: words related to the main social actors involved in infant feeding (e.g. 'baby', 'mother', 'partner')
4. *Convenience and Practicality*: Words related to ease, time, storage, practicality and sharing of infant feeding (e.g., 'convenient', 'easy', 'sharing')
5. *Negative Perceptions and Challenges*: Words reflecting difficulties, negative emotions, or criticisms ('unnatural', 'artificial', 'expensive', 'painful')

Since words can have acquire various shades of meaning depending on the context of use, the classification of some words into a semantic category was not always straightforward since only little or no context was available. For example, the word 'breast' is a body part but in this context is probably more useful to think about 'breast' as a source of nutrition and thus the word was classified under *Health and Nutrition*. There were two words 'work' and 'working' that occurred exclusively in associations with EF. Here, further elaborations from the participants were helpful. For example, the use of the word 'work' was predominantly accompanied by the adjective 'hard' and thus 'work' was assigned to *Negative Perceptions and Challenges*, whereas 'working' was associated with performing paid work and often used in phrases such as 'good for working' or 'easy for working'. Hence, 'working' was categorised in the semantic category of *Convenience and Practicality*. Certain words were not included as they could be used to modify meanings in positive or negative sense, for example, the negation 'not' or the adverbs 'less' and 'more'. Table 2.2, 2.3 and 2.4 below show the results from the semantic classification of the words used at least 20 times in each corpus.

Table 2.2: Semantic categorisation of the most frequent words associated with breastfeeding (BF)

<b>Semantic Category BF</b>	<b>Frequency<sup>2</sup></b>	<b>%<sup>3</sup></b>
Health and Nutrition	953	42
Positive Emotional Associations	665	29
Social Actors	427	19
Convenience and Practicality	124	6
Negative Perceptions and Challenges	94	4

<sup>2</sup> The sum of frequencies of all categorised words

<sup>3</sup> Percentages were calculated as of the sum of frequencies of words that were categorised.

Table 2.3: Semantic categorisation of the most frequent words associated with formula feeding (FF)

<b>Semantic Category</b>	<b>Frequency</b>	<b>%</b>
Health and Nutrition	346	15
Positive Emotional Associations	185	8
Social Actors	289	13
Convenience and Practicality	852	37
Negative Perceptions and Challenges	604	27

Table 2.4: Semantic categorisation of the most frequent words associated with expressed milk feeding (EF)

<b>Semantic Category</b>	<b>Frequency</b>	<b>%</b>
Health and Nutrition	518	25
Positive Emotional Associations	246	12
Social Actors	331	16
Convenience and Practicality	714	34
Negative Perceptions and Challenges	293	14

Based on the semantic categorization of words associated with breastfeeding (BF), formula feeding (FF), and expressed milk feeding (EF), we identified patterns of perceptions that differ considerably between the different ways of feeding. BF has the strongest association with health and nutrition and it also has the highest proportion of words expressing positive emotions, which highlights its role in fostering emotional closeness. In fact, words such as ‘bonding’, ‘natural’ and ‘comfort’ were used much more frequently when describing BF than the other forms of feeding. BF was also perceived as the least challenging option though mentions of words such as ‘pressure’, ‘pain’, ‘hard’ and ‘stress’ indicate difficulties too. The word ‘pressure’ was chosen by 25 participants and the associations with ‘pressure’ related to societal pressures to breastfeed, perceived middle-class status of BF, and in general as a pressure on the mother as indicated in further elaborations which some participants provided. While the frequencies of negative words were low, their existence suggest that BF can be difficult for some and that there might be some new stigmas emerging such as those around BF being associated with the middle classes. The proportion of words associated with convenience was the lowest in BF indicating that when it comes to spontaneous perceptions, the naturalness and healthiness of BF come to mind more prominently.



[illegible][illegible]

23

in relation to FF, while 'less expensive' was included in perceptions of BF and EF (but with low frequencies).

Frequent spontaneous associations with EF seem to position this form of infant feeding as a middle ground. Similar to FF, EF was perceived more frequently as a convenient and practical way of feeding infants and at the same time, it shared positive associations with BF as being healthy and nutritious. It was also the only form of feeding when mentions of work and working have been provided. While some respondents emphasised the difficulties around pumping (pump mentioned 45 times) and storage (29 times) and generally perceived EF as 'hard work' (21 times), others highlighted the convenience that EF has for mothers who have returned or wish to return to work with 16 respondents emphasising that it is good for working mothers (e.g., 'A good solution for working Mums', 'The easy way out for working mothers', 'Practical for some working mothers'). Fridge was also one of the items in the top most frequent items and the inclusion of this word suggests the relative importance attached to storage when it comes to EF.

Figure 2.3: The most frequent word associations with EF



The analysis revealed distinct patterns in spontaneous perceptions surrounding BF, FF and EF. BF was predominantly associated with health, nutrition, and positive emotional experiences such as bonding and closeness. Words like 'nurture' and 'natural' dominated the responses, highlighting breastfeeding's associations with maternal and infant wellbeing. While negative perceptions of breastfeeding were minimal, certain words like 'pressure' suggest the existence of societal expectations that can create challenges for mothers who BF. In contrast, formula feeding (FF) elicited the most negative associations among respondents, with words such as 'artificial' and 'expensive' reflecting widespread concerns about its artificial nature and

high cost. Despite these negative connotations, FF was also strongly associated with convenience and practicality. This dual perception indicates that while FF is often seen as a practical solution, it is accompanied by doubts about its nutritional and emotional equivalence to breastfeeding. Expressed milk feeding (EF) emerged as a middle ground between BF and FF, with respondents frequently using words pointing to the health and nutrition benefits and the practicality of bottle feeding. While EF was generally perceived as a practical alternative to direct breastfeeding, words such as 'hard work', 'storage', 'fridge' were often cited, reflecting the challenges involved in this feeding method. This is important to consider since only this method was associated with facilitating the return to work.

Since we were interested in identifying the extent to which each form of feeding might be related to certain stigmas, we also examined the frequencies of three words that explicitly point to stigma: 'stigma,' 'guilt,' and 'shame.' Interestingly, these words appeared only in the BF and FF corpora, albeit with low frequencies (BF: 'stigma' 8, 'guilt' 5, 'shame' 4; FF: 'stigma' 4, 'guilt' 9, 'shame' 5). However, their presence in relation to these two feeding methods suggests that both can evoke feelings of self-stigma, which in turn may affect mothers' wellbeing. Regardless of whether women choose to breastfeed or use formula feeding, societal expectations and potential 'sanctions' may play a role in inducing feelings of low self-worth.

The analysis of the 3-word associations has revealed that the general public perceives BF positively and recognizes its health and nutritional benefits. BF was most frequently associated with positive emotions, particularly bonding and closeness, and was viewed as a 'natural' option. However, the frequent inclusion of the word 'pressure' likely reflects social or internal expectations tied to breastfeeding, highlighting the need for more nuanced breastfeeding policies that must avoid moral policing of women and their bodies, especially for mothers who for some reasons are not able to breastfeed or simply do not wish to. This is especially important given that words such as 'stigma,' 'guilt,' and 'shame' appeared in the BF corpus, indicating the potential emotional challenges and ambivalence and moral judgments that mothers face.

Table 2.5: 3-word associations about BF by female and male respondents

Semantic Category	Female (Frequency)	Female (%)	Male (Frequency)	Male (%)
Health and Nutrition	351	36.8	528	55.2
Positive Emotional Associations	316	33.1	219	22.9
Social Actors	199	20.9	209	21.9
Convenience and Practicality	46	4.8	0	0
Negative Perceptions and Challenges	42	4.4	0	0

Table 2.6: 3-word associations about FF by female and male respondents

Semantic Category	Female (Frequency)	Female (%)	Male (Frequency)	Male (%)
Health and Nutrition	164	19.3	139	20
Positive Emotional Associations	94	11.1	23	3.3
Social Actors	111	13.1	82	11.8
Convenience and Practicality	325	38.3	301	43.3
Negative Perceptions and Challenges	154	18.2	150	21.6

Table 2.7: 3-word associations about FF by female and male respondents

Semantic Category	Female (Frequency)	Female (%)	Male (Frequency)	Male (%)
Health and Nutrition	217	20.2	225	37.3
Positive Emotional Associations	147	13.6	59	9.8
Social Actors	183	17	78	12.9
Convenience and Practicality	335	31.1	221	36.7
Negative Perceptions and Challenges	195	18.1	20	3.3

Sex analysis provided additional insights into how perceptions vary depending on whether the respondent is male or female. Male respondents more frequently associated BF with health and nutrition, emphasizing its benefits for the infant's wellbeing, while female respondents used words highlighting other aspects such as emotional closeness but also practical challenges around time and societal expectations. For FF, both sexes strongly associated it with convenience. Both sexes also used more words pointing to negative perceptions and challenges and both shared the concern around cost; the word 'expensive' was the most frequently used word by female respondents (101 times) and it was the 3<sup>rd</sup> most frequent word provided by men. For men, FF was also associated more strongly with artificiality, while women used the word 'share' which associates FF with sharing the responsibility of infant feeding. In the case of EF, males emphasized its health and practical benefits, while females were more likely to associate it with shared responsibility, emotional closeness, and the challenges involved in expressing milk. Words such as 'hard' were used 27, 'difficult' 20 and 'time-consuming' 37 times by female respondents. Women also linked EF to shared responsibility with the word 'partner' being used 24 times including elaborations such as 'partner can help', 'partner can be involved' or 'helps partner to bond'. Female respondents also associated EF as beneficial for mothers who returned or wish to return to work (37 respondents). The benefit is however offset by frequent associations with challenges. This was not a strong pattern in male

responses. The analysis of female and male three word associations suggest a number of similarities but also differences reflecting the differing roles and experiences that both sexes have when it comes to infant feeding and caregiving. Women associated the different forms but EF in particular with more varied and nuanced aspects.

In summary, all forms of feeding elicited a range of distinctive associations with clearly shared views. BF emerged as the most positively associated form of infant feeding, particularly in relation to health, nutrition, and positive emotions. In contrast, FF attracted the most negative associations, primarily linked to artificiality and cost. These patterns were consistent across responses from both sexes, suggesting that in the general public's view, BF is perceived as the superior form of infant feeding. However, BF is not without its challenges, as it was also associated with stigma, guilt, and shame, reflecting the societal pressures or emotional burdens that it can entail. Associations with EF were more varied. Both female and male respondents highlighted its health and nutritional benefits, while females additionally emphasized its practicality and suitability for working mothers. Despite these advantages, frequent responses from females also pointed to logistical difficulties hinting at challenges that working mothers face or are likely to face upon return to work.

# Appendix 1: 2022 British Social Attitude Survey Questions

## **ASK ALL (NEW) (Version 1-4)**

[FeedIntro]

The next set of questions are about your attitudes to feeding babies. We will be asking questions about both the way children are fed (breastfeeding or bottle feeding), and what type of milk children are fed (formula milk or breastmilk whether breastfed or expressed). We are interested in your opinion whether or not you have children or experience with childcare.

1. Continue

## **ASK ALL (NEW) (Version 1-4)**

[FeedSee]

Q1. Where, if anywhere, have you seen someone, who you do not know, breastfeeding their child in public in the past month?

1. Please select all that apply.
2. Café or restaurant
3. Public transport
4. In a park
5. At your workplace
6. Other
7. I have not seen any breastfeeding in a public space in the past month  
[exclusive]
8. (Don't know)
9. (Prefer not to answer)

## **ASK ALL (NEW) (Version 1-4)**

[FeedPublic]

Q2. Is it acceptable or unacceptable for a mother to breastfeed a child in public?

1. Acceptable
2. Unacceptable
3. Don't know
4. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**

[FeedComf]

Q3. How comfortable or uncomfortable do you feel if a mother breastfeeds near you in a public place?

1. Very comfortable
2. Comfortable
3. Neither comfortable nor uncomfortable
4. Uncomfortable
5. Very uncomfortable
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**

[FeedPublic2]

Q4. How much do you agree or disagree with the following statement:

Mothers should always cover up when breastfeeding in public

1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree
5. Strongly disagree
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (Version 1-4)**

[FeedMilk] (NEW)

Q5. Some people think feeding babies breastmilk is preferable, others think feeding babies formula milk is preferable. In your view what is usually the preferable way of feeding a baby?

1. With breastmilk
2. With formula milk
3. With a combination of breastmilk and formula milk
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**



[FeedBond]

Q6. Do you think that mothers who breastfeed bond better or worse with their children compared to those who bottle feed, or does it not make much difference either way?

Mothers who breastfeed bond...

1. A lot better
2. Somewhat better
3. It does not make much difference either way
4. Somewhat worse
5. A lot worse
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**

[FeedPress]

Q7. Would you say that in general feeding a baby with formula milk rather than breastmilk is more or less of a strain for a mother, or does it make little difference either way?

Feeding a baby with formula milk is...

1. A lot less strain
2. Somewhat less of a strain
3. Makes little difference either way
4. Somewhat more of a strain
5. A lot more strain
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**

[FeedBond2]

Q8. Do you think the partner of a mother bonds better or worse with their children when the baby is bottle fed compared to being breastfed, or does it not make much different either way?

Partners of bottle fed babies bond...

1. A lot better

2. Somewhat better
3. It does not make much difference either way
4. Somewhat worse
5. A lot worse
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**

[FeedHealth]

Q9. In general, would you say that breastmilk fed babies are healthier, formula-milk fed babies are healthier, or is there not much difference either way?

1. Breastmilk fed babies are healthier
2. Formula-milk fed babies are healthier
3. There is not much difference either way
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**

[FeedBrain]

Q10. In general, do you think that breastmilk fed babies grow up to be cleverer, formula-milk fed babies grow up to be cleverer, or does it not make much difference either way?

1. Breastmilk fed babies are cleverer
2. Formula-milk fed babies are cleverer
3. There is not much difference either way
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**

[FeedSleep]

Q11. Do you think that babies who are fed with formula milk sleep better than babies who are fed with breastmilk, sleep worse, or does it not make much difference either way?

1. Sleep much better
2. Sleep a bit better
3. It does not make much difference either way

4. Sleep a bit worse
5. Sleep much worse
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (Version 1-4)**  
[FeedVol]

Q12. Is it easier to tell whether the baby is getting the right amount of milk if you are using breastmilk or formula milk, or is there not much difference either way?

1. Breastmilk
2. Formula milk
3. Not much difference either way
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (version 1-4)**  
[FeedRtn]

Q13. Imagine a mother who is breastfeeding and who returns to work in an office six months after having a baby.

In general, how easy or difficult do you think that it would be for the mother to continue to feed her child breastmilk? [INFO: either by breastfeeding or by expressing breastmilk which she or other caregivers feeds to the baby]

1. Very easy
2. Somewhat easy
3. Somewhat difficult
4. Very difficult
8. (Don't know)
9. (Prefer not to answer)

**ASK ALL (NEW) (version 1-4)**  
[FeedWrk]

Q15. Please indicate how much you agree or disagree with the following statement:

It should be the responsibility of employers to make it possible for mothers to breastfeed or express breastmilk while at work.

1. Strongly agree
2. Agree
3. Neither agree nor disagree
4. Disagree

- 5. Strongly disagree
- 8. (Don't know)
- 9. (Prefer not to answer)

**ASK ALL (Version 1-4)**

[FeedWrk2] (NEW)

Q16. Here are some measures people have suggested employers could take to support families with babies. Which of the following do you think would help support mothers who breastfeed their children?

Please select all that apply.

- 1. Extend paid paternity/partner leave from two weeks to four weeks
- 2. Extend fully paid maternity leave from 6 weeks to 6 months
- 3. Wherever possible, provide a private room where mothers can express and store milk
- 4. Allow parents with babies to work flexible hours
- 5. None of these [EXCLUSIVE]
- 8. (Don't know)
- 9. (Prefer not to answer)

**ASK ALL (NEW) (version 1-4)**

[FeedStop]

Q17. When do you think a mother should stop breastfeeding her child?

- 1. When they can be introduced to solids around 6 months
- 2. When they can be introduced to cow's milk around 12 months
- 3. A mother should breastfeed as long as she and the child want to
- 8. (Don't Know)
- 9. (Prefer not to answer)

**ASK ALL (NEW) (version 1-4)**

[FeedBF]

Q18. Do you know whether you were fed with breastmilk or formula milk when you were a baby?

- 1. Fed with breastmilk entirely or almost entirely
- 2. Fed with formula entirely or almost entirely
- 3. Fed with both breastmilk and formula milk
- 8. (Don't know)

9. (Prefer not to answer)

**ASK ALL (NEW) (version 1-4)**

[FeedChild]

Q19. Have any of your children fed with any breastmilk for at least a month?

1. Yes
2. No
3. I have not had any children
8. (Don't know)
9. (Prefer not to answer)

## Appendix 2: Pilot Survey Questions

Welcome to our Infant Feeding Survey: what are your views?

Thank you for your interest in taking part in this project, we are conducting a survey to understand views around infant feeding. The survey should take you about 10 minutes to complete. Your participation in the survey is voluntary and the survey is entirely anonymous. This project has been subject to ethical review, in line with the University of Reading's procedures and conforming to its Code of Good Practice in Research, and has been given a favourable ethical opinion for conduct by the Head of the School of Politics,

Economics and International Relations. If you have any questions about the survey or wish to receive more information about the survey or the research which it is going to inform, please e-mail [s.l.jewell@reading.ac.uk](mailto:s.l.jewell@reading.ac.uk)

Before you begin the survey, please confirm that you:

- 1) have read and understand the above information for the above study and have had the opportunity to ask questions.
- 2) consent to take part in the above study.

The next set of questions are about feeding babies.

1. To what extent do you agree/disagree with the following statements {scale of strongly agree to strongly disagree):

- Mothers bond better with their children when they breastfeed
- Feeding the baby with formula milk takes the pressure off the mother
- Breastfeeding makes it difficult for the partner to bond with the baby
- Breastfeeding helps mothers lose their pregnancy weight
- Breastfeeding reduces the risk of breast and ovarian cancer in women

2. To what extent do you agree/disagree with the following statements {scale of strongly agree to strongly disagree):

- Breastmilk ensures the best start for the baby
- Breastmilk is lacking in iron
- Breastfed babies get fewer ear, chest and stomach infections
- Formula fed babies are at increased risk of sudden infant death syndrome
- Breastfeeding helps protect children from childhood cancers

3. In general, would you say that breastmilk-fed babies are healthier, formula-milk fed babies are healthier, or there is not much difference either way?

Breastmilk fed babies are healthier

Formula-milk-fed babies are healthier

There is not much difference either way

4. To what extent do you agree/disagree with the following statements {scale of strongly agree to strongly disagree):

- Breastfeeding can help babies' brains develop
- Babies that are given formula milk sleep better than breastmilk fed babies
- You can only tell if the baby is getting the right amount of milk by using formula
- Breastfed babies cry a lot more than formula fed babies
- Bottle fed babies develop early tooth decay
- Formula fed babies are more likely to develop obesity and obesity-related illnesses later on in life

5. Say a mother who is breastfeeding returns to work after having a baby. What do you think would be the best way of feeding the child while she is at work? Consider three cases: her baby is aged 3 months, 6 months and 12 months when she returns to work. Please select one option per column.

With expressed breastmilk

With formula milk



With a mixture of expressed breastmilk and formula milk

6. Please indicate how much you agree or disagree with the following statement:  
It is the responsibility of employers to accommodate mothers who want to breastfeed or express milk in the workplace (scale of strongly agree to strongly disagree)
7. Which, if any, of the following do you think that employers should provide?  
Select all that apply
- Paternity/paid partner leave extended from two weeks to four weeks to provide support for mothers who want to breastfeed
  - Fully paid maternity leave extended from 6 weeks to 6 months so mothers can breastfeed for longer
  - A private room for breastfeeding mothers to express and store milk at work, where possible
  - Flexible work schedules, such as flexible break times, for breastfeeding mothers
  - None of the above
8. Is it acceptable or unacceptable for a mother to breastfeed a child (Options of acceptable, unacceptable, don't know):
- In public
  - In a café or restaurant
  - On public transport
  - In a park
  - In a workplace
  - In front of friends and family
9. How much do you agree or disagree with the following statement: Mothers should always cover up when breastfeeding in public (scale of strongly agree to strongly disagree)
10. When do you think a mother should stop breastfeeding her child by?

At a specific age

A mother should breastfeed as long as she and/or the child want to [Please specify in months the age you think a child should stop being breastfed by.]

11. Where have you seen someone, who you do not know, breastfeeding their child in public in the past month?

Café or restaurant

Public transport

In a park

At your workplace

Other

I have not seen any breastfeeding in a public space in the past month  
Other [Please specify]

12. Where have you seen, heard or read anything about breastfeeding or formula feeding in the past 12 months? Please select all that apply [Column for breastfeeding and formula feeding]

TV or radio programme

TV or radio advert

Newspaper or magazine article

Newspaper or magazine advert

Social media post

Advertisements or promotions in shops

Other

I have not seen, heard or read anything in the past 12  
Months

13. Are you aware of legislation protecting the right to breastfeed in public?

Yes

No

14. Write 3 things that come to mind when you think of breastfeeding [free text box]

15. Write 3 things that come to mind when you think of formula feeding [free text box]

16. Write 3 things that come to mind when you think of bottle feeding with expressed breastmilk [free text box]

17. Do you know whether you were fed with breastmilk or formula milk when you were a baby?

Fed with breastmilk entirely or almost entirely

Fed with formula entirely or almost entirely

Fed with both breastmilk and formula milk

Don't know

18. Were any of your children fed with any breastmilk for at least a month?

Yes

No

I have never had any children

Don't know

We would now like to ask some questions about you. The survey is anonymous so this information cannot be traced back to you. This information will be used to ensure we collect a range of views.

19. Do you identify as?

Female

Male

Non-binary gender

Prefer not to say

Other

20. How old are you?

18-20

21-24

25-29

30-34

35-39

40-44

45-49

50-54

55-59

60-64

65-69

70-74

75-79

80-84

85+

21. What is your ethnic group?

White British/UK

Any other white background

Indian

Pakistani

Bangladeshi

Chinese

Any other Asian Background

Black African

Black Caribbean

Any other black background

Mixed/multiple ethnic background

Any other ethnic group

Prefer not to say

22. What is your religion?

No religion

Christian

Catholic

Buddhist

Hindu

Jewish

Muslim

Sikh

Any other religion

Prefer not to say

23. What is your highest qualification level?

Degree level (e.g. undergraduate, postgraduate, PGCE, PhD)

Higher qualification below degree level (e.g. higher education certificate/diploma, A-level /AS-level, International baccalaureate or equivalent

GCSE/O-level or equivalent

Other

No Qualification

24. Which of these best describes your current employment situation?

Self-employed

Paid Employment (Full time)

Paid Employment (Part time)

Unemployed

Retired

On parental leave

Family care or looking after the home

Full time student

Long term sick/disabled

Other [please specify]

25. Please provide the occupation of your main job, if you are not currently working please provide the occupation of your most recent job or specify never worked [free text box]

26. Does your job involve supporting or working with breastfeeding mothers?

Yes

No

27. What is your current legal marital status?

Single, never married or in a civil partnership

Married or in a civil partnership

Separated but legally married /in a civil partnership

Divorced/former civil partner

Widowed/surviving civil partner

Living as a couple

Other

28. Do you have any children under 16? [Yes, No]

Living with you

Not living with you

29. What region of the UK do you currently reside in?

North East

North West

Yorkshire and the Humber

East Midlands

West Midlands

East of England

London

South East

South West

Wales

Scotland

Northern Ireland

30. Do you have any comments you wish to add?

## Appendix 3: Supporting Regressions

Table A3.1: Attitudes to Breastfeeding in Public, and Breastfeeding in the Workplace

	Q2: Acceptability	Q3: Cover up	Q4: Comfortableness	Employer Responsibility
<b>Female</b>	0.013 [0.020]	-0.033 [0.069]	0.254*** [0.071]	0.079 [0.055]
<b>Age Group (ref: Aged 18-24)</b>				
Aged 25-34	0.050 [0.059]	0.113 [0.195]	0.004 [0.214]	-0.189 [0.167]
Aged 35-44	0.022 [0.064]	0.352* [0.204]	0.099 [0.222]	-0.142 [0.171]
Aged 45-54	0.059 [0.067]	0.541*** [0.206]	-0.174 [0.232]	-0.434** [0.173]
Aged 55-64	0.051 [0.065]	0.544*** [0.207]	0.060 [0.230]	-0.325* [0.172]
Aged 65+	-0.058 [0.064]	1.134*** [0.198]	-0.082 [0.222]	-0.527*** [0.172]
Have University degree	0.043** [0.021]	-0.275*** [0.072]	0.186*** [0.072]	0.198*** [0.060]
Work in professional/managerial occupation	0.033 [0.022]	-0.082 [0.076]	0.199** [0.079]	0.040 [0.063]
White British	0.071*** [0.026]	-0.156* [0.088]	0.028 [0.089]	-0.145** [0.068]
Religious	-0.070*** [0.020]	0.453*** [0.070]	-0.277*** [0.073]	-0.196*** [0.059]
Children (ref: no children)				

Have children: (some) breastfed	0.073*** [0.026]	-0.288*** [0.087]	0.390*** [0.096]	0.223*** [0.066]
Have children: none breastfeed	0.014 [0.031]	0.051 [0.102]	0.010 [0.103]	-0.344*** [0.102]
Breastfed as a child (ref: no)				
Yes	0.033 [0.024]	-0.066 [0.083]	0.181** [0.090]	0.046 [0.066]
Don't know	-0.020 [0.033]	0.047 [0.108]	-0.067 [0.113]	-0.100 [0.089]
Observations	1,976	1,976	1,977	1,947
R-squared	0.077	0.169	0.083	0.132

Robust standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Includes control for region of residence

Q2. Is it acceptable or unacceptable for a mother to breastfeed a child in public? Dependent variable=1 if acceptable, 0 otherwise (unacceptable, don't know)

Q4. How much do you agree or disagree with the following statement: Mothers should always cover up when breastfeeding in public

Q3. How comfortable or uncomfortable do you feel if a mother breastfeeds near you in a public place?

Q15. Please indicate how much you agree or disagree with the following statement: It should be the responsibility of employers to make it possible for mothers to breastfeed or express breastmilk while at work.

Q4 and Q15 on a scale of strongly agree-strongly disagree, with a higher value representing greater agreement

Q3 on a scale of very comfortable to very uncomfortable, with a higher value representing greater comfortableness

## Breastfeeding Benefits

### Variables:

1. **BF Mother Bonding:** Do you think that mothers who breastfeed bond better or worse with their children compared to those who bottle feed, or does it not make much difference either way.

**Regression code:** High value implies mothers who breastfeed bond better with children.

2. **BF Partner Bonding:** Do you think the partner of a mother bonds better or worse with their children when the baby is bottle fed compared to being breastfed, or does it not make much different either way.

**Regression code:** High value implies respondent agree with the statement that partner bonds better if the child is bottle fed.

3. **Feed Milk** Some people think feeding babies breastmilk is preferable, others think feeding babies formula milk is preferable. In your view what is usually the preferable way of feeding a baby?

**Regression code:** High value is for breastfeeding.

4. **Feeding Strain** Would you say that in general feeding a baby with formula milk rather than breastmilk is more or less of a strain for a mother, or does it make little difference either way?

**Regression code:** High value is for agreeing with more strain when feeding a baby with formula milk rather than breastmilk.

5. **Feeding Health:** In general, would you say that breastmilk fed babies are healthier, formula-milk fed babies are healthier, or is there not much difference either way?

**Regression code:** High value implies agree with breastfeed as more healthy.

6. **Feeding Formulae Sleep:** Do you think that babies who are fed with formula milk sleep better than babies who are fed with breastmilk, sleep worse, or does it not make much difference either way?

**Regression code:** High value for those who agree that babies that are formula fed sleep better.

7. **Feeding volume:** Is it easier to tell whether the baby is getting the right amount of milk if you are using breastmilk or formula milk, or is there not much difference either way?

**Regression code:** High value for agree that Breastfeed is easier to tell whether the baby is getting the right amount of milk.



**Table A3.2 OLS regression results for measures of benefits of breastfeeding**

	<b>Bf Mother Bonding</b>	<b>BF Partner Bonding</b>	<b>Feed Milk</b>	<b>Feeding Strain</b>	<b>Feeding Health</b>	<b>Feeding Formula e Sleep</b>	<b>Feeding Volume</b>
<b>Sex</b> Male (ref.) Female	-0.089** (0.037)	0.124*** (0.034)	0.053 (0.062)	0.082 (0.053)	-0.142** (0.063)	-0.145*** (0.037)	0.051 (0.042)
<b>Age Group</b> >45 (ref.) ≤45	-0.153*** (0.039)	0.062 (0.039)	-0.186*** (0.066)	-0.047 (0.057)	-0.198*** (0.065)	-0.050 (0.039)	-0.020 (0.046)
<b>Education</b> No Degree (ref.) Degree	0.090*** (0.034)	0.009 (0.037)	0.202*** (0.065)	-0.079 (0.053)	0.178*** (0.069)	-0.051 (0.036)	-0.065 (0.048)
<b>Occupation</b> Other(Ref.) Professional/Manag erial	0.034 (0.036)	0.035 (0.038)	-0.006 (0.068)	-0.035 (0.056)	0.042 (0.069)	-0.013 (0.039)	-0.010 (0.048)
<b>Ethnicity</b> Non- White(ref.) White	-0.059 (0.099)	-0.064 (0.069)	0.234* (0.121)	0.055 (0.109)	-0.303** (0.122)	-0.171** (0.084)	-0.182** (0.082)
<b>Religion</b> no religion (ref.) Religion	0.080** (0.034)	-0.007 (0.036)	0.090 (0.062)	0.014 (0.052)	0.159** (0.064)	0.033 (0.035)	-0.014 (0.044)
<b>Self-fed</b> Breastmilk/combina tion (ref.) Formulae fed	-0.116*** (0.042)	0.089** (0.037)	-0.177*** (0.064)	-0.007 (0.057)	-0.135** (0.066)	-0.068* (0.040)	-0.032 (0.041)
<b>Child Feed</b> No child (Ref.) Feed	0.018 (0.041)	-0.000 (0.043)	0.284*** (0.076)	0.148** (0.063)	0.161** (0.080)	-0.142*** (0.040)	0.168*** (0.052)
No Feed	-0.261*** (0.041)	0.077 (0.050)	-0.226*** (0.087)	-0.068 (0.070)	-0.437*** (0.086)	-0.125*** (0.045)	0.131** (0.058)
GOR	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,426	1,412	1,416	1,422	1,424	1,384	1,392

## **Sex Differences**

Females are less likely than males to agree that breastfeeding leads to stronger bonding than formulae feeding between mothers and their children. In our sample, females are also less likely to believe that breastfed babies are healthier, and that formula-fed babies sleep better. However, females are significantly more likely than males to agree that a partner bonds better with the child when the baby is formula-fed.

## **Age**

Individuals aged 45 or younger are less likely to believe that breastfeeding strengthens mother–child bonding, that breastmilk is preferable to formula, or that breastfed babies are healthier than those who are formula-fed.

## **Educational Attainment**

Those with higher degrees are more likely to agree that:

- Breastfeeding fosters stronger bonding between mother and child.
- Breastmilk is a preferable method of infant feeding.
- Breastfed babies are healthier than formula-fed babies.

## **Ethnicity**

White British respondents generally view breastmilk as the preferred method of infant feeding. However, they are less likely to agree that:

- Breastfed babies are healthier.
- Formula-fed babies sleep better.
- Breastfeeding helps determine whether a baby is getting the right amount of milk.

## **Religious Beliefs**

Religious individuals are more likely to believe that:

- Breastfeeding promotes stronger mother–child bonding.
- Breastfeeding is the healthier option for infants.

## **Infant Feeding History**

Those who were formula-fed as infants are less likely to agree that:

- Breastfeeding fosters stronger mother–child bonding.

- Breastmilk is preferable to formula.
- Breastmilk is healthier than formula.
- Formula-fed babies sleep better.

### **Breastfeeding Experience**

Individuals who have breastfed their child are more likely to:

- Prefer breastmilk over formula.
- Believe that breastmilk is healthier for babies.
- Feel that breastfeeding makes it easier to gauge if the baby is getting enough milk.
- Agree that formula feeding places more strain on the caregiver.

They are also less likely to agree that formula-fed babies sleep better.

### **Non-Breastfeeding Experience**

In contrast, those who have not breastfed tend to:

- Hold less favourable views of breastmilk compared to formula.
- Be less likely to agree that breastmilk is healthier.
- Be less convinced that breastfeeding makes it easier to determine if a baby is getting the right amount of milk.

Interestingly, they are also less likely to agree that formula-fed babies sleep better.