



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■

Non-resident parents: Why are they hard to capture in surveys and what can we do about it?

Caroline Bryson and Stephen McKay

CASE/210
October 2018

Centre for Analysis of Social Exclusion
London School of Economics
Houghton Street
London WC2A 2AE
CASE enquiries – tel: 020 7955 6679



Centre for Analysis of Social Exclusion

The Centre for Analysis of Social Exclusion (CASE) is a multi-disciplinary research centre based at the London School of Economics and Political Science (LSE), within the Suntory and Toyota International Centres for Economics and Related Disciplines (STICERD). Our focus is on exploration of different dimensions of social disadvantage, particularly from longitudinal and neighbourhood perspectives, and examination of the impact of public policy.

In addition to our discussion paper series (CASEpapers), we produce occasional summaries of our research in CASEbriefs, and reports from various conferences and activities in CASereports. All these publications are available to download free from our website.

For further information on the work of the Centre, please contact the Centre Manager, Jane Dickson, on:

Telephone: UK+20 7955 6679

Email: j.dickson@lse.ac.uk

Web site: <http://sticerd.lse.ac.uk/case>

© Caroline Bryson
Stephen McKay

All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Editorial note

Caroline Bryson is a partner of Bryson Purdon Social Research LLP and a PhD student at CASE. Stephen McKay is Distinguished Professor in Social Research at the University of Lincoln.

Acknowledgements

This paper makes use of data from the *Understanding Society* Innovation Panel. Understanding Society is an initiative funded by the [Economic and Social Research Council](#) and various Government Departments, with scientific leadership by the [Institute for Social and Economic Research](#), University of Essex, and survey delivery by [NatCen Social Research](#) and [Kantar Public](#). The research data are distributed by the [UK Data Service](#). We would like to thank Tarek Al Baghal, Annette Jackle and Michaela Benzeval for supporting our application to field this experiment in Wave 10 of the Innovation Panel, and for their help in its final design and execution.

We are very grateful to the Nuffield Foundation for funding our analysis and reporting, and for their ongoing input and support, in particular from Alex Beer, Teresa Williams and Tracey Budd. The Nuffield Foundation is an endowed charitable trust that aims to improve social well-being in the widest sense. It funds research and innovation in education and social policy and also works to build capacity in education, science and social science research. The Nuffield Foundation has funded this project, but the views expressed are those of the authors and not necessarily those of the Foundation. More information is available at www.nuffieldfoundation.org. We would also like to thank our reviewers, whose comments have helped shape the final version of the paper produced here.

Abstract

The under-representation of non-resident parents in surveys has long hindered research on family separation, leaving key evidence gaps for those making policy and practice decisions related to separating and separated families, including (but not restricted to) issues around child support, child arrangements, welfare benefits and housing. In this paper, we articulate the importance of robust quantitative data collected directly from non-resident parents. We review the methods previously employed to attempt to achieve this, and we use the UK Household Longitudinal Study (UKHLS) (University of Essex, ISER, 2017) to demonstrate where and how response biases occur. The main body of the paper reports findings from an experiment run on Wave 10 of the UKHLS Innovation Panel (Al Baghal et al., 2018; University of Essex, ISER, 2018) in which we compare two approaches to identifying non-resident parents from among the panel members. One method, a variant of that currently used in the UKHLS, asks panel members about living relatives with whom they do not live. The

second method modifies the UKHLS standard fertility history questions collecting information on past births and then asks whether any such children are under 18 and living outside the household. Our findings are necessarily tentative, with around 100 non-resident parents identified across both arms of the experiment from among the 2,570 panel members interviewed in Wave 10. They nonetheless point towards a potential to improve the survey representativeness of non-resident parents, at least to some degree. While we found no statistically significant differences in the non-resident parent prevalence rates between the two methods, *in combination* they increased the non-resident parent sample by one quarter. Moreover, the data suggest that the fertility history approach improves the representativeness of the non-resident parent sample, in terms of both their socio-demographic profile and their levels of parental involvement. That said, even the combined approach results in a large under-representation of non-resident parents and a continued bias towards those who are more involved with their children.

Key words: non-resident parent, family separation, parenting, child support, child contact, survey methodology, survey sampling

JEL numbers: C83; I31; I38; K36

Corresponding author: Caroline Bryson c.bryson@bpsr.co.uk

1. Introduction

A recent review of the data infrastructure on family separation (Bryson et al., 2017) highlighted a lack of robust data from non-resident parents as the cause of a key knowledge gap. The paucity of data collected directly from non-resident parents can be explained in part by an insufficient priority placed in many studies on the role of non-resident parents in post-separation parenting - or on the role of fathers more generally. However, an equally, if not more, pivotal reason is the methodological challenge in achieving representative samples of non-resident parents. Non-resident parents are consistently under-represented in population surveys¹: only a proportion self-identify when asked, and those who do are unrepresentative of non-resident parents as a whole. Often in surveys they are outnumbered by parents with care (the parent with primary care of the child, see text box below) by a factor of between two and three (e.g. $649/312 = 2:1$, in Blackwell and Dawe, 2003). The challenges in producing reliable statistics contribute to decisions – particularly in times of stretched budgets – either not to include non-resident parents in child- or family-focused studies or, in population surveys, not focus specific survey questions at non-resident parents in the knowledge that the survey respondents do not well represent their population.

Our first step in this paper is to articulate the value in striving to collect data not only *about* but also directly *from* non-resident parents. We go on to describe the methodologies employed in previous studies to identify non-resident parents. The UK Household Longitudinal Study (UKHLS) is one of the few current studies which does attempt to identify non-resident parents and, as such, we use it as a case study to demonstrate where the response biases exist. We consider to what extent biases arise by virtue of the fact that some of the socio-demographic groups most prone to survey non-response are disproportionately represented among non-resident parents (e.g. young urban men) and explore what other factors appear to be at play.

The main body of the paper reports on the findings of an experimental study on Wave 10 of the UKHLS Innovation Panel in which we explore the potential to improve the prevalence and representativeness of non-resident parents. Using a detailed set of questions to collect respondents' fertility, adoptive and step-parenting history we test whether this approach elicits a better response (i.e. more, and more representative, non-resident parents) compared to the standard UKHLS approach of identifying non-resident parents by asking about relatives not living in the respondent's household. The UKHLS provides the largest and most comprehensive longitudinal dataset for the study of family structure and family life (particularly where

¹ Within population surveys, we include both those of the general population, of families/parents and those focusing specifically on separated families/parents.

families have separated), so improving its non-resident parent representativeness would be hugely beneficial to research and policy communities. And, of course, our findings have applicability for all future surveys attempting to identify non-resident parents and/or study family separation.

Note on terminology

The terms 'parents with care' and 'non-resident parents' are used here for want of better terminology. Although commonly used to distinguish which parent has primary care of the child (or with whom the child mostly lives), they mask the varied circumstances of separated families, where children may spend significant amounts of time (including overnight) with a 'non-resident' parent.

Likewise, the term 'single parent' refers to their household status, rather than implying that the other parent (or a new partner) is not involved in the upbringing of the child (or indeed not potentially living with the child for a minority of the time).

2. Why do we need survey data collected directly from non-resident parents?

Given the methodological challenges in involving non-resident parents in surveys, an easy solution would be to not attempt to do so, and instead rely on the reports of parents with care. Indeed, this is the approach historically taken in a range of cross-sectional and longitudinal studies focusing on children's outcomes, parenting or family life (for example, the Families and Children Study (FACS); the Millennium Cohort Study (MCS); Born in Bradford). However, moving forward, this is inadequate on several levels.

First, both research and policy need study designs to reflect diversity in family structures. With four in ten children experiencing lone parenthood during their childhood (DWP, 2015), two and a half million separated families are raising four million dependent children at any point in time (Punton-Li et al., 2012). This means that non-resident parents represent a substantial proportion of the UK's parents, too big a proportion to exclude them from quantitative research, or to 'make do' with poor quality data. Second, child- and family-focused studies need to better capture the role of *both* parents rather than continue with the traditional mother-centric focus. With fathers making up nine in ten non-resident parents, and the reverse for parents with care (Lader, 2008), the need for data from non-resident parents can be seen as part of a wider recognition of the need for

better data on fathers. 'Modern' fathering roles practised and aspired to today (Dermott, 2014) mean that fathers are now more involved in day-to-day child-rearing (Hook and Wolfe, 2012; Kiernan, 2016). While there is a growing recognition of the importance of fathers in terms of a range of children's socio-emotional, behavioural and cognitive outcomes, the UK evidence base is weak (Sarkadi et al., 2008; Flouri, 2015; Gregory and Milner, 2011). Relatively little is known about the role of non-resident parents in their children's development, with data collection often limited to the frequency of contact with their children (e.g. Poole et al., 2016), despite evidence that the quality, rather than the quantity, of their involvement appears to be most important (Adamsons and Johnson, 2013). Moreover, current questions on frequency of contact (daily, weekly, monthly, etc) miss out common patterns of post-separation parenting, such as two-weekly blocks or alternating weekends with time during the week, with variations during school holiday times that may involve fathers more than during term times.

The third, and key point, relates to the importance of collecting data directly from non-resident parents. Although data collected from parents with care and (less commonly children) can provide a picture of the level and type of contact and relationships they have with the non-resident parent, the financial contribution (s)he makes, involvement in parenting, and so forth, this is only a partial picture, often from one perspective. Even on seemingly objective measures such as the level of contact and the provision of financial support, studies of separated parents indicate that – even attempting to take into account non-response bias among non-resident parents – parents with care tend to under-report and non-resident parents to over-report the non-resident parent's involvement (Peacey and Hunt, 2009; Bell et al., 2006). Likewise, Prady and Kiernan (2013) found that levels of concordance in parent with care and non-resident parent reports were lower for more subjective or evaluative measures. Without interviewing non-resident parents, we have very limited evidence – from non-resident parents' perspectives – on how and why different contact patterns arise, how child support arrangements are decided and negotiated, and how co-parenting arrangements emerge. These all influence children's experiences of their parents' separation and can impact on their short- and longer-term outcomes. Not enough is understood about the impact of family separation on non-resident parents, and on any subsequent new families they have, including impacts on health and well-being; on their parenting ability; on their income levels and housing (which, of course, can all have secondary impacts on their children), and on their support needs. If one is considering policy changes, it is difficult to propose measures on separated families without understanding the position of *both* biological parents, their respective motivations and constraints.²

² It is worth noting that there are wider issues about the ways in which fathers are identified in surveys, reported in Speight et al. (2013) and Goldman and Burgess

3. Why do UK data struggle to capture non-resident parents?

At the heart of the issue as to why surveys tend to under-represent non-resident parents is the fact that we rely on non-resident parents to self-identify and participate in voluntary surveys: there is no comprehensive sampling frame from which to identify them. With no obligation for parents to centrally register that they live apart or have separated, administrative datasets in the UK are of limited value for identifying non-resident parents. While many, or most, single parents are identifiable if they claim means tested benefits as a result of their status, there is no such 'flag' for non-resident parents (or indeed all parents with care). Specific sub-groups of non-resident parents can be identified via court records and via the Child Maintenance Service (CMS), the statutory child support system which replaced the Child Support Agency (CSA) in 2012. However, the combined coverage of these two databases is limited. Around one in ten separating or separated families go to court to settle financial or child arrangements (Blackwell and Dawe, 2003), and with the withdrawal of legal aid for almost all private family law cases in 2012, these numbers are likely diminishing. What is more, these are among the most acrimonious separations, and involve only those who can afford to pay legal costs. Use of the CMS is voluntary and, again, the number of separated parents using the system is diminishing. Historically (until 2008), use of the CSA was compulsory for parents on means tested benefits and voluntary for others, resulting in a system consisting of a combination of low-income families and families with more acrimonious relationships choosing to use it because they were less able to negotiate family-based arrangements. The new CMS (which has been rolling out since 2012) charges for its use. This, alongside a general encouragement to use the statutory system only as a last resort means, means that CMS records going forward will include a smaller proportion, and an increasingly unrepresentative sample, of all separated parents.

Therefore, population surveys remain the only route for researchers to identify representative samples of the non-resident parent population. While longitudinal studies – with the UKHLS the prime example – can identify non-resident parents as and when families separate over time, low rates of separation (around two per cent of couples with dependent children per year) limit the potential sample size of non-resident parents identified this way. Moreover, despite best efforts, to date the UKHLS has struggled to retain non-resident parents in the sample after separation. Among the approximate 120 intact families with dependent children who separate between annual waves, for only around 35 of these do both parents remain

(2018) with insufficient account taken of the diverse nature of fatherhood in contemporary society.

in the study the wave after separation.³ So, studies wanting to include the full cross-section of the non-resident parent population⁴ rely on non-resident parents identifying themselves in response to a set of survey questions about non-resident children. The UKHLS currently identifies non-resident parents as respondents with a son/daughter aged under 16 living outside their household, asking them to pick all living relative types from a showcard list that starts with their mother, then father, before son/daughter and goes on to list siblings and great/grand relationships. A range of other studies employed similar approaches (e.g. Peacey and Hunt, 2008; Wikeley et al.⁵, 2008; Blackwell and Dawe, 2003; Bradshaw et al., 1999) attempting to identify non-resident parents by asking directly whether respondents had children with whom they did not live.

All these studies experienced similar difficulties: they identified far fewer non-resident parents than expected and found that those who did self-identify were biased in terms of their demographics and their involvement with their children. For example, in their study of separated parents, Peacey and Hunt (2008) identified non-resident parents by asking ONS omnibus respondents whether they had children under 17 who did not live with them but, rather, lived with their other parent for most or all of the time. Their screening process included reassurances of the independent (non-government) nature of the survey (which was conducted in 2006/7 at a time when concerns about the CSA 'tracking down' non-payers were perhaps higher than now), as well as a recognition in their question wording of the sensitivities of asking about non-resident children. Parents with care were identified by asking if their child(ren)'s other parent lived with them. If resident and non-resident parents were equally likely to self-identify, we would expect just under half of the separated parents identified in their survey to be non-resident parents.⁶ Instead, in Peacey and Hunt's study, it was 30 per cent. What is more, those who did identify as non-resident parents were strongly biased towards those with more parental involvement. For instance, non-resident parents accounted for only 15 per cent of those separated parents saying that there was no contact between the child and their non-resident parent. This broad pattern is replicated across the other cross-sectional studies cited above, as well as in

³ While this is likely largely due to attrition, in some instances the UKHLS only attempts to track the mother.

⁴ A number of government-funded studies focus only on those involved in the statutory (e.g. child support) system or court proceedings, where administrative records are used as a sampling frame (e.g. Patel et al., 2016).

⁵ Wikeley et al.'s study included a combination of parents with care and non-resident parents involved with the CSA, sampled through CSA records, and other separated parents identified through screening respondents to the Family Resources Survey.

⁶ The correct proportions also depend on how many non-resident parents have multiple families, and how many parents with care have children with multiple non-resident parents.

longitudinal surveys such as the British Household Panel Survey and UKHLS (see below for more detail on the UKHLS).

The reasons why surveys fail to identify sufficient numbers – or representative profiles – of non-resident parents are unclear, and a combination of factors is likely at play. Part of the explanation likely lies in the fact that younger men of lower socio-economic backgrounds are less likely to participate in surveys – and, in turn, make up a disproportionate number of non-resident parents. For instance, Peacey and Hunt (2008) report differential non-response among men (compared to women), particularly divorced, separated and never-married men. However, it is suspected that at least some of the explanation lies in a reticence among non-resident parents to self-identify - because of a painful relationship or because of a lack of fulfilment of their parental and/or financial obligations - or a perception among some non-resident parents that they do not 'count' as a parent, because they have no contact or a poor relationship. This may be due in part to child support obligations, but also to the sensitivities of talking about children for whom they have no ongoing parental role. Peacey and Hunt largely discount the idea that under-identification is due to non-resident parents not knowing about their children: only two per cent of parents with care in their survey reported that this was the case.

This pattern of results – and debates about the causes – are replicated in the United States. Stykes et al. (2013) cite a range of US literature going back to the 1980s which points to the same conclusions about the under-representation in surveys of young disadvantaged men (citing Martin, 2007). They also raise the potential for a higher proportion of these men being in institutions (e.g. prison or army) and therefore excluded from household surveys (citing Marsiglio et al., 2000). As with the UK literature, they point to several US commentators suggesting a greater reluctance on the part of non-resident parents to self-identify than parents with care (e.g. citing Garfinkel et al., 1998).

3.1 How far is it simply an issue of non-response and attrition bias among less advantaged groups?

Ironically, because of the difficulties in achieving representative samples of non-resident parents – and a lack of administrative data to provide a national profile – it is hard to answer the question of whether non-resident parents are overly represented within the socio-demographic groups who are less likely to take part in surveys. So, based on an assumption of a high degree of assortative mating (Henz and Mills, 2017), we look at the socio-demographic profile of *parents with care* to provide a proxy picture of non-resident parents. We compare their profile to that of all parents, to assess how far separated parents differ from all parents in terms of their socio-economic profile. More precisely, we focus here on parent with care *mothers*, and compare them to all mothers. This is necessary to provide a

meaningful comparison, given that nine in ten parents with care are mothers, so comparing to all parents would hide, for instance, natural differences in economic activity between mothers and fathers. We need to be mindful that, to some extent, the economic profile of parents with care will be influenced by the separation itself. However, we have a number of more fixed demographics (e.g. education level) which suggest that economic differences between parent with care mothers and all mothers pre-date the separation.

Table 1 shows the demographic profile of mothers, split into those who are parents with care (themselves divided into those who are single and those who are repartnered) and those living with their children's fathers, based on the UKHLS Wave 3 using cross-sectional weights to reflect the UK population (UKHLS, ISER, 2017).⁷ A recent paper by Lynn and Borkowska (2018) on non-response and attrition bias compares the UKHLS⁸ panel profile with 2011 Census figures. They highlight the under-representation of men, people in London and those with a severe long-term limiting illness and disability upon entry into the panel, together with differential attrition among young people, non-white minority ethnic groups, lower income groups and those living in London.

Clearly, our analysis cannot test for differential non-response by gender, but it does look at a range of other socio-demographics known to be associated with survey non-response and attrition. As anticipated, parent with care mothers (and we therefore hypothesise non-resident fathers) are less likely than average to be in paid employment or training (58 per cent compared to 68 per cent of all mothers) and twice as likely to be unemployed (10 per cent compared to five per cent).⁹ They are less likely to be in managerial or professional occupations (33 per cent compared to 41 per cent of all others) and more likely to be in routine occupations (37 per cent compared to 29 per cent). They are more likely to be struggling financially (for instance, nine per cent report living comfortably compared to 19 per cent of all mothers). They are less likely to be educated to degree level (14 per cent compared to 21 per cent of all mothers) and more likely to have GCSEs or equivalents as their highest educational qualification (31 per cent compared to 23 per cent). All these differences are statistically significant.

⁷ We chose to use UKHLS Wave 3 as the first wave to field the full module of questions on child support and contact. Thus, we benefit from the inclusion of these questions, but avoid the attrition bias of more recent waves.

⁸ The paper also looks at the British Household Panel Survey (BHPS).

⁹ Lower levels of employment among parent with care mothers may to some extent reflect the difficulties of combining paid work and childcare responsibilities as a single parent. However, the lower levels of employment among repartnered parents with care (not as low as single mothers but lower than mothers living with children's fathers) suggests there is also an underlying socio-demographic skew among parents with care.

Although no more likely than average to live in London, parent with care mothers are more likely than all mothers to live in an urban area, another factor associated with survey non-response (82 per cent compared to 78 per cent of all mothers). They are more likely to be Black (six per cent compared to three per cent) and less likely to be Asian (three per cent compared to six per cent). They are younger on average, with a mean age of 37 years compared to 41 among all mothers.

We find that parent with care mothers are also more likely than other mothers to be in poor health or have a longstanding illness or disability (31 per cent compared to 28 per cent) – another factor correlated with lower levels of non-response (Lynn and Borkowska, 2018). However, we are reticent to draw conclusions from this, as we know little about the correlation between parent with care and non-resident parent health, nor can we account for the effect of the separation on the parent with care’s health.

Table 1: Comparison of the demographic profiles of mothers

	Parent with care mothers			Mothers living with children’s fathers	All mothers living with children
	All parent with care mothers	Single mothers	Repartnered parent with care mothers		
	%	%	%	%	%
Average age (mean years)	36.9	36.8	37.3	43.1	41.4
Employment status					
In work/government paid training	58.4	57.2	62.1	72.0	68.2
Unemployed	10.4	12.2	4.9	2.8	4.9
Looking after the home	23.9	23.0	26.4	17.6	19.3
Other	7.3	7.6	6.6	7.6	7.5
Socio-economic group (NS SEC)					
Managerial, administrative and professional occupations	32.9	32.2	34.9	43.3	40.9
Intermediate occupations	18.2	19.4	14.8	18.6	18.5
Small employers and own account workers	7.1	6.8	7.8	7.3	7.3
Lower supervisory and technical occupations	4.4	4.7	3.5	4.7	4.6
Semi-routine and routine occupations	37.4	36.8	38.9	26.1	28.8

	Parent with care mothers			Mothers living with children's fathers	All mothers living with children
	All parent with care mothers	Single mothers	Repartnered parent with care mothers		
	%	%	%	%	%
<i>Base: all resident mothers</i>	2,874	2,102	772	7,555	10,429
Highest educational qualification					
Degree or higher	13.9	13.6	14.7	24.4	21.5
A levels or equivalent	19.2	19.1	19.6	19.5	19.4
GCSEs or equivalent	30.9	29.9	33.6	20.3	23.2
Lower or no UK qualifications	36.0	37.3	32.1	35.8	35.8
How managing financially					
Living comfortably	8.9	6.9	14.7	22.6	18.8
Doing alright	28.4	26.2	34.8	36.9	34.5
Just about getting by	38.3	39.4	35.0	28.7	31.3
Finding it quite difficult	16.0	17.8	10.4	8.4	10.5
Finding it very difficult	8.5	9.6	5.1	3.4	4.8
Lives in London	12.4	14.3	6.9	11.7	11.9
Lives in urban area	82.4	83.8	78.4	76.3	78.0
Ethnicity					
White	89.0	87.4	93.9	88.8	88.9
Black	5.6	6.7	2.5	1.7	2.8
Asian	2.9	3.1	2.1	7.5	6.2
Mix	1.8	2.0	1.1	1.0	1.2
Other	.7	.8	.5	1.0	.9
General health					
Excellent	14.9	14.9	14.8	20.3	18.8
Very good	34.6	33.8	36.9	37.4	36.6
Good	29.9	30.2	29.0	26.5	27.4
Fair	15.5	16.1	13.7	12.0	12.9
Poor	5.1	5.0	5.6	3.9	4.2
Longstanding illness or disability	30.7	30.4	31.8	26.6	27.7
Living arrangement					
Living with spouse/in civil partnership	13.5	0.0	53.5	85.2	65.4
Cohabiting	11.7	0.0	46.5	14.8	13.9
Not living with partner	74.8	100.0	0.0	0.0	20.6

	Parent with care mothers			Mothers living with children's fathers	All mothers living with children
	All parent with care mothers	Single mothers	Repartnered parent with care mothers		
	%	%	%	%	%
<i>Base: all resident mothers</i>	2,874	2,102	772	7,555	10,429

Source: UKHLS wave 3.

3.2 How far do the demographic profiles of parents with care and non-resident parents differ?

We establish above that at least part of the reason for the under-identification of non-resident parents is likely due to them being more likely to be among 'normal' survey non-responders. Our next step is to assess how far those who do self-identify represent non-resident parents as a whole. To do this, we compare the socio-demographic profile of non-resident parents in the UKHLS Wave 3 to that of parents with care. Again, because the majority of parents with care are mothers and non-resident parents are fathers, we focus our comparisons on parent with care mothers (split into single mothers and those who have repartnered) and non-resident fathers. Our findings are in Table 2.

The first issue to note is the much lower proportion of UKHLS panel members who identify themselves as a non-resident father, compared to parent with care mothers. There are three times as many parent with care mother respondents in the sample compared to the number of non-resident fathers. In prevalence terms, this equates to 5.4 per cent of parent with care mother panel members and 1.8 per cent non-resident father panel members. This discrepancy reflects the findings of other studies (although the most extreme example), including those of Peacey and Hunt (2008) discussed above. While we might expect somewhat fewer non-resident parents than parents with care (e.g. through widowhood; non-resident parents having multiple resident parents; non-resident parents being unaware of their child), this cannot account for the level of disparity observed across a number of studies.

These differences in prevalence rates tell a lot of the story. However, there are limited differences in the socio-economic profile of parent with care mothers and non-resident fathers. If we assume that the parent with care sample is much closer to being representative than the non-resident father sample, what evidence there is tends to point towards disadvantaged non-resident fathers being more likely to self-identify than others. Although differences in maternal and paternal work make comparisons in employment status and occupation hard to compare, non-resident fathers in the sample are less likely to have a degree (nine per cent compared to

14 per cent of parents with care) and more likely to have no or very low qualifications (43 per cent compared to 36 per cent).¹⁰

However, there are other indications of differential non-response by non-resident fathers. They are less likely than parent with care mothers to live in London (nine per cent compared to 12 per cent of parent with care mothers) or live in an urban area (77 per cent compared to 82 per cent), and less likely to be from a non-white minority ethnic group (five per cent compared to eight per cent). But, perhaps of most interest, is that they appear to be non-resident fathers who are more likely to be 'family-oriented'. The UKHLS Wave 3 sample of non-resident fathers are older (mean age of 41 compared to 37 among parent with care mothers), more likely to have been previously married (67 per cent compared to 57 per cent) and more likely to be in a current relationship (46 per cent compared to 25 per cent). Non-resident fathers in the sample are twice as likely as parent with care mothers to be married or in a civil partnership (24 per cent compared to 14 per cent) or cohabiting (22 per cent compared to 12 per cent).¹¹ These differences are starker than the socio-demographic differences might have been predicted.

Table 2: Comparison of the demographic profiles of parent with care mothers and non-resident fathers

	Non-resident fathers	Parents with care mothers		
		All	Single mothers	Repartnered parent with care mothers
	%	%	%	%
Proportion of the sample	1.8	5.4	4.1	1.4
Weighted N	753	2,331	1,743	588
Average age (mean years)	40.7	36.9	36.8	37.3
Employment status				
In paid work/government training	72.3	58.4	57.2	62.1
Unemployed	14.8	10.4	12.2	4.9
Looking after the home	1.4	23.9	23.0	26.4
Other	11.5	7.3	7.6	6.6
Socio-economic group (NS SEC)				
Managerial, administrative and professional occupations	33.8	32.9	32.2	34.9
Intermediate occupations	7.7	18.2	19.4	14.8

¹⁰ Of course, this does not take into account the gender gap in education, but this level of difference suggests some level of survey response bias.

¹¹ This may be due in part to the fact that men tend to repartner more quickly than women after separation. However, this is of particular interest given Speight et al.'s (2013) findings that non-resident fathers who are living with other children are less likely to be in contact with their non-resident children.

	Non-resident fathers	Parents with care mothers		
		All	Single mothers	Repartnered parent with care mothers
Small employers and own account workers	12.0	7.1	6.8	7.8
Lower supervisory and technical occupations	16.7	4.4	4.7	3.5
Semi-routine and routine occupations	29.9	37.4	36.8	38.9
Highest educational qualification				
Degree or higher	9.1	13.9	13.6	14.7
A levels or equivalent	16.5	19.2	19.1	19.6
GCSEs or equivalent	31.0	30.9	29.9	33.6
Lower or no UK qualifications	43.4	36.0	37.3	32.1
How managing financially				
Living comfortably	11.1	8.9	6.9	14.7
Doing alright	27.2	28.4	26.2	34.8
Just about getting by	36.6	38.3	39.4	35.0
Finding it quite difficult	14.9	16.0	17.8	10.4
Finding it very difficult	10.1	8.5	9.6	5.1
General health				
Excellent	13.7	14.9	14.9	14.8
Very good	31.9	34.6	33.8	36.9
Good	31.5	29.9	30.2	29.0
Fair	16.0	15.5	16.1	13.7
Poor	6.9	5.1	5.0	5.6
Longstanding illness or disability	32.5	30.7	30.4	31.8
Lives in London	8.6	12.4	14.3	6.9
Lives in urban area	76.7	82.4	83.8	78.4
Ethnicity				
White	91.9	89.0	87.4	93.9
Black	3.6	5.6	6.7	2.5
Asian	1.8	2.9	3.1	2.1
Mix	1.8	1.8	2.0	1.1
Other	1.0	.7	.8	.5
Ever married	67.4	57.2	50.1	78.4
Living arrangement				
Living with spouse or in civil partnership	24.3	13.5	0.0	53.5
Cohabiting	21.7	11.7	0.0	46.5
Not living with partner	54.0	74.8	100.0	0.0
<i>Base: all separated parents</i>	845	2,874	2,102	772

Source: UKHLS wave 3.

3.3 How correlated is non-resident parent self-identification with parental involvement?

The differences in the non-resident father sample's current and previous relationship histories, compared to those of the parent with care mothers, suggest that more family-oriented non-resident fathers self-identify in the UKHLS. To further test this – adding to earlier findings from Peacey and Hunt (2008), Wikeley et al. (2008) and others – in Table 3 we compare parent with care mother and non-resident father reports of the non-resident father's involvement with their children. Here we see the starkest evidence of the skew in the non-resident father sample.

Seven in ten (72 per cent) non-resident fathers in the sample report paying child support. This is based on a simple question where non-resident parents are asked if they 'send or give money for child support'. In comparison, parents with care are asked a suite of question about different child support arrangement types they may have (court, statutory, family-based) and whether they receive money under each of these arrangements. With parents with care with a statutory Collect and Pay arrangement not asked if they receive what is due, we can produce an upper (all Collect and Pay arrangements result in payment) and lower (none of the Collect and Pay arrangements result in payment) bound figure. Whichever figure we use (41 per cent or 29 per cent of parent with care mothers), there is a huge discrepancy in comparison to the reports of the non-resident fathers. If we add in informal payments – the non-resident parents purchasing different items – then we get somewhat closer to the non-resident parent reports (54 per cent), though still falling quite short.

We see a similar pattern in terms of how often the non-resident fathers in the sample report seeing their children. Again, the response scales are slightly different for the non-resident parents and parents with care (with the latter shown in brackets in Table 3). However, a quarter (26 per cent) of parent with care mothers report that their child *never* sees the non-resident father, compared to only one in ten (10 per cent) of non-resident fathers. The proportion of mothers saying there is no contact is higher for those who have re-partnered (32 per cent) than those who are single (24 per cent).

Table 3: Non-resident parent involvement with children: comparison of responses from non-resident fathers and parent with care mothers

	Non-resident fathers	Parent with care mothers		
		All	Single mothers	Re-partnered parent with care mothers
	%	%	%	%
Paying child support (non-resident fathers)	71.8	n/a	n/a	n/a
Receiving child support and/or other financial support (parent with care mothers)				
Receives child support (excluding cases where payment is via statutory collect and pay)	n/a	28.8	28.9	28.7
Receives child support (assuming 100 per cent compliance among statutory Collect and Pay)	n/a	41.3	40.7	43.2
Receives child support (incl. CSA collecting), or non-resident parent provides informal financial support (e.g. buys items for children)	n/a	53.7	54.1	52.4
In contact with their child(ren) – most frequent contact where children differ within the same family				
Never	10.3	26.4	24.4	32.2
Few times a year/yearly or less often	8.5	8.8	8.9	8.4
Once a month or less/monthly	5.7	6.7	7.1	5.5
Several times a month/fortnightly	14.0	9.9	8.2	15.1
About once a week	16.9	30.8	33.6	22.5
Several times a week/weekly	25.2	30.8	33.6	22.5
Almost every day/daily	16.2	9.6	10.6	6.5
50/50 shared care	3.2	2.1	2.1	2.1
Child makes own arrangements	n/a	3.8	3.3	5.2
<i>Base: all separated parents</i>	845	2,874	2,102	772

Source: UKHLS wave 3.

4 Can we try to improve representation by changing the question approach?

As discussed earlier in the paper, most UK studies have tried to identify non-resident parents by asking directly about children they have with whom they do not live. However, Stykes et al.'s (2013) comparison of approaches in the US found that more – and a more representative profile of – non-resident parents were identified by asking a detailed fertility history than by these more traditional question approaches. Their study showed that the method of questioning certainly affects not only the prevalence and profile of non-resident parents, but also the proportion reporting paying child support. Taking their lead, we ran an experiment on Wave 10 of the UKHLS Innovation Panel to test whether such an approach in the UK could alleviate the representativeness issues described above (UKHLS, ISER, 2018). Certainly, we did not expect the use of a fertility history to ‘solve’ the problem, with previous analysis of the British Household Panel Survey (Rendall et al., 1999) finding that far fewer fathers than mothers identify themselves with these questions. But, based on the US analysis, we hoped that the use of the fertility questions would go some way to improving non-resident parent survey representativeness. Here, we describe the methodology we employed and the results of our experiment. We conclude with some observations about how this experimental work could usefully be taken forward. Note that an early write-up of these findings – based on a preliminary dataset – was published earlier this year (Al Baghal et al., 2018).

4.1 The data: the UKHLS and its Innovation Panel

The UKHLS is the most comprehensive longitudinal survey in the UK, possibly the world, annually tracking the lives of around 40,000 households, interviewing all household members aged 16 and over (and administering a self-completion survey with those aged 10 to 15). A separate Innovation Panel is surveyed each year, providing a testing ground for a range of methodological experiments (e.g. around mode or question design). In 2017, Wave 10 of the Innovation Panel (the IP10) involved around 2,000 existing Panel households and a refreshment sample of 500 new households. While the new sample was interviewed face-to-face in-home, the survey mode for existing Panel households was split 2:1 between face-to-face survey and web self-completion. Although the number of non-resident parents that we could expect to identify was modest, the Panel provided an ideal testing ground prior to any larger-scale trial of our question sets. Based on the number of parents with care and non-resident parents identified in previous waves, we estimated that the maximum sample size of non-resident parents that we might identify and interview would be just over 200, with the minimum closer to 80.

4.2 The non-resident parent experiment

We fielded two sets of questions, both of which aimed at identifying non-resident parents, and both of which were asked of all respondents:¹²

1. A detailed set of questions on fertility, adoptive and step-parenting history;
2. The standard UKHLS questions on living relatives, with minor adaptations to (a) allow for the separate identification of biological, adopted and step-children and (b) dependent children up to the age of 18 (rather than, as currently, 16).

We also asked about closeness to the child, child support and child contact, which are additional measures that may vary with the reliability of identifying non-resident parents.

4.3 Prevalence rates

In line with US evidence that fertility histories elicit substantially higher levels of non-resident parent identification than more direct questions on non-resident children (Stykes et al. 2013), we hoped that asking respondents to enumerate all children born or adopted to them, or to whom they had been a step-parent, would be a more neutral and objective method of identifying non-resident parents, resulting in increased self-identification. Stykes et al.'s work found that this method of questioning not only affected the prevalence and profile of non-resident parents, but also the proportion reporting paying child support.

This proved not to be the case in IP10, with no statistically significant differences in the proportions identified in each experimental arm. Table 4 shows the proportion of the sample who self-identify as a non-resident parent within each approach, and across both approaches. Asking about living relatives outside the household identified 3.3 per cent (n=84) of respondents as non-resident parents, compared to 3.2 per cent (n=75) identified through the fertility history. This equates to five per cent of male respondents in each experimental arm and 1.8 per cent versus 1.5 per cent of female respondents. Perhaps the optimal approach is to identify non-resident parents across *both* sets of questions¹³: among the 103 non-resident parents identified, only 56 (or 54 per cent) were identified under both question methods, with 19 (18 per cent) identified only in the fertility questions and 28 (27 per cent) in the living relative questions. Moving from

¹² The order in which respondents were asked each set was randomised to reduce contamination. A within- rather than between-respondent experiment both strengthened the power and reliability of our analysis power and maximised the number of non-resident parents in both arms of the experiment.

¹³ Given both are asked as standard (in a modified form) as part of the UKHLS each year.

the current UKHLS approach to also including non-resident parents identified via a set of fertility questions would increase the non-resident parent sample by 23 per cent (19 extra cases/84 cases identified using existing living relatives approach).¹⁴¹⁵

However, even the combined approach falls far short of identifying the numbers of non-resident parents whom we would expect within the panel. The IP10 includes 114 parents with care (4.7 per cent of the population). While we might expect somewhat fewer non-resident parents than parents with care (e.g. through widowhood, non-resident parents having children with more than one parent with care, non-resident parents being unaware of their child), this cannot account for much of the disparity we observe here, and across several other studies.

Table 4: Identification of non-resident parents, by question set

	All (LR or FH)	Question approach	
		Living relatives (LR)	Fertility history (FH)
	%	%	%
Non-resident parent (biological, adoptive, step)	4.2	3.3	3.2
Biological non-resident parent	3.0	2.6	2.4
Adoptive non-resident parent	[N=2]	[N=2]	[N=1]
Step non-resident parent	1.3	0.7	0.8
Parents with care	4.7	n/a	n/a
<i>Base: all respondents</i>	<i>2570</i>	<i>2570</i>	<i>2570</i>
Non-resident father (biological, adoptive, step)	5.9	4.8	4.9
<i>Base: all male respondents</i>	<i>1196</i>	<i>1196</i>	<i>1196</i>
Non-resident mother (biological, adoptive, step)	2.6	1.8	1.5
<i>Base: all female respondents</i>	<i>1374</i>	<i>1374</i>	<i>1374</i>

Source: UKHLS IP wave 10.

¹⁴ These figures include non-resident parents to biological, adoptive and step-children. Seventy-three non-resident parents of biological children were identified: 46 in both methods, 10 in the fertility method only and 17 only in the listing of living relatives.

¹⁵ Given the small numbers we have not analysed differences by mode or length of time in the panel.

4.4 Representativeness over prevalence?

We might be less concerned about the low prevalence rates if those non-resident parents who did self-identify were a random sub-set of the non-resident parent population. So, if they were representative in terms of their socio-demographics and, very importantly, in terms of their parental roles. However, we know from Tables 2 and 3, under the current UKHLS approach – with a pattern replicated across a range of studies cited above – that this is not the case. Non-resident parents who self-identify are skewed towards those who are more family-oriented, as measured by their previous and current relationship statuses and their parental involvement post-separation.

For this reason, we are interested in whether the approach of identifying non-resident parents through their fertility history – or taking the combined approach alongside the living relatives approach – might improve the representativeness of the sample, even if its effect was limited in increasing prevalence rates. Table 5 provides a profile of the non-resident parents identified, overall and within each experimental arm. Although the sample sizes are small, and we have not therefore tried to test for statistical significance for more than a few variables, there is tentative evidence that the fertility history approach somewhat improves the representativeness of the non-resident parent sample, identifying non-resident parents who are less family-oriented than the living relatives approach.

Note on analysis

It is important to note one unusual feature of the presentation and interpretation of the results, compared to most research tables. The figures for 'all (LR or FH)' need not lie between the other two figures: that depends on which cases are common to both groups and which are unique to one group or the other. In the example hypothetical table below, there are three cases: the first is common to both means of identifying non-resident parents, case 2 only identified with the living relatives method, and case 3 only through the family history method. In the living relatives group, on average there are 1.5 children; in the family history group there are also on average 1.5 children, but on average for the overall group the average number of children was 1.33. We may routinely find examples where the 'All' group is not a simple average of the other two *overlapping* groups. Indeed, in this case the separate methods give the same result, which differs from the pooled result.

Number of children per non-resident parent, hypothetical three cases

Case	Identified via	Living relatives group	Family history group	All (living relatives or family history)
1	Both groups	2	2	2
2	Only living relatives group	1		1
3	Only family history group		1	1
Average number of children		1.5	1.5	1.33

The first point to note from Table 5 is that non-resident mothers appear more likely than non-resident fathers to self-identify, via both approaches. Non-resident mothers are thought to be around 10 per cent of all non-resident parents (e.g. Lader, 2008) - but form a third (33 per cent) of all non-resident parents in the IP10 sample. However, there is tentative evidence here to suggest that the fertility history approach is better than the living history approach at identifying non-resident fathers (75 per cent of the non-resident parents identified via the fertility history were fathers compared to 68 per cent of those identified under the living relatives approach). Likewise, the approach appears to redress somewhat the bias towards more relationship-oriented non-resident parents, with a smaller proportion having been previously married (64 per cent compared to 74 per cent under the living relatives approach) and fewer being in a current relationship (41 per cent compared to 55 per cent). Our numbers of non-white respondents are small, but we are encouraged by the higher proportion of non-white non-resident parents identified by the fertility

history approach. Previous work has highlighted particular issues around Black non-resident fathers identifying their parental role (Roopnarine and Hossain, 2013).

Table 5: Comparison of the demographic profiles of non-resident parents, by question set

** indicates statistically significant at the 5 per cent level.	All (LR or FH)	Question approach	
		Living relatives (LR)	Fertility history (FH)
Gender**			
Male	67.0	66.7	74.7
Female	33.0	33.3	25.3
Average age (mean years)	43.1	43.3	41.8
Ever married**	68.6	73.5	63.5
Living arrangements**			
Living with spouse or in civil partnership	35.0	36.9	26.7
Cohabiting	18.4	17.9	14.7
Not living with partner	46.6	45.2	58.7
Dependent children			
1	26.8	33.3	28.0
2	41.5	33.3	42.0
3 or more	31.7	33.3	30.0
In paid work	70.6	72.3	72.0
Socio-economic group (NS SEC 3 classes)			
1 Management & professional	36.6	37.3	33.3
2 Intermediate	21.1	16.9	22.2
3 Routine	42.3	45.8	44.4
Education to degree level or higher	18.1	17.2	15.1
How managing financially			
Living comfortably	14.7	15.5	13.5
Doing alright	37.3	35.7	39.2
Just about getting by	31.4	32.1	28.4
Finding it quite difficult	7.8	8.3	8.1
Finding it very difficult	8.8	8.3	10.8
<i>Base: all non-resident parents</i>	<i>103</i>	<i>84</i>	<i>75</i>
Owner occupier	44.4	48.8	40.2

** indicates statistically significant at the 5 per cent level.	All (LR or FH)	Question approach	
		Living relatives (LR)	Fertility history (FH)
Lives in London	10.7	8.3	13.3
Lives in urban area	85.4	85.7	84.0
Ethnicity			
White	75.7	78.6	70.7
Black	3.9	3.6	5.3
Asian	2.9	2.4	4.0
Mix	1.0	1.2	1.3
Other	16.5	14.3	18.7
<i>Base: all non-resident parents</i>	<i>103</i>	<i>84</i>	<i>75</i>

Source: UKHLS IP wave 10.

We see a similar pattern when it comes to non-resident parents' involvement with their children. Again, the small sample sizes mean that we have not tried to test for statistical significance. However, there is tentative evidence that the fertility history approach identifies more non-resident parents with no contact with their children (14 per cent compared to eight per cent in the living relatives arm). Differences in terms of closeness to their child and the payment of child support are smaller, and not differences of a significant size.

Table 6: Comparison of the non-resident parent’s relationship with child, by question set

	All (LR or FH)	Question approach	
		Living relatives (LR)	Fertility history (FH)
	%	%	%
Very/quite close to child(ren)	68.3	72.1	68.5
Paying child support	62.8	65.1	67.1
In contact with their child(ren)			
Never	11.4	7.6	13.7
Few times a year	11.1	10.4	12.8
Once a month or less	6.6	3.2	6.1
Several times a month	4.4	5.1	2.9
About once a week	18.9	20.5	15.8
Several times a week	30.5	35.4	31.0
Almost everyday	15.7	16.1	15.9
50/50 shared care	1.4	1.7	1.9
<i>Base: all children with a non-resident parent</i>	<i>150</i>	<i>135</i>	<i>117</i>

Source: UKHLS IP wave 10.

5 Conclusions

Separated families now constitute a substantial proportion of all UK families with dependent children. Yet, the current evidence base on family life – and its impact on children’s and parental outcomes – is dominated by studies based on a more traditional concept of ‘the family’. Child- and family-focused studies tend to rely on the maternal report, with fathers or resident partners sometimes offered a supplementary interview. Very few quantitative studies attempt to include non-resident parents and those who do come up against methodological challenges in identifying and engaging them. This paper highlights just how big these challenges are. With no prospect of a comprehensive sampling frame of non-resident parents (or, indeed, separated parents (see Bryson et al., 2017 for a longer discussion)), we must rely on the self-identification of non-resident parents in surveys. Yet, this paper demonstrates the fact that the problem starts with standard non-response bias, with non-resident parents more likely to be among the traditionally ‘harder to reach’ survey respondents. These issues are then exacerbated by an even more challenging task of persuading non-resident parents to self-identify, overcoming likely hurdles around sensitive relationship breakdowns and unmet responsibilities. Quite why there is such a big shortfall in the numbers who identify themselves – especially among those less engaged with their families’ lives – remains

unclear. Certainly, there is an important qualitative study to be carried out with parents with care and non-resident parents about how these barriers might be overcome. Perhaps a starting point would be to go back to the IP10 respondents who identified as non-resident parents via one, but not both, approaches to understand why this was the case.

However, our experiment suggests that a small step towards increasing the identification rate – and improving the profile of non-resident parents who identify – might be to combine our fertility history alongside more standard questions on children who live outside of the survey household. Of course, our numbers are small – and findings necessarily tentative – so the next stage should be a larger test to see whether our findings are replicated among a larger sample. The UKHLS team have begun further work using the main UKHLS sample. Overall, however, an approach that starts from fertility histories does identify further non-resident parents who do not appear in the existing UKHLS questions, about one-quarter more, and these are lesser engaged with their children. Space on questionnaires is always at a premium, of course. It ought to be possible to build in various checks to identify more non-resident parents, without necessarily having to ask two full sets of questions.

References

- Adamsons, K. and S.K. Johnson (2013), 'An updated and expanded meta analysis of nonresident fathering and child well-being', *Journal of Family Psychology*, 27(4), 589.
- Al Baghal, T. et al. (2018), 'Understanding Society Innovation Panel Wave 10: Results from Methodological Experiments' *Understanding Society Working Paper Series* No. 2018-06 (May 2018). <https://www.understandingsociety.ac.uk/sites/default/files/downloads/working-papers/2018-06.pdf>.
- Bell, A., A. Kazimirski and I. La Valle (2006), *An investigation of CSA Maintenance Direct Payments: Qualitative Study*, DWP report 327.
- Blackwell, A. and F. Dawe (2003), *Non-resident parental contact*. London: Office for National Statistics.
- Bradshaw, J., C. Skinner, C. Stimson and J. Williams (2002), *Absent fathers?* Routledge.
- Bryson, C., S. Purdon, and A. Skipp with A. Barlow, T. Ford, J. Hunt, K. Kiernan, H. Low, S. McKay, J. Miles and L. Trinder (2017), *Understanding the lives of separating and separated families in the UK: what evidence do we need?* Project Report. Nuffield Foundation. http://www.nuffieldfoundation.org/sites/default/files/files/Family%20Separation%20Scoping%20Study%20Report_final.pdf.
- DWP (2015), *2010 to 2015 government policy: poverty and social justice*, <https://www.gov.uk/government/publications/2010-to-2015-government-policy-poverty-and-social-justice/2010-to-2015-government-policy-poverty-and-social-justice>.
- Dermott, E. (2014), *Intimate Fatherhood: A sociological analysis*. Basingstoke: Palgrave Macmillan.
- Flouri, E. (2005) *Fathering and child outcomes*. Chichester: Wiley.
- Garfinkel, I., S.M. McLanahan and T.L. Hanson. (1998), 'A Patchwork Portrait of Nonresident Fathers' In: Garfinkel, I., S.M. McLanahan, D.R. Meyer and J.A. Seltzer (eds.), *Fathers Under Fire: The Revolution in Child Support Enforcement*. New York: Russell Sage Foundation: 31–60.
- Gregory, A. and S. Milner (2011), 'What is "new" about fatherhood? The social construction of fatherhood in France and the UK' in *Men and Masculinities* 14 (5), pp588-606.

- Goldman, R. and A. Burgess (2018), *Where's the daddy? Fathers and father-figures in UK datasets* <http://www.nuffieldfoundation.org/sites/default/files/files/Burgess%2041619%20-%20Wheres-the-daddy-Executive-Summary.pdf>.
- Henz, U. and C. Mills (2017), *Social class origin and assortative mating in Britain, 1949-2010*. *Sociology*. ISSN 0038-0385.
- Hook, J. L. and C.M. Wolfe (2012), 'New fathers? Residential fathers' time with children in four countries' in *Journal of Family Issues*, 33(4), 415-450.
- Kiernan, K. (2016), *Fathers and Partners in Life Study: Groundwork, Outcomes and Lessons Report to the Nuffield Foundation*.
- Lynn, P. and M. Borkowska (2018), *Some Indicators of Sample Representativeness and Attrition Bias for BHPS and Understanding Society* (No. 2018-01). Understanding Society at the Institute for Social and Economic Research.
- Marsiglio, W., P.R. Amato, R.D. Day and M.E. Lamb (2000), 'Scholarship on fatherhood in the 1990s and beyond' in *Journal of Marriage and Family* 62(4):1173–1191. doi:10.1111/j.1741-3737.2000.01173.x.
- Martin, E. (2007), 'Strength of Attachment: Survey Coverage of People with Tenuous Ties to Residences' in *Demography* 44(2):427–440. doi:10.1353/dem.2007.0014.
- Patel, R., J. Griggs, A. Dunatchik, H. Jones, M. Callanan, R. Hudson (2016), *Survey of Child Maintenance Service Direct Pay Clients*, DWP Research Report No 931.
- Peacey, V. and J. Hunt (2008), *Problematic contact after separation and divorce? A national survey of parents*, London: One Parent Families/Gingerbread.
- Poole, E., S. Speight, M. O'Brien, S. Connolly, and M. Aldrich (2016), 'Who are non-resident fathers? A British Socio-Demographic Profile', *Journal of Social Policy*, volume 45, issue 2, pp223-50.
- Prady, S. and K. Kiernan (2013), *The concordance between mothers' and partners' responses in surveys*, York University Working Paper.
- Punton-Li, E., D. Finch and D. Burke (2012), *Separated families and child maintenance arrangements*, Great Britain.
- Rendall, M., L. Clarke, E. Peters, N. Ranjit and G. Verropoulou (1999), 'Incomplete Reporting of Men's Fertility in the United States and Britain: A Research Note' *Demography*, Vol. 36, No. 1 pp. 135-144.

- Roopnarine, J. and Z. Hossain (2013), 'African American and African Caribbean Fathers' in Cabrera, N. and C. Tamis-LeMonda, *Handbook of Father involvement*, Routledge.
- Sakardi, A., R. Kristiansson, F. Oberklaid and S. Bremberg (2008), 'Fathers' involvement and children's developmental outcomes', *Acta Paediatr*, 97:2, pp153-8.
- Speight, S., E. Poole, M. O'Brien, S. Connolly and M Aldrich (2013), *Modern Fatherhood: who are today's fathers?* <http://www.modernfatherhood.org/wp-content/uploads/2013/05/Pages-from-Who-are-todays-fathers.pdf>.
- Stykes, J. B., W.D. Manning and S.L. Brown (2013), 'Nonresident Fathers and Formal Child Support: Evidence from the CPS, NSFG, and SIPP', *Demographic Research*, 29: 46, 1299-1330.
- University of Essex. Institute for Social and Economic Research, NatCen Social Research, Kantar Public (2017), *Understanding Society: Waves 1-7, 2009-2016 and Harmonised BHPS: Waves 1-18, 1991-2009*. [data collection]. 9th Edition. UK Data Service. SN: 6614, <http://doi.org/10.5255/UKDA-SN-6614-10>.
- University of Essex. Institute for Social and Economic Research (2018), *Understanding Society: Innovation Panel, Waves 1-10, 2008-2017*. [data collection]. 9th Edition. UK Data Service. SN: 6849, <http://doi.org/10.5255/UKDA-SN-6849-10>.
- Wikeley, N., E. Ireland, C. Bryson and R. Smith (2008), *Relationship separation and child support study*. Department for Work and Pensions Research Report, (503).