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Is the 'quality' of Preschool Childcare, Measured by the Qualifications and Pay of the Childcare Workforce, **Improving in Britain?**

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Abstract The purpose of this paper is to report on the changing qualifications, pay and working conditions of the British childcare workforce between 2005 and 2014. This is in order to contribute to current debates on the 'quality' of childcare provision for preschool children. The theoretical framework for this study draws upon concepts of 'quality' in childcare, to discuss the argued importance of increasing access to and raising standards of childcare for children's cognitive development, for women's labour market participation and for reducing poverty. The analysis comes from an ESRC funded study entitled 'Provision and use of preschool childcare in Britain'. This paper focuses on examination of childcare provision by the formal childcare workforce and presents results from a secondary analysis of the UK's Labour Force Survey, Childcare and Early Years Providers Survey, Annual Survey of Hours and Earnings, and Ofsted registration data. The 2005-2014 results show a highly gendered (98% female), low valued workforce in which qualifications are modestly rising (12% increase over time in NVQ level 3) but persistently low paid (on average £6.60 per hour) compared with other occupations (£13.10 per hour). The study also finds a shrinkage in the childcare workforce - of around five per cent in Britain since 2005 (from 329k in 2005-07 to 313k in 2012-14) – and more people describing themselves as childminders in the LFS than are registered with Ofsted, suggesting a possible growth in illegal childminding. The implications of these findings raise questions about what the British childcare workforce will look like in the future, who will do childcare work in the future, and whether it is possible to achieve 'good quality', 'affordable childcare' and 'decent pay' for British childcare workers. These issues are important for the future regulation of the British 'childcare' workforce and policy development in this vital

Keywords: childcare, early years, qualification, low pay, childminder, workforce

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1. Introduction

Childcare is very high on the UK government's agenda. In 2011, the Department for Education (DfE) and the Department of Health (DH) jointly published a major strategic document, Supporting Families in the Foundation Years. The strategy renewed the UK government's commitment to the fundamental importance of the early years, acknowledged the need for greater investment, and recognised the importance of a well-qualified workforce for the provision of 'good quality, affordable childcare' for children. While qualifications had been linked to quality of childcare provision, little was known about how qualifications had been changing in Britain, especially since the qualifications review by Nutbrown in 2012 calling for increases for all staff, including childminders and playworkers. To contribute to current debates on the 'quality' of childcare provision for preschool children, this study carried out a secondary analysis of large-scale UK datasets to identify the occupations that make up the

childcare workforce, and to examine their demographic characteristics, qualifications and work patterns. By carrying out this analysis we wanted to find out if the 'quality' of preschool childcare, measured by the qualifications and pay of the childcare workforce, was improving in Britain.

2. Literature Review and Conceptual Framework

Over the last 30 years maternal employment has been increasing within industrialised countries, with different national responses to the need for the increased childcare; some countries saw childcare as a state responsibility (e.g. Sweden, Norway) while others believed childcare was a private concern and gave little public funding (e.g. USA) [1]. In the UK, 'childcare' is a marketised system that embodies neoliberal rationality, making it the private responsibility of parent-consumers [1,2]. Current UK government policy is the provision of 30 free hours

childcare for employed parents with children aged three and four years [3].

In Europe, government policy has focused on raising standards of Early Childhood Education and Care (ECEC), which has been considered the key vehicle for tackling social problems and reducing poverty (e.g. 2,4). Formal childcare for preschool children for example has a number of reported benefits, including allowing mothers to take up paid work [5,6,7]. There are also reported long term cognitive and emotional benefits for children for being in childcare [8]. For example, in his review of the impact of quality of childcare upon preschool children's development in 2004, Melhuish concluded that 'children who attended higher-quality childcare provision make better academic progress' [[9], pp.7]. Nevertheless, some recent evidence from the USA has suggested that maternal employment in the first year may have some negative effects [10].

Enshrined in British ECEC policies is the belief that 'quality' matters [11]. However, while often assumed to be a universally understood concept, 'quality' is problematic to define and measure [12]. A feature of 'good quality' childcare that is often discussed is the qualification level of childcare staff [13]. Yet there are longstanding concerns in Britain about the low level of qualifications in this sector [1,14]. Ongoing concerns over the childcare workforce qualification levels in England led to a review of existing staff qualifications and a number of recommendations including ensuring all staff counted in DfE staff: child ratios are qualified at level three by September 2022 [15].

In the context of these debates around ECEC provision quality, we carried out a secondary analysis study aiming to examine the provision and use of preschool childcare in Britain. Drawing on the theoretical concept of 'quality' in childcare discussed above, this paper addresses three key questions from our analysis of the childcare workforce from 2006 to 2014: 1) 'Which occupations make up the childcare workforce and what is their size?', 2) 'What is the gender and age profile of this workforce?' And 3) 'What is the average qualification level, rate of pay and turnover rate for childcare staff in Britain?'. In addressing these questions, this paper presents analysis of the current picture for the workforce as well as some trends over time (between 2005 and 2014). While much British government rhetoric speaks of joining 'education' with 'care' the historically complex patterns of childcare provision in the UK [1] means it is near impossible to find UK data covering the whole of the ECEC workforce. The analysis reported here therefore takes a pragmatic approach, focusing on the childcare in ECEC in Britain, excluding school-based education services.

3. Materials and Methods

The main aim of the study on which this paper draws was to inform understandings of the future shape of childcare provision and usage in Britain through carrying out a secondary analysis of a number of large-scale, quantitative datasets that provide information about childcare. Our project included three analysis modules on: childcare usage, childcare provision and informal caring for preschool children [16].

To address the research questions posed in this paper, we examined the Labour Force Survey (LFS), the Annual Survey of Hours and Earnings (ASHE), the Childcare and Early Years Providers Survey (CEYPS) and data on childminders collected by the Office for Standards in Education, Children's Services and Skills (Ofsted), the childcare regulation body.

The LFS is a national survey of private households in the UK and the largest of the government's regular household surveys, collecting data from approximately 60,000 households per quarter, classifying jobs by content and the required skill level [17]. It uses the 4-digit Standard Occupational Classification (SOC) for main and second jobs for coding occupations [18]. This can be used to identify those in childcare occupations. We included three individual occupations classified together as 'Childcare and Related Personal Services': 'Nursery nurses & Assistants' (code 6121), 'Childminders & related occupations' (code 6122) and 'Playworker' (code 6123). These were analysed, both separately and together, as childcare occupations. To increase sample size, three years of LFS data were combined: 2005 to 2007, 2008-2010, and 2012-2014. In each case, data from the first quarter of the survey (January to March) were used. 2011 was not included because the variable formats were not backwards compatible. Additionally, we compared childcare workers to 'other occupations' which is a group we derived consisting of all other occupations included in the SOC.

The ASHE is a UK-wide one percent sample from the HM Revenue & Customs 'Pay-As-You-Earn' (PAYE) records: employers are asked to provide data on their employees [19]. It includes about 180,000 employees a year. It includes SOC coded occupation information as well as the gender of the employee. The ASHE was compared with LFS estimates on hours and earnings of the childcare workforce. We analysed data for each survey year between 2006 and 2012.

The CEYPS is a survey conducted for the DfE. Consequently it is restricted to England. It collects a wide range of information about childcare and early years provision, most recently in 2013 [20]. The survey includes group based provision, out of school provision, childminders and early years settings in maintained schools. We used this survey to examine the ECEC workforce in England in more detail; the CEYPS provides information on turnover, qualifications and pay. We compared these data with those from the LFS (England cases only). We analysed data for each data year between 2008 and 2013 (there was no survey in 2012).

Most childcare providers caring for children aged below eight years of age in England must register with Ofsted unless the law says they are not required to do so. Childcare providers not required to register with Ofsted may choose to do so by joining the voluntary part of the Childcare Register (VCR). Every six months, Ofsted publishes statistics on the number of registered providers. Childminders are identified separately, but other childcare occupations are not, meaning other categories of childcare worker we have analysed in the LFS cannot be compared directly with Ofsted. Nannies and au pairs are not required to be registered with Ofsted so Ofsted statistics will underestimate their numbers. We compared Ofsted statistics for 2008 and 2014 with the LFS.

The ECEC workforce is, for historic and structural reasons, difficult to classify, count and characterise as a whole. While it would have been preferable to present a 'joined up' approach in the analysis that follows, merging early education with childcare, this has not been possible because most data sources still divide education and childcare in terms of the way they classify this workforce. We have therefore had to take a pragmatic approach led by the information available in the data we could access.

Unlike the CEYPS, the LFS does not cover ECEC as it is commonly understood in the British context, grouping together childcare and nursery education [21]. For example, the SOC unit group 'Nursery nurses & Assistants' includes job roles such as nursery officer, preschool assistant or crèche helper but nursery teachers are not grouped here but are instead counted together with primary teachers. As nursery teachers cannot be distinguished from primary teachers, it is not possible to include them in our definition of the childcare workforce. The SOC also doesn't include a specific category for childcare managers; Nursery managers and owners are

assigned to the SOC unit group 'Teaching professions not elsewhere classified' [20], which includes jobs not part of this workforce.

4. Results

4.1. Which Occupations Make up the Childcare Workforce and what is Their Size?

4.1.1. Workforce Size

The British childcare workforce decreased over time by five per cent between 2005 and 2014; Scotland has had the largest decline, followed by Wales and England (See Table 1). Within the British childcare workforce, the number of nursery nurses and assistants has increased over time, and the number of playworkers decreased over time (See Table 1). The childminders and related occupations increased in size between 2005-07 and 2008-10 but then decreased later in 2012-14 (See Table 1).

Table 1. Population sizes (Britain, England, Scotland & Wales)

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Occupation name (SOC 2010)	Numbers: 2012-14	Numbers: 2008-10	Numbers: 2005-07
Britain:			
Nursery nurses & assistants	170,490	156,152	157,991
Childminders & related occupations	113,427	123,488	118,420
Playworkers	29,211	48,779	52,962
Total	313,127	328,419	329,372
England	273,842	285,436	282,449
Scotland	25,982	29,476	31,256
Wales	13,304	13,507	15,668

Both the LFS and the CEYPS suggest shrinkage in the workforce since 2008. However, while the CEYPS (2013) for England reports a one per cent decrease in the childcare workforce between 2011 and 2013, the LFS for Britain suggests a decrease of five per cent over time (Table 1). At first glance, these two sources appear discrepant. However, taking the LFS figures for England alone, we also find a decline of approximately one per cent (the LFS reports a drop of 8,607 between 2005 and 20114 for England).

Ofsted figures show a decline in numbers of childcare providers registered (compulsory or voluntary) with Ofsted, especially for childminders: Ofsted reports a decline of nearly eight per cent (See Table 2). The LFS also reports a decrease between 2008 and 2014 but only of nearly four per cent (England only, see Table 2). The difference (of 3%) can mostly be explained by the fact the Ofsted figures are only capturing information about members of the workforce who register with Ofsted. However, the LFS workforce numbers do not agree with statistics published by Ofsted for childminders. Although there was a decline in the number of 'home childcarers' registering between 2013 and 2014, before that there has been a steady increase in voluntary registrations for this group. This pattern could reflect an uptake in employer related benefits such as childcare vouchers which can only be redeemed by parents who use registered childcare. These findings more likely suggest a possible growth in illegal (unregistered) childminding.

Table 2. Childminder numbers in Ofsted statistics and in the LFS

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Number of childminders in England	Ofsted	LFS			
2008	61,929	108,888			
2014	53,000	100,916			
Total	114,929	209,804			
Difference	8% (8,929)	4% (7,972)			

4.2. What is the Gender and Age Profile of This Workforce?

Childcare workers are young relative to other occupations (with a mean age of 36 years compared to 41 years for other occupations); nursery nurses & assistants are the youngest (34) followed by playworkers (37) and childminders and related occupations (38). Despite drives to increase men in nurseries [22], the overall childcare workforce is overwhelmingly female (98%) compared with other occupations (46%), and hasn't changed at all between 2005-14 or from that found previously [14]. Over half (62%) of the childcare workforce is married or living with a partner; 30 per cent are single, which is slightly higher than for other occupations (of whom 23% are single). Within the British childcare workforce, a higher proportion of childminders and related occupations are married or living with a partner (66% compared with 60% of nursery nurses and assistants or 57% of playworkers).

4.3. What is the Average Qualification Level, Rare of Pay and Turnover Rate for Childcare Staff in Britain?

British childcare workers are poorly paid compared to other occupations (earning on average ten pence per hour above the National Minimum Wage level in 2014 in the UK for those aged 21 years or over (See Table 3). Hourly pay is generally higher for British childcare workers employed in the non-private (public and voluntary) sector but differs according to the childcare occupation (See Table 3). Average gross pay for the British childcare workforce increased over time from £8,586 gross per annum in 2005-07 to £10,324 gross per annum in 2012-14

but £8,586 expressed in 2013 prices equates to £10,839 so wages have actually decreased in recent years.

Relative to inflation earnings increased slightly from 2005-2008 and then declined between 2008-10 to 2012-14 when recession took hold (gross annual earnings after inflation declined for all occupations on average from £26,508 to £24,129 between 2008 and 2014 – in 2013 prices). Between 2008-10 and 2011-14, the childminders and related occupations group saw their earnings increase and only in the private sector (in 2013 prices, see Table 3); play workers saw the biggest decrease in their wages (of £2,830 in the private sector), which is at least in part related to their decrease in hours (See Table 3).

Table 3. Childcare workers: average earnings and hours, LFS 2012-14, in pounds sterling

	All Childcare workers	Nursery Nurses	Childminders and related occupations	Playworkers	Other occupations	National minimum wage 21 years and over (35 hours per week)	Living wage: UK (35 hours per week)
Average gross annual earnings	£10,324	£10,647	£ 11,474	£5,801	£24,128	£11,830	£14,287
Average usual hours	32	31	40	19	42	/	
Average usual gross earnings per hour	£6.60	£6.40	£6.10	£8.00	£13.10	£6.50	£7.85
Average gross earnings per hour: private sector	£5.60	£5.60	£6.20	£5.50	£12.69	/	
Average gross earnings per hour: non-private sector	£7.80	£7.60	£5.80	£9.70	£13.70	/	

The ASHE provides higher earnings estimates than the LFS for each occupation in the British childcare workforce; the difference between the two data sources in estimated wages is highest for the playworkers (See Table 4). There are some important differences that could explain differences between the earnings estimates between the LFS and ASHE. First, because the ASHE comes from the 'Pay As You Earn' (PAYE) register, it does not include the self-employed or those below the PAYE threshold, and these will be included in the LFS. This is an important

difference for childcare workers since in the LFS for 2012-2014 64 per cent of childminders described themselves as self-employed, compared to 15 per cent of all workers. Also, while the LFS data is reported by workers, the ASHE data is supplied from employers. It is possible therefore that the two surveys do not entirely agree on what the job involves, including the pay and hours involved. Finally, while the LFS estimates in table two are for Britain, those in the ASHE are for the UK.

Table 4. Comparing mean gross annual pay between the LFS & ASHE, 2012-2014, in pounds sterling

	LFS (GB)	ASHE (UK)	Difference
	2012-2014	2012	(ASHE-LFS)
Nursery nurses	£10,647	£11,983	£1,336
Childminders and related occupations	£11,474	£13,041	£1,567
Playworkers	£5,801	£7,926	£2,125

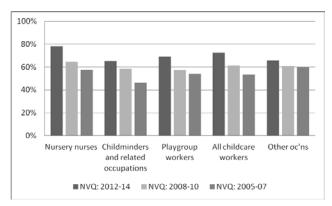


Figure 1. % of childcare workers with NVQ level 3 or higher (2005-07 to 2012-14) in the LFS

The LFS reports around 73 per cent of British childcare workers now have National Vocational Qualification (NVQ) level 3 or higher, which represents a 12 per cent increase over time (See Figure 1). This shift has been

particularly dramatic for nursery nurses and assistants, of whom 48 per cent now have NVQ level 3. While many European countries require staff working with preschool children to be educated to tertiary level (Bachelor's level), the UK is one of 10 European countries that does not require this [23]. Only thirteen per cent of childcare workers are educated to degree level or above compared to over 33 per cent of other occupations (LFS 2012-14).

The LFS reports two-thirds of the British childcare workforce is reported as working in the private sector in 2012-14; of those in the non-private sector, over half are employed in local government. There has been a shift towards a greater proportion of the British childcare workforce employed in the private sector (from 65% in 2005-07 to 74% in 2012-14), with the greatest change for the nursery nurses (9% more working in the private sector in 2012-14), followed by the childminders and related occupations (6% more working in the private sector in 2012-14) and the playworkers (3% more working in the private sector in 2012-14).

The LFS reports stability in turnover between 2005-07 and 2012-14. Turnover can be examined in the LFS through a variable asking employees how long they have been continuously employed in their current job. In 2012-14, British childcare workers reported being continuously working in their current job on average for five years and seven months (5 years 3 months in 2005-07) - similar to that reported in the CEYPS (6y 7m in 'Full day care settings'). These mean length employed estimates are higher than for other occupations (3 years on average in the LFS for 2012-14). The CEYPS also reports annual turnover rates of between 12-16 per cent between 2006 and 2013. These are lower than previously found for this workforce - a rate of 22 per cent was reported in 2001 for nursery workers in England [24]. While average hours worked did not change over the time period we examined, the proportion working full-time did change for some of the individual occupations. For example, while three per cent more of the childminders and related occupations were working full-time in 2012-14 than in 2005-07, nine per cent fewer of the playworkers were working full-time in 2012-14 than in 2005-07.

5. Discussion

Using the SOC, we defined the childcare workforce as including three occupations within LFS data: 'Nursery nurses & Assistants', 'Childminders and related occupations' and 'Playworkers'. However, this classification of the workforce does not capture all workers within ECEC, particularly nursery nurses and assistants working in school settings and nursery managers. There are some implications with leaving out nursery teachers and nursery managers. As teachers are better qualified and paid than others in the ECEC sector [14], not including them is likely to underestimate the average level of pay (and possibly also the qualification level). However, as 'neither teachers nor managers constitute a large proportion of the childcare workforce' [[21], pp. 101], the impact of excluding them is likely to have been minimal when considering the whole childcare workforce. Nevertheless, we think the SOC could benefit from a review to consider including a new code for managers working within and across ECEC.

The difference of around three per cent between Ofsted registration statistics and the LFS of people working as childminders means that more people are reporting working as childminders than are currently registered with Ofsted. As registration is a legal requirement for childminders in England, the discrepancy in the number of childminders between the two data sources suggests illegal childminding may be taking place (practice without registration). If this is the case, and people are working unregulated as childcare workers in England, this finding raises important questions about why this is occurring – is it cost driven or related to problems with registration? It seems plausible that some people may be confused or ignorant about the requirement to register with Ofsted and that raising public awareness about the registration rules and perhaps making the registration process simpler may address this discrepancy.

The increase in qualification levels noted earlier suggest British policy initiatives to professionalise the

workforce through increased qualification have been modestly successful at upskilling the British childcare workforce to the recommended levels. This is a positive finding in relation to the debates around the importance of quality in ECEC and the reported links between 'quality' and well qualified childcare staff [14]. Low pay however, continues to be a feature of the British childcare workforce. A recent report by the Low Pay Commission reported 41 per cent of the UK childcare sector is paid less than £7 per hour [25], which supports our analysis of the LFS suggesting childcare workers are still poorly paid compared with other occupations. This feature of low pay could in part be attributed to the predominately female and young age profile of the workforce. However, another reason for this the low pay of the childcare workforce is due to the fact the childcare system is marketised, making it the private responsibility of parents, not all of whom can afford the rising cost of childcare in Britain [26]. A recent report for example found that the price of childcare has continued to rise at levels above the rate of inflation and argued that "for too many families it simply does not pay to work" [[26], pp.3].

6. Conclusions

The purpose of this paper was to report on the changing qualifications, pay and working conditions of the British childcare workforce between 2005 and 2014. This paper uniquely brings together analysis from several large-scale datasets to address three key questions about the British childcare workforce from 2005 to 2014 in order to inform understandings of the future shape of childcare provision: 1) 'Which occupations make up the childcare workforce and what is their size?', 2) 'What is the gender and age profile of this workforce?' And 3) 'What is the average qualification level, rate of pay and turnover rate for childcare staff in Britain?'. These questions matter because they are posed at a time when much public policy and media debate surrounds how 'quality' of childcare provision, as measured by workforce qualification levels, can be improved whilst making childcare affordable for parents who are struggling to afford childcare fees, especially in a time of austerity in Europe.

Employment in childcare may offer people working in the childcare sector other nonfinancial benefits such as satisfying work and the opportunity for part-time employment that can be combined with family life. These factors may explain the long periods of service among workers we found in the LFS and CEYPS, given the low pay. It is important to note that the period of analysis we examined coincides with the recession, growing youth unemployment and job cuts in the public sector in the UK. This means alternative job opportunities may have been reduced for young women working in the childcare workforce. The lack of alternative work opportunities for young women is not an unchangeable condition and in future, low pay may act to limit recruitment and retention of the childcare workforce and its upskilling. We would argue that an urgent review of pay for British childcare workers should be undertaken, especially in light of current underfunding from the 'free childcare policy' [27] which means childcare places are likely to be difficult to fund by childcare providers. Indeed, it is likely that

funding will need to be increased in the future to cover the increasing cost of providing these free places [28].

As we have discussed earlier, there are important inherent contradictions in the current British childcare system between making childcare the responsibility of parent-consumers who are restricted in what they can pay and yet the demand for high 'quality' childcare which depends on highly qualified staff. The childcare system is over-reliant on private funding sources, especially parental fees and demand-side funding [1,2]. While good, quality, childcare for all remains a key goal for British public policy, these contradictions in the childcare system are very likely to make it problematic to achieve improved 'quality' of childcare provision (through raising qualifications levels of childcare staff) and 'affordability' of childcare provision for parents and 'decent pay' for childcare workers, which is an important incentive for the future recruitment and retention of the childcare workforce.

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Dataset Acknowledgements

- Department for Children, Schools and Families and BMRB. Social Research, Childcare and Early Years Provision: Providers' Survey, 2007 [computer file]. Colchester, Essex: UK Data Archive [distributor], November 2008. SN: 6059, http://dx.doi.org/10.5255/UKDA-SN-6059-1.
- Department for Children, Schools and Families and BMRB. Social Research, Childcare and Early Years Provision: Providers' Survey, 2008 [computer file]. Colchester, Essex: UK Data Archive [distributor], September 2011. SN: 6866, http://dx.doi.org/10.5255/UKDA-SN-6866-1.
- 3. Department for Children, Schools and Families and BMRB. Social Research, Childcare and Early Years Provision: Providers' Survey, 2009 [computer file]. Colchester, Essex: UK Data Archive [distributor], September 2011. SN: 6867, http://dx.doi.org/10.5255/UKDA-SN-6867-1.
- Department for Education and TNS-BMRB, Childcare and Early Years Provision: Providers' Survey, 2010 [computer file]. Colchester, Essex: UK Data Archive [distributor], November 2011. SN: 6882, http://dx.doi.org/UKDA-SN-6882-1.
- Department for Education and TNS-BMRB, Childcare and Early Years Provision: Providers' Survey, 2011 [computer file]. 2nd Edition.

- Colchester, Essex: UK Data Archive [distributor], February 2013. SN: 7161, http://dx.doi.org/10.5255/UKDA-SN-7161-2
- TNS-BMRB, Childcare Provider Finances Survey, 2012 [computer file]. Colchester, Essex: UK Data Archive [distributor], January 2013. SN: 7181,
 - http://dx.doi.org/10.5255/UKDA-SN-7181-1.
- Department for Education and TNS-BMRB, Childcare and Early Years Provision: Providers' Survey, 2013 [computer file]. Colchester, Essex: UK Data Archive [distributor], May 2015. SN: 7711.
 - http://dx.doi.org/10.5255/UKDA-SN-7711-1.
- 8. Office for National Statistics. Social and Vital Statistics Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January March, 2005 [computer file]. 2nd Edition. Colchester, Essex: UK Data Archive [distributor], July 2008. SN: 5426,
 - http://dx.doi.org/10.5255/UKDA-SN-5426-1.
- Office for National Statistics. Social and Vital Statistics Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January - March, 2006 [computer file]. 3rd Edition. Colchester, Essex: UK Data Archive [distributor], June 2009. SN: 5369,
 - http://dx.doi.org/10.5255/UKDA-SN-5369-1.
- Office for National Statistics. Social and Vital Statistics Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January - March, 2007 [computer file]. 4th Edition. Colchester, Essex: UK Data Archive [distributor], March 2010. SN: 5657,
 - http://dx.doi.org/10.5255/UKDA-SN-5657-1.
- Office for National Statistics. Social and Vital Statistics Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January - March, 2008 [computer file]. 4th Edition. Colchester, Essex: UK Data Archive [distributor], March 2010. SN: 5851,
 - http://dx.doi.org/10.5255/UKDA-SN-5851-1.
- Office for National Statistics. Social and Vital Statistics Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January - March, 2009 [computer file]. 2nd Edition. Colchester, Essex: UK Data Archive [distributor], March 2010. SN: 6199, http://dx.doi.org/10.5255/UKDA-SN-6199-1.
- 13. Office for National Statistics. Social Survey Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January March, 2010 [computer file]. Colchester, Essex: UK Data Archive [distributor], June 2010. SN: 6457,
- 14. Office for National Statistics. Social Survey Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly

http://dx.doi.org/10.5255/UKDA-SN-6457-1.

- Labour Force Survey, January March, 2011 [computer file]. 2nd Edition. Colchester, Essex: UK Data Archive [distributor], November 2011. SN: 6782, http://dx.doi.org/10.5255/UKDA-SN-6782-2.
- Office for National Statistics. Social Survey Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January - March, 2012 [computer file]. Colchester, Essex: UK Data Archive [distributor], June 2012. SN: 7037, http://dx.doi.org/10.5255/UKDA-SN-7037-1.
- 16. Office for National Statistics. Social Survey Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January - March, 2013 [computer file]. Colchester, Essex: UK Data Archive [distributor], May 2013. SN: 7277, http://dx.doi.org/10.5255/UKDA-SN-7277-1.
- Office for National Statistics. Social Survey Division and Northern Ireland Statistics and Research Agency. Central Survey Unit, Quarterly Labour Force Survey, January - March, 2014 [computer file]. 2nd Edition. Colchester, Essex: UK Data Archive [distributor], October 2014. SN: 7501

http://dx.doi.org/10.5255/UKDA-SN-7501-2.

Statement of Competing Interests

The authors have no competing interests.

List of Abbreviations

Annual Survey of Hours and Earnings (ASHE)

Childcare and Early Years Survey of Parents (CEYPS)

Department for Education (DfE)

Department of Health (DH)

Early Childhood Education and Care (ECEC)

Labour Force Survey (LFS)

National Vocational Qualification (NVQ)

Office for Standards in Education, Children's Services and Skills (Ofsted)

Pay As You Earn (PAYE)

Standard Occupational Classification (SOC)

The Organisation for Economic Co-operation and Development (OECD)

Voluntary Childcare Register (VCR)

References

- Moss, P. "Early childhood policy in England 1997–2013: Anatomy of a missed opportunity". *International Journal of Early Years Education*, 22(4), 346-358, Oct.2014.
- [2] OECD. Starting Strong II, Early Childhood Education and Care, OECD, Paris, France, 2006, 1-441.
- [3] Department for Education. *Childcare Bill: Policy Statement*, DfE, London, England, 2013.
- [4] Social Protection Committee. SPC Advisory Report to the European Commission on tackling and preventing child poverty, promoting child well-being, 1-70, Brussels, 2012.

- [5] Daycare Trust. Making work pay: The childcare trap, Daycare Trust, London, England, 2011.
- [6] Hansen, K., Joshi, H. and Verropoulou, G. "Childcare and mothers' employment: approaching the millennium". *National Institute Economic Review*, 195 (1), 84-102, Jan.2006.
- [7] Ward, C., Dale, A. and Joshi, H. "Combining employment with childcare: an escape from dependence?". *Journal of Social Policy*, 25 (2), 223-247, Apr.1996.
- [8] Johnson, P. and Kossykh, Y. Early years, life chances and equality: a literature review. Equality and Human Rights Commission, London, England, 2008.
- [9] Melhuish, T. Child Benefits: The importance of investing in quality childcare, Daycare Trust, London, England, 2004.
- [10] Brooks-Gunn, J., Han, W.-J. and Waldfogel, J. "First-year maternal employment and child development in the first 7 years". *Monographs of the Society for Research in Child Development*, 75 (2), 1-200, Sept.2010.
- [11] The House of Lords select committee on affordable childcare. Affordable Childcare, Report of Session 2014–15. Authority of the House of Lords, The Stationery Office Limited, London: England, 2015.
- [12] Moss P., and Dahlberg G. "Beyond Quality in Early Childhood Education and Care – Languages of Evaluation". New Zealand Journal of Teachers' Work, 5 (1), 3-12, 2008.
- [13] Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. and Taggart, B. Early Childhood Matters: Evidence from the effective pre-school and primary education project. Routledge, London, England, 2010.
- [14] Simon, A., Owen, C., Moss, P., Petrie, P., Cameron, C., Potts, P. and Wigfall, V. Secondary analysis of the Labour Force Survey to map the numbers and characteristics of the occupations working within Social Care, Childcare, Nursing and Education. Department for Schools and Families, London, England, 2008.
- [15] Nutbrown, C. Review of Early Education and Childcare Qualifications: Interim report. Department for Education, London, England. 2012.
- [16] Simon, A. Owen, C. and Hollingworth, K. Provision and use of preschool childcare in Britain. Thomas Coram Research Unit, UCL Institute of Education, London, England, 2015.
- [17] Simon, A., Owen, C., Moss, P. and Cameron, C. Mapping the Care Workforce: Supporting joined-up thinking. Institute of Education, London, England, 2003.
- [18] Office for National Statistics. SOC2010 Volume 2 The Coding Index. Palgrave-Macmillan, Basingstoke, England, 2010.
- [19] Ormerod, C. "Earning data: A brief guide to sources and outputs". Labour Market Trends 114 (11), 389-396, Nov.2006.
- [20] Department for Education. Childcare and early years providers survey. DfE, London, England, 2013.
- [21] Gambaro, L. Why are childcare workers low paid? An analysis of pay in the UK childcare sector, 1994-2008. PhD Diss. School of Economics and Political Science, London, England, 2012.
- [22] "Men in the nursery". In J. Brannen and P. Moss (eds), Rethinking Children's Care. Open University Press, Buckingham, 2003, 99-113
- [23] European Commission/EACEA/Eurydice/Eurostat. Key Data on Early Childhood Education and Care in Europe. 2014 Edition. Eurydice and Eurostat Report. Publications Office of the European Union, Luxembourg, 2014.
- [24] Cameron, C. Mooney, A. Owen, C. and Moss, P. Childcare Students and Nursery Workers. Follow-up surveys and in-depth interviews. DfES Research Report 32. 2. London, England, 2001.
- [25] Low Pay Commission. National Minimum Wage. 2014 Report. Low Pay Commission, London, England, 2014.
- [26] Rutter, J. Childcare Costs Survey 2015. Family and Childcare Trust, London, England, 2015, 1-28.
- [27] Pre-school Learning Alliance. Counting the Cost: An analysis of delivery costs for funded early years education and childcare. Preschool Learning Alliance, London, England, 2014.
- [28] Nursery World. Analysis uncovers true cost of party childcare pledges, London, May 2015. http://www.nurseryworld.co.uk/nurseryworld/news/1151154/exclusive-analysis-uncovers-true-cost-of-

party-childcare-pledges.