

Juggling Work and Motherhood: The Impact of Employment and Maternity Leave on Breastfeeding Duration: A Survival Analysis on Growing Up in Scotland Data

Valeria Skafida

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Abstract In 2005, Scotland became the first nation to make breastfeeding in public a legal right, but current breastfeeding targets and maternity leave allowance do not acknowledge the conflicting demands women face when juggling employment and motherhood. This paper explores how employment and maternity leave relate to breastfeeding duration among mothers in Scotland. The Growing Up in Scotland national longitudinal cohort study of 5,217 babies born in 2004–2005 was used. Multivariate proportional hazards regression models were specified using one cross-sectional wave of data to predict breastfeeding duration. Mothers working as employees, full-time (Hazard Ratio 1.6) or part-time (HR1.3), had a higher risk of earlier breastfeeding cessation than non-working mothers. However, self-employed mothers did not differ significantly from non-working mothers in their breastfeeding patterns. Mothers who took longer maternity leave breastfed for longer. The relationships between employment, maternity leave and breastfeeding duration were significant when controlling for known predictors of breastfeeding. Younger mothers, those with less formal education, single mothers, those of white ethnic background, and first-time mothers were more likely to stop breastfeeding sooner, as has been noted in previous research. Employment and early return to work are both factors associated with a shorter duration of breastfeeding. More flexible working conditions and more generous employment leave could help to prolong breastfeeding among working mothers. Current health and employment policy in Scotland and the UK could be better

coordinated so that working mothers have the adequate support to meet the conflicting demands of employment and motherhood.

Keywords Breastfeeding duration · Working women · Maternity leave

Introduction

A wealth of research has focused on the positive health outcomes of breastfeeding for mother and child [1–4]. A growing interest in infant nutrition on the public health policy agenda throughout Europe has followed [5], and this has been particularly pronounced in Scotland, which in 2005 became the first nation to make breastfeeding a legally enforceable right [6]. More recently, the Scottish Government's Healthy Eating, Active Living action plan [7] outlined a goal to have 32.7% of all infants being exclusively breastfed at 6–8 weeks by 2010–2011, while the World Health Organisation (WHO) recommends that infants are breastfed exclusively for at least 6 months.

Despite the increased promotion of breastfeeding in Scotland and the UK more generally, policy recommendations do not appropriately consider the conflicting demands of employment and breastfeeding faced by working mothers. UK wide Statutory Maternity Pay provides for 6 weeks paid leave at 90% of average weekly earnings, and a flat rate sum of £124.88/week for the following 33 weeks (rate from April 2010) [8]. As some maternity leave is usually taken before the birth, current leave provision is unlikely to support mothers to breastfeed for the 6–8 weeks target set by the Scottish Government, nor the more ambitious 6 months proposed by WHO. A lack of coordination between the WHO breastfeeding

V. Skafida (✉)
Department of Social Policy, Centre for Research on Families
and Relationships, University of Edinburgh, 23 Buccleuch Place,
Edinburgh EH8 9LN, UK
e-mail: valeria.skafida@ed.ac.uk

recommendations and Scottish Government breastfeeding targets on the one hand and current UK maternity leave policy on the other, seems apparent.

The idea that continued breastfeeding and employment pose conflicting demands on mothers has been well researched. The evidence suggests that participation in employment is correlated with earlier breastfeeding cessation [9], and working full-time was associated with shorter breastfeeding durations than working part-time [10, 11]. Research looking at maternity leave and breastfeeding duration, indicated that postpartum maternity leave is positively associated with breastfeeding duration, especially for mothers in less flexible employment, and longer leaves were linked to prolonged breastfeeding [12, 13]. But most of the reviewed literature is either qualitative in nature and/or based on non-UK populations, excluding research by Hawkins et al. [11], which did not look at maternity leave and breastfeeding duration. As such, existing research cannot offer an appropriate insight into the relationship between employment and maternity leave, and breastfeeding patterns among mothers in Scotland in recent years, who have to juggle employment and child nutrition in Scotland's unique policy and socio-legal climate.

Aims

While a considerable amount of research has been undertaken on the relationship between breastfeeding duration and maternal labour market participation, most studies have focused on non-UK [10] and primarily US samples [9, 12, 13] which cannot account for the breastfeeding decisions and patterns of mothers subject to the cultural and policy context of the UK, and more particularly Scotland. This paper explores the relationships between maternal employment and maternity leave with regard to breastfeeding duration among mothers in Scotland, while controlling for known predictors of breastfeeding. Two proposed hypotheses frame the research: (a) that maternal participation in employment has a negative effect on breastfeeding duration, (b) that mothers who take longer maternity leave are able to breastfeed for longer, and (c) that maternity leave mediates the negative effect that maternal employment has on breastfeeding duration.

Methods

Participants

As the scope of the research was to understand breastfeeding trends in Scotland, the Growing Up in Scotland (GUS) survey was deemed to be the most appropriate

source of data for the research. The Growing Up in Scotland survey is a national longitudinal survey of children aged 0 to 5 in Scotland which collects information on a range of topics related to children's development from birth through to early childhood. As such, it is more suitable for multivariate analysis than other administrative data on breastfeeding, such as the Infant Feeding Survey. GUS follows two separate cohorts through annual survey sweeps. The baby cohort consists of 5,217 babies who were born between June 2004 and May 2005, who were 10 months old at the time of the first sweep [14]. The toddler cohort consists of 2,858 toddlers aged 34 months at the first survey sweep, but as no breastfeeding duration data was collected for this cohort the following analysis focuses exclusively on the baby cohort.

The sample was based on the Child Benefit Register held at the Department of Welfare and Pensions. The sampling frame was stratified and aggregated into Data Zones [units created by the Scottish Executive, now the Scottish Government, for reporting 2001 Census small area statistics] which were in turn sorted by Local Authority and by the Scottish Index of Multiple Deprivation score. From this hierarchically sorted list, 130 zones were randomly selected [14]. Given the nature of the sampling procedure, the appropriate sample weights provided were used for the following analysis to adjust for non-random non-response bias, and for unequal probability of selection for some children. The official user guide for the first sweep of data describes the survey design in further detail [15].

Outcome Measure

The mothers of the baby cohort were asked whether they had ever breastfed the sample child. Those who had breastfed were also asked to report how old the child was when it was last breastfed. The cohort was 10 months old at the time of interview, and 481 (16%) babies were still being breastfed. Data on those still breastfeeding at sweep one was obtained in subsequent sweeps. However, because full details on maternity leave were only collected at sweep one only the duration spanning from 1 day to 10 months inclusive was analysed in this research and mothers who breastfed for longer were included in the analysis but censored at 10 months. Cases where the biological mother was not interviewed, and where the child was born in a multiple birth, were excluded from the present analysis. Of the remaining 5,015 mothers in the sample, 3,034 had breastfed at least once, and the analysis of breastfeeding duration focuses on this sub-sample. While the survey design is longitudinal, breastfeeding duration data was retrospective based on maternal recall of breastfeeding duration at the first interview 10 months post partum.

Table 1 Comparing exclusive and complementary breastfeeding duration ratesData from the Growing Up in Scotland survey and the Infant Feeding Survey for 2005 (*duration in % among all mothers in sample*)

	GUS— comp. ^a	IFS 2005 ^b — comp.	IFS 2005 ^b — excl.
Breastfed initially	60	70	61
At 1 week	52	57	42
4 Weeks	45	n/a	25
6 Weeks	42	44	19
8 Weeks (2 months)	38	n/a	17
17 Weeks (4 months)	30	31	6
26 Weeks (6 months)	23	24	<0.5

^a Filtered for single births and biological mothers, weighted data^b Infant Feeding Survey: Scotland sub-sample

Current Scottish Government and WHO targets are based on *exclusive* breastfeeding [16], while the GUS questionnaire, designed to monitor previous Scottish Government targets, measures *complementary* breastfeeding [17]. Figures for complementary breastfeeding will include mothers who breastfeed exclusively as well as those who feed their child with a mixture of breast and formula milk. Table 1 illustrates the difference between complementary and exclusive breastfeeding through 2005 Infant Feeding Survey and GUS data. By 6 months there were virtually no mothers still breastfeeding exclusively while one in four was still using breastfeeding in combination with other forms of feeding. Looking at complementary, rather than exclusive, breastfeeding allows for an analysis of feeding duration to look at a much larger number of mothers for a much longer period of time.

Predictors

The variables explored in the analysis are presented in Table 2 which shows the rates of overall breastfeeding take-up (grey column), and for breastfeeding duration under 6 weeks and for 6 weeks or more for each category of each independent variable.

Employment and Maternity Leave

Assessing the relationship between employment, maternity leave and breastfeeding duration was the central interest of the paper. One variable captured whether mothers were working full-time as employees (30 h/week or more), full-time as self-employed, part-time as employees (under 30 h/week), part-time as self-employed, or whether they did not work at all at the time of birth. The variable measuring maternity leave accounted for all paid and unpaid leave

taken by the mother. This is banded in monthly intervals, with a final interval of those taking six to 10 months leave, and a category which accounts for those still on leave at the first survey sweep. As the analysis of employment leave focuses only on mothers who were in paid employment at the time of birth, the sample for this part of the analysis consisted of 2,079 mothers. Information on maternity leave was based on retrospective recall of mothers at the first survey sweep, 10 months postpartum. The methodological implications for validity and reliability of data collected are worth considering.

Confounders

A number of confounders were considered in the analysis based on previous research on breastfeeding duration [18–20]. Confounders of primary interest were variables which were expected to capture the social stratification of resources and capabilities which influence maternal health behaviours, including infant feeding decisions and aspirations. Relevant variables explored included the mother's highest educational qualifications held when the child was born, maternal social class, based on the UK's National Statistic Socio-Economic Classification scheme [21], and total household income at sweep one in quartiles. Ultimately, only maternal education and maternal social class were controlled for in the multivariate regression models. Exploratory analysis indicated that household income, and to a lesser degree maternal social class, were not significant predictors of breastfeeding when also controlling for maternal education. The superiority of maternal education in predicting breastfeeding decisions, compared to maternal social class and household income, was consistent with findings from previous research [22, 23].

Statistical Analysis

Stata version 10.1 (StataCorp, College Station, TX, USA) was used for all analyses. Given the nature of the data being duration data, survival analysis through proportional hazards regression was the most appropriate method for testing explanatory models for breastfeeding duration. The first stage of analysis involved comparing survival rates for individual independent variables through Kaplan–Meier plots [24]. Tests of equality of survival were based on the log rank test, and significant variables were explored through subsequent multivariate proportional hazards regression models. These provide hazard ratios for the cessation of breastfeeding for each category of each independent variable adjusting for the remaining variables in the model [25].

Preliminary models indicated that while social class, income and education were individually significant

Table 2 Rates of complementary breastfeeding by independent variables considered in the analysis

Mothers who breastfed their child (adjusted %)	Breastfed at least once	Breastfed less than 6 weeks	Breastfed 6 weeks or more	<i>P</i> value
All mothers (N: 5,051)	58.8	17.8	41.0	
Sample child's birth order (N: 5,051)				$P \leq 0.001$
First birth (N: 2470)	61.2	20.9	40.3	
Subsequent birth (N: 2581)	56.4	14.8	41.6	
Mother's age at birth ^a (N:5,050)				$P \leq 0.001$
Under 20 (N:347)	32.7	18.7	14.0	
20 to 29(N:2,052)	52.9	19.0	33.9	
30 to 40 (N:2,480)	68.0	17.1	50.2	
40 or older (N:171)	71.4	10.2	60.2	
Family composition (N: 5,051)				$P \leq 0.001$
Couple household (N:4,093)	65.0	18.1	46.9	
Single parent household (N:958)	35.1	16.8	18.2	
Mother's ethnic background (N: 5,048)				$P \leq 0.001$
White (N: 4,861)	58.1	17.8	40.4	
Other (N: 187)	75.1	20.5	54.7	
Mother's education (N:5,051)				$P \leq 0.001$
Degree or Equivalent (1,409)	86.8	14.8	69.0	
Vocational qualification below degree (1,871)	58.5	20.9	36.6	
Higher grade or equivalent (372)	61.7	19.9	40.3	
Standard grade or equivalent (905)	40.8	17.8	21.8	
No qualifications(448)	29.6	12.8	15.8	
Missing data (52)	77.0	15.8	51.5	
Mother's social class (N:5,044)				$P \leq 0.001$
Managerial and professional (1,816)	78.9	17.2	59.2	
Intermediate (983)	60.4	19.2	40.1	
Small employers and own account workers (196)	72.6	15.1	57.1	
Lower supervisory and technical (305)	48.3	17.2	29.3	
Semi-routine and routine (1,744)	45.8	19.1	25.7	
Never worked	30.4	11.3	18.3	
Annual household income—quartiles (N:5,051)				$P \leq 0.001$
Up to £14,999 (1m315)	39.4	16.8	22.6	
£15,000—£25,999 (1,131)	57.3	20.0	37.2	
£30,000—£43,999 (1,265)	68.5	17.8	50.7	
£44,000 or more (823)	79.7	15.8	63.8	
Missing data (517)	60.6	18.7	41.9	
Employment status at time of birth (N: 5,049)				$P \leq 0.001$
Full-time, employee (748)	69.2	20.3	49.0	
Full-time, self-employed (48)	83.7	18.6	65.1	
Part-time, employee (1,841)	62.2	19.7	42.6	
Part-time, self-employed (142)	77.7	11.0	66.7	
Not in work (2,270)	51.2	16.0	35.2	
Leave from work—paid and unpaid—sw1 (N: 2,473)				$P \leq 0.001$
No leave—up to 1 month (38)	63.2	10	50.7	
Over 1 month—up to 2 months (64)	66.3	22.9	43.4	
Over 2 months—up to 3 months (99)	61.3	21.4	39.9	
Over 3 months—up to 4 months(133)	52.6	20	31.3	
Over 4 months—up to 5 months (268)	64.3	22.5	40.2	

Table 2 continued

Mothers who breastfed their child (adjusted %)	Breastfed at least once	Breastfed less than 6 weeks	Breastfed 6 weeks or more	<i>P</i> value
Over 5 months—up to 6 months (1,099)	65.6	20.5	43.9	
Over 6 months (665)	75.4	16	57.7	
Still on leave at sweep 1 (107)	76.0	17.2	56.1	

Data filtered for single-births and cases where mother was biological mother of child

Percentages are based on weighted data; N values are based on un-weighted data

^a Age is presented in banded form but the continuous variable for age was used in regression analyses

predictors of breastfeeding duration, when combined in a multivariate model, social class and income fell out of significance, but maternal education remained a significant and robust predictor. Thus, final models presented in the paper only used maternal education and maternal social class as key stratifying variables. Visual examination of survival plots and tests of proportionality of cessation using scaled schoenfeld residuals were carried out to test that the difference in breastfeeding cessation rates between groups were proportional over time [24]. As the above procedure cannot be carried out using survey-weights, models were initially specified on un-adjusted data and then re-run on adjusted data to account for the stratified sample design of the survey. Interaction terms tested were not significant based on the Likelihood-ratio test ($P > 0.05$) and were not included in the final models [25]. Multicollinearity tests were run using collinearity tests available for linear regression analysis, and none of the predictors reached a tolerance value of less than 0.200, indicating that multicollinearity did not jeopardise the results [26].

The regression models were based on a complete-case analysis and in order to minimise the loss from non-response, a category capturing 'missing data' was included in the regression models for educational qualifications (N:693). Two final models are presented in Table 3. Model 1 tests the relationship between maternal employment status and breastfeeding duration while controlling for maternal education, maternal social class, age at birth, child's birth order, family composition and the mother's ethnicity. Model 2 focuses only on working mothers (N:1652) and assesses the relationship between maternity leave and breastfeeding duration while controlling for maternal employment status as well as the aforementioned confounders.

Results

Employment and Maternity Leave

The 1st model looks at the relationship between maternal employment status and breastfeeding duration. Initially, descriptive data in Table 2 indicated that self-employed

mothers working part-time were most likely to breastfeed for 6 weeks or more (66.7%), while non-working mothers were the least likely to both initiate breastfeeding (51.2%) and to breastfeed for 6 weeks or longer (35.2%). Non-working mothers would be expected to have the highest take-up and longest duration of breastfeeding, based on a hypothesis which assumes employment and prolonged breastfeeding pose conflicting demands on maternal time. The survival analysis revealed that it was not the lack of employment which was associated with a lower predisposition towards breastfeeding, but other common characteristics of non-working mothers, such as being younger and having less educational qualifications, which was in turn accounting for the negative relationship between unemployment and shorter breastfeeding spells. In fact, proportional hazards regression model 1 shows that, controlling for other confounders such as age, education and social class, mothers not in work were at a lower risk of earlier breastfeeding cessation (Hazard Ratio 0.6) when compared to mothers working as full-time employees. In fact, part-time self-employed mothers and part-time employees were also less likely to stop breastfeeding sooner (HR 0.6 and 0.8) compared to full-time employees.

Model 2 tests the relationship between maternity leave and breastfeeding, while controlling for the relationships between maternal employment status and breastfeeding duration. Compared to mothers who were still on leave when the child was aged 10 months, mothers who took over 1 month and up to 2 months of leave had a higher risk of earlier breastfeeding cessation (HR 1.6). In contrast, there were no statistically significant differences between mothers still on leave at the first interview, and those who took over five and up to 6 months of leave, or those who took over 6 months and up to 10 months of leave. Controlling for maternity leave in the model seemed to mediate some of the association between maternal employment status and breastfeeding duration. However, even when controlling for maternity leave taken and other confounders in the model, mothers working as part-time employees were still statistically significantly less likely to give up breastfeeding sooner than those working as full-time employees (HR 0.9).

Table 3 Proportional hazards regression—predicting breastfeeding duration up to 10 months

Variable reference categories in italics	MODEL 1 (excludes mothers who never breastfed) (N:3,027)		MODEL 2 (excludes mothers not working at time of birth) (N:1,652)	
	Hazard ratios	[95% CI]	Hazard ratios	[95% CI]
<i>Mothers education</i>				
Degree or equivalent				
Vocational qual/s below degree	1.596 ^{***}	[1.435,1.775]	1.590 ^{***}	[1.386,1.825]
Higher grade or equivalent	1.584 ^{***}	[1.385,1.811]	1.567 ^{***}	[1.300,1.889]
Standard grade or equivalent	2.142 ^{***}	[1.832,2.504]	2.255 ^{***}	[1.811,2.809]
No qualifications	2.224 ^{***}	[1.797,2.753]	2.131 ^{***}	[1.396,3.254]
Missing data	0.814	[0.528,1.257]	1.074	[0.608,1.895]
<i>Mother's social class</i>				
Managerial and professional				
Intermediate	0.948	[0.839,1.073]	0.878	[0.748,1.031]
Small employers and own account workers	0.967	[0.745,1.257]	0.740	[0.497,1.101]
Lower supervisory and technical	0.844	[0.676,1.054]	0.782	[0.588,1.039]
Semi-routine and routine	1.064	[0.952,1.190]	0.877	[0.734,1.047]
Never worked	0.892	[0.664,1.199]		Omitted
Mothers age (in years)	0.966 ^{***}	[0.958,0.974]	0.965 ^{***}	[0.955,0.976]
<i>Sample child's birth order</i>				
Subsequent birth				
First birth	1.181 ^{***}	[1.092,1.278]	1.238 ^{***}	[1.121,1.368]
<i>Family status</i>				
Couple household				
Single parent household	1.219 ^{**}	[1.057,1.406]	1.384 ^{**}	[1.112,1.724]
<i>Mother's ethnic background</i>				
Other				
White	1.071	[0.904,1.268]	0.845	[0.535,1.336]
<i>Employment status at time of birth</i>				
Full-time, employee				
Full-time, self-employed	0.841	[0.559,1.265]	0.859	[0.548,1.346]
Part-time, employee	0.826 ^{**}	[0.735,0.929]	0.879 [*]	[0.773,0.999]
Part-time, self-employed	0.632 ^{***}	[0.487,0.820]	0.720	[0.501,1.034]
Not in work	0.632 ^{***}	[0.554,0.720]		Omitted
<i>Leave from work (paid and unpaid)</i>				
Still on leave at sweep 1				
None/up to 1 month			1.410	[0.946,2.102]
Over 1/up to 2 months			1.638 [*]	[1.062,2.525]
Over 2/up to 3 months			1.509 [*]	[1.054,2.159]
Over 3/up to 4 months			1.686 [*]	[1.122,2.534]
Over 4/up to 5 months			1.502 ^{**}	[1.149,1.965]
Over 5/up to 6 months			1.306	[0.995,1.714]
Over 6/up to 10 months			1.000	[0.756,1.324]

Data filtered for single-births and cases where mother was biological mother of child

Percentages are based on weighted data; N values are based on un-weighted data

Significance levels: * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

The evidence suggests that maternity leave is positively associated with breastfeeding duration, with longer leave allowing for longer breastfeeding spells, controlling for the

remaining confounders in the model. This positive effect appears to be less important for mother taking more than 5 months of maternity leave. Also, while maternity leave

mediates some of the negative relationship observed between maternal employment and breastfeeding duration, mother working part time are still more likely to breastfeed for longer.

Other Confounders

Some further results are worth noticing from the regression models. Older mothers, those living in two-parent households, and those who had already given birth to other children previously, were significantly more likely to breastfeed for longer. Mothers from ethnic minority groups were also more likely to continue to breastfeed for longer. However, when controlling for maternity leave in the second regression model, ethnicity was no longer significant ($P = 0.38$). Model 1 also indicates that, when controlling for the above confounders, the mother's educational profile remains a significant predictor of breastfeeding duration. More specifically, compared to mothers with degree qualifications or equivalent, mothers with no qualifications were far more likely to give up breastfeeding sooner (HR 2.2). A discrepancy can also be noted when comparing mothers with higher grade or equivalent qualifications, who, compared to degree-holding mothers, have a higher risk of earlier breastfeeding cessation (HR 1.6). It is interesting to note while maternal social class was a significant predictor of breastfeeding duration in the bivariate analysis (Table 2), this variable was no longer significant when controlling for maternal education and other confounders in the model. Preliminary models also explored the influence of household income in predicting breastfeeding patterns but this variable fell out of significance when also controlling for maternal educational qualifications and maternal social class.

Discussion

The results suggest that employment is negatively associated with a mother's ability to breastfeed for prolonged periods of time among mothers in Scotland, confirming existing research in this field [9–11]. Those who do not work are more likely to breastfeed for longer. However, not all jobs are created equal, and among mothers working part-time, self-employed mothers breastfed for longer than mothers working as employees. In fact, self-employed mothers were just as likely to stop breastfeeding as mothers not in work. The most obvious explanation for this result is that self-employed mothers are more likely to work from home, where it is easier for women to juggle between breastfeeding and work-related tasks. As for employment leave, the results from the current study indicate that delaying the return to work may facilitate prolonged

breastfeeding, confirming the findings from reviewed empirical evidence based on US samples [12, 13]. The risk of complete breastfeeding cessation is greater if returning to work when the child is younger. The findings resonate with extensive literature grounded in social theory which points to the conflicting demands that women face in juggling work and motherhood [27].

While the evidence seems to suggest a positive association between longer leave and breastfeeding duration the potential problem of sample endogeneity should not be overlooked. It is likely that mothers who aim for prolonged breastfeeding are distinct in their socio-economic and educational backgrounds as well as their self-confidence and aspirations. They might also have different job prospects, with different working conditions and work flexibility, and different patterns of return to work and of maternity leave take-up. Thus, the results may merely be reflecting a non-causal association between leave and breastfeeding, which is not being fully accounted for by the control variables included in the model.

In terms of variables measuring social stratification, the results point to the superiority of maternal education as a predictor of breastfeeding duration, when compared to maternal social class. This has previously been observed in research looking at breastfeeding patterns in Scotland [22, 23]. Clearly, variables measuring social class or education are highly collinear, and are proxy measures for broader differences in human capital which nourish differences in breastfeeding trends. However, results suggest that a social-stratification system based on educational qualifications can go further in explaining differences in breastfeeding duration than an occupation-based social class distinction.

As previous research has shown, older mothers tend to breastfeed for longer [11, 18, 20]. This may be a result of more life-experience and more self-confidence, while older mothers are also more likely to be more educated and in better paid and more maternity-friendly types of employment. First-time mothers were more likely to give up breastfeeding sooner than mothers with other children and previous experience and confidence gained following the birth of the first child may explain why subsequent children are typically breastfed for longer. Single mothers were also more likely to stop breastfeeding sooner when compared to mothers in couple households [18]. Single mothers have to face numerous demands of child rearing single-handedly, and prolonged breastfeeding is harder to maintain for these mothers. Mothers categorised as belonging to non-white ethnic backgrounds were more likely to continue to breastfeed for longer compared to white mothers. Mothers from ethnic minorities might be benefitting from relatively more breastfeeding-friendly experiences, social attitudes and cultures when compared to other mothers [20].

The more cultural and emotional aspects of breastfeeding should not be ignored. Decisions on infant feeding are made on a backdrop of current social discourse which often portrays breastfeeding as *the natural way* [28]. A form of ‘social anxiety’ is created around the practise of breastfeeding, and mothers are pressured to secure the *successful* development of their child, for which breastfeeding is of paramount importance [27]. Maher observes how breastfeeding is presented as ‘the panacea for the ills of childhood’ [29]. Breastfeeding is also part of the social definition of *good motherhood* [30–34] and is linked to ‘appropriate’ gendered practice [35]. Infant feeding practices acquire independent meaning and morality which stigmatise deviant mothers who do not live up to the shared understanding of ideal motherhood [30, 36].

Reflections on Public Policy

After the first 6 weeks of Statutory Maternity Pay, the relatively ungenerous flat rate income of £124.88 is likely to leave mothers and families reliant on savings in order to maintain their standard of living. Returning to work is likely to be a more lucrative and realistic option for many mothers. A more generous maternity leave scheme, such as the Swedish one which pays 80% of the mother’s average wage for the first 13 months of leave, may support mothers who want to breastfeed for longer. Thus, the proposal recently raised by the European Parliament to guarantee a minimum of 20 weeks paid maternity leave in EU countries would be highly beneficial in enabling mothers to, among other things, maintain prolonged breastfeeding with their infant [37], assuming, of course, that it does not backfire by making young women less employable in the first place. In light of current health policy recommendations and given that mothers are less likely to maintain prolonged breastfeeding when returning to work, further coordination between the breastfeeding targets set out in Scottish infant nutrition policy and the support offered to working mothers through employment policy may be appropriate.

Many women, however, do want to return to work, and they should be able to continue to work without feeling that this comes at a cost of any aspirations they may have as mothers. The data shows that mothers who are self-employed and by default working under more flexible conditions, are more likely to maintain prolonged breastfeeding, and are not worse off than those not working at all. From a spatial and practical perspective, breastfeeding usually requires the mother and infant to be in close proximity throughout the working day, and this can easily be achieved if self-employed mothers are working from home. It would therefore be important to explore how facilitating this ‘proximity’ between mother and child

could be achieved for mothers who are employees in larger business settings and working in traditionally less-flexible working environments. More work-based crèches and established maternal rights to more flexible working hours across all forms of employment could be a way of providing mothers with more time and resources to juggle the demands of both breastfeeding and work.

Breast-milk expression is one way in which the issue of mother–child proximity can be overcome. There is evidence to suggest that mothers who express milk are more likely to breastfeed for longer [38]. However, breast-milk expression still relies on someone being available to feed the baby expressed milk on behalf of the mother, and this is likely to entail paying for childcare. Also, evidence from the UK suggests that many mothers do not feel comfortable to either breastfeed or express milk while at work, many mothers feel they have to breastfeed or express milk in secrecy [39, 40]. Policies which facilitate milk-expression in the work place could be part of a broader policy portfolio, although a shift in the way breastfeeding is culturally perceived is likely to be necessary in order for work environments to become more friendly towards breastfeeding mothers.

The evidence suggests that maternity leave mediates some of the negative association between labour market participation and breastfeeding duration, stressing the importance of relevant policy initiatives addressing both employment conditions and employment leave. However, the above should be understood within the context of a wider unequal distribution of optimal feeding practises and related health inequalities in society. Breastfeeding duration was shown to be highly socially stratified by indicators of maternal education. Thus, policy initiatives which only aim to alter the working environment of mothers fail to address the fundamental social inequalities captured in part by indicators of maternal education, which shape the broader health behaviours of mothers and families. Addressing this underlying social stratification in society would be a way to address the *real* cause of the existing nutritional inequalities among infants in Scotland—and that would be a rather ambitious goal.

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Conflict of Interest None.

Ethics approval The Growing Up in Scotland study received ethics approval from: Scotland—A Research Ethics Committee. The current

secondary analysis of the data has been approved by the Research Ethics Committee for the School of Social and Political Studies at the University of Edinburgh.

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