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'BECAUSE THEY ARE TOO MENNY…' CHILDREN, MOTHERS, AND FERTILITY DECLINE: THE EVIDENCE FROM WORKING-CLASS AUTOBIOGRAPHIES OF THE EIGHTEENTH AND NINETEENTH CENTURIES

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'BECAUSE THEY ARE TOO MENNY…' CHILDREN, MOTHERS, AND FERTILITY DECLINE: THE EVIDENCE FROM WORKING-CLASS AUTOBIOGRAPHIES OF THE EIGHTEENTH AND NINETEENTH CENTURIES

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Abstract

Accounts of the British fertility decline have turned on the rise of the male breadwinner family, which by placing the responsibility for supporting women and children on men converted them to a preference for smaller families. This paper uses working-class autobiography of the eighteenth and nineteenth centuries to develop understanding of sources of income and patterns of dependency and to illuminate the motives towards smaller families. Even before 1800 fathers' duties were to work hard to support their families, but male responsibilities did not extend to stretching male wages to cover the variable demands of smaller or larger families. Mothers often sacrificed their own diets and wellbeing to stretch resources. Yet for them children were supports as well as burdens. Sons could earn more than their mothers and surrendered their earnings willingly. Through the family, resources were transferred from older working children to younger dependent siblings. Children's diets and schooling were eroded by the appearance of new babies and their entry into early work prompted by the burden of dependency. Their experiences as family members and child workers were recycled with a lag into recognition of the costs of larger families and slowly and imperfectly into agreement about the need for fertility control.

Introduction

This paper brings new evidence to bear on the forces that shaped the demographic transition. The source is British working-class autobiography.[1] In the larger project based on over 600 published and unpublished working-class memoirs, material about the autobiographers' families of origin is used to investigate aspects of childhood and specifically to construct an account of children's experience of work during the industrial revolution (Humphries, forthcoming). Although exclusively male, the working-class autobiographers saw women, particularly mothers, as the beating heart of family life and their experiences and perception of that life bears on the origins of the demographic transition.[2]

Mothers were almost invariably the central caring figures in family life. Theirs was the burden of making ends meet, of stretching the family's resources to cover needs. As has been often demonstrated, mothers sacrificed their own consumption standards in the interests of their children, scrimping on their own food and clothing, and working long hours though often only in their own homes. But what the autobiographical evidence makes clear is that they also presided over transfers of time and resources from one child to another, primarily from older working children to younger dependent brothers and sisters.

Widespread evidence from modern populations documents that children's social, educational and economic outcomes vary inversely with the size of their families of orientation (see the voluminous literature cited in Preston, 1976). The same appears true for the autobiographers, with various measures of well-being such as age at starting work and years of schooling inversely correlated with size of sibling group. At the hubs of their households, responsible for sharing out scarce material and emotional resources, mothers must have recognized the costs new babies meant to existing children. Evidence from the autobiographies shows mothers all too painfully aware of the Sophie's choices they made among their children, and uncovers a powerful motive for seeking to limit family size.

But another key finding from the autobiographical evidence is that children were the most important secondary earners in working-class families through

[1] For the classic introduction to the genre see Vincent, 1981.

[2] Rather than attempt to include the few working-class autobiographies written by women in this survey a separate project focused on female experience is planned.

the period of the industrial revolution and on until the middle of the nineteenth century. They shared the burden of breadwinning with fathers, provided resources for hard-pressed mothers, and helped to support dependent siblings. Indeed the support that children provided to mothers in their efforts to stretch fathers' earnings may have blunted women's preferences for smaller families. But even when those preferences were dominant they waited on men's agreement before they could influence practice. Understanding and dating this agreement has always been difficult for demographic historians, who have tried, with only partial success, to link it to the increasing isolation of men as responsible for their families' economic survival. As women and children retreated from the labour market and became dependent, men, saddled with the task of their support, became convinced of the desirability of smaller families.

While the chronology of the conventional wisdom was never totally clear, the autobiographical evidence makes it even less convincing. The accounts of family life in the industrial revolution suggest precocious development of some aspects of the male breadwinner family form. Fathers were already the economic mainstays of their families. But men's specialized economic role rather than persuading them of the desirability of fewer children detached them from family life and insulated them from the problem of making ends meet. During the late eighteenth and early nineteenth centuries, fathers became aloof and distant, separated from their families by the cares of breadwinning, which involved long hours, and sometimes long periods, away from home. Male leisure, such as it was, did not commonly involve childcare or playing with children but was spent with other men. Ironically, while the male breadwinner family form assigned economic responsibilities increasingly to men, at the same time its demands detached men from the very families that they were required to support, and blunted their perception of the costs of additional children. What then eventually convinced men and women of the desirability of smaller families?

Here the autobiographies provide an important insight, and one which helps synchronize the explanation of fertility decline with the empirical trends. Recognition of the costs that additional children imposed on their older brothers and sisters came perhaps too late to influence mothers' fertility, but it had a lasting effect on the boys and girls who grew up in the large families of the era. Hitherto accounts of fertility decline have turned on the changes in the perceived relative costs of children to mothers and fathers and neglected the costs of family size to children themselves. The generation of children who grew up in early industrial Britain lived at the sharp end of the high fertility regimen. As

child workers and household consumers their living standards suffered when additional babies appeared. The legacy was a preference for smaller families, carried forward when these boys and girls grew up and became parents at the end of the nineteenth century.[3] The new preference was then consolidated by the gradual disappearance of child labour and the dawning recognition of the importance of schooling, which not merely raised the perceived costs of additional children but deposited them squarely on the shoulders of parents. This latter part of the story may be familiar, but its taproot in children's experience has been ignored. In Thomas Hardy's masterpiece *Jude the Obscure*, Sue, Jude's wife becomes convinced that her several children 'would be better out o' the world than in it', but it is Old Father Time, Jude's eldest son who is moved by this Malthusian perception to act, hanging himself and his little brothers and sisters neatly in the family's cupboard 'because they are too menny (sic)' (Hardy, 1985, p. 406 and 410).

The fertility decline and the male breadwinner family

Historians are generally agreed on the overarching framework within which to study fertility decline. The chosen framework, borrowed from mainstream economics, emphasizes rational behaviour with smaller families promoted by changes in the perceived relative costs of child-rearing (PRCC model). But the need to link individual decisions not to the costs and benefits of children in narrow economic terms but rather to the perception of these costs and benefits complicates the otherwise 'beguilingly straightforward' model (Szreter, 1996). A key factor explaining both occupational/industrial differences in fertility levels and changes over time was the extent to which women and children contributed to family subsistence. Other family members' economic participation rates were in turn conditioned on the ability of the male wage to support a whole family and on attitudes to deviations from the male breadwinner standard. Trends in the relative costs of child rearing cannot be separated from the economic, social and cultural consequences of both the gendering and adulting of labour markets. Thus explanations of fertility decline rested on changes in the family economy.

[3] Demographic historians frequently make use of models where experience in childhood influences adult reproductive behaviour. For example, Wrigley and Schofield (1981) argued that the distinctive decline in marriage age in the eighteenth century represented a lagged response to the robust real wages of the previous generation.

Smaller families were causally linked to the emergence of the male breadwinner family and its corollary the demise of the domestically-based and involved father, as men were required to spend longer hours and more days away from home and in centralized and formalized workplaces. Burdened with total responsibility for their families' survival and status, husbands and fathers came to prefer fewer 'higher quality' children.

For the middle class, dependence on husbands and fathers was established early in the nineteenth century and its implication for family dynamics and affective relations have been carefully explored (Tosh, 1999; Mintz, 1983). For the working class, these changes were slow to materialize. In the first half of the nineteenth century, few working men could earn breadwinner wages. The majority of families were supported also by economic contributions from women and children who often competed in local labour markets with husbands and fathers. Historians went on to explain variation in fertility levels as responses to the perceived costs of child-rearing in different economic, social and cultural settings, with high fertility coal-mining communities and low fertility textile towns providing graphic illustrations. Changes over time were then explained by the increasing dominance of the male-breadwinner family form which made it possible for children to retreat from the labour market and by associating other family members' work with parental inadequacy branded as unrespectable those families in which women and children continued to contribute. By the last quarter of the nineteenth century the state's insistence on an expanded dependent childhood raised child-rearing costs and by providing official support for the male breadwinner norm leant weight to the stigma against parents who failed to conform. Thus as the male breadwinner standard tricked down from the middle and upper classes, working-class men were converted to a preference for fewer children.

But the timing of secular trends proved problematical. The changing role of fathers was dated from the 1830s and 40s while working-class conversion to small family size was not widespread until the twentieth century. There was little empirical work on shifts in household economics among the working class and the evidence that demographers assembled was circumstantial. Fertility levels were geographically or occupationally or (less successfully) temporally correlated with economic conditions assumed to be embedded in community norms and values, and rational response was inferred. Motivation was inferred from the relationships identified in the data and assumed in the (economic) theory of ideal family size.

In an important contribution, Seccombe argued against inferring 'process from form' (Seccombe, 1990; Seccombe, 1992, p. 208). He focussed directly on motivation and thus challenged 'The standard models of fertility regulation…. framed at the level of the reproductive *couple*, as if spouses have symmetrical interests and make harmonious joint decisions in all matters of sex and procreation' (Seccombe, 1992, p. 173). Seccombe argued that since women bore the direct burdens of repeated pregnancy, childbearing, and childcare they likely wanted small families.[4] But the contraceptive methods of the day required men's co-operation, hence the '… disjuncture between female motivation and male capacity to act' (Woods, 1992, p. 285). The result was a 'simmering tension, if not open conflict, between spouses over the terms and conditions of intercourse' (Seccombe, 1990, p. 187) that would only be resolved when men came to fear the prospect of another child strongly enough to exercise sexual self-discipline.[5] But Seccombe returned to the standard story in his explanation of men's conversion to the small family ideal, which he dated from the 1870s, associated with the spread of the male-breadwinner family among the working class. The costs of supporting additional children fell on working-class men and they responded by preferring smaller families.

While Seccombe should be commended for recognizing potential conflicts of interest between husbands and wives over ideal family size, his development of the PRCC model has been criticized. If women's preferences for fewer children were of long-standing it becomes difficult to explain their late eighteenth and early nineteenth century collaboration in early marriage and almost universal nuptiality. Moreover demographer Robert Woods (1992) found Seccombe's explanation of changes in men's attitudes unconvincing. The 1870s, while a turning point in demographic behaviour, seemed too late a date for children to be seen as 'burdensome' when outside 'peasant society' children were always dependent. He saw no reasons to search for changes in the family economy in

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[4] Seccombe cited qualitative sources, the Lewis Faning survey and Stopes correspondence, to illustrate women's aversion to additional children and the reasons for their anxieties. The latter included both economic reasons, the claim that the family could not afford more children, and concern about their own health and the perils that future pregnancies brought. An increase in the relative net costs of raising children is a central feature of most models of fertility decline. But as Seccombe says demographers have perhaps underestimated the fear of complications in childbirth as a motive force in women's desire to stop.

[5] This tension too was suggested by the qualitative sources consulted. Fertility decline thus waited on the convergence of men and women's interests and the former's collaboration in sexual restraint within marriage.

order to account for changes in men's attitudes. The explanation for women's burgeoning influence over their husbands lay instead in the spread of mass education, which drew men and women's views closer together.

Clearly changes in the sources of income and patterns of dependency are crucial in understanding fertility decline. This paper suggests that historians' account of the rise of the male breadwinner family within the working class is empirically under-developed, and out of touch with economic historians' understanding of changes in the labour market in the eighteenth and nineteenth centuries. It uses a source, working-class memoirs, that could be dismissed as anecdotal although it attempts to treat autobiographies systematically, where possible to extract quantitative evidence about family structure and functioning, and to relate this evidence to the economic history of the period. Working-class autobiographies, as historians of the genre note, almost never describe intimate relationships or discuss sexual practices. They do not document the simmering tensions between husbands and wives that historians have thought accompanied the clash between men's 'conjugal rights' and women's fears of childbirth. But they can be used to cast new light on the sourcing of family incomes and the related emotional and affective structure of the working-class family. In this way they uncover the perceived costs of children to mothers and fathers and how these differed. But they also highlight another victim of large families, namely the children who grew up in them and particularly the older children who were expected to work and contribute to their siblings' upkeep.

Working-class household economics

Much work in the larger project has gone into establishing that the autobiographers' sample is (or can by suitable re-weighting be made) representative in demographic, occupational and economic terms. It can then be used to explore aspects of working-class family life. While the book (Humphries, forthcoming) concentrates on children's experience of work during the industrial revolution, here attention is on the economic roles of husbands, wives and children, the implications for family dynamics and the different motivation of mothers and fathers to limit family size.

Fathers' economic roles

The autobiographers gave priority and status to the father's economic role in the family.

Fathers were introduced in terms of their occupations and ability at those occupations, *defined* as miners, weavers, agricultural labourers and so on. The cardinal importance of the father's economic status is reflected in the almost universal provision of information on fathers' occupational group. In only 57 cases, (9.4 per cent) of the sample of 606 autobiographies used in this analysis, was there insufficient information to assign the father to an occupational group and in only 87 (14.4 per cent) insufficient information to indicate a more detailed occupational title. A father's occupation was usually noted very early on in a memoir consistent with its centrality in the story that followed. Over two hundred separate occupations are mentioned, more often than not accompanied by a detailed description of skills, work and employment history. This depth of description stands in sharp contrast to the paucity of information provided about mothers' economic activity (see below) and clearly points to the father as the family's economic mainstay.

The priority accorded to the father's economic activity suggests that the primary responsibility for household support even in early industrial Britain already rested on the male head, the breadwinner, whose 'job' linked the family to the economy. Roger Langdon (born 1825) praised his father's breadwinning prowess: 'He rose very early and took rest late that he might maintain his children in what he termed 'poor independence'' (Langdon, 1894, p. 13). The vital importance of a male breadwinner is reflected in the many cases of desperate women seeking to retain links to unstable men. Edward Rymer (born 1835) described the attempts of his mother to re-connect with his absconding father and obtain support and Francis Place (born 1771) his mother's struggle to reunite her family under the infuriating headship of Place senior (Rymer, 1976; Place 1972). Neither Mrs. Rymer nor Mrs. Place was a timid, incapable woman. But both judged it better to cling to an inadequate man than to struggle without assistance (see Wall, 1994).

Of course it is possible that the autobiographers depiction of their families as already crucially dependent on men and male earnings even at the end of the eighteenth century reflects a stereotype that was to become increasingly familiar as the nineteenth century wore on rather than economic reality. Undoubtedly the mid-Victorian fusion of respectability with a dependent wife and children and an adult male breadwinner became a frame through which the working-class authors increasingly perceived their family life and provided a stan-

dard according to which they measured their mothers and fathers. But how congruent was this vision with working-class reality? Even if men were economically dominant how dependent were other family members?

Mothers' economic roles

Fathers possessed in their child's imagination the status and standing of their specific occupations. In contrast, the role of mother crowded out any occupational identity. Mothers were infrequently described by an occupational designation and even where one was provided it was not assigned the centrality afforded fathers' jobs. Yet mothers without occupational titles were sometimes revealed as economically active. For one thing although fathers sometimes practiced dual occupations, mothers regularly did many jobs, patching together seasonally and cyclically available work. Henry Price (born 1824) lived with his grandmother whom he described as taking outwork from a local silk factory and frequently involved in agricultural work including gleaning: 'All these little jobs help'd to keep the pot a boiling' (Price, 1904, not paginated). Moreover mothers' activities were fitted around domestic tasks and childcare and so conflated with and submerged into housewifery. David Barr (born 1831) recalled 'Excursions … for the purpose of gathering mushrooms, hazelnuts, cowslips, and anything else that might be lawfully appropriated. These were sent to market and converted into cash …' (Barr, 1910, p. 20: see also, Humphries, 1990). Several children remembered their mothers' taking on work put out by local merchant capitalists. Joseph Ricketts (born 1777), was early on integrated into his mother's economy of makeshift fitting his schooling around agricultural opportunities and in the spring assisting his mother and sisters at spinning and carding wool (Ricketts, 1965, p. 121).

One response to the limited job opportunities for married women and convenience of working from home was to operate a small business rather than work for wages (Parkinson, 2002). Several mothers, for example, ran dame schools. Others processed foodstuffs for sale or operated small retail shops. More commonly, wives helped in their husband's enterprise, underlining the historical reality that marriage often provided the means whereby women could be productive, means that were lost if husbands died or absconded.

Some mothers did contribute by actively participating in the labour market. But these women were in the minority. There is a contrast here with the French and German working-class autobiographies studied by Mary Jo Maynes

(1995). The European autobiographers reported mothers' as well as fathers' occupations and the great majority described their mothers as having done paid work throughout their childhood.

In the British cases, work by mothers was often associated with a family crisis. When Joseph Arch's (born 1826) blacklisted father could get no work, his mother kept the family going by doing laundry work. Although Mrs. Arch was an excellent nurse and laundress 'and …did not hide these talents in a napkin' (Arch, 1898, p. 9), her labour was something to be resorted to when times were desperate. Continuous work especially if it took mothers out of their homes appears to have been a last resort.

Computations of married women's participation rates are extremely sensitive to both how economic activity is conceptualized and how characteristically shadowy information on mothers is treated. Here two conceptualizations of work are combined with two treatments of missing information to provide four estimates as shown in table 1. Participation is generously defined with any reference to productive activity, including self provisioning, counted. Where nothing like this is mentioned women were assumed inactive. The problem is how to treat cases where the autobiographer provides very little or no information about his mother. Even her presence during his childhood may be uncertain.[6] Column 1 of Table 1 below provides lower and upper bound estimates of mothers' economic activity according to the treatment of these uncertain cases though both involve the same broad definition of participation. The lower bound estimate includes all doubtful cases as inactive. It is possible that some mothers' efforts were simply not mentioned but more likely these cases contain a relatively high proportion of mothers who were limited to caring and domestic roles. Alternatively an upper bound estimate involves dropping all cases that lack information about mothers. Column 2 provides further estimates that broaden the already inclusive definition of participation. Here the strategy of the census takers of 1851 and 1861 to include the wives of farmers, inn, beer and lodging house keepers, shop keepers, shoemakers and butchers as active by dint of their husbands' work is adopted (see McKay, 1998). This definition yields two further estimates of participation according to whether mothers about whom there is little information are included as inactive or excluded from the analysis.[7] Requiring reference to specific economic activity and as-

[6] Mothers who died in childhood are retained.

[7] Mothers with no individual occupational designation and about whom the autobiographers said little may be counted as active in the extended definition by dint of their husbands' occupations.

suming inactivity as the default gives rise to the lowest estimate in column 1, while the inclusion in addition of wives as active through their husband's occupation and the exclusion of uncertain cases from the analysis provide the highest estimates in column 2 (see Table 1 below).

Table 1 Participation of married women by husbands' broad occupational group (sample sizes in parentheses)

	Participation per cent (sample size)	Participation including by dint of husbands' occupation per cent (sample size)
All mothers	30.5–36.6 (606–505)	41.6–46.1 (606–505)
All mothers with husbands' occupation known	32.6–38.4 (549–466)	44.8–48.7 (549–466)
Husbands' occupations		
Agriculture	30.8–36.9 (133–111)	58.7–59.5 (133–111)
Mining	21.6–25.6 (51–43)	21.6–25.6 (51–43)
Factory	41.7–45.5 (36–33)	41.7–45.5 (36–33)
Domestic manufacturing	45.8 –52.4 (72–63)	56.9–61.9 (72 –63)
Trades	26.5–33.8 (98–77)	30.6–37.7 (98–77)
Casual	47.5–52.8 (40–36)	47.5–52.8 (40–36)
Clerical	12.5–15.4 (16–13)	12.5–15.4 (16–13)
Soldiering	41.7–45.5 (12–11)	41.7–45.5 (12–11)
Sea	26.7–28.6 (30 –28)	26.7–28.6 (30–28)
Services	31.1–37.3 (61–51)	60.7–64.7 (61–51)
Widows	31.9–32.6 (97–95)	n.a.
Deserted wives	52.3–56.1 (44–41)	n.a.

Notes: For the definition of participation and treatment of missing values see text. Differences by husbands' occupational group are statistically significant for both definitions of participation and both samples. Differences according to whether or not husbands were living are not significant in either sample. Differences according to husbands' presence are statistically significant in both samples.

Between 30.5 and 46.1 per cent of the autobiographers' mothers were economically active according to the definition of activity and the strategy with respect to shadowy information. These estimates lie above computations from the earliest reliable censuses of 1851 and 1861, which of course not only relate to a snapshot in time and likely undercount women's spasmodic engagement but also are based on the population as a whole and not just the working class (for comparable evidence extracted from the nineteenth-century censuses, see Humphries, 1996; McKay, 1998; Anderson 1999). For reference, the 1861 census returned 24 per cent of married women under other occupations including the wives of 402473 farmers, inn, beer and lodging house keepers, shop keepers, shoemakers and butchers (Parliamentary Papers, 1863).

However the estimates based on the autobiographies are consistent with though perhaps a little below other estimates of working-class married women's participation rates from pre-census sources (see Horrell and Humphries, 1994; Earle, 1983). What might seem surprising is that mothers in these working-class families participated so sparingly in the burgeoning economy (but see Richards, 1974 for an early conclusion along similar lines). According to the estimates from the autobiographies, participation of married women changed little over the course of the industrial revolution.[8] However participation does appear to vary with fathers' broad occupational group in ways consistent with the conventional wisdom as can be seen from table 1, which reports both upper and lower bound estimates by occupational group, along with the relevant sample sizes.[9] The wives of soldiers and casual workers, some of the lowest-paid and least reliable male workers were forced more upon their own resources. The wives of factory workers and domestic manufacturers had relatively high participation rates too. They enjoyed a robust market for their labour, the latter being able to contribute within a domestic setting. In contrast, miners' wives, likely resident in areas with few opportunities for married women, had low participation rates. The participation rates of women married to agricultural workers, domestic manufacturers and men in service occupations are boosted by including as active the wives of farmers, inn, beer and lodging house keepers, shop keepers, shoemakers and butchers whether or not their sons acknowledged their productive activity. The ranking of wives' participation rates by husbands' occupational group is consistent with the ranking of wives' participation by husbands' occupation on the basis of household accounts (see Horrell

[8] Time trends were statistically insignificant even when controlling for other possible explanatory variables.

[9] The variation in participation by husbands' occupational group does not distort the aggregate picture as the sample occupational structure is broadly consistent with overall trends in the male labour force (see Humphries, forthcoming).

and Humphries, 1995) and detailed exploration of census enumerators' books (see Anderson, 1999).

Sample sizes are too small to support an analysis by cohort and fathers' broad occupational group. But for relatively large occupational groups, variation in mothers' participation rates reflects patterns seen in data from other sources. For example, women in factory districts showed steadily increasing participation while domestic workers' wives' participation remained high throughout the period (for comparison see Horrell and Humphries, 1997).

Significantly too married women's participation rates varied according to the presence or absence of husbands. One surprising result is that widows' participation rates were not significantly different from non-widows, in contrast to the much higher participation rates of mothers whose husbands were not present though probably still living. It may be that widows were older than were other lone mothers or that the Poor Law treated these women differently thus affecting their labour supply. Direct observation of poor relief supports the latter conjecture (see Humphries, 1998).

How were the majority of economically inactive wives and mothers regarded? Occasionally such women were thought dependent even burdensome, 'very helpless' as one anonymous chimney boy (born 1834) put it (Anon, 1901, p. 19). Much more commonly they were seen through their domestic efforts as doing the best they could for their families. Husbands and fathers almost without exception remained detached from these efforts as Emmanuel Lovekin's (born 1820) eloquently if ungrammatically makes clear. His mother was 'a big strong woman and not cast down with a little thing but strugled (sic) through with a family of seven sons and tow daughters … with a man that did not seem to take very little interest in home matters' (Lovekin, no date, p. 1).

When mothers were economically active, their returns were often pitifully small. The convenience of working at home or from home crowded their labour into a few badly paid occupations. George Acorn's (born 18??) mother made matchboxes at home, the archetype sweated labour, for 'a paltry two pence-farthing a gross complete!' (Acorn, 1911, p. 36). Daniel Chater's (born 1870) mother took work home from a local shirt factory, being paid 2½d per dozen and she had to find her own cotton (Chater, n.d. p. 6). In agricultural districts, the seasons gave mothers' money-making activities a natural rhythm; times of demand for labour left them with aching backs, but spread over the whole year, earnings were small. Only in the textile districts was relatively well-paid and regular work available and then only to those mothers who could combine factory hours with childcare and domestic work (see McKay, 1998; Anderson, 1999)

Children's economic roles

But if the autobiographies reveal perhaps surprisingly low married women's participation, they also point up perhaps surprisingly high children's participation. The majority of autobiographers pinpointed the age at which they started work. In a number of additional cases, it was possible to identify age at starting work from contextual information. In only 97 cases (16 per cent) was age when work began indeterminate. To illustrate trends over time, the autobiographical data was sub-divided into four cohorts according to the birth date of the memoirist.[10] Looking only by birth cohort, age at starting work first fell then rose as shown in table 2 below. Formal testing suggests that this degree of variation is unlikely to have occurred as a result of sample fluctuation.[11]

Table 2 Age at starting work by cohort

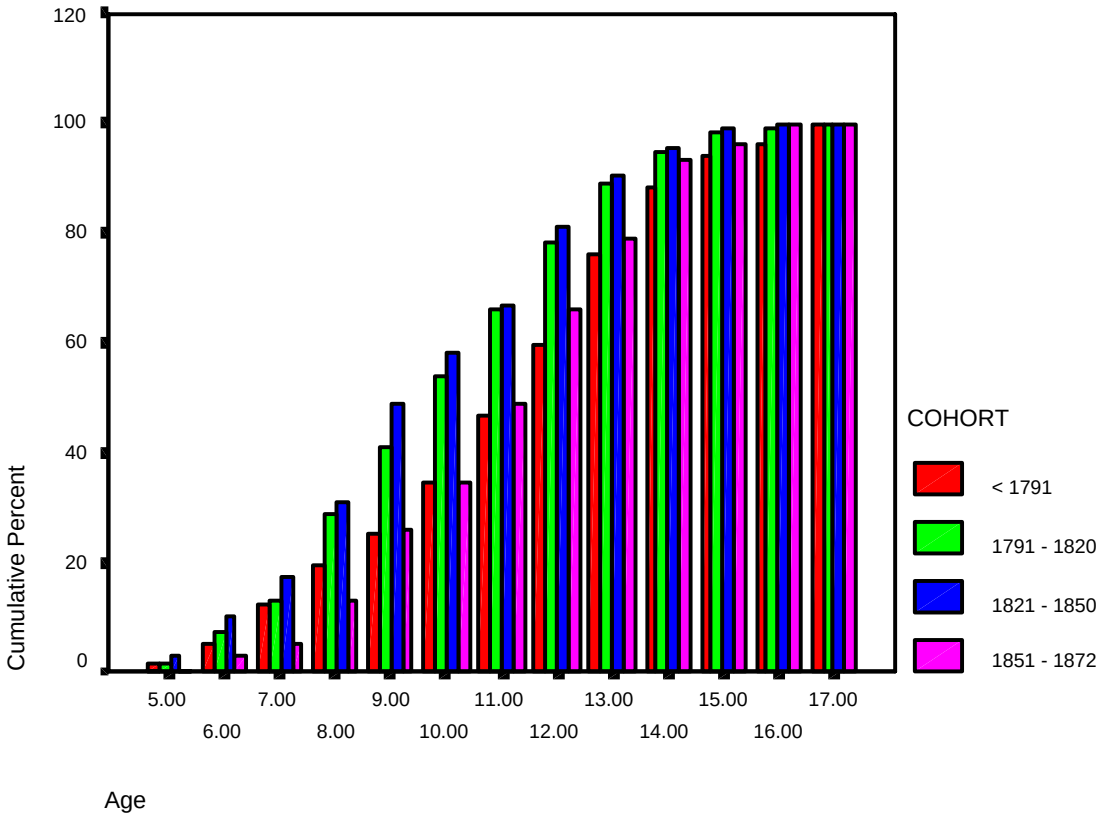
Cohort	Median	Mean	Sample size	Standard deviation
≤1790	12.00	11.47	85	2.84
1791–1820	10.00	10.32	122	2.59
1821–1850	10.00	9.99	141	2.58
1851–1874	12.00	11.38	156	2.34
Total	11.00	10.75	504	2.63

[10] The first open-ended cohort includes all boys born before and during1790, (19% of the sample), the second those born between 1791 and 1820 (24% of the sample), the third those born between 1821 and 1850 (28% of the sample) and the fourth those born between 1851 and 1875 when the sample ends (27% of the sample). There are 9 boys whose date of birth is unknown (1% of the sample) but context allows two of these to be placed in a birth cohort. Dropping those cases where age at starting work is unknown leaves these proportions practically unchanged (17%, 24%, 28%, 31% and 1%).

[11] The U shape is not the product of the particular chronological subdivision adopted. A number of curve-fitting exercises confirm that a quadratic equation provides the best fit with age at starting work falling until around 1800 when it slowly began to increase.

The second and third cohorts of children that lived through the industrial revolution were more likely to be at work than were the same age children in the previous generation.[12] Only for the cohort born after 1851 was there a clear increase in the age at starting work as the clustered bar chart below shows. But even for this generation, child labour was not some dinosaur that rapidly became extinct. The nature of child jobs may have changed, very young working ceased, and limitations on hours more successfully enforced, but almost half of the children were at work by the age of eleven even after 1850. Industrializing Britain was not a peasant society and working children may not always have covered their own subsistence but neither were they 'burdensome' (see above, p. 10). By the time boys in the sample were ten years old their activity rates exceeded those of their mothers.

Figure 1. Participation by age



[12] Does this increasing likelihood of early working during the middle periods of the industrial revolution captures a real trend or simply reflects other differences across the cohorts? Humphries (forthcoming) argues that the sample of autobiographies represents the population of boys in each phase of the industrial revolution. Their family circumstances and fathers' occupational affiliation for example are shown to vary but more or less in line with the changes known to have affected the population overall. Moreover on the basis of a very different type of information Horrell and Humphries (1995) concluded that the 1820s and 1830s saw an increase in child participation rates and younger children at work.

The scene in which boys brought their first wages home to contribute to the family purse constitutes a set-piece in working-class memoirs. Boys surrendered their wages not to their fathers but almost always to their mothers whose loving and proud observance crowned the act of giving. William Rawstron (born 1874) 'well-remembered' his mother when he proudly put his first week's wage of 3/- in her hand 'reckoning to spit on it' (Rawstron, 1954, p. 14). Moreover children's earnings almost without deduction found their way into the family exchequer. There was no regular top-slicing or even occasional withholding as with men's pay packets and the income was for mothers to dispose of. There were no strings attached.

Not only did mothers command children's earnings, they also frequently found children their first job and ensured their punctuality and performance. Jack Goring's (born 1861) mother, for example, had been employed in the service of a celebrated bread and biscuit maker, and when Jack left school she persuaded them to take him on (Goring, n.d.). When the job proved uncongenial, Mrs Goring helped him to persist until something better came up. Protective labour legislation did not stop these mothers if their children's employment seemed the optimal family strategy. As George Cooper (born 1824) put it: 'The crux in those days was for us young people to pass the doctor. Our mothers used to pad our feet in order to add an inch to our stature' (Cooper, n.d. no pagination).

Children's work was regular in comparison with the work patterns of their mothers. The reliability of their earnings must have been attractive. Frank Forrest's (born 1816) father was transported and the family forced to migrate to Dundee in search of work for his mother and the children. Mrs. Forrest wound pirns [bobbins] for handloom weavers at home, working long hours but on her own schedule, while Frank worked from six in the morning until 9 or 10 at night in the spinning mills (Forrest, 1850). Nor was agricultural work necessarily intermittent. William Arnold's (born 1860) first job was scaring crows, a seasonal task. But for William and probably many of his peers it dovetailed with other agricultural work (Arnold, 1915).

Thus children were important secondary earners within working-class families, supplementing the resources provided by fathers in most families and taking the place of fathers in female-headed households. This finding corroborates earlier independent evidence on the sources of working-class family incomes (Horrell and Humphries, 1993). How did child labour impact upon the economic participation of mothers? Did children substitute for mothers in the labour market or could mothers' efforts to earn allow children to be withheld from the labour market?

In fact, mothers' economic participation was a complement and not a substitute for boys' early working. For the sample for which there is information on age at starting work and mothers' participation, boys whose mothers were economically active on

average started work at a younger age (10.45 years) than did boys whose mothers remained at home (10.90 years), a difference that was statistically significant (t-statistic = 1.86, significance level = .063). Clearly mothers' economic efforts signalled the need of households while their earnings were insufficient to protect sons from the pressures of poverty. Even restricting attention to households where husbands were present, the age at starting work was lower for boys with active mothers. Moreover although schooling and work were not always alternatives in the period under review, a similar relationship holds between mothers' economic activity and years of schooling. Active mothers had sons with lower schooling attainments, 2.30 years on average, than mothers who worked only in the home, whose sons went to school for 2.58 years on average (t-statistic = 2.27, significance level = .023). Nor apparently could sons relieve economic pressures on mothers by starting work. In households where sons started work younger than average 36.2 per cent of mothers were at work while in households where sons started work older than average 28.8 per cent of their mothers were at work.[13]

Thus relatively precocious child labour and working mothers were concentrated in the same sub-set of presumably poorer families. This complementarity extended to mothers combining with their own children to engage in self-provisioning and home-working activities (see above, pp. 12–13). But by the time boys were 10 years old their participation rates exceeded those of their mothers suggesting that children were a more common source of earnings power than mothers. Even where mothers were not economically active, fifty-five per cent of families at some stage contained a working child aged eleven or younger.

The evidence from the autobiographies supports the hypothesis that the dominant family strategy involved sending children rather than their mothers out to work (see Anderson, 1999). It was rare for mothers to seek employment if they had sons over ten at home not employed. Thomas Cooper's (born 1805) mother worked explicitly so that he might continue with his education. But this response, made possible by Thomas's status as an only child and Mrs. Cooper's enterprise, was clearly unconventional and frowned upon by their community (Cooper, 1872). Frank Galton's (born 1867) family labour supply was more conventional, Mrs. Galton only entering the labour market in a severe family crisis and then after her two older boys aged 11 and 13 were already working (Galton, n.d.).

Families' apparent preferences for sending children rather than mothers out to work perhaps reflected a rational response to earnings opportunities relative to the value of family members' time in the home, with comparisons refracted of course

[13] This difference is statistically significant (t-stat. = 1.76; sig. level = .079).

through perceptions of respectable behaviour. How did boys' wages compare with those of adult women? Age-earnings profiles for males and females in farm and factory work suggest that teenage boys could earn as much as 40 year-old women in farm work in the nineteenth century (Burnette, 2005). In textile factory work they lagged further behind, making between 60 and 70 per cent of an adult female daily wage (Boot, 2007 forthcoming). Such differentials could be easily offset by children's ability to work more regularly than their mothers.

The comparative advantages of children in the labour market are well illustrated by cases introduced above. Frank Forrest's mother, who lacked the skills and confidence to get factory work, could earn only 3s 3d per week from winding pirns though she worked from 5.00 in the morning until 9.00 or 10.00 at night. Frank's first job in the mill paid 1s 6d but before he was 12 it had risen to 3s 6d. William Arnold earned 1s 6d a week crow scaring (plus all he could eat for Sunday dinner), enjoyed a 6d a week rise on the acorn harvest, and was up to 2s 6d by the end of the agricultural year, the regular mid-century wage for plough boys. But he really moved up the pay ladder as a sprigging boy when he regularly earned between 3s and 4s a week. Before he was eleven William's wages were 12 shillings a week, almost as much as his father could earn 'with his big family to keep' and completely beyond the earnings capacity of Mrs. Arnold for all her strength and industry both in the fields and beside her husband's bench.[14] And even in textile communities where substitutability between mothers for sons in the labour market appears to have been a more economic proposition, it was not always seen as an optimal strategy. In 1859 when his father was unemployed, Joseph Burgess's mother 'had to turn out at half-past five in the morning to a weaving job' (Burgess, 1927, p. 26). Several circumstances made this option possible: his mother had been a weaver before her marriage and had skills and connections; a local child-minder was available to nurse the youngest child; and the family was surrounded by supportive kin including a maiden aunt who was 'a second mother' to Joseph and the other children (Burgess, 1927, p. 29). But when the next crisis hit the Burgess family, circumstances were different. Another Burgess had been born delicate which 'mother attributed to the diet of bread and treacle and the 'Ten Hours a Day' work on which she had had to bear him' (Burgess, 1927, p. 29). Mrs. Burgess stayed home. Three months short of his seventh birthday Joseph started punching cards for Jacquard looms. Thus a combination of factors from employment opportunities to potential relative earnings and including the problems of substituting for mothers in the

[14] At this time William lived as economically as possible to be able to give his mother money as "at that time there were five or six little ones to be kept. My money was a wonderful help to mother, I knew" (Arnold, 1915, p. 31).

home meant that boys were preferred to mothers as secondary workers in family strategies.

Affective relations

The economic structure of working-class households imprinted affective bonds between children and their parents. Most writers testified to their parents' care and affection. 'The first certainty in my mind is that my mother and my stepfather were parents as good as any boy could have desired', stated the future Baron Snell (born 1865) (1936, p. 5). A small minority told of neglect, even abuse. More common, however, was the view that parents did their best but poverty, unemployment, and hard times generally, blighted childhood. Although both fathers and mothers were generally held to have cared for their children, the relationships revealed in the autobiographies were powerfully gendered with important implications for understanding family life.

Fathers

Breadwinning took fathers out of and away from the home even in the eighteenth century, but increasingly so as the industrial revolution gathered momentum. This modern family form took a toll on the relationship between boys and their fathers, who were often distant and unfamiliar. George Healey (born 1823) reported: 'I cannot say much about my father, for he was a man who had to do much with those in high life. I was little under his care' (Healey, 1823, p. 1). Emanuel Lovekin (born 1820) ungrammatically but vividly conveyed the alienation of his father, describing him as '… a man that did not seem to take very little interest in home Matters' (Lovekin, n.d., p. 1).

In the second half of the eighteenth century both the working day and working week became longer, separating early-industrial breadwinners from their families for longer and longer periods of time (Voth, 2000). Moreover in the nineteenth century, work was increasingly undertaken away from home in centralized and specialized workplaces or in distant locations where railways were being built, ports constructed or harvests brought in. The extent to which economic change demanded an increasingly mobile workforce and the effect this had in creating quasi-fatherless families has perhaps been overlooked. Construction workers for example spent long periods away from home. Even men in more settled jobs were forced by low wages in the agricultural sector or competition from factory production to work longer hours. George Hardy's (born 1886) father was an agricultural labourer in East Yorkshire. He worked

‘twelve hours a day on the farm and then worked in the big gardens round our cottage until it was dark’ (Hardy, 1956, p. 1).[15]

Soldiers, sailors and other men were forced by their jobs, the law, or financial embarrassments into long periods of absolute absence. Frank Forrest’s (born 1816) benign childhood was shattered when his father was transported for killing a man in a drunken brawl. His mother tried to keep her family together but faced an unequal struggle. She and Frank’s brother eventually perished in a cholera epidemic leaving him alone. His relationship with his father was destroyed forever. Forrest senior, after remarrying (bigamously?) and fathering additional children, never reconnected with his surviving child even when he returned to Scotland having served his sentence (Forrest, 1850). Politics too could draw fathers away. Walter Freer’s (born 1846) father was a Chartist, imprisoned for his radical beliefs, and preoccupied by politics. As a result his son barely knew him. ‘To me my father remains a misty and somewhat mysterious being…’(Freer, 1929, p. 19).

There were boys who were close to their fathers but strong emotional ties often rested on some quirk of circumstance that threw them together in opposition to respectable society. The fierce affection exhibited by John Wilson (born 1835/6?) for his father was founded on the latter’s determination following the death of his wife to keep his son close by and deepened by the hardships they shared while on the road together (Wilson, 1910).

Beyond the benign neglect born of their breadwinner role, some fathers descended into unkindness and even cruelty. Significantly, as in modern times (Gelles, 1979), intolerable physical violence was almost always accompanied by a simultaneous falling short of the breadwinner standard. The King of the Norfolk Poachers (born c. 1860) despised his father, who struggling to meet the standard of sole provider, substituted petty domestic tyranny for the legitimate authority that would have flowed automatically from economic provision (Anon, 1982). Abusive fathers were often drunkards, and alcoholism and misuse were often a prelude to the worst betrayal of all, the complete abrogation of the breadwinner role: desertion. John Edward Reilly (born 1860?) who grew up in the workhouse began bitterly: ‘I have no recollection of a mother, but many recollections of a father and drink, and at an early age I was handed over to the care of the Guardians of an institution where we were under law and not under Grace’ (Reilly, 1931, p. 9).

The testimonies to a handful of abusive fathers should not be taken out of proportion. Their incidence in what may well be a representative British sample lies between 2–4 per cent, a much lower frequency than in autobiographies by European workers

[15] Healy is not included in the data analysis given his post-1875 birth date.

(Maynes, 1995). Physical force did not constitute a stable self-reinforcing system of familial control especially if it had to be applied by men who were neither continuously nor regularly on the scene. Abuse signalled the last gasp of a bankrupt patriarch and was bound to breed rebellion in sons who had time on their side. From the father's point of view violence was dominated by an alternative strategy, which was to abrogate responsibility and leave.

Unlike mothers, not only death removed fathers from their children's lives. They went to serve in the army, were press-ganged, were transported, worked away from home or simply deserted their responsibilities either before or after marriage.[16] Fathers who left their children to be supported by women alone or to the tender mercies of the overseers or guardians were hated. James Burn's (born c. 1802) moving comparison of his feelings for his stepfather and father illustrate the depth of the animosity. McNamee when drunk was abusive to little James but this was nothing compared with the pain inflicted by his biological father's initial desertion and subsequent indifference (Burn, 1978). Men who betrayed either families or pregnant women occur with more frequency than do fathers who abused their children. Given the physical and emotional toll breadwinning took, this low manifestation of irresponsibility is perhaps the ultimate proof of fatherly devotion.

The majority of fathers were neither cruel nor particularly affectionate. They were decent men who as a result of economic exigencies spent much of their time away from home. When not about their work they were often exhausted or needed relaxation away at the pub. As the industrial revolution gathered momentum, work and home became increasingly separated and hours of work increasingly long (Voth, 2000). Working men, who had long found little time to spend in joint leisure or learning with their sons, saw their last opportunities for shared activities disappear, and they became increasingly remote figures.

Mothers

In contrast to the fathers, distanced from their sons by the exigencies of breadwinning, mothers were close and involved. Fathers fulfilled their role by 'providing' but mothers had to love, and according to their sons they almost to a woman did so. Sons rewarded fathers by respect, but mothers by devotion. Andrew Carnegie (born 1835) was almost choked with emotion when he wrote of his mother '… about whom I cannot trust myself to speak at length…. Perhaps some day I may be able to tell the world

[16] Not counting the 54 fathers about whom nothing is known, a further 51 were reported never present or hopelessly delinquent during their sons' minority, (8.4 per cent).

something of this heroine, but I doubt it. I feel her to be sacred to myself and not for others to know' (Carnegie, 1920, p. 6).

It is possible that such effusive outpourings of filial devotion are merely stylized adaptations of Victorian artistic conventions. But their very excess seems to signal authenticity. Sometimes an autobiographer with a less hackneyed style broke through the conventions. But his point was the same: a deep and abiding love for his mother. The King of the Norfolk Poachers (born c.1860) painted a grim picture of a childhood regimented by authority and religion relieved only by a mother who was 'quite the reverse of that' and concluded simply 'God Bless her' (Anon, 1982, p. 4).

What prompted such devotion? Mothers, though their economic efforts could be crucial in crises, were not the economic mainstays of their families. When forced, their efforts were cited as testimony of motherly love. George Acorn (born 18??) was one of the few writers to criticize his mother. He nonetheless records her efforts to support the family by making matchboxes when an accident to his father rendered him unable to work. 'My mother had never appeared to be particularly tender, and it was a revelation to me, this unfolding of the great, loving, maternal instinct. She would work like one possessed, her dexterous fingers moulding box after box almost too quickly for the eye to follow–and all for a paltry two-pence farthing a gross complete!' (Acorn, 1911, p. 36). Mothers were particularly commended for their attempts to earn because it was acknowledged that these went above and beyond the call of duty and women by and large were ill-prepared for the challenge.

Lone mothers in particular were extolled for their efforts in holding their families together. Their unmistakable greater frequency in comparison with lone fathers testifies to women's more dogged resistance to family break-up and in particular to alienation from their children. Attempts to cling on to an even unsatisfactory breadwinner might have been economically rational for many women, since their allowance from his wage might well have topped their own ability to earn (see Wall, 1994). But single-handedly raising a family even with help from other kin and poor relief was surely harder than renouncing children and going it alone even in the female-unfriendly labour market of early industrial Britain. After all a woman alone could hope to remarry, a prospect that was much less likely if she had children to support.

While celebrated mothers' economic support was neither the primary manifestation of maternal love nor the taproot of boys' devotion. In the eyes of the autobiographers, just as important was the creation of domestic comfort. As shown above the majority of mothers devoted themselves to home-making even when their families were very poor and were thought no less of for so doing. Housework was an enormous task in the eighteenth and nineteenth centuries when families were large, housing poor and domestic equipment rudimentary. Women's struggles against dirt were

celebrated with almost as much frequency as their struggles against want, suggesting the error that is made in overlooking the contribution of cleanliness to comfort. In the autobiographers' times, a family's wellbeing was closely associated with a mother's ability to transform earnings into food, clothing and shelter; a good manager could work wonders, a bad one could wreak havoc. Harry Snell's (born 1865) mother does not appear to have worked outside the home but she was celebrated alongside his provident stepfather. Snell gave his reasons.

> I have never known or heard of anyone who excelled her in forethought and matronly concern for those dependent upon her. My stepfather used teasingly to insist that her frugal hands could spread a pound of butter over the whole of the neighbouring churchyard and then have sufficient left to cover the gravestones on both sides.
>
> (Snell, 1936, p. 4)

The well-being of children hung on the ability to stretch the wage, to conjure tasty and nourishing meals out of nothing much, to squirrel away resources for a pair of winter boots. The breadwinner's needs could not be gainsaid; they were a fixed charge on earnings. The mother's 'scratting and scraping' (Hardy, 1956, p. 10) was done for the children. Food for example was something that mothers provided and many of the grown up writers remembered its vital importance in their childhood vistas. Running through the autobiographies like a golden thread, cheering up all but the most-bitter experiences, were memories of good meals conjured up by caring mothers. Similarly when children were ill or infirm, it was mothers who nursed them and were their immediate source of relief sometimes at great cost to themselves. Mrs. Arch's nursing skill reputedly saved her children's lives twice over (Arch, 1898). Children's illnesses cast new light on mothers hardened by deprivation. George Acorn (born ?) described his generally bitter mother nursing her younger child, 'trying to still its fitful cries by strange, sweet, soothing invocations' while George and his father could only look on (Acorn, 1911, p. 35).

Mothers loomed large not only for their provision of food and care when ill. They were for almost all boys the abiding presence of childhood. An unintended consequence of the nascent division of labour between husbands and wives was that children were not only alienated from their fathers; they were thrown together and identified with their mothers. Mothers had the flexibility in their household role to nurture, read to, teach and even play with their children. 'Mothers often have more to do with the training of children than fathers, for they are more under the mother's eye…' (Smith 1870, p. 176). A great deal rested on mothers' performance.

Despite the tone of many autobiographies, mothers were not all saints and some resorted to physical chastisement. Theirs was the responsibility of order in the home

and where corporal punishment was applied it was more likely to be administered by the parent on hand and in charge. But while a father's violence was a serious experience, a mother's lashing was often represented as justly-deserved by a boisterous boy who had exhausted the patience of an overworked but nonetheless loving parent. Mothers were, of course, not as large or strong as fathers and so less able to hurt. Significantly, for mothers violence was a last resort. They controlled their sons in other ways, often ostentatiously vouchsafing corporal punishment. Roger Langdon (born 1825) had a father 'who … acting upon King Solomon's advice, never spared the rod' (Langdon, 1909, p. 12). In contrast, his 'kind and loving mother…. did not smack me … but she would call me and speak to me … and somehow, whenever she spoke she was obeyed' (Langdon, 1909, p. 12).

Mothers tried to soften the hardships of their children's lives. Elizabeth Ashby, first an unmarried mother, then in quick succession a wife and widow, worked hard all her life in the fields and houses of her community to support herself and her children. Nonetheless, she still found time to read them the bible and helped model and play with little clay figures (Ashby, 1974). Elizabeth's action in this story introduces the final link in the unassailable bond between many mothers and sons: the sacrifices that the former made on behalf of the latter. Fathers sacrificed too in their daily struggle to earn enough to keep the family. But these sacrifices were at one remove from the child's experience. Only later might some autobiographers appreciate the toll that bread-winning took, understand the deadliness of the lead industry or the rigors of arctic whaling. On the other hand, mothers' sacrifices were part of everyday life, immediately visible, and indeed often ritualized. They ranged from abstention from all luxury to ostentatiously going without food or eating only after the rest of the family. Patrick Barclay's (born 1852) beloved mother showed 'untiring energy, unfailing health and hope and faith, and never a new dress, never a holiday, never any leisure or amusement, never I fear even a generous meal of victuals' (Barclay, 1934, p. 9).

The nature of the mother–son relationship as glimpsed through the autobiographies has important implications. Mothers, not fathers, were able to extract the support that their families needed from working children. Fathers lacked the emotional closeness that leavened duty while their very need to call upon their children manifested failure in their own paternal role. They could exact a levy by physical force but it was a fragile mechanism, certainly in comparison with the ties that bound boys to mothers. These latter bonds often held working-class families together both economically and emotionally. Edward Davis (born 1828) suffered a childhood of unremitting toil while ill-fed and clothed owing mainly to the 'intemperance and irregular habits' of his father. He describes the reception afforded him by his mother after very long working days in the Birmingham toy trades:

> … on reaching home my dear mother would meet me with a kiss, wipe my face, and say how it troubled her that my brother and I were compelled to go to work so young; but we have the deep satisfaction of knowing that it was not through any fault of her's that we were forced to go through so much privation for she was our 'good angel' in the home, and the one on whom we all had to lean.
>
> (Davis, 1898, p. 9)

After several years in the labour force, aged about ten, Edward had a chance of a coveted post in a confectioners' bakeshop. His father's opposition on the grounds that it paid less than Edward's current job would maybe not have held him back but the master wanted him to live in. In view of conditions at home, Edward felt that this 'would have been the best thing for me'. But he could not only think about himself 'My mother depended a great deal upon me at that time, and I would not leave her' (Davis, 1898, p. 8). 'Trying to make the best of this disappointment', Edward, like so many boys of his time, soldiered on.

Mothers, children and family size

The economic and emotive ties that secured the survival of working-class families emerge clearly from the autobiographies. Sustained contributions by fathers were essential if the families were to avoid poverty and obtain a modicum of security. But support from this quarter was not always reliable. It is useful to put this insecurity into historical context.

Many of the autobiographers' fathers died while they were still young although the boys in the sample were not any more unlucky in this respect than the population as a whole in these high-mortality times (see Humphries, forthcoming 2007). In the eighteenth century Britain fought several major wars with a number of countries, and such bellicose times had unsettling effects on family stability. Men who had served in the forces did not always come home when they were de-mobilized. Many of course were dead. Greenwood estimated that loss of life among servicemen was proportionally higher between 1794 and 1815 than between 1914 and 1918 and acknowledged that behind this frightening calculation was the unknown human sorrow and human suffering of families swept up in the war (Greenwood, 1942; see also Wrigley and Schofield, 1981, p. 221). If many men could not return to their bread-winning duties, others chose to default. As the autobiographies again show, a significant minority of men could not be kept in line by either ties of affection or duty, and de-camped. De-

serted wives and families were a commonplace feature of pre- and early industrial England (Outhwaite, 1981; Stone, 1977; Snell, 1985). The temptation to shirk responsibility was perhaps exacerbated by new forms of work and structural changes that weakened family ties by taking men away from home and distancing them from their families, and by the new opportunities to simply disappear in an increasingly mobile and even global population (see also Kent 1990).

Even if fathers did not abscond, as the autobiographers have shown, their wages were not always devoted to supporting their families. Setting drunkards aside, many other men regarded it as acceptable for them to top-slice their earnings to smoke and drink. Others even if they worked hard and long and gave up their earnings in their entirety, could not as their sons often said 'keep the wolf from the door'. Of course when fathers were ill or unemployed, these problems multiplied.

Families responded to these pressures in a variety of ways. As we have seen mothers could be energetic and enterprising, but their main strategy was to stretch the resources coming into the household by more careful management or by increasingly desperate self-provisioning activities. Where possible they resorted to wage labour themselves but such a response was conditional on both local employment opportunities for married women and the availability of a substitute in the home. The more common response to either endemic economic pressure or a family crisis was to send a child out to work or engineer a higher paying (and harder?) job for an existing child worker. Children were the flexible resource in these households and not surprisingly they were mobilized according to need, and one primary source of need was a large sibling group.

A big family was a millstone around the necks of working men and women. Alan Davenport (born 1775) described his father as 'occupied in one continued struggle, having nothing but the products of his daily labour to provide for himself and his numerous family, six boys and four girls' (Davenport, 1986, p. 10). Infant and child mortality reduced the burden for some albeit in the cruellest way. 'There was a wonderful large family of us–eleven was born, but we died down to six' reported Bill H___ (born circa 1820) with grim humour (H____, 1862, p. 3). The death of George Acorn's brother allegedly 'really lightened our burdens for a while' (Acorn, 1911, p. 40).

But not only mothers and fathers suffered. Where children were numerous resources had to be shared around, and this could become hard if they were limited. At its simplest level more brothers and sisters meant smaller shares of food. Edward Davis (born 1828) with an intemperate father and many siblings, early noted that 'everything in our home seemed to be more sparingly served out than in our neighbours' (Davis, n.d. p. 1).). Boys were not backward in recognizing the negative effect that

new babies had on their own diet. Benjamin Brierley (born 18250 gave such sibling rivalry a humorous turn:

> ‘Before I was of sufficient age to be sent to school I had a brother born. I did not give him the heartiest welcome, as I had fears that he might claim joint possession of my spoon. I hated the sight of ‘Owd Jacky Wife’ for bringing him into the world.…’
>
> (Brierley, 1886, p. 3).

But Francis Crittall (born 1860) found no room for comedy. His father's business was quite successful and

> with a moderately-sized family he might have been comfortably off. But with ten children his means were sadly inadequate to provide anything but the plainest living…In all my boyhood I cannot recall ever having eaten more than one good meal a day.… For breakfast and for tea there was an unvarying diet of bread, with butter spread on it as lightly as a butterfly's kiss.
>
> (Crittall, 1934, pp. 9–10)

Schooling was another item likely to fall by the wayside in large families. The only schooling Abraham Holroyd (born 1815) obtained was at the expense of his grandfather as his parents were 'too poor to do anything, as they had four little ones all younger than myself' (Holroyd, 1892, p. 10). And if large numbers of siblings crowded out schooling they crowded in early and onerous employment. Davis (born 1828) again was only six years and eight month old when 'compelled to join the ranks of the breadwinners of the family' (Davis, 1898, p. 6). Moreover the pressure on any one child of large numbers of siblings needing support meant that opportunities for advancement could not be seized if they involved a short-run cut in earnings. Thus Davis was not able to take up a coveted opportunity to work in a confectioner's bake-shop because it involved a cut in wages that his large family could ill-afford. The pressures on him finally abated when 'each member of the family grew old enough to work, they had to go, and this enabled us to fill our cupboard better than it had ever been before' (Davis, 1898, p. 10).

The inverse relationship between family size and both educational and economic outcomes is clear in the data (see Table 3 below). Among boys for whom both ages at starting work and total numbers of siblings are known, only children appear to have had a signal advantage. The 30 only-children started work aged 11.92 while the 355 boys who had one or more siblings started work aged 10.61, a difference that is unlikely to have occurred by chance. Moreover advantage is also apparent comparing boys with only one sibling and boys with 2 or more. In fact as the table shows the advantages of children in smaller sibling groups persist until comparison is between boys with fewer than 5 and boys with five or more siblings. Even then the means continue to suggest disadvantage but it is not statistically significant. Total numbers of children in the family remains a statistically significant determinant of age at starting work, in a multivariate analysis (see Humphries, forthcoming).

Table 3: Age at starting work and schooling duration by size of sibling group

Number of siblings	Age at starting work (sample size)	Difference of means (significance)	Schooling duration (sample size)	Difference of means (significance)
≥ 1	10.61 (355)	1.3	2.45 (374)	.426
= 0	11.91 (30)	(.009)	2.88 (32)	(.066)
≥ 2	10.62 (319)	.55	2.44 (334)	.257
< 2	11.17 (66)	(.089)	2.69 (72)	(.132)
≥ 3	10.50 (273)	.72	2.40 (291)	.309
<3	11.22 (112)	(.015)	2.69 (115)	(.033)
≥ 4	10.50 (228)	.51	2.36 (246)	.307
< 4	11.01 (157)	(.063)	2.67 (160)	(.021)
≥ 5	10.51 (189)	.40	2.35 (201)	.266
< 5	10.91 (196)	(.137)	2.62 (205)	(.041)
≥ 6	10.48 (153)	.39	2.32 (165)	.272
< 6	10.86 (232)	(.162)	2.59 (241)	(.040)
≥ 7			2.34 (132)	.210
< 7			2.55 (274)	(.131)

Birth order, unfortunately not sufficiently frequently recorded in the autobiographies to support quantitative analysis, appears to have had ambiguous implications.[17] Eldest children sometimes appear to have obtained a head start, to have enjoyed some education and established strong ties with parents, before numbers of siblings arrived to strain the family exchequer and distract fathers and mothers. On the other hand, younger children often benefited from the contributions of working older siblings. Often children were marched into the labour force in rank order. In fact middle children seem anecdotally to have been at greatest risk, a view enunciated by Harry Carter (born 1749). 'My oldest and my youngest brothers were brought up to good country scolars (sic), but the rest of my brothers with myself, as soon as we were able, obliged to work in order to contribute a little to help to support a large family … (Carter, 1900, p. 3). The youngest in the family appear to have fared best. For one anonymous

[17] For the 174 boys whose position in their families is known although age at starting work first fell and then rose with rank the differences are not statistically significant.

writer (born 1825) his birth rank overrode a factor that usually blighted life chances: illegitimacy:

> I was, however, perhaps better situated than many illegitimate children are; for as the elder members of the family were all early obliged to go into service for their own livelihood, and also for the sake of assisting my mother, it was of course, natural that I should come in for an ordinary share of what was going.
>
> (Anon., 1857)

Thus the famous family life cycle pressed down not on fathers, whose activity rate and work intensity was already high, or mothers who could rarely contribute much to their families' coffers by the kind of economic activities available to them. Instead the burden fell on the children, particularly the older children, of the household. They were forced to work early and hard and their burdens only diminished as their younger siblings joined the ranks. Thus Edward Davis (born 1828) significantly the oldest surviving son in his family, finally felt less pressure when he was about 15 and 'each member of the family grew old enough to work, they had to go, and this enabled us to fill our cupboard better than it had ever been before' (1898, p. 10).

In the eighteenth century, a variety of factors likely operated to disguise the bitter burden of younger on older children. Infant and child mortality remained high and in the cruellest possible way reduced dependency (Wrigley, et. al., 1997). Schooling was not readily available and its effect on life time earnings uncertain (Mitch, 1992). Parents could be excused from thinking that a child's as well as their family's interests were best served by early work experience. But in the period under review, as well as marking each family's individual life cycle, intra-family dependency, like many of the other sources of pressure, experienced a climacteric. In the early nineteenth century population growth pushed the dependency rate to historically unprecedented levels. At the micro level this fed through to larger families and sibling groups. Even after 1860 when the numbers of children born in working families began to fall, child survival rates moved to offset this decline and maintain the pressures in many households (Stevenson, 1920). At the same time, the availability of and attitudes to education began to change. Children denied education by early working and family pressure were increasingly seen as deprived. In many mid-nineteenth-century memoirs early working because of family need is seen as crowding out the education that mothers wanted for their sons and condemning them to a lifetime of toil and low productivity. An incident from a late autobiography illustrates a mother's regret.

Robert Watchorn's (born 1858) mother was a Derbyshire coal-miner's wife and as such enjoyed no opportunity to contribute to the family's income. Moreover as Robert

recalled in 1869 there were six other children in his family, only one older than himself. His father worked hard but his wage was insufficient to 'provide ordinary comforts' especially as Watchorn senior did not forgo a breadwinner's levy, which he spent in the 'Swan and Salmon'. Robert's older brother, already at work, made a 'helpful' but on its own inadequate contribution. Mrs. Watchorn's 'painful reluctance' in withdrawing Robert from school to work in the pit was undoubtedly genuine. Her sobbing 'not only audible and deep, but terribly upsetting' was 'one of those incidents in one's life that are unforgettable'. In the set piece where Robert proudly gave her his first wages, the conflict between the family's needs and her aspirations for her cherished second son, along with resentment towards her insensitive husband all tumble together.

> She turned the coins over and over, time after time, like one playing a game of some sort of solitaire, but seriously pensive all the while; and the big, bright, pearl-like tears hung like dew drops from her eyelashes. Then quietly she rose and walked over to the table and, laying the five shillings down there, she just sobbed 'Bobbie! This is like coining your body and soul painfully cheap.' I had never before heard her utter a word of complaint about the failings of others, but she returned from my embrace to the coins on the table, and with a deep sign remarked, 'if your father had preferred to bring home his earnings in full, as you have now done, the 'Swan and Salmon' might have prospered less, and you my darling Bobbie, might have been able to continue at school, as I so fondly desired'
>
> (Watchorn, 1958, pp. 18–19)

Robert Watchorn never opened his own pay packet until he was of legal age, became a member of the Band of Hope, sought to better his education at night school, and after emigrating continued to send remittances home to his mother, eventually moving his whole family to the US. When he married he had only two children.

Conclusions

The autobiographical recollections of working-class men shed light on hitherto unsatisfactory accounts of the fertility decline viewed through the lens of changes in the costs and benefits of children. Even before the beginning of the nineteenth century mothers and children constituted the core of the working-class family. Fathers were emotionally peripheral figures who straddled the family and a male world of work politics and religion. While their duty was to work as hard and long as possible to support their families, male responsibilities did not extend to stretching the wage to cover the variable demands of smaller or larger families. Moreover their own breadwinner share of the family's resources was immune to other claims. Thus they were ignorant of and insulated from the desperate redivision of scarce resources that additional children involved.

Mothers at the nub of this redivision were only too aware of the burden of additional mouths. Yet for them children were supports as well as burdens. Sons could not only earn more than their mothers, but surrendered their earnings willingly into their mothers' hands, motivated by ties of love as well as duty. The legitimacy of mothers' claims to these resources depended however on their scrupulous deployment in the interests of the family as a whole and more particularly in the interests of the children. In this way resources were transferred from older and stronger to younger and weaker siblings. Mothers managed these transfers and through them sought the survival of the family as a unit. Perhaps children's contributions to their families and support for their mothers took the edge off the latter's anxiety about family size. Nonetheless in cases where siblings were numerous and support from husbands and fathers uncertain the burden on children mounted. In the period under review population growth pushed the dependency rate to historically unprecedented levels. At the household level this fed through to create a generation of ill-fed, unschooled and work-burdened children. In these relationships lie the clues to otherwise puzzling adverse trends in heights and to the (temporary) decline in literacy rates associated with industrialization.

These insights also illuminate the hitherto problematic chronology of fertility decline. The developing preference for smaller families did not depend on fathers' dawning recognition that late nineteenth-century children were increasingly burdensome bringing their views into congruence with their wives' long-standing preference. Instead it was based on the legacy of the costs of fertility sharply experienced by mothers and children in the crucible of industrialization.

The autobiographers testify to mothers' attempts to protect children, to keep them in school or to try and obtain apprenticeships for them. But these attempts were hedged by familial needs and perhaps initially by the uncertainties about the returns to education. Moreover they often stopped short before the substitution of mothers for

sons in the labour market, probably because mothers' comparative advantages remained in the home, especially where families were large. But the compact between mothers and their children rested on the former's abstemiousness, on mothers' sacrifice of consumption and leisure. In large families these sacrifices became oppressive. Although the voices of mothers are rarely directly heard, in the autobiographical evidence their sons speak for them. George Holyoke (born 1817) reflected:

> I had no business to be born at all, neither when I was, nor where I was, nor of whom I was–if without filial impiety I may say so…My mother had many children; she reared eleven; but I soon came to see how much better it would have been for her–how much more enjoyment, peace, repose and freedom from anxiety would have fallen to her–had her family been limited to three or four children.
>
> (Holyoke, 1896, p. 15)

But it was not only mothers who sacrificed. At the same time boys as well as girls in these families saw their own diets and schooling eroded by the appearance of additional children and their own early entry into work prompted by the burden of dependency. It was as children that both men and women experienced first hand the miseries of large families. Their experiences as family members and child workers were recycled with a lag into new recognition of the costs of larger families and slowly and imperfectly into agreement about the need for fertility control.

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