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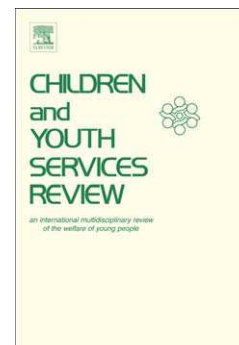
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The effect of social work use on the mental health outcomes of parents and the life satisfaction of children in Britain

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Abstract

This article examines how parental mental health, and in turn children's wellbeing is related to receiving social work interventions. Using data from the British Household Panel Study we examine factors predicting the likelihood of parental social work use; whether transitions into social work use is associated with an improvement of mental health outcomes of those parents who receive it; and whether parental social work use enhances their children's wellbeing. Taking advantage of panel data modelling techniques, we use random and fixed effects models to account for the unobserved individual characteristics. The findings indicate that poor health, disability, having more children in household, not being married and more than 35 hours of caring responsibilities are all associated with an increase in the likelihood of parental social work use. Furthermore we find that parents who use a social worker report worse mental health outcomes for themselves, and poorer wellbeing for their children, than those who do not. Possible explanations for these findings are discussed as well as implications for policy makers.

Key Words

Social work; mental health; children and families; wellbeing; British Household Panel Study; panel modelling techniques.

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Introduction

Social work is a central part of the welfare state's response to the most socially vulnerable individuals. Its aim is to protect people in need against adversity and to improve their quality of life. Research on social work in the UK is comparatively strong on reflecting service user experiences and the political and organisational contexts of service delivery, mostly using qualitative methods. Studies which measure outcomes, however, especially within experimental or quasi-experimental designs, are relatively rare in the UK, in contrast to the United States.

The international evidence on effectiveness is largely focussed on the results of quite specific interventions, whereas little is known about routine statutory social work use. There is also a paucity of quantitative research in the UK about how individuals and families who use social workers compare with the rest of the population. The aim of this paper is to identify the characteristics of parents who have made use of a social worker and how this use is associated with their mental health. Furthermore, we explore whether parental social work use enhances the life satisfaction of children in these families. Distinctively, this study capitalises on the longitudinal design of a general population panel survey to understand the impact of parental social work use on parents and their children within the household. The advantage of this approach is that it allows for direct comparison between those using and not using social work in terms of risk factors and associated outcomes. This paper makes an important contribution to the evidence base on routine social work contact through a dynamic and comparative exploration of the relationship between use of services, challenging family circumstances and mental health or life satisfaction outcomes.

Background

The Role and Impact of Social Work

We first look at the role and impact of social work, which is a profession with a generic qualification in the UK. The English Social Work Task Force reports (HM Government, 2009a; HM Government, 2009b) confirm that the role of social work is to protect individuals from harm and to promote security and social inclusion which can make a difference to the quality of the individual and their family's life.

Whereas some care services for adults, such as domiciliary care, are means-tested in England and Wales since the National Health Service and Community Care Act 1990, social work support is free at the point of use and funded by local taxation. Individuals and families might need social work support because they are made vulnerable by a wide range of problems, among them: change in family circumstances, bereavement, caring responsibility, challenges associated with aging, drug or alcohol abuse and difficulties as a result of disability. It may also be the case that some adults have not experienced any particular social problems but may have seen a social worker simply as a gateway to community care services.

Whilst the Task Force evidence affirms the importance of social work to society, it also notes that the consequences of social work intervention and the lack of it can be detrimental: "if outcomes are poor, if dependency becomes ingrained or harm goes unchecked, individuals, families, communities and the economy can pay a heavy price" (HM Government, 2009a, p1).

Risk Factors for Social Work Intervention

As noted above, parents with children may come into contact with social workers for a host of reasons, including individual, inter-personal, structural and environmental needs and

risks. To consider the wide range of challenging circumstances that might bring parents into contact with social work, we draw on Bronfenbrenner's (1979) ecological model, which describes the multiple and nested influences on human action. These influences include macro-level structural conditions such as parents' social class and education; meso-level influences such as family size and structure, household tenure and neighbourhood characteristics; and micro-level, individual factors, such as age, ethnicity, disability, marital and self-reported health status. All of these are considered within the analysis, both in relation to who receives social work service and in testing the association of social work use with mental health and life satisfaction outcomes. However the risk factors we use to estimate our models are limited by the data available.

Parental Mental Health and Children's Life Satisfaction

The expanding literature on happiness has focussed on a number of factors, including life satisfaction, wellbeing and mental health. These terms are often used interchangeably, which can lead to confusion and conflation (Seligman, 2002). To clarify for present purposes, Diener (1984) explains that the judgement that 'life is good' is a cognitive appraisal that constitutes life satisfaction, with life satisfaction being one component of subjective wellbeing. In turn, mental health, defined by Menninger (1930, p1) as "the adjustment of human beings to the world and to each other with a maximum of effectiveness and happiness" is an important condition for life satisfaction, and therefore for promoting wellbeing (Nelson *et al.* 2001). Our starting point is that it is reasonable to expect that the diverse challenging life circumstances or vulnerabilities that may be associated with social work use are also likely to be associated with increased mental health risks. Sociological research, for example, alerts us to the relationship, at the macro level, between socio-economic resources and mental

health outcomes (Reiker and Bird, 2000). It highlights that those with lower levels of educational attainment are more likely to report more mental health problems (e.g. Franks *et al.*, 2003) and, at the meso level, that financial strain has a significant detrimental effect on mental health (e.g. Bierman *et al.*, 2006). Associated with this, a number of studies have shown that employment status influences mental health difficulties, particularly unemployment can lead to poorer mental health outcomes (Dooley *et al.* 2000).

While it would be wholly unreasonable to expect that social work interventions could change the structural conditions that generate difficulty and distress, it is not unreasonable to expect that social work involvement, intended to prevent harm and improve quality of life and empower people to bring about change in their lives, might lead (either directly or indirectly through referral to other agencies) to some improvement of mental health and life satisfaction. It is also reasonable to expect that both parents' mental health *and* parents' social work use may have an impact on their children's life satisfaction. The association between parental mental health problems and poor outcomes for children has long been recognised (Rutter and Quinton, 1984). Larson and Almeida (1999) identified a contagion effect of negative emotions between members of the same family, finding that negative emotion transmits between spouses and, in the short term, their children. More recently Powdthavee and Vignoles (2008) found that there is a longer term effect on children's life satisfaction contingent on parents' mental health problems, with low life satisfaction for parents significantly predicting lower levels of life satisfaction for children one year later. Duncan and Reder (2000) highlight how parental mental health difficulties may impair or disrupt parenting ability and capacity for warmth, attentiveness, consistency and predictability. It is clearly very difficult to understand the causal mechanisms driving these effects. Westman and Vinokur (1998), for example, suggest they may be attributed both to shared internal

characteristics, such as personality traits and preferences, and shared external ones, such as social environment. The effects may also arise from direct transfer of stress and strain through empathy, or indirectly from interactions between family members.

In addition to the challenges of understanding the relationship between parents' mental health and children's subjective life satisfaction, there are some well recognised challenges with capturing these outcomes with any validity or reliability, not least with the assumption that people are able to assess their own experiences and rate them accurately on a single scale (Campbell, 1981). Some researchers have argued that since life satisfaction is a subjective phenomenon, self-report is the best way to measure it (see Diener *et al.*, 1999 for an in-depth discussion). However, self-report is also susceptible to multiple biases, including dependence on mood, the preceding questions and innumerable unobserved situational issues. Repeated measures seek to reduce the influence of these biases. For purposes of looking at the impact of social work use on mental health or subjective life satisfaction outcomes, there are also challenges of periodicity: impacts may take a long time to show themselves, and may not necessarily follow a linear trajectory – things can, for example, get worse before they get better.

The complexities of this field are acknowledged. Nonetheless, to summarise, there is a distinct lack of understanding of the antecedents of social work use or the impact of having a social worker on outcomes for service users. Furthermore, while previous research has identified a number of determinants of mental health and life satisfaction, relatively little attention has been paid to the influence of social work as one of the core social interventions that constitute the public and professional response to social need. For the first time in this field in the UK, in this paper we employ the nationally representative British Household Panel Survey (BHPS) to investigate if parental social work use is associated with improvement in

parents' mental health and in the life satisfaction of children. We do not hypothesise any specific mechanism for social work's effect on mental health. But on the basis of the research evidence cited above, we make the general assumption that parental mental health is a major predictor of children's wellbeing. We make a further assumption that effective social work which involves parents ought to help improve the mental health of parents and children.

Specifically we ask the following research questions:

1. Which structural, neighbourhood, familial and individual characteristics predict social work use?
2. Do parents using social work report improved mental health outcomes for themselves?
3. Do children with a parent who uses social work have improved life satisfaction?

Data

The BHPS began in 1991, consisting of 5,500 representative households and 10,300 individuals drawn from different areas of Great Britain. Each panel member is interviewed annually; the interviews begin on 1st September each year, with most interviews (85%) completed by the beginning of November. We make use of the first 6 years of the data to examine the effects of social work use, all variables which are included in the analysis are measured at every wave. We fully acknowledge that data from the early to mid-90s may seem dated, and we return in the conclusion to the possibilities and limitations for drawing direct policy implications for contemporary contexts. However, to the best of our knowledge, our work represents the first systematic use of cohort studies to examine routine social work use in the UK. In addition, this approach enables us to understand some of the underlying

mechanisms involved which can be investigated using other cohorts. This affords the opportunity of longitudinal analysis, without retrospective bias, to compare the characteristics and outcomes of those using social work with those who do not. The same opportunity is not available in the UK through use of administrative data, which, despite recent improvements of digitisation, are notoriously not systematically recorded, selective in the profiles they present, and do not offer individual-level comparison with the general population. Our analytical sample consists of parents of minors where both father and mother appear in all six of the specified waves ($n=6,857$), in order to create a balanced panel. The data are prepared in long format using Stata 13. First we merge the individual level data with the household level data, 20 observations are not matched and are therefore dropped. We then merge the partner's data to this file, by identifying shared children IDs (mothers and fathers in this analytical sample may live in separate households). This results in a sample comprising 13,472 individuals. Once matched we restrict the sample to those who appear at all 6 waves of the data, which represents 51% of parents with children under the age of eighteen in the sample, resulting in $N=6,857$. We run the analysis on both the balanced and unbalanced panel for these 6 years as a robustness check and find that the estimates do not substantively differ, therefore selection is considered random, reducing the risk of selection bias. However we report only the balanced panel results in the main text because although the N is smaller, it captures the effect of social work contact on the same individual in every time period, which reduces the noise introduced by individual heterogeneity. The unbalanced panel sample descriptive statistics are reported in Appendix 1 and the modelling results using the full sample are reported in Appendix 2 and 3.

The sample includes only individuals who are parents of children under eighteen (whether the child is in the same household or not) and the models treat mothers and fathers'

reports of social work use and mental health outcomes separately. The BHPS also allows us to identify the parents' report of the life satisfaction of their children in the household under the age of sixteen from wave 4 onwards. This enables us to identify if there is an effect of either parent using a social worker on children's life satisfaction. We apply appropriate individual weights using the latest wave of the data in our analysis in accordance with the guidance in the BHPS user guide (Taylor *et al.* 2010: p.197). To summarise, we make use of 3 dependent variables for the analysis: (1) social work use; (2) parental mental health as measured by the General Health Questionnaire; and (3) children's life satisfaction. These are discussed in depth in the next section. The underlying theoretical assumption is that, because of the interdependence of family relationships, social work use by the parent could affect both parent and child mental health, even if that child is not currently living within the household. However, different individuals could be affected differently, hence effects are modelled at the individual level.

Dependent Variables

At every annual wave adults in households are asked the following question: "*Here is a list of some health and welfare services. Have you yourself made use of any of these services since Sept 1st last year? Health visitor; home help; meals on wheels; social worker; other service.*" This generates a somewhat crude, binary measure of social work use, with evident limitations that must be acknowledged. Firstly, it tells us nothing of the purpose or nature of social work intervention. This might have been to help with parenting or perhaps for some other need not related to parental status, such as physical or mental illness, disability or learning difficulties, though the question refers to 'you yourself,' it is possible that the parent's use of social work was indirect, for example as carer of a child or grandparent

directly receiving a service. Social work intervention might also have been voluntarily sought out or imposed. The latter, especially if linked to child protection concerns, might in itself, explain any negative effect on parental mental health. However this is probably unlikely since parents were asked whether they had ‘made use of’ rather than ‘received’ social work services. The measure also does not capture the intensity of social work use: we do know whether it was repeated from one year to the next, but not how extensive or limited it was within each period. Further challenges are that the measure may also be subject to reporting biases or misattribution. This could be because of perceived stigma around social work use, or simply due to confusion about the term ‘social worker’ which might be confused with allied professions or ‘social care’ staff without professional qualifications. Unlike in the field of education research, unfortunately data linkage is in its infancy in the UK social work field and there are no administrative data to verify the social work use variable. Thus this variable has its limitations; nonetheless, it is the best we have.

The measure used for mental health is the twelve-item General Health Questionnaire (GHQ-12) which is a derived variable in the BHPS dataset. It captures parents’ self-reports of their current, relative to their normal, psychological state (Goldberg and Williams, 1988). Reduced from an original sixty-item version, the GHQ-12 is the most extensively used screening instrument for common mental disorders and as general measure of psychiatric well-being. Items include: ability to concentrate; loss of sleep; playing a useful role; feeling constantly under strain; capable of making decisions; problems over coming difficulties; enjoying day to day activities; ability to face problems; feeling unhappy or depressed; losing confidence; belief in self-worth; and general happiness. Each item is rated on a 4-point Likert scale which captures respondents’ experience of these items running from 0-3 (never-always). These scores are then added up and rescaled from thirty-six into a single indicator, running

from zero to twelve, where twelve denotes self-reported concerns on all twelve measures (high levels of mental health concerns) and zero denotes no concerns. Although sometimes considered uni-dimensional (Corti, 1994), factor analyses of the GHQ-12 with diverse populations have confirmed the existence of at least two factors, with three-factor models such as Anxiety and Depression, Social Dysfunction and Loss of Confidence as proposed by Graetz (1991), or Social Dysfunction, Anxiety and Self-esteem as proposed by Picardi et al. (2001), have been well replicated. The validity of the GHQ has also been called into question, either on grounds that increasing familiarity over time with the instrument and its repeated measures may result in respondents conforming and providing socially desirable answers, or, conversely, as their understanding of the questionnaire and comfort with completing it improves, so might its sensitivity to pick up difficulties. However Pevalin (2000) has identified, using the BHPS data from 1991-1997, that there is no evidence of retest effects of the GHQ and has therefore concluded that it is a reliable instrument. As a screening instrument, the GHQ is not intended to pinpoint the clinical significance of a specific rise or drop in score and cannot be used for this purpose. However it is well suited for long-term studies requiring an indicator of stability or change in minor psychiatric morbidity.

The child's life satisfaction measures come from waves 4, 5 and 6, which capture parents' perception of their children's satisfaction with life ("is the x youth happy with life as whole?"). The question is asked in relation to the youngest, the second youngest and third youngest children in the household, with responses rated on an ordinal scale: 1 completely happy; 2 moderately happy; 3 happy; 4 neither happy nor unhappy; 5 unhappy; 6 moderately unhappy; 7 completely unhappy. In order to check the internal validity of the parents' reports, we use the BHPS youth questionnaire, which asks children aged eleven to fifteen questions relating to their quality of life, values and experiences of school and the home environment.

For present purposes the youth questionnaire itself could not be used to measure children's self-reported life satisfaction, as the number of children in the sample aged eleven to fifteen years who have one or other parent with social work use is small (only 7 out of 256 would appear in a balanced panel from the youth questionnaire). Nonetheless, these data enable us to conduct a test of internal validity for parent's report of their child's life satisfaction. We tested if mothers' or fathers' reports of their children's wellbeing match with the young person's own self-report. We found that the father's report is more strongly correlated with the young person's self-report (0.26, $p < 0.05$) compared with the mother's report (0.16, $p < 0.05$). Therefore we use father's report of children's life satisfaction as our third dependent variable. Although our measure for children's life satisfaction is far from ideal, because it is based on father's reports of an already complex and uncertain variable, we believe it is important to maximise the household-level influence of social work use especially given that the BHPS enables us to do so.

Independent variables

As discussed earlier, we draw on Bronfenbrenner's ecological model which identifies structural, neighbourhood, familial and individual characteristics, grouping variables under each heading as follows.

Structural characteristics: (1) Social class has nine categories: higher service class (reference category), lower service class, routine non manual, small proprietors, farmers, foreman, skilled manual labour, semi/unskilled manual and agricultural worker. (2) Highest level of education achieved: higher degree (reference category), first degree, Higher National Diploma/Certificate (HND/C: vocational qualification), Advanced Level (upper secondary qualification taken at age eighteen), Ordinary Level (secondary school leaving exam taken at

age sixteen), Certificate of Secondary Education (a qualification lower than O Levels) and none.

Neighbourhood characteristics: (1) Country of residence, dummy variables are used for Scotland, Wales and England (reference category); (2) Whether respondents like the neighbourhood or not; and (3) whether they would like to move out of their neighbourhood or not.

Family characteristics: (1) household tenure has categories for mortgage (reference category), rented, rent free, shared ownership and other; (2) Self-assessment of own financial situation, with categories of comfortable (reference category), doing alright, getting by, quite difficult and very difficult; (3) Family size is measured by the number of children in the home; (4) Whether the household contains children are under the age of sixteen; (5) Whether respondents have caring responsibility: no caring responsibility (reference category), less than 35 hours, more than 35 hours and varies; and (6) Marital status is coded in six dummy variables: married (reference category), cohabiting, widowed, divorced, separated and never been married.

Individual characteristics: (1) Self-reported general health: excellent, good, fair, poor and very poor; (2) Gender; (3) A dummy variable was coded for disability status; (4) Ethnicity: Black, Indian, Pakistani, Bangladeshi, Chinese, Other and White (reference category); and (5) birth cohort: the most recent cohort (1961-1975) is set as the reference category and the other categories being 1941-1960, 1921-1940 and 1891-1920.

Missing Data

Observations are included in the analytic models when the dependent variables have no missing data. However, some independent variables also suffer from item non-response

(Appendix 1). Rosenbaum and Rubin (1983) have recommended including an additional “missing” category for each covariate, which balances the observed pattern of missing values in relation to the observed values using large samples. Therefore, in order to avoid dropping cases with missing or unknown information on background variables, dummy variables were constructed to identify when the information was missing. The main advantages of this approach are avoiding the loss of statistical power due to reduced N, capitalizing on the information present, and reducing bias (Rosenbaum & Rubin, 1983).

Modelling panel data

To investigate the relationship between social work use and mental health outcomes, we take advantage of longitudinal data and panel techniques. The relationship between social work use and self-reported mental health outcomes is a complicated one, as the reasons why the individual may need a social worker in the first place may be related, directly or indirectly, to mental health issues. This kind of indication or selection bias is particularly common in the social work service population given their severe vulnerability. By making use of fixed or random effects models we can reduce this bias. Fixed effects and random effects models are widely adopted for their abilities in ameliorating problems of misspecification and unobservable heterogeneity. There are alternative methods which may also be suitable for analysis of this sort, such as structural equation modelling or propensity score matching, but we believe that panel modelling techniques is important to maximise the utility of the rich longitudinal data.

Fixed Effects Models

Fixed effects models focus on the within-individual variation, meaning that they use the individual as their own control and ignore the between-individual variation (Allison, 2009). By restricting the analysis to within-person variation, we reduce the bias caused by the correlation between unmeasured individual characteristics and the outcome of interest. Unobserved stable effects relating to the individual, such as gender or ethnicity, are taken into account in the models, but are not directly measured in the form of coefficients. The model estimates a regression for every person with social work use and the estimator is the mean of all of the individual slopes and the within-individual logic allows us to see the effects of before and after an intervention or change. To put it another way, the fixed effects model allows us to compare effects over time within individuals.

Random Effects Models

The random effects model is similar to the fixed effects model in that it controls for the unobservable characteristics that do not change over time for an individual. It differs in that this method enables time-invariant variables to be measured in the form of a coefficient. Furthermore, the random effects model allows us to take into account parents' underlying individual characteristics, meaning that the effect is measured by comparing the differences between different individuals and within the same individuals. The random effects estimator is the weighted average of the between group and within group estimates (the fixed effects estimates). The main advantage of the random effects model is that it is more efficient and has less sampling variability than fixed effects methods.

Following standard convention, we use the Hausman test to test the assumption of independence. The results indicate that for models predicting parental mental health, the fixed effects model is more appropriate (for the Hausman test the null hypothesis is that the random

effects model is preferred; in this case we reject this hypothesis as the p-value is <0.01). We therefore model time-variant characteristics controlling for the time-invariant characteristics. The coefficients for a fixed effects model estimate the change within individuals over time, so warrant the interpretation “as social work use varies in time by one unit, mental health increases/decreases by X units”. For models predicting children’s life satisfaction and the probability of receiving social work, the random effects model is the most appropriate (Hausman test: p-value 0.48) and therefore we can examine the effects of both time-variant and time-invariant characteristics. The interpretation of the coefficients for the random effects models is similar to that for the fixed effects model.

Results

Longitudinal patterns

We first consider the descriptive patterns in the longitudinal data. The percentage of the population using social work ranges between 1.5% and 2% for 1991-1996 (Table 1). Some respondents in the dataset used a social worker more than once over the period under examination (Table 2). We refer to this as ‘repeated’ social work use, but it is important to note that we do not know whether this indicates repeated episodic contacts, such as crisis interventions, or continuous, sustained social work involvement over time. Two hundred and sixty-six people report having social work contact at 1 wave (3.88%). In line with expectations, as the number of contacts increases, the proportion decreases, with only six people (0.09%) in the sample reporting having social work contact over all 6 waves.

Table 1. Proportion of Analytical Sample who have Social Work Contact by Wave

	One	Two	Three	Four	Five	Six
Social worker mentioned	1.52%	1.41%	1.56%	1.75%	1.82%	2.04%
Total	6,857	6,857	6,857	6,857	6,857	6,857

Table 2. Frequency of Social Work Contact

	Once	Twice	3 times	4 times	5 times	6 times
Social worker mentioned	3.88%	1.36%	0.63%	0.16%	0.15%	0.09%
Total	6,857	6,857	6,857	6,857	6,857	6,857

Longitudinal data analysis

Which structural, neighbourhood, familial and individual characteristics predict social work use?

The results of the random effects model predicting social work use in the previous twelve months over the 6-year period of this study are presented in Table 3. The results are in the form of odds ratios, with only the significant independent variables ($p < 0.05$) reported.

Table 3: Random Effects Logistic Regression Model Predicting Parents' Social Work Use

Title: Reference Category	Variable	OR	SE
<i>Neighbourhood: Likes neighbourhood</i>	Does not like neighbourhood	1.34	(0.23)
<i>Household tenure: Own/Mortgage</i>	Shared ownership	0.86	(0.80)
	Rented	1.66***	(0.24)
	Rent free	0.75	(0.38)
	Other	1.02	(0.00)
<i>Number of children in household: One</i>	No children in household	0.59*	(0.13)
	Two children in household	1.38	(0.29)
	Three children in household	1.81*	(0.49)
	Four or more children in household	3.70**	(1.55)
<i>Caring responsibility: No caring resp.</i>	Under 35 hours a week	0.83	(0.16)
	Over 35 hours a week	2.33***	(0.56)
	Varies	2.10	(1.17)
<i>Marital status: Married</i>	Cohabiting	1.75*	(0.45)
	Widowed	2.46***	(0.54)
	Divorced	2.41***	(0.64)
	Separated	2.30*	(0.86)
	Never married	2.47***	(0.54)
<i>Self-reported health: Excellent</i>	Good health	1.76**	(0.34)
	Fair health	3.07***	(0.64)
	Poor health	7.18***	(1.62)
	Very poor	13.69***	(3.66)
<i>Disability status: Not disabled</i>	Disabled	5.85***	(0.95)
<i>Gender: Female</i>	Male	0.66**	(0.10)
<i>Age: Ref. 1961-1975</i>	1941-1960	0.96	(0.19)
	1920-1940	0.60	(0.16)
	1891-1920	2.11*	(0.63)
	Constant	3.98***	(0.38)
	Observations	40,408	
	Number of individuals	6,857	
	Log likelihood	-2475	
	DF	63	
	Chi2	685.0	

*** p<0.001, ** p<0.01, * p<0.05

Source: BHPS 1991-1996

Controlling for: Country of residence, like to move out of neighbourhood, educational attainment, subjective income, presence of children under sixteen, social class and ethnicity.

Table 3 demonstrates evidence of a positive association between having a disability and social work use. Additionally poor self-reported health is positively associated with social work use. Relative to owner-occupiers, those who rent have significantly higher odds of using

a social worker. Having no children in the home reduces the odds of social work use relative to having one child in the home; those with three or more children in the home have higher odds of using a social worker. A caring responsibility of over thirty-five hours per week increases the odds of social work contact. Marital status too appears to be a significant predictor of social work use; relative to married couples, those who are cohabiting, widowed, divorced, separated or never married record higher odds. Older cohort members have higher odds of reporting social work use and so too do women. In summary, the evidence suggests that there are systematic structural, neighbourhood, familial and some specific individual differences predicting social work use over 6 years. As noted, this model does not account for time variant unobserved characteristics, so we are unable to measure risks such as alcohol or drug use due to data limitations.

Do parents using social work report improved mental health outcomes?

Turning to mental health, we use a fixed effects model to estimate the effect of social work use on parents' GHQ scores. Since the GHQ-12 scale runs from zero to twelve, with ascending scores for increased self-reported mental health concerns, a positive coefficient means an increase in the number of mental health issues and worse mental health. The coefficients in fixed effects models represent the average changes in GHQ scores *within* individuals before and after social work use, but only for those who experienced change.

Table 4 shows that respondents who report using a social worker see an increase by a little more than half a point on the GHQ scale (0.53**), suggesting that social work use may be associated with worsened self-reported mental health outcomes on average. The coefficient is small in magnitude but is significant. Using a fixed effects model allows us to identify the before and after effects of social work use. There is no evidence that parents who use a social

worker report having fewer mental health difficulties over time on average. In fact the opposite is true; those who use a social worker see an increase in risk for mental health difficulties by a little over half a point of GHQ score on a scale of zero to twelve. One possible explanation for this finding is that the social work use variable is a ‘noisy’ measure and may be acting as a proxy for time variant unobserved adversities such as family conflict which may be driving this association.

Table 4. Fixed Effects Linear Regression Models Predicting Parents’ Mental Health Outcomes (GHQ)

Reference Category	Variable	β	SE
<i>Social Work Use: No social work</i>	Social work use	0.53***	(0.11)
<i>Neighbourhood: Would like to move</i>	Would not like to move	-0.12***	(0.03)
<i>Neighbourhood: Does not like neighbourhood</i>	Likes neighbourhood	-0.25***	(0.06)
<i>Subjective income: Comfortable</i>	Doing alright	0.05	(0.04)
	Getting by	0.41***	(0.04)
	Quite difficult	1.33***	(0.06)
	Very difficult	2.30***	(0.08)
<i>Age of children: Children over 16</i>	Children under 16	0.19**	(0.07)
<i>Number of children in the household: One child</i>	No children in household	0.04	(0.06)
	Two children in hh	-0.18**	(0.07)
	Three children in hh	-0.15	(0.11)
	Four or more children in hh	-0.45*	(0.23)
<i>Caring responsibility: Ref. No caring resp</i>	Under 35 hours a week	0.03	(0.05)
	Over 35 hours a week	0.24*	(0.10)
	Varies	0.33	(0.18)
<i>Marital status: Married</i>	Cohabiting	0.07	(0.09)
	Widowed	1.45***	(0.14)
	Divorced	0.59***	(0.13)
	Separated	1.15***	(0.14)
	New married	0.11	(0.11)
<i>Self-reported health: Excellent</i>	Good health	0.18***	(0.04)
	Fair health	0.67***	(0.05)
	Poor health	1.79***	(0.07)
	Very poor	2.51***	(0.12)
	Constant	0.68*	(0.34)
	Observations	39,497	
	Number of individuals	6,857	
	Log likelihood	-81686	

*** p<0.001, ** p<0.01, * p<0.05

Source: BHPS 1991-1996

Controlling for: wave, country of residence; class; education; household tenure; single parent and disability status.

Some of the other coefficients in Table 4 are also worth noting at this point as they support previous findings. Parents with children under the age of sixteen report an increase in mental health problems compared with parents with children over sixteen. We find that relationship status is also important; more specifically, those parents who are widowed, divorced or separated have significantly more mental health concerns compared with married parents. Having a caring responsibility of over thirty-five hours per week is significantly associated with poorer mental health outcomes, while having positive perceptions of the neighbourhood improves mental health. Finally, those who report poor physical health have increased odds of having poor mental health.

Do children with a parent who uses social work have improved life satisfaction?

Our third and final aim in this paper is to assess the effects of parental social work use on their children's life satisfaction. This is measured on a scale of 1 to 7, with 1 being completely happy and 7 being completely unhappy, therefore a positive coefficient represents a reduction in children's life satisfaction, as perceived by their father. The random effects model is identified as the most appropriate by the Hausman test for this outcome. In addition to structural, neighbourhood, familial and individual characteristics, the model controls for parental mental health to account for the possibility that parents with greater mental health difficulties may make more negative attributions when reporting their children's life satisfaction (Seligman, 2002).

The results shown in Table 5 suggest that use of social work by either parent in the previous twelve months is associated with lower life satisfaction for the child (0.43*). Fathers' poor general health and mental health is associated with lower child's life satisfaction. Counter-intuitively, perhaps, relative to those from a higher service class

background, children with lower service class background, whose parents include personal services workers, foreman/technicians and semi and unskilled workers, have higher life satisfaction. Fathers' reports of their children's life satisfaction are more positive as the number of siblings increase, although this isn't strictly linear.

In summary there is some evidence that parental social work use is associated with poorer reports of child life satisfaction, the size of the effect being 0.43 on a 7-point scale.

Table 5. Random Effects Linear Regression Models Predicting Children's Life Satisfaction.

Reference Category	Variable	β	SE
<i>No parental social work contact</i>	Parental social work contact	0.43*	(0.20)
<i>Father's report of Class: Higher Service class</i>	Lower service class	-0.21**	(0.08)
	Routine non-manual	-0.22*	(0.09)
	Personal services workers	-0.29**	(0.10)
	Small proprietors	-0.09	(0.10)
	Farmers	-0.33	(0.29)
	Foreman/Technicians	-0.24*	(0.11)
	Skilled manual	-0.12	(0.12)
	Semi/unskilled	-0.28**	(0.10)
	Agricultural workers	-0.14	(0.35)
<i>No. of children in household: One</i>	Two children	-0.22***	(0.05)
	Three children	-0.16*	(0.07)
	Four or more children	-0.31*	(0.13)
<i>Self-reported health of father: Excellent</i>	Good health	0.12*	(0.05)
	Fair health	0.13	(0.07)
	Poor health	0.26*	(0.12)
	Very poor	0.22	(0.27)
<i>Father's Mental Health (linear 0-12)</i>	Parental mental health	0.02**	(0.01)
	Constant	2.15***	(0.18)
	Observations	2,766	
	Number of individuals	922	
	Chi2	99.50	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Source: BHPS 1994-1996

Sample based on father's responses to children's wellbeing questions in Waves 4-6. Model controlling for [father's report of]: Wave, Country of residence, like neighbourhood, like to move, parental education, subjective income, household tenure, marital status, single parent, caring responsibility and disability status.

Discussion

Despite the limitations of the measure of social work use on which this study is based, our findings nonetheless tell us more than has previously been known about the profile of parents using social work in Great Britain, and the outcomes for them and their children.

We find evidence that parents who use social workers are made vulnerable by challenging family circumstances, in particular having poorer self-reported health, heavy caring responsibilities, and being disabled. They are also less likely to be married. In addition, there is some evidence of resource dilution as a result of more children in the home, with this associated with an increase of social work use. Household tenure is also significant, where parents who rent yield higher odds of reporting social work use, which may indicate some financial insecurity. These findings identify systematic differences in the structural, neighbourhood, familial and individual characteristics between those who use a social worker and those who do not.

Furthermore the results indicate that parents who use a social worker see an increase by a little more than half a point on the GHQ twelve point scale (0.53**), which is a small but significant reduction in mental health. The random and fixed effects modelling techniques mean this is unlikely simply to be a circular finding, i.e. that parents who have worse mental health in the first place are more likely to need social workers. The finding is therefore an important and perplexing one. It may be that people's mental health outcomes take some time to stabilise after the events that precede social work contact, presenting an opportunity for future research. Alternatively it may be that individuals who receive social work support take longer to adjust to the stress, have different exposure to stress or are more vulnerable to stress, either as a result of the social work contact or as a result of their challenging circumstances. Linked to this, it is possible that an increase in reliance in social services actually reduces

parents' resilience through the process of learned helplessness (Seligman, 1975).

Alternatively, or in addition, it may be that what we are capturing is the stigma of social work use is driving poorer mental health. If this speculation were to be accurate, it may lend support to recommendation of more concerted efforts to empower service users to reduce some of the negative effects of these interventions (Nelson, *et al*, 2001). Empowerment is an approach much referenced at a rhetorical level in social work textbooks and social work education, but perhaps there is need for the development of more specific evidence-informed empowerment practices. It may be that rather than using effective ways of helping individuals social workers are preoccupied by more bureaucratic and managerial concerns (Postle, 2001).

As noted, panel modelling techniques reduce biases by accounting for time-invariant characteristics. However there remains a possibility that time-variant characteristics which are not included in the model may explain the difference in outcomes for those who make use of a social worker. Time-variant characteristics might include, for example, fluctuating *quality* of relationships with partners and children or an exogenous shock, such as a policy change, which impacts on the individuals differentially. A further limitation of the study which needs to be re-emphasised is the crude binary measure of social work use, which not only relies on self-report in a potentially stigmatising area, but also gives us few clues about the intensity, purpose or method of social work involved. It is not clear whether the social work contact was sought out or imposed, although the wording 'made use of' would probably not be taken as referring to non-voluntary contact. It may well be, given the service broker role of statutory social workers in Britain, that time spent with a case worker was only a minor part of any help received, but that seeing a social worker made other support services available. Although parents were asked whether 'you yourself' have used a social worker we cannot be certain that they were the direct rather than the indirect recipient of a service provided, for example,

as carer for a grandparent or a child receiving social work support within the family. We have hypothesised, however, that any social work use that involves the parent ought to have a positive effect on parents and children.

In fact, in addition to the negative effect on parental mental health our results suggest that parental social work use in the previous twelve months is associated with lower life satisfaction in children. There may be a number of explanations for this. Social work use may have a direct effect on children's life satisfaction as a result of the shared environment and experiences, that is, children responding to the same stresses as parents. Alternatively it may be operating indirectly through the change in parents' behaviour and capacity to demonstrate warmth, attentiveness, consistency or even temperedness, as a result of these stressors. Future research which takes advantage of methodological advances could examine causal pathways further. There may be similar adaptive processes taking place for children as for their parents. This encourages us to recommend an integrative approach for social work interventions which takes into account the wellbeing of the whole family.

Conclusion

In this paper, we use longitudinal data and panel data modelling techniques in an attempt to identify the antecedents of social work use and examine the effects of social work use on parents' self-reported mental health and children's life satisfaction. We recognise that our measure of social work use is relatively crude. Furthermore these data are drawn from 1991-96. This was the period during which the Children Act 1989 and the NHS and Community Care Act, 1990 came into force; both have remained the legislative cornerstone for social work policy and practice since. Nonetheless, under New Labour and then the Coalition Government the policy terrain has shifted, not least with introduction of

'personalisation' in adult social care, the separation of adults' from children's services, widened attention to vulnerable children alongside increased rates of statutory intervention in child protection, and increased bureaucratisation of the social work role, distancing it from direct practice. Our findings cannot therefore be extrapolated directly into policy implications for today. However they do offer us a critical lens through which to raise questions about current policy and practice and their effectiveness.

A complex modelling strategy, which takes into account key variables and individual heterogeneity, provides some evidence that social work use worsens, rather than improves, parents' reports of their own mental health and their report of their children's life satisfaction, albeit slightly. We have offered a number of possible explanations for these findings. Future research can establish a greater understanding of these causal pathways. However, among the suggested implications of our findings for contemporary policy and practice, we have suggested that a more integrative approach to case work, allowing practitioners to consider the needs of parents and children together, may well be beneficial. In 1991, when households were first recruited to BHPS, social services in Britain were typically delivered within separate departments for children and adults. Since the Children Act 2004 there has been an even clearer separation of children's and adults' services in England and some influential voices, such as the Government advisor Martin Narey, argue for greater separation in the training of social workers (Stevenson, 2015). Other UK nations take a different approach; for example the Social Services and Well-being Act 2014 in Wales aspires to seamless social care across the life-course. Our findings suggesting that children's life satisfaction is reduced when parents (who tend to be ill, disabled or have caring responsibilities) use social workers, arguably support better integration of social work specialisms and a generic rather than a divided profession.

The UK has unrivalled longitudinal data for health, education and labour market research which inform relevant policies and practices in these areas. Our study has begun to capitalise on these rich data sets for social work research. However, the paucity of social work variables in population level studies is severely limiting. In order to understand the pattern, nature and intensity of social work intervention, we call for better data collection in these nationally representative cohort studies and linkage to routine administrative data. It is important that we develop better ways of identifying the effectiveness of routine social work use and the mechanisms which drive the associated outcomes.

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ACCEPTED MANUSCRIPT

Appendices**Appendix 1**

Descriptive statistics of family characteristics by social work, column %/mean values

Variable	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	ALL	ALL
	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	Analytical Sample	Whole Sample
GHQ	3.37	3.87	4.39	4.34	3.94	4.26	4.01	4.14
<u>Neighbourhood</u>								
Likes neighbourhood	71.15	80.41	80.37	84.17	85.60	87.14	81.96	78.35
Does not like neighbourhood	21.15	15.46	18.69	13.33	14.40	10.71	15.30	17.41
Neither	7.69	4.12	0.93	2.50	0.00	2.14	2.74	4.16
<u>Would like to move</u>								
Would like to stay	47.12	56.70	54.21	51.67	64.00	64.29	56.85	55.97
Would like to move	45.19	38.14	44.86	44.17	34.40	31.43	39.25	38.95
Neither	7.69	5.15	0.93	4.14	1.60	4.29	3.90	5.09
<u>Social Class</u>								
Higher service	2.88	0.00	1.87	3.33	2.40	1.43	2.02	1.94
Lower service	2.88	2.06	3.74	4.17	5.60	2.14	3.46	2.78
Routine non-manual	3.85	3.09	3.74	3.33	2.40	2.86	3.17	3.15
Personal service workers	0.00	2.06	0.93	0.83	0.00	2.86	1.15	1.76
Small proprietors	3.85	2.06	2.80	5.00	3.20	2.14	3.17	2.50
Farmers	0.00	0.00	0.93	0.83	0.80	0.00	0.43	0.28
Foreman/Technicians	2.88	2.06	2.80	1.67	0.00	0.00	1.44	1.30
Skilled manual	0.96	1.03	0.00	0.00	0.00	0.00	0.29	0.65
Semi-unskilled	10.58	6.19	3.74	3.33	4.00	2.86	4.91	5.18
Agricultural	0.00	0.00	0.00	0.00	1.60	0.00	0.29	0.19
Other	72.12	81.44	79.44	77.50	80.00	85.71	79.65	80.30
<u>Parental Education</u>								
Higher degree	0.00	2.06	0.93	1.67	0.80	0.00	0.87	0.93
First degree	3.85	2.06	4.67	8.33	1.60	4.29	4.18	3.15
HND/HNC	0.00	2.06	0.00	0.83	3.20	2.86	1.59	2.50
A Level	6.73	8.25	9.35	7.50	10.40	8.57	8.51	8.79
O Level	27.88	13.40	18.69	20.00	20.00	17.14	19.48	18.04
CSE	8.65	8.25	7.48	3.33	4.80	5.00	6.06	5.64
No qualifications	46.15	59.79	57.94	56.67	56.80	60.71	56.57	56.61
Other	6.73	4.12	0.93	1.67	2.40	1.43	2.74	4.35
<u>Children</u>								
Children under 16	7.69	4.12	3.74	5.83	3.20	2.14	4.33	4.90
Number of children in the household	0.82	0.77	0.86	0.73	0.78	0.66	0.76	0.73

Continued overleaf.

Variable	Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	ALL Analytical Sample	ALL Whole Sample
Own/mortgage	43.27	41.24	42.99	47.50	44.00	54.29	46.03	43.11
Shared ownership	0.00	0.00	0.00	0.00	0.80	0.71	0.29	0.19
Rented	56.73	57.73	56.07	49.17	52.80	41.43	51.66	54.67
Rent free	0.00	1.03	0.93	1.67	1.60	1.43	1.15	0.93
Other	0.00	0.00	0.00	1.67	0.80	2.14	0.87	1.11
<u>Subjective income measure</u>								
Comfortable	6.73	16.49	10.28	19.17	15.20	25.00	16.02	15.73
Doing alright	17.31	11.34	27.10	24.17	23.20	24.29	21.65	22.29
Getting by	39.42	38.14	39.25	36.67	40.80	39.29	38.96	36.73
Quite difficult	16.35	13.40	12.15	13.33	15.20	6.43	12.55	12.40
Very difficult	13.46	14.43	11.21	5.00	5.60	5.00	8.66	9.07
Other	6.73	6.19	0.00	1.67	0.00	0.00	2.16	3.79
<u>Single Parent</u>	18.27	13.40	15.89	10.83	8.00	7.86	11.98	11.84
<u>Caring responsibility</u>								
No	85.58	81.45	85.05	86.66	84.81	83.57	84.56	87.05
Under 35 hours a week	7.69	8.25	9.35	9.17	7.20	6.43	7.94	7.31
Over 35 hours a week	4.81	9.28	4.67	4.17	7.20	9.29	6.64	4.90
Varies	1.92	1.03	0.93	0.00	0.80	0.71	0.87	0.74
<u>Marital status</u>								
Married	28.85	35.05	41.12	40.83	48.00	45.00	40.40	36.36
Cohabiting	10.58	7.22	7.48	7.50	3.20	3.57	6.35	7.40
Widowed	14.42	18.56	19.63	20.00	16.80	27.14	19.77	20.44
Divorced	11.54	12.37	7.48	6.67	11.20	10.71	9.96	8.79
Separated	2.88	3.09	2.80	5.00	0.80	2.14	2.74	3.24
Single	31.73	23.71	21.50	20.00	20.00	11.43	20.78	23.77
<u>Self-reported Health</u>								
Excellent	6.73	7.22	10.28	7.50	6.40	5.00	7.07	6.85
Good health	37.50	26.80	25.23	31.67	20.00	23.57	27.13	27.38
Fair health	26.92	36.08	22.43	25.83	31.20	26.43	27.99	27.47
Poor health	18.27	19.59	27.10	23.33	29.60	26.43	24.39	22.85
Very poor health	10.58	10.31	14.95	11.67	12.80	18.57	13.42	15.45
<u>Disabled</u>	24.04	31.96	26.17	30.00	36.00	39.29	31.75	29.97

Appendix 2.**Random Effects Logistic Regression Model Predicting Parents' Social Work Use Comparing Full Sample with Analytical Sample**

Reference Category	Variable	Analytical Sample		Full Sample	
		OR	SE	OR	SE
Neighbourhood: Likes neighbourhood	Does not like neighbourhood	1.34+	(0.23)	1.42*	(0.20)
Household tenure: Ref Own/Mortgage	Shared ownership	0.86	(0.80)	0.63	(0.57)
	Rented	1.66***	(0.24)	1.77***	(0.20)
	Rent free	0.75	(0.38)	0.51	(0.23)
	Other	1.02	(0.00)	0.47	(0.62)
Number of children in the household: Ref One child	No children in household	0.59*	(0.13)	0.56**	(0.10)
	Two children in household	1.38	(0.29)	1.36+	(0.24)
	Three children in household	1.81*	(0.49)	2.02**	(0.45)
	Four or more children in household	3.70**	(1.55)	4.81***	(1.53)
Caring responsibility: Ref. No caring resp	Under 35 hours a week	0.83	(0.16)	0.87	(0.14)
	Over 35 hours a week	2.33***	(0.56)	1.81**	(0.39)
	Varies	2.10	(1.17)	1.79	(0.86)
Marital status: Ref. Married	Cohabiting	1.75*	(0.45)	2.01***	(0.40)
	Widowed	2.46***	(0.54)	2.42***	(0.43)
	Divorced	2.41***	(0.64)	2.41***	(0.53)
	Separated	2.30*	(0.86)	3.12***	(0.90)
	New married	2.47***	(0.54)	2.73***	(0.48)
Self-reported health: Ref. Excellent	Good health	1.76**	(0.34)	1.71***	(0.27)
	Fair health	3.07***	(0.64)	2.97***	(0.50)
	Poor health	7.18***	(1.62)	6.90***	(1.25)
	Very poor	13.69***	(3.66)	15.74***	(3.34)
Disability status: Ref. Not disabled	Disabled	5.85***	(0.95)	5.37***	(0.72)
Gender: Ref. Female	Male	0.66**	(0.10)	0.73**	(0.09)
Age: Ref. 1961-1975	1941-1960	0.96	(0.19)	1.18	(0.19)
	1920-1940	0.60+	(0.16)	0.82	(0.18)
	1891-1920	2.11*	(0.63)	2.77***	(0.66)
	Constant	3.98***	(0.38)	4.04***	(0.33)
	Observations	40,408		53,729	
	Number of pid	6,857		12,393	
	Log likelihood	-2475		-3720	
	DF	63		63	
	Chi2	685.0		1013	

*** p<0.001, ** p<0.01, * p<0.05, + p<0.10

Controlling for: Country of residence, like to move out of neighbourhood, educational attainment, subjective income, presence of children under 16 and ethnicity.

Appendix 3. Fixed Effects Linear Regression Models Predicting Parents' Mental Health Outcomes (GHQ) Comparing Full Sample with Analytical Sample

Reference Category	Variable	Analytical Sample		Full Sample	
		β	SE	β	SE
No social work contact	Social work contact	0.53***	(0.11)	0.49***	(0.09)
Neighbourhood: Would like to move	Would not like to move	-0.12***	(0.03)	-0.12***	(0.03)
Neighbourhood: Likes neighbourhood	Does not like neighbourhood	0.25***	(0.06)	0.25***	(0.05)
Subjective income: Comfortable	Doing alright	0.05	(0.04)	0.03	(0.03)
	Getting by	0.41***	(0.04)	0.41***	(0.04)
	Quite difficult	1.33***	(0.06)	1.23***	(0.05)
	Very difficult	2.30***	(0.08)	2.12***	(0.07)
Age of children: Children over 16	Children under 16	0.19**	(0.07)	0.19**	(0.06)
Number of children in the household: Ref One child	No children in household	0.04	(0.06)	0.04	(0.05)
	Two children in household	-0.18**	(0.07)	-0.13*	(0.06)
	Three children in household	-0.15	(0.11)	-0.12	(0.10)
	Four or more children in household	-0.45*	(0.23)	-0.51*	(0.20)
Single status: Not single parent	Single parent	-0.18+	(0.11)	-0.12	(0.09)
Caring responsibility: Ref. No caring resp	Under 35 hours a week	0.03	(0.05)	0.04	(0.04)
	Over 35 hours a week	0.24*	(0.10)	0.23*	(0.09)
	Varies	0.33+	(0.18)	0.33*	(0.16)
Marital status: Married	Cohabiting	0.07	(0.09)	0.02	(0.08)
	Widowed	1.45***	(0.14)	1.37***	(0.13)
	Divorced	0.59***	(0.13)	0.53***	(0.12)
	Separated	1.15***	(0.14)	1.08***	(0.12)
	New married	0.11	(0.11)	0.08	(0.10)
Self-reported health: Excellent	Good health	0.18***	(0.04)	0.20***	(0.03)
	Fair health	0.67***	(0.05)	0.69***	(0.04)
	Poor health	1.79***	(0.07)	1.82***	(0.06)
	Very poor	2.51***	(0.12)	2.61***	(0.11)
	Constant	0.68*	(0.34)	1.06***	(0.30)
	Observations	39,497		54,107	
	Number of pid	6,823		12,967	
	Log likelihood	-81686		-109753	

Standard errors in parentheses

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, + $p < 0.10$

Controlling for: wave, country of residence; class; education; household tenure, single parent and disability status.

Highlights

- This study is one of the very first to use a British panel study for social work research.
- We examine the relationship between social work use and parental mental health.
- We also examine the link between parental social work use and children's wellbeing.
- Parental mental health and children's wellbeing deteriorate after social work use.
- Improved coverage of social work in cohort and panel studies is needed.

ACCEPTED MANUSCRIPT