

OECD Social, Employment and Migration Working Papers
No. 82

Child Well-Being and Sole-Parent Family Structure in the OECD: An Analysis

Simon Chapple

https://dx.doi.org/10.1787/225407362040

OECD

Unclassified **DELSA/ELSA/WD/SEM(2009)10**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **23-Mar-2009**

English text only

DIRECTORATE FOR EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS
EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS COMMITTEE

DELSA/ELSA/WD/SEM(2009)10
Unclassified

OECD SOCIAL, EMPLOYMENT AND MIGRATION WORKING PAPERS NO. 82

CHILD WELL-BEING AND SOLE-PARENT FAMILY STRUCTURE IN THE OECD: AN ANALYSIS

Simon Chapple

JEL Classification: J12; J13

All Social, Employment and Migration Working Papers are now available through OECD's Internet website at http://www.oecd.org/els/workingpapers

JT03261729

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

English text only

DIRECTORATE FOR EMPLOYMENT, LABOUR AND SOCIAL AFFAIRS

http://www.oecd.org/els

OECD SOCIAL, EMPLOYMENT AND MIGRATION WORKING PAPERS

http://www.oecd.org/els/workingpapers

This series is designed to make available to a wider readership selected labour market, social policy and migration studies prepared for use within the OECD. Authorship is usually collective, but principal writers are named. The papers are generally available only in their original language – English or French – with a summary in the other.

Comment on the series is welcome, and should be sent to the Directorate for Employment, Labour and Social Affairs, 2, rue André-Pascal, 75775 PARIS CEDEX 16, France.

The opinions expressed and arguments employed here are the responsibility of the author(s) and do not necessarily reflect those of the OECD

Applications for permission to reproduce or translate all or part of this material should be made to:

Head of Publications Service
OECD
2, rue André-Pascal
75775 Paris, CEDEX 16
France

Copyright OECD 2009

ACKNOWLEDGEMENTS

I am grateful to Professor Maria Bacikova-Sleskova for undertaking a special run of her Slovak data set for this study. I also thank Moira Wilson and Kay Goodger from the Ministry of Social Development in New Zealand, who provided me with time-series data on sole parenthood in New Zealand. I also thank my colleagues Mark Pearson and Willem Adema for their useful comments. The usual disclaimers apply.

SUMMARY

This paper addresses the causal impact of being raised in a sole-parent family on child well-being across the OECD. The question is answered by a cross-OECD meta-analysis and a literature review. The main findings are as follows.

There are widely varying rates of sole parenthood across the OECD. Rates of sole parenthood have generally been rising in the past few decades. Inevitably, countries with higher rates of sole parenthood are more concerned about the potential well-being effects on children. The reasons for sole parenthood include never having partnered, having separated and divorced, and being widowed. The composition of sole parents by these reasons varies widely across OECD countries. Views on the desirability of two-parent families for raising children are also divergent across the OECD.

The meta-analysis of 122 studies from a cross-section of OECD countries excluding the United States concludes the average negative effect of sole parenthood on child well-being is small, a finding broadly consistent with earlier meta-analyses which were based largely on United States studies. The better the quality of the study, the smaller is the effect size found. Effect sizes also differed across OECD countries, but it was not possible to link this systematically to differences in policies. However, to attribute a causal interpretation to this small effect size requires some strong additional assumptions.

Hence, the study turns to considering more sophisticated means of obtaining information on causality which require fewer strong identifying assumptions – fixed-effects-style studies, sibling models, differential exposure to divorce laws, parental death as a natural experiment, and behavioural-genetic approaches. The method is a traditional narrative literature review. These more sophisticated approaches generally, but not always, show a smaller effect of sole parenthood than more traditional methods, or even suggest no effect whatsoever. However, these methods are also based on some strong and often restrictive assumptions.

The overall conclusion is that the literature on the effects of sole parenthood on child well-being, while extensive and growing in sophistication, lacks a clear consensus on the existence of a causal effect. That any such effect is small is a conclusion which can be asserted with more confidence. There is enough in the literature to suggest policy makers should be concerned about the implications of family structure for child well-being. Policy makers should keep a close eye on social trends in terms of changes in family structure, as well as on the developing research literature on the impact of family structure on child well-being. However, there may not be enough in the literature yet, in the absence of extra-scientific priors, to advocate radical policy change, especially if levers to change family form are costly to undertake or uncertain in effect. What should be clear from this review is that this is an area of social science which is rapidly expanding. It may well be that in another decade research will cast a more certain light on the questions addressed here.

RESUME

Ce document examine l'impact de l'appartenance à une famille monoparentale sur le bien-être des enfants dans les pays de l'OCDE. Il marque l'aboutissement d'une méta-analyse et d'un examen des travaux publiés sur le sujet dans ces différents pays. En voici les principales conclusions.

Le taux de monoparentalité varie considérablement d'un pays de l'OCDE à l'autre. D'une manière générale, ce taux a augmenté au cours des toutes dernières décennies. Bien évidemment, les pays où ce taux est élevé se préoccupent plus que les autres des effets possibles de la monoparentalité sur les enfants en termes de bien-être. Les causes de monoparentalité incluent le fait de ne jamais avoir vécu en couple, la séparation, le divorce et le veuvage. C'est la raison pour laquelle la composition des familles monoparentales est extrêmement variable d'un pays de l'Organisation à l'autre. Sur le point de savoir s'il est souhaitable que les enfants soient élevés par leurs deux parents, les avis diffèrent également selon les pays.

La méta-analyse de 122 études de pays de l'OCDE hors États-Unis conclut qu'en moyenne, les effets préjudiciables de la monoparentalité sur le bien-être des enfants sont faibles, constat *grosso modo* conforme à celui de méta-analyses antérieures, fondées en grande partie sur des études américaines. Plus l'étude est de bonne qualité, plus la taille de l'effet constaté est faible. La taille des effets varie également d'un pays de l'Organisation à l'autre mais il n'a pas été possible de rattacher systématiquement ce phénomène à des différences de politique. Quoi qu'il en soit, si les effets sont faibles, toute interprétation de causalité doit impérativement s'appuyer sur des hypothèses solides.

L'étude s'oriente donc vers des techniques plus complexes d'obtention d'informations sur la causalité (exigeant des hypothèses d'identification solides mais en moins grand nombre), études du style « effets fixes », modélisation de fratries, différences d'exposition à la législation sur le divorce, décès d'un parent comme aléa naturel de la vie, et approches génétiques du comportement. La technique consiste en un examen des études narratives selon la méthode classique. Quand on passe aux méthodologies complexes, on voit généralement apparaître (quoique que ce ne soit pas systématique) des effets de la monoparentalité plus faibles que ceux révélés par les méthodes traditionnelles. Parfois même, elles semblent indiquer une absence totale d'effets. Pour autant, ces méthodologies s'appuient également sur des hypothèses solides, souvent restrictives.

Globalement, il apparaît que, même si les travaux publiés sont des études approfondies de plus en plus complexes, leurs auteurs sont loin de s'accorder sur l'existence de liens de causalité entre la monoparentalité et le bien-être des enfants. Ils admettent plus volontiers que, si effet il y a, celui-ci est faible. Nous avons donc de bonnes raisons de penser que les décideurs devraient s'intéresser aux implications de la structure familiale pour le bien-être des enfants, et qu'ils devraient suivre de près les tendances sociétales quant à l'évolution de la composition de la famille ainsi que les progrès des sciences sociales en matière d'étude de l'impact de la structure familiale sur le bien-être des enfants. Mais, en l'absence d'éléments d'appréciation extra-scientifiques, les travaux publiés ne semblent pas contenir d'arguments suffisants pour que l'on préconise des changements d'orientation radicaux, surtout si les mesures envisagées pour influer sur la structure familiale ont un coût important ou des effets incertains. Ce qu'il faut bien comprendre à l'issue de cet examen, c'est que nous avons abordé un domaine des sciences sociales où les progrès sont rapides. Il est fort probable que d'ici une dizaine d'années, les travaux de recherche permettront d'aborder les questions traitées dans ce document avec plus de certitudes.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS 3
SUMMARY 4
RESUME....5
INTRODUCTION....8
FAMILY STRUCTURE AND FAMILY VALUES ACROSS THE OECD....12
WHY SOLE FAMILY STRUCTURE MIGHT MATTER FOR FAMILY WELL-BEING....24
A CROSS-OECD META-ANALYSIS....25
LITERATURE REVIEW....34
Prospective studies and studies using repeated observations of the same child outcome 36
Sibling studies....39
Differential exposure to divorce laws....44
Parental death....48
Behavioural genetic approaches 52
Cross-OECD comparative approaches 53
GENERAL POLICY CONCLUSIONS....56
BIBLIOGRAPHY [BOLD REFERENCES ARE INCLUDED IN THE META-ANALYSIS] 60

Tables

Table 1: Children aged 15 with parents normally not living at home (percentage)....15
Table 2: Family structure across 25 OECD countries (Health Behaviour in School-aged Children Survey 2005/6)....16
Table 3: Changes in sole-parent families as a percentage of all families with children in select OECD countries....17
Table 4: Reasons for sole parenthood in selected OECD countries 18
Table 5: Family structure at first birth, 20-29 year old maternal cohort during the mid-1990s, percentage 19
Table 6: Relative distribution of all births 19
Table 7: Cumulative percentage ever out of union at for child at age 9 20
Table 8: Children with both biological parents....20
Table 9: Views on marriage relevance and necessity of two parents to raise a child 22
Table 10: Proportion disapproving of voluntary sole motherhood 23
Table 11: Effect sizes by country 29
Table 12: Effect sizes by estimation method 30
Table 13: Effect sizes by type of data set 30
Table 14: Effect sizes by outcome domain – A comparison with Amato (2000a) 31
Table 15: Effect sizes by outcome domain 31
Table 16: Effect sizes by age range 32
Table 17: Effect sizes by sex 32
Table 18: Sibling studies of the impact of sole-parent families on child outcomes (typically when they reach adolescence or adulthood) 42
Table 19: Divorce law changes and child wellbeing 46
Table 20: Parental death and child wellbeing 49

Figures

Figure 1: Effect sizes by country adjusted for compositional differences 33

Boxes

Box 1. What is meta-analysis? 25
Box 2: The effect of timing of exposure to family structure during childhood 35

INTRODUCTION

1. What is the causal impact of being in a sole-parent family structure on child well-being? This paper mixes a narrative literature review and meta-analysis to address this primary question. The question breaks down into two secondary ones. The first question is whether there is a casual effect on well-being of being bought up in a sole-parent family. The second is how large is the effect. The paper focuses on the impact of sole-parent family structure either on account of having never partnered or, alternatively, having separated or divorced. This review takes a strongly cross-country, cross-OECD perspective. The aim is to develop a piece of work which is accessible to and speaks to the interests of policy makers, whilst sacrificing the minimum of analytical rigour.

2. A mixed method has been chosen because narrative literature reviews and meta-analysis both have their strengths and weaknesses. By combining information derived from both methods, the primary and two secondary questions are considered in a more nuanced fashion.

3. The literature in the area of the impact of family structure on child well-being is huge. Reviewing a literature this size offers considerable challenges. Further challenges are offered by the fact that research on the impact of family structure on child well-being also straddles several disciplines, including economics, demography, sociology, and psychology.

4. In considering the impact of family structure on child well-being, a very wide variety of dimensions of family structure have been researched. However most of the research focus has been on sole parents (or divorce or separation) or step-families, on one hand, compared to intact cohabiting and legally married families on the other. Since it has been the primary policy concern in the OECD countries where it has been a social policy issue, this survey focuses primarily on whether being raised in a sole-parent family has an impact on child well-being, compared to being bought up with two biological parents in an intact family.

5. Issues of sole-parent family structure have also been on the political and policy agenda in some OECD countries. However, in order to consider these broader public policy issues in a well-rounded fashion and to consider possible policy responses, further research questions in addition to those posed by this paper need investigation. The survey will not consider the efficacy of policies to change family structure, nor will it consider social policy measures to compensate for any negative causal effects of different family structures. Such additional information is necessary to make evidence based policy in the area. These policy issues will be returned to briefly in the conclusion.

6. Child well-being, the outcome of focus in this review, has different dimensions. In the absence of a single, over-arching and generally accepted measure of well-being, child well-being is viewed here as multi-dimensional across a variety of outcome domains (Pollard and Lee 2003). Most typically, the measures available are measures of well-being deficits for children. The approach in the literature survey will be to use whatever measures of well-being are employed by researchers. Child well-being, as interpreted here, also has a strong inter-temporal or life cycle dimension. In considering the possible impacts of family structure, this review considers the well-being of children now, their future well-being as children and as independent adults.

7. Some researchers have remarked on the dominance of Anglophone research on the impact of family structure on child well-being, and questioned its generalisability to other OECD countries.[1] The point is well-taken. It is a motivation here to explore research from as many OECD countries as possible. That said, however, it remains true that research is dominated by researchers and data from the Anglophone OECD countries. There are a variety of possible reasons for this dominance, including the dominance of English language scientific publications, the greater perception of sole parenthood as a policy problem in Anglophone countries, and the stronger history of longitudinal data sets in those countries, data sets which are better suited to answering causal questions about the impacts of sole parenthood as well as measuring exposure over the child life cycle to such family structures.

8. There is a considerable amount of high quality primary United States research on the issue, as well as good literature syntheses and meta-analyses, Amato and Keith (1991) and Amato (2000a) being canonical examples of the latter. More recently the United States journal *The Future of Children* published a special issue on "Marriage and Child Well-being". This special issue covers a significant amount of the ground traversed by this paper. Thus a consideration of its conclusions and its strengths and weaknesses forms a very convenient jump-off point for a study on the wider OECD research. All papers in the issue are by United States academics and all focus on United States research literature and implications. A United States focus is unsurprising, since United States research is likely to be most directly relevant to inform to United States policy. Additionally, as already remarked, much of what is known about the impact of family structure on child well-being comes from the United States, although the relative preponderance of United States research is declining (Ermisch and Francesconi 2001, p. 251).

9. The *Future of Children* issue nicely contextualises recent United States debates about family, family structure, and its effects on children. Frequently the perception of those outside the United States is that the pro-marriage line is driven by conservative religious forces. The reality is rather more complex. According to the special issue at least, a broad spectrum of American society appears supportive of marriage – a particular form of two-parent family structure – to support child well-being (Nock 2005). The editors of the special issue make it clear that they believe the United States research evidence supports a broad consensus view that *"children benefit [on a variety of dimensions of well-being] from growing up with two married biological parents"* (p. 8). The United States consensus, at least according to the *Future of Children*, is that certain family structures – in particular sole-parent families – can have negative effects on child well-being. However, the editors also point out that there is considerable disagreement about appropriate policy responses within the broad consensus spectrum to the identified problem.

10. There are two papers in this collection of particular interest to this review. The first, by Thomas and Sawhill, considers the impact of family structure in terms of legally married, cohabiting

1. For example:

> "*Despite the wealth of literature on the intergenerational effects of parental divorce, this research is mostly done in countries with a strong protestant history and culture, where divorce has long been a possibility in the majority of these states; furthermore it is particularly concentrated on Anglo-Saxon countries…Thus analysing the intergenerational effects for non-Anglo-Saxon countries may be fruitful, in order to avoid generalisations based on just a few, not necessarily representative, Anglo-Saxon societies*" (Bukodi and Dronkers 2003, p. 3).

and;

> *"Most of what we know about the impact of family structure on later-life attainments comes from the large number of studies for the United States, supplemented by a few studies for Britain, Canada, France and Sweden"* (Francesconi, Jenkins and Siedler 2005, p. 7).

and sole-parent households, on the economic well-being of children. The second, by Amato, considers the impact of family structure on cognitive, social and emotional functioning of children.

11. In terms of economic well-being (equivalised after tax income) Thomas and Sawhill (2005) conclude that children in married households fare better in terms of income than children in cohabiting couples who in turn fare better than children in lone parent households, at least in the United States. While acknowledging that the relationship between family structure and child economic well-being may not be causal, Thomas and Sawhill conclude that a significant amount of it is caused by sole parenthood. Thomas and Sawhill also argue that "[t]he availability of child support for single-parent families and the marriage penalties in the tax and transfer system reduce but rarely completely offset the economic benefits of marriage" (p. 57). These results are not automatically generalisable across the OECD, as other OECD countries have very different approaches to tax-benefit policies relating to families and child support systems (see Skinner *et al.* 2007), publicly provided child care and so forth, which may change these patterns. Observation suggests that sole-parent supports are frequently more generous or stronger outside the United States.[2]

12. Amato (2005) concludes that children growing up with two continuously married parents are less likely to experience a wide range of cognitive, emotional, and social problems, both during childhood and also into adulthood. Amato is confident that this conclusion can be taken as a true treatment effect of family structure. Nevertheless, he also makes the point that the effect sizes on child outcomes from different family structures are fairly small.

13. The United States consensus proclaimed in 2005 in the special edition of the *Future of Children* may however be premature. In a strongly contrasting United States view from about the same time, Ginter and Pollak (2003, p. 9) observe that "*[t]he lack of a consensus about the effect of family structure on children's outcomes is striking*". In a further recent United States review, Liu (2007, p 2) suggests that "evidence on whether divorce itself has a causal impact on children is far from conclusive". The consensus is also disputed by Hoekstra (2007) and Stevenson and Wolfers (2008).

14. Rather than simply repeat the existing recent United States surveys and shorter, select surveys which typically accompany all of the new published empirical contributions to the literature, something that adds more policy value is done here. This paper focuses attention on research on child well-being outcomes and sole-parent family structure in non-United States OECD countries and examines the extent to which it supports United States research. At the same time, it is important to note that the United States and non-United States literatures are not independent of one another. Non-United States researchers draw on United States research methods and conclusions, attend conferences with their United States counterparts, publish in the same journals, and may have attended the same universities for their educations. In addition, while it is sometimes seen as simply summarising United States research, Amato's (2000a) meta-analysis, used here to provide the comparative United States meta-analysis, actually draws on research in at least several other OECD countries, including the United Kingdom, Canada, The Netherlands, and New Zealand.[3]

2. This study does not consider the issue of whether sole parenthood impacts adversely on the household income to which children are exposed. There is a literature on child poverty statics and dynamics across the OECD which usually look at tabulations of family structure (amongst other things), including sole- parent family structure, against income poverty transitions. There is also a smaller literature on sole-parent family structure and material living standards. For reasons of space, this literature is not further considered.

3. This conclusion has been deduced from the reference list in Amato (2000a), where five out of the 67 studies are definitely from outside the United States. Some of the remaining 62 studies may also rely on non-United States data, though this is difficult to establish without a detailed article-by-article

15. The focus here will be on research published in the 1990s or later. Narrowing the temporal focus renders the task more manageable by concentrating on the most recent and therefore the most informative research. It also focuses on the higher quality end of the research spectrum as research techniques improve over time. Linguistic limitations mean, however, that the research base will be English-language dominated. This is not quite the problem it may seem at first blush, since English is increasingly the international language of social sciences in much of the non-English speaking OECD.

examination. Unfortunately no separate data or detail is presented in the article to allow examination of variation of effect sizes between different countries included in the sample.

FAMILY STRUCTURE AND FAMILY VALUES ACROSS THE OECD

16. Given the strong cross-OECD focus of this paper, it is worthwhile to provide some comparative contextualisation, along several broad dimensions, of the sole-parent issue across as many OECD countries as possible. The first main comparative dimension to examine is patterns of family structure, in particular sole-parent family structure, across the OECD. The second dimension is societal attitudes to sole parents and attitudes to the desirability of children being bought up in sole-parent families in different OECD countries.

17. Sole parenthood can be measured in several different ways in national level data. One can take a child-centred position, measuring the proportion of all children who are in sole-parent families. One can take a family-centred position, measuring sole-parent families as a proportion of all families, or the proportion of sole-parent families in all families with children. There are lone parent families who may live with the parent's parent or parents, or even in-laws. In addition a lone parent family may live in a multi-adult household with non-relations. There are also differences between OECD countries in terms of the age at which a child's legal dependence on the parents' ends and the child is considered to cease being a child.

18. The sampling frame for measuring sole-parent families is most typically an address-based one. The person responding to questions regarding the family situation is an adult, rather than the dependent child. However, as will be seen below, there is some data on family structure which seeks the child's response, and uses the school rather than the home address as the sampling frame.

19. It is likely that in almost all OECD countries sole parents are in a more difficult socio-economic situation than other families. Social surveys (and often censuses too) under-count those at poorer extremes of socio-economic distributions, since these people are more likely to be transient and fall out of scope. If in scope, they are also less likely to respond. For these two reasons there are likely to be under-counts of sole parents in many surveys and also possibly censuses. The degree of under-counting may vary between OECD countries because of a variety of factors, including variations in the degree of socio-economic disadvantage between countries.

20. Censuses may have similar problems, but these may be less pronounced. In a number of OECD countries, censuses have been shown to give different results on numbers and proportions of sole parents to sample surveys.

21. If children are in some form of shared custody, the record of their family structure will depend on the situation of the parent with whom they are living, typically during the week the survey was taken. The sex of the sole parent of the child may differ according to the timing of the survey, or the child may be living in a two-parent family (if one biological parent has re-partnered) one week and in a sole-parent family situation during the following week (if the other biological parent has not). The problem arises because most surveys of family structure focus on a geographical family unit and define sole parenthood on this basis. Sole parenthood as a term then becomes something of a misnomer if custody is shared.[4]

4. On this topic, see the detailed discussion in Hill and Callister (2003).

22. Furthermore in the vast majority of OECD countries (the United States is a prominent exception), information on whether parents in two-parent families are biological parents or not is not routinely collected. It is consequently difficult to distinguish intact two-parent families from reconstituted two-parent families.

23. Sole parents are more often women, reflecting the fact that women are more likely to have custody of the children following a separation or giving birth. Equally, because men are more likely to die than women at any age, widows are also more common than widowers with dependent children. However, there are a significant group of sole parents who are male in many OECD countries. The proportion of male sole parents varies greatly by country.

24. If a child is followed through their life cycle, they can potentially experience a wide variety of family structures as a child. Many more children will experience being in a sole-parent family over their child life cycle than will be observed in a sole-parent family in a cross-section. The degree of exposure to sole parenthood over the life cycle will vary between children and between countries. In order to undertake international comparisons, high quality longitudinal surveys on children would be required.

25. Comparable cross-sectional/time-series information on rates of sole parenthood by country across the OECD is not easy to obtain, although in theory the internationally comparable, household based labour force surveys run by most OECD countries would provide one vehicle for such a comparison.

26. At this stage the best cross-sectional information, in terms of member country coverage, available on non-intact family structures of children across OECD countries is from PISA 2000 and PISA 2003. This data set has several advantages. It is family structure from the child's perspective. The same question about parental absence was asked of the same age group (15 year olds). The data is comparatively recent. The PISA respondents were asked separate questions about whether their father and mother lived at home with them. Given that the questions asked included a category for other male or female guardian, including step- or foster-parents as examples, it is likely that most teenagers would have interpreted this question as referring to their biological parents. The proportions of those who, respectively, reported their mother and father did not live at home with them, out of those who gave a response, are reported below. The proportion of mothers and fathers not living at home could be added to obtain the proportion of 15 year olds in non-intact families. This approach is likely to involve some small double counting, as in some cases teenagers will report both parents not living at home. Note that unlike other family structure data collection, the family structure question is asked of the child, not the adult. Adult and child perceptions of family structure, of course, may differ. The detailed numbers are shown in Table 1 below.

27. There were some surprises in the data, both between countries and over time, which could represent sample variation, reporting error, or a genuinely unanticipated but accurate result.[5] In the 2003 data the comparatively high rates of non-intact families in both Mexico and Italy were both a surprise, given the presumed role of traditional Catholicism in both countries, as was the comparatively low rate of non-intact families in the United Kingdom. The Mexican result is possibly partly explicable by relatively higher parental mortality, meaning families may be more likely to be non-intact because of parental death rather than separation compared to other OECD countries. Some

5. In both 2000 and 2003 the question was exactly the same, "Who usually lives at home with you"?". However, it was the first question in 2001 and the fourth question in 2003. Furthermore, the mode of response differed between the two dates. In 2000, the invitation following the question was to tick a yes or no box, as applicable, for the presence of a variety of relatives, including brothers and sisters (eight choices). In 2003, the invitation was to tick as many boxes as apply, with no yes/no boxes (five choices). It seems plausible that the change in the mode of response was responsible for at least some of the incongruities in the results between countries and over time.

countries - Mexico, Greece, the United Kingdom, Korea, and Ireland being some examples show very different results between 2000 and 2003, with large rises in absent mothers and fathers which raise suspicions of it being a data artefact. Turkey has high rates of absent mothers and fathers in 2003 – at United States-style levels – which again seems questionable. Again, the high Turkish rate may be accounted for to some degree by higher parental mortality or parental absence for labour market migrant reasons.

28. A further dimension to consider is differences by groups of OECD countries. The five country Nordic group (Finland, Denmark, Iceland, Norway, and Sweden) and the six Anglophone countries (United States, United Kingdom, New Zealand, Australia, Ireland and Canada[6]) generate very similar group averages, with quite high rates of parental absence. The Asian countries and the nine Continental Western European countries generate relatively average low rates. The lowest rates of non-intact family structures can be found in Confucian-influenced societies (Korea and Japan) and in countries still arguably significantly influenced by traditional Orthodox or Catholic Christian cultural mores (Greece, Ireland, Portugal, Poland, Spain). The highest rates of non-intact families can be found in the largely Anglophone societies of New Zealand, Australia, and the United States (the last, of course, a society where religiosity, but more typically of an evangelical sort rather than Catholicism or Orthodoxy, is also high).

6. The considerable Francophone minority, largely in Quebec, needs to be acknowledged here.

Table 1: Children aged 15 with parents normally not living at home (percentage)

	Father normally lives at home (No)	Father normally lives at home (No)	Mother normally lives at home (No)	Mother normally lives at home (No)
	2000	2003	2000	2003
Australia	22	25	5	7
Austria	17	21	3	4
Belgium	16	23	4	6
Canada	16	24	5	7
Czech	17	23	3	3
Denmark	21	28	7	7
Finland	21	25	6	5
France	16	26	4	6
Germany	20	21	4	4
Greece	5	26	2	7
Hungary	21	25	5	5
Iceland	21	25	5	5
Ireland	7	17	2	4
Italy	15	18	5	5
Japan	10	N/A	3	N/A
Korea	4	23	4	10
Luxembourg	14	22	4	6
Mexico	17	37	5	8
Netherlands	12	18	3	4
New Zealand	22	29	7	10
Norway	15	29	4	9
Poland	12	13	2	2
Portugal	11	20	4	6
Slovak Republic	N/A	15	N/A	3
Spain	13	17	4	3
Sweden	18	27	4	8
Switzerland	16	23	3	4
Turkey	N/A	37	N/A	9
United Kingdom	16	30	3	7
United States	33	38	11	12
OECD average	16	24	4	6
Nordic	19	27	5	7
Anglophone	19	27	6	8
Continental W. Europe	15	21	4	5

Source: PISA 2000, 2003.

29. There is a second source of recent data, again from a child perspective, on family structures. The data come from the 2005/2006 Health Behaviour in School-aged Children Survey (HBSC). The data combines children aged 11, 13 and 15 years combined. This data set has several advantages. It is from the child's perspective, since children responded to the survey. It is comparatively recent. However five OECD countries are unfortunately not included – Australia, Korea, Japan, Mexico and New Zealand. Most importantly step families and "other" arrangements can be included. There are noteworthy differences between the PISA data and the HBSC data which are not easy to reconcile.

30. The United States again stands out in Table 2 as the country with the highest rate of parental absence and sole parenthood by a considerable margin. One in four United States children aged 11-15 live with a sole parent. Italy is the opposite end of the scale, with one in ten children living with a sole

parent. Rates of sole parenthood are also at the higher end for the Nordic countries, and lower for the southern parts of Europe.

Table 2: Family structure across 25 OECD countries (Health Behaviour in School-aged Children Survey 2005/6)

Country	Both parents	Sole Parent	Step-family	Other
Italy	87	9	3	1
Greece	86	11	2	1
Turkey	85	11	1	3
Slovakia	84	11	5	0
Spain	84	11	4	1
Poland	83	12	3	1
Portugal	82	10	6	2
Ireland	81	13	5	2
Netherlands	80	12	7	1
Switzerland	79	12	8	1
Austria	76	14	8	1
Luxembourg	76	14	8	2
Belgium - Flemish	74	14	10	1
Germany	74	15	9	1
Hungary	74	16	9	2
France	73	14	11	1
Norway	73	16	10	2
Sweden	73	14	12	1
Finland	71	16	13	1
Czech Republic	70	16	12	2
Iceland	70	15	12	2
United Kingdom - England	70	16	12	1
Canada	69	18	11	3
United Kingdom - Scotland	68	19	12	1
Belgium - Walloonia	67	17	14	2
Denmark	66	19	12	3
United Kingdom - Wales	66	19	13	3
United States	57	24	14	4
OECD average	75	15	9	2

Source: HBSC 2005/2006: These are the proportions living "primarily" with each family arrangement. "Other" includes foster homes or non-parental family members.

31. Obtaining repeated cross-sections on sole-parent families to examine time trends in changes in family structure was only possible for a quite limited sample of 11 OECD countries from the 1980s until the early part of the 21st century. In all 11 countries, Table 3 shows that rates of sole parenthood have risen by non-negligible amounts in less than a generation. Japan is at the lower end of the change, and New Zealand is at the higher end.[7]

7. González (2005) considers the causes of the rise in sole parenthood across 14 countries from the 1980s and 1990s. A 10 percent rise in benefits for sole parents increases sole parenthood by about 5 percent, while a ten percent female wage increase reduces sole parenthood by 3 percent. Finally increases in child support are associated with a small increase in divorced parenthood.

Table 3: Changes in sole-parent families as a percentage of all families with children in select OECD countries

	Year	Year	Change (percentage point)
	1981	*2001*	*1981-2001*
Canada	12.7	19.3	6.6
	1980	*2001*	*1980-2001*
Denmark	13.4	18.4	5
	1988	*2001*	*1988-2001*
France	11.9	17.1	5.2
	1991	*2000*	*1991-2000*
Germany	15.2	21.2	6
	1981	*2002*	*1981-2002*
Ireland	7.2	16.7	9.5
	1980	*2000*	*1980-2000*
Japan	4.9	8.3	3.4
	1988	*2000*	*1988-2000*
Netherlands	9.6	13	3.4
	1981	*2001*	*1981-2001*
New Zealand	14.1	29.2	15.1
	1985	*2000*	*1985-2000*
Sweden	11.2	23.1	11.9
	1981	*2001*	*1981-2001*
United Kingdom	13.9	20.7	6.8
	1980	*2001*	*1980-2001*
United States	19.5	26.5	7

Source: The Clearing House on International Developments in Child, Youth and Family Policies at Columbia University from the *Monthly Labour Review*, United States, September 2003, p. 14, except New Zealand from the 1981 and 2001 *Population Census*.

32. In all countries, sole parents are predominantly female. The proportion of sole fathers varies considerably across the OECD. Only one percent of sole parents in 1996 are fathers in Portugal, compared to 16% in Italy in 1998, 18% in Greece in 1999, and 12% in Spain in 1988.[8] In Australia (2000), New Zealand (2001), Canada (1996), the United States (2000) and the United Kingdom (2001) sole fathers account for between 14% and 17% of sole parents. Ireland is an outlier amongst Anglophone countries, with only 5% of sole parents being male. Japan has a surprisingly high share of sole-parent fathers, the figure being 15% in 1999, and a figure which (unlike the others) excludes lone parents living in three generation families. The Nordics range between Sweden, with 15% of sole fathers in 1990, Denmark, with 13% of sole fathers in 2001, and Norway with 11% in 2000.

33. People may become sole parents for a variety of reasons. Information on reasons for sole parenthood unfortunately is not available for all member countries. What is available is only for sole mothers. The data is shown in Table 4 for 14 OECD countries. Additionally, there are other reasons for becoming a sole parent in surveys and censuses which are not explicitly accounted for here. For example children may find themselves in sole-parent families because a parent is absent from the family home for longer term work purposes, or because a parent is imprisoned.

8. All data in this paragraph is taken from Bradshaw and Finch (2002, Table 2.2). These stark differences between Portugal and the rest of southern Europe raise some question marks over the Portuguese data.

Table 4: Reasons for sole parenthood in selected OECD countries

Country	Year	Single	Separated	Divorced	Widowed
Austria	1999	26	8	34	32
Belgium	1997	16	29	39	14
Finland	1999	34	13	48	5
Germany	1999	27	13	39	22
Ireland	1999	63	29	2	6
Italy	1998	7	..	31	63
Japan	1999	7	4	68	19
Luxembourg	2000	22	23	34	22
Netherlands	2001	33	11	51	6
New Zealand	1996	46	29	20	5
Portugal	1996	13	19	31	30
Spain	1995	12	4	57	27
United Kingdom	2001	46	20	29	4
United States	2000	43	18	35	4

Source: Bradshaw and Finch (2002, Table 2.3). "Single" refers to those lone mothers who never married or cohabited. "Separated" means separated from marriage and cohabitation in all cases except the United States, where it refers to separation from marriage only.

34. The mix of reasons for sole motherhood varies considerably between countries. Death of a parent accounts for almost two thirds of sole mothers in Italy but only one in twenty five sole parents in the United Kingdom and United States. In Ireland the majority of children were born into a sole-parent family, with near majorities also born into sole-parent families in the United Kingdom and New Zealand, whereas the combination of separation and divorce are most important in Belgium.

35. The cross-OECD data for family structure at time of birth reveals extremely large differences in the proportion of births to legally married couples. The range runs from Mexico, where almost no children are born outside legal marriage, to three Nordic countries, where more than half of all children born are born outside legal marriage. Other high marriage countries for children at birth include Korea and Japan and countries of the Mediterranean rim – Spain, Italy and Greece (see the OECD Social Policy Family database, www.oecd.org/els/social/family/database). The data on births to legally married couples are likely to be misleading as an indicator of two-parent family structures at birth of a child because of high rates of couple cohabitation in some countries, especially the social democratic countries, which have comparatively low legal marriage rates. While many national statistical agencies evidently collect data on legal marital status of the mother at the time of birth of the child, far fewer collect data on whether or not mothers are in cohabiting relationships. Some recent data for France in 2003 give the total proportion of all births to women who were not partnered as 7.3% (Vilain *et al.*. 2005, Blondel *et al.*. 2005), while for Finland in 2004 the figure was 8.5% of all births (STAKES), which indicates that often many fewer children are born to a single mother than are born to non-legally married couples.

36. There is some data on relationship status at birth from the various United Nations Family Fertility Studies (FFS) undertaken during the 1990s which allow consideration of single, cohabiting, and legally married relationships at birth across a subset of OECD countries. These surveys enable an examination of partnership status of younger mothers at their first birth. Breakdowns by the proportion of women married, in a consensual union, (cohabitation) or not in any partnership on birth of their first child are available for 17 OECD countries. The data is age-cohort data, collected in the 1990s and is provided below for the two youngest age cohorts, where the data is most pertinent. The vast majority of children were born into some form of marriage or partnership-style relationship. The differences between the 17 OECD countries where comparatively consistent information is available on family structure at birth are considerably greater than anticipated. The variations in legal marriage

rates between the 17 countries are considerable, but the variations in cohabitation rates and consequently single parent rates are also considerable. One quarter or more of first births to the cohort in Denmark, Austria and New Zealand were to a single mother. These are three very different countries socially and in terms of their welfare systems.

Table 5: Family structure at first birth

20-29 year old maternal cohort during the mid-1990s, Percentage

	Single	Co-habiting	Married
Greece	3	2	95
Belgium	4	6	90
Italy	5	6	89
Finland	6	24	70
Netherlands	6	12	82
Switzerland	7	6	87
Canada	7	20	73
Hungary	7	6	87
Spain	8	6	86
Sweden	10	62	28
Czech Republic	10	6	84
Poland	12	2	86
France	13	32	55
Norway	14	32	54
Denmark	25	49	26
Austria	29	25	46
New Zealand	38	26	36

Source: Calculated from UN Family Fertility Study, country reports.

37. Drawing on other country data from the UN Family Fertility studies, which looks at the entire cohort (not simply the younger cohorts as above), Andersson (2002, p. 359) also indicates that "the United States stands outs as an extreme case with its very high proportion of children born to a lone mother" (see Table 6).

Table 6: Relative distribution of all births

	Single	Cohabiting	Married
Belgium (Flanders)	1	4	94
Italy	2	4	94
Spain	2	4	93
Finland	3	13	85
Hungary	3	6	90
Czech Republic	4	7	89
Sweden	5	45	51
West Germany	6	11	83
Norway	7	22	71
Poland	9	2	89
France	10	23	68
Austria	10	19	70
United States	17	11	72

Source: Anderson (2002) using FFS data.

38. Consideration now turns to longitudinal data which considers a child's exposure to sole parenthood. There has been little secondary work on looking at a child's exposure to sole parenthood in longitudinal data across OECD countries, although there must be potential for using recent longitudinal panels in a variety of OECD countries for this task. The most accessible country comparison for considering the child's life cycle was available again from the UN FFS. The data for the child at age 9 provided in Table 7 show that a child who starts life in a cohabiting relationship has a much greater chance of ending up outside that two-parent structure than a child who starts life with married parents.

Table 7: Cumulative percentage ever out of union at for child at age 9

	Cohabiting	Married
Italy	7	4
Poland	26	5
Sweden	27	15
Norway	30	12
Austria	31	15
Belgium (Flanders)	34	9
Finland	35	11
France	35	11
West Germany	37	13
Hungary	48	12
United States	64	24
Czech Republic		15
Spain		6

Source: Anderson (2002) using FFS data.

39. Table 8 shows that in some countries, such as the United States and Germany, one third to one half of children at age fifteen would have spent some of their childhood outside an intact family structure. The proportion is lowest in Italy, a finding apparently at odds with the PISA data presented above in Table 1.

Table 8: Children with both biological parents

	Cohort born in:	% ever in a family structure without both biological parents by age 15
Sweden	(1987-93)	34
Norway	(1983-89)	26
Finland	(1983-89)	22
France	(1988-94)	31
United States	(1989-95)	50
Austria	(1990-96)	34
Germany	(1986-92)	34
Flanders	(1985-92)	17
Italy	(1990-95)	9
Spain	(1989-95)	13
GDR	(1984-89)	46
Hungary	(1988-93)	24
Czech R	(1992-97)	29
Poland	(1986-91)	18

Source: Anderson (2002) using FFS data.

40. A second background dimension across the OECD of considerable interest is a comparison of attitudes to marriage, children and gender roles across different OECD countries which can give some indication of social attitudes to different family structures (whether these social attitudes are cause or effect of family structure or, as is most likely, or a bit of both is an issue not addressed here). The source for this comparison is data taken from the on-line *World Values Surveys*. These surveys are of variable quality, are somewhat dated, and were collected during different time periods. Most date from the late 1990s and early 2000s. They therefore need to be used with some caution. Despite this, the World Values Survey data remain the only source of information on differences in attitudes to sole parents and sole parenthood across the OECD.

41. Attention here is focussed on several questions. Attitudes to marriage generally were obtained from a statement that "Marriage is an outdated institution" to which three responses were possible – Agree, Disagree, or Other. Views of the importance of children being bought up with two parents were obtained from a statement that "A child needs a home with a father and mother" where two responses were possible - Tend to agree or Tend to disagree. Views on the social acceptability of voluntary female sole parenthood were solicited via the question: "If a woman wants to have a child as a single parent but she doesn't want to have a stable relationship with a man, do you approve or disapprove?" to which three responses were possible – Disapprove, Approve, or Depends.[9]

42. In terms of views on the institution of marriage, there are variations within countries classified by a Nordic, Continental Western European and Anglophone typology. For example, considering Anglophone countries, 10% of Americans consider marriage out-dated, compared to 16% of New Zealanders, 22% of both Irish people and Canadians, and 26% of people from the United Kingdom. While in all countries a large majority of people believe that a child needs a home with a father and mother, there are again considerable country variations. While Americans are amongst the least likely to see marriage as outdated, they are amongst the most likely to disagree with the proposition that a child needs a two-parent home. Icelanders follow a similar pattern of conservatism on marriage with liberal views on the (lack of) necessity for two-parent families for raising children. Somewhat surprisingly it is Western European countries which on average are more likely to see marriage as outdated, with Nordic countries on average the most conservative.

9. Unfortunately no parallel question is asked for sole fatherhood.

Table 9: Views on marriage relevance and necessity of two parents to raise a child

	Marriage is an out of date institution (%) (tend to agree)		A child needs a home with a father and mother (%) (tend to disagree)
Iceland	8	Turkey	3
Turkey	9	Korea	3
Poland	9	Poland	3
United States	10	Greece	4
Japan	10	Hungary	5
Czech Republic	11	Slovakia	5
Slovakia	12	Italy	8
Norway	14	Japan	10
Denmark	15	Germany (West)	10
Korea	16	Austria	12
Greece	16	Mexico	13
New Zealand	16	France	14
Italy	17	Czech Republic	14
Hungary	17	Luxembourg	15
Finland	18	Norway	15
Australia	19	Spain	16
Germany (West)	19	Belgium	19
Austria	20	New Zealand	23
Sweden	20	Portugal	25
Mexico	21	Canada	28
Canada	22	Iceland	29
Ireland	22	Australia	29
Spain	25	Ireland	34
Portugal	25	Denmark	33
Netherlands	25	Great Britain	33
Great Britain	26	Netherlands	34
Belgium	31	United States	36
Luxembourg	33	Finland	40
France	36	Sweden	40
OECD average	19	OECD average	19
Nordic	15	Nordic	31
Anglophone	19	Anglophone	31
Continental W. Europe	26	Continental W. Europe	17

Source: *World Values Surveys*, various years (mostly late 1990s)

43. Social stigma directed towards certain family structures is a fact in many societies. In terms of the question "*If a woman wants to have a child as a single parent but she doesn't want to have a stable relationship with a man, do you approve or disapprove*?", the cross-OECD results span a very broad spectrum, with an overwhelming majority of the population disapproving in Turkey on one hand and very low minorities disapproving in Iceland and Spain on the other. Disapproval rates are high in some countries where rates of sole parenthood are comparatively high, for example New Zealand, Australia and the United States, as well as in some countries where sole-parent rates are probably low, like Korea and Turkey (but, in Turkey's case, not in PISA. See Table 1).

Table 10: Proportion disapproving of voluntary sole motherhood

Iceland	11
Spain	14
Poland	22
Austria	26
Finland	26
France	28
Netherlands	29
Czech Republic	31
Germany (West)	31
Luxembourg	34
Slovak Republic	34
Hungary	36
Ireland	36
Japan	36
Belgium	37
Denmark	37
United Kingdom	38
Sweden	40
Italy	40
Mexico	42
Greece	42
Canada	43
United States	45
New Zealand	47
Portugal	50
Australia	51
Norway	53
Korea	78
Turkey	88
OECD average	39
Nordic	39
Anglophone	43
Continental W. Europe	35

Source: *World Values Surveys*, various years (mostly late 1990s).

44. Having examined the data on sole parent and non-intact family structures, and attitudes to these families across different countries, the conclusions suggest the United States is at one extreme, with very high rates of sole parenthood and non-intactness amongst the OECD, and with a strong taste for marriage, but not especially valuing it for child raising, and with fairly strong disapproval about women choosing to be a sole mother without a stable relationship with a man. The fact that the United States appears unusual on several counts provides one reason for caution by policy makers should be cautious about automatically generalising United States research results on the impact of family structure on child well-being to other OECD countries.

WHY SOLE FAMILY STRUCTURE MIGHT MATTER FOR FAMILY WELL-BEING

45. This section provides a lightning tour of the impacts that sole-parent family structure, arising either out of being born into a sole-parent family or parental divorce or separation, may have on children's well-being and development (see Amato 2000, pp. 1270-1273; Amato 2005a, pp. 82-84; and Hill, Yeung and Duncan 2001 for brief summaries).[10]

46. Children living in sole-parent families are less likely to have as much income as children living in intact families. Often separation means the direct loss of a family earner, but may also increase the difficulty and cost of the custodial parent supplying labour and generating an income. There is also the loss of parental assets like houses if these are shared equally between parents. Causal linkages in terms of material resources available for parental investment in children, or in terms of higher levels of parental stress, may then connect poorer material outcomes with other adverse child well-being outcomes. The lower leisure available to sole parents, because of increases in paid and unpaid work, may also contribute to stress.

47. Parental separation or geographic absence also often means a loss of or reduction in contact with the non-custodial parent. With this loss children lose the time, networks and skills of that parent. There may also be loss of extended family networks on the side of the non-custodial parent's family as well.

48. Parental separation can result in a wide variety of changes in children's living situations. Schools, child care, and residence may all change. Relationships with friends and extended family members may also suddenly change. Change, especially sudden change across numerous dimensions of life, can be stressful for children. Additionally separation may leave the custodial parent with considerable mental health problems, including depression, as well as causing high levels of stress for reasons which may be material and emotional. The resulting parental stress and depression resulting can impact on the child's well-being and development.

49. Post-separation, children may be exposed to considerable open parental conflict and antipathy, for example through custody disputes, both informal and legal) which may have negative impacts on their well-being and development.

50. Children of sole-parent families may be exposed to a variety of social stigmas in environments as varied as the wider family, peer groups, schools, the media, and welfare officers. This stigma may be internalised by the child and lead to poorer current and long term outcomes for these children.

51. There may also be positives in growing up in a sole-parent family compared to the counter-factual of two biological parents. If the absent parent would have contributed to creating an environment which involved high amount of parental conflict in the home, had problems of mental health or alcohol or drug abuse, was likely to abuse or demean the child or the other parent, lacked an income and stable employment, or was prone to criminal behaviour it is quite plausible the child would be better off growing up without that parent (Amato 2000a).

10. Hill, Yeung and Duncan (2001, pp. 273-276) provide a well-referenced summary which divides the theories in three broad streams - "stress theory", "social control theory" and "economic hardship theory".

A CROSS-OECD META-ANALYSIS

52. A straightforward meta-analysis of effect sizes, with results presented as a percentage of a standard deviation of the dependent outcome variable, was undertaken. The method broadly follows Amato (2000a). Studies were located through a comparatively unstructured search of strings of key words (like "parental divorce", "sole parents", "child well-being" and so on) through several online data bases including PubMed and RePEC (including published working papers and, in a few cases, on-line conferences papers) during the middle months of 2007, and then through a secondary analysis of bibliographies of these articles. The approach to determining the data set to be considered was as follows. Only literature published after 1990 was considered, the arbitrary early cut-off date designed partly to avoid consideration of material which is too old and partly to constrain the size of the analysis. Only English language literature was considered. English is the predominant international language of social science. Therefore most researchers seek to publish their quality material to access the widest intellectual audience possible.

Box 1. What is meta-analysis?

Meta-analysis is a statistical research technique for surveying and summarising existing primary quantitative research with the aim of providing an integrated finding. In many research fields there are numerous studies, often with varying conclusions. The question arises of how to make sense of it as whole. This is the objective of meta-analysis, which is a way of systematically summarising masses of studies in a particular area.

Quantitative results from primary research are selected, transformed into a comparable standardised format, and entered into a database for analysis. Meta-analysis standardizes findings across primary studies by transforming their results into effect sizes. The most typically used method, and that employed here, uses standardized mean effects sizes. Standardised mean effect sizes are the difference between the outcome in the presence of the cause and in the absence of the cause, divided by the outcome's overall standard deviation. A commonly used interpretation of effect size defines a standardised mean effect size of 0.2 as a "small" effect, 0.5 as a "moderate" effect, and 0.8 as a "large" effect.

The resulting comparable effect size database is then systematically meta-analysed to derive information on the overall size and effect of the exogenous variable on the endogenous variable. Various statistical adjustments to allow for various dimensions of quality of the primary studies are possible.

By way of contrast, the traditional narrative literature review tends to have a much stronger focus on statistical significance of individual studies, measured at conventional levels, rather than average sizes of the effect, considering all studies. Unlike a literature survey, a meta-analysis synthesizes the results of individual studies into a new result.

Meta-analysis has a number of strengths. It parsimoniously summarises a lot of research information on one topic, effectively as one large study with many participants, according to more objective and formal rules of evidence than the more traditional narrative literature review, and with concrete quantitative results. Meta-analysis has long been part of medical science. It has been finding their way into the social sciences slowly over the last generation.

However, there are considerable challenges in rendering the studies comparable with one another. A weakness is that while some quality dimensions are quantifiable, others are more difficult to code and thus allow for. There is an issue of publication bias. Non-spectacular or null results are less likely to be published. Consequently, a meta-analysis may provide upwardly biased results. Lastly, as with any empirical enquiry, a meta-analysis, no matter how well executed, is only as strong as its base data.

53. To be included studies had to contain a sample of children living with only one parent. Sometimes these studies did not distinguish the reasons for sole parenthood (in other words some children were being bought up as sole parents because of the death of a parent and some because of parental divorce or separation). Such studies are included here, unlike in Amato (2000a), to increase the number of available studies and increase countries' representation. In any case, given life expectancy across the OECD, numbers of children in sole-parent families because of parental death will usually be small. Finally, in the sense that parental death represents a "natural experiment" which may not suffer from the same selection on unobservable variables as parental divorce or separation (see below), it may be of value to include child of widows and widowers in a sample of sole parents in any case.

54. The focus was a comparison of sole-parent structures to two-parent intact families. For example in some cases distinctions used were between intact versus non-intact families, or sole versus two parents, where sole parents may be due to either death or parental separation, and where two-parent s structures may be a consequence of re-marriage. Typically the effect size in terms of a comparison of sole mother versus to a biological and intact family, or the closest on offer to this, was selected.

55. The standard method of estimating an effect size is to subtract the outcome variable for children living in a single parent family from that for children in an intact family and divide it by the pooled group standard deviation. Where a pooled standard deviation was not available or could not be readily constructed, the standard deviation for the largest sub-group – typically that for children from intact families – was used. Where the publication did not provide the information, a variety of methods was used to convert results into effect sizes.[11]

56. This paper also broadly follows the taxonomic approach to effects of Amato (2000a), with some added categories (for example, Amato does not consider adult outcomes of children who experience a sole-parent family structure). Outcomes were classified into the following categories:

- Academic achievement
- Conduct/behaviour/delinquency/ADHD
- Depression/anxiety/happiness
- Self concept/esteem
- Social relations
- Physical health (additional)
- Employment/income (additional)
- Other (a catch-all category, additional)

57. Outcomes within each category – with the exception of the catch all "Other" category – are clearly more intuitively comparable than between categories.

58. Again following Amato, effect sizes are calculated for each independent sample in the study. Typically independent samples were provided where differential results were produced by sex.

11. See Chinn (2005) for some useful examples for calculating effect sizes from odds ratios and logit and probit estimation.

If there were several results provided by an independent sample within each outcome-category, then a simple within-category average effect was calculated.

59. Outcomes were also classified by age, again largely following Amato. Seven age categories were used, based on school ages. These age categories were pre-school, primary school, secondary school, mixed primary and secondary school, college/university, adults, and other. Where outcomes were for groups of children of different ages but falling within the eight age ranges, they were averaged to give a figure for the age category.

60. Mostly classification into one of the eight outcome categories was straightforward. However from time to time some more considered decisions needed to be made to fit outcomes into these eight categories. A degree of judgement was required. For example smoking, drinking and drug taking were classified as Conduct/behaviour/delinquency – forms of externalising behaviour – if these were teenage outcomes, and as Physical health, as risk factors, if these were adult outcomes. Additionally physical reasons for hospitalisation (including suicide attempts) were coded as physical health, while adult hospitalisation due to alcohol, drugs, and psychiatric disease was coded as "Other". Truancy was considered as forms of externalising behaviour, as were violence and criminal outcomes for those who were not adults. Suicidal ideation or suicide attempts were classified as Depression/anxiety/happiness, while actual suicide was classified as physical health.

61. The method distinguishes three different types of effect sizes:

a) Effect sizes for mean differences, controlling for pre-divorce variables

b) Effect sizes based on simple mean differences

c) Effect sizes for mean differences, controlling for post-divorce variables

62. The preferred method was analysing child outcomes, post-separation to pre-separation, controlling for child and family observables prior to the split. Failing such an approach, raw differences, post-separation to pre-separation, were used if available. Analyses that adjusted only for age and sex and other family forms were considered to be examples using simple mean differences. If such simple mean differences were not available, coefficient estimates including adjustments for post-divorce factors were used. Where there was any uncertainty about whether controls were pre- or post-divorce, they were coded as post-divorce. Studies which used a mixture of pre-and post-divorcee variables were coded as post-divorce.

63. Amato (2000a) provides United States results used as a point of comparison. However, the studies for his work are not uniquely from the United States. There are United Kingdom, Canadian, Dutch, and New Zealand studies included as well. Amato does not acknowledge the possibility of systematic differences in effect sizes between these different country estimates in his sample due to differences in society, economy or social welfare policies. No United States studies were included in this meta-analysis.

64. Averaged effects sizes considered here are likely to be biased upwards because the majority are raw unadjusted differences, which do not allow for selection bias. In addition, the numbers here are biased upwards because of a number of recent studies using sibling-fixed effects techniques, which found few significant effects, could not be included. These studies are discussed in the literature survey below.

65. Finally, there is no doubt that more work could yield more effects sizes. The cut off date for the search was end of July 2007.

66. The total number of studies used is 122. The number of effect sizes collected is 893. These were summarised down into 367 average effect sizes by domain. While the aggregate number of 367 effect sizes is impressive, the number of effect sizes by OECD country varies widely. The large numbers of United Kingdom, Canadian and Finnish studies stick out, in part probably because those countries have good longitudinal surveys which have addressed these questions, and a sufficient number of sole parents to ensure meaningful cell sizes. A number of countries had very few, or no (in the case of Japan), studies. Little in the way of special effort was made to bolster the numbers for under-represented countries.

67. The average unweighted effect size from the 367 effect sizes for all the 122 studies included here is -0.230 which compares to the figure of -0.288 reported by Amato (2000a), taken from 67 largely United States studies published in 1990s with 177 effect sizes (Table 11). Amato's overall conclusion is that this figure of -0.29 fits into the generally accepted "small" definition of effect size. The minimum effect size found was 0.230 (Amato, 0.37) and the maximum effect size found was -1.20 (Amato, -1.25), both similar to the Amato study. In 345 cases of cases the effect of being bought up in a sole parent were negative (94%, compared to 88% for Amato), and in 22 cases the effect was positive. To the extent that the comparison is valid, effect sizes also differ substantially in average between non-United States OECD countries. Effect sizes for the Anglophone and Continental Western European countries are very similar, with those in the Nordic countries being, perhaps surprisingly, somewhat higher (Table 11).[12]

12. Two Norwegian researchers, Breivik and Olweus (2006, p. 61), observe "[a] fairly common view holds that children's risks of negative outcomes associated with family dissolution are generally small or nonexistent in Scandinavia and clearly smaller than what is usually found in the United States."

Table 11: Effect sizes by country

	N	%	Average	SD
Australia	7	2%	-0.297	0.338
Austria	4	1%	-0.098	0.162
Belgium	7	2%	-0.200	0.160
Canada	26	7%	-0.186	0.122
Czech Republic	1	0%	-0.101	N/A
Denmark	21	6%	-0.248	0.277
Finland	54	15%	-0.314	0.170
France	12	3%	-0.205	0.190
Germany	18	5%	-0.173	0.208
Greece	4	1%	-0.328	0.257
Hungary	10	3%	-0.250	0.111
Iceland	9	2%	-0.254	0.163
Ireland	3	1%	-0.251	0.087
Italy	7	2%	-0.231	0.086
Japan	0	0%	N/A	N/A
Korea	1	0%	-0.128	N/A
Luxembourg	1	0%	-0.225	N/A
Mexico	1	0%	-0.083	N/A
Netherlands	23	6%	-0.173	0.134
New Zealand	5	1%	-0.181	0.134
Norway	24	7%	-0.236	0.218
Poland	1	0%	-0.135	N/A
Portugal	3	1%	-0.060	0.060
Slovak Republic	6	2%	-0.132	0.078
Spain	7	2%	-0.161	0.191
Sweden	29	8%	-0.268	0.154
Switzerland	2	1%	-0.130	0.054
Turkey	5	1%	-0.649	0.469
United Kingdom	76	21%	-0.187	0.159
Anglophone	116	32%	-0.195	0.164
Nordic	135	37%	-0.281	0.281
Continental W. European	107	29%	-0.185	0.185
TOTAL	367	100%	-0.230	0.198

68. Turning now to estimation method, the data reveal that the majority of studies – nearly three in every four – were methodologically naïve raw mean differences between outcomes for child of sole parents and a control (Table 12). Only a minority of studies controlled for pre-divorce variables and a similar number presented effects sizes after controlling for post-divorce variables (recall the latter were only employed when no raw mean difference effect sizes could be calculated. They may over-control for selection). As expected, post-divorce controls gave the lowest average effect size, followed by pre-divorce controls. Mean raw differences, as expected, which provide no controls for selection, show the highest effect size. Even for mean raw differences, it is worth noting the effect size is still in the range customarily considered small. Given the predominance of raw mean differences in the effect size sample, it is likely that the mean estimated effect size of -0.230 is upwardly biased.[13]

13. Amato (2005) also calculates mean weight effect sizes, which weights the individual effect size by its sample size. This method provides a better estimate of the effect size in the population. This weighting was not done here, because of the significant number of studies which did not report the population sizes of the treatment and control groups. However, it is noteworthy than in Amato's study, this reduced effect sizes by domain by between one third and one half. There is no reason to

Table 12: Effect sizes by estimation method

	N	%	Average	SD
Pre-divorce controls	49	13%	-0.171	0.187
Raw mean differences	273	74%	-0.256	0.200
Post-divorce controls	45	12%	-0.136	0.153

69. About one in every five effect size was from a clinical sample (Table 13). Clinical samples, as one might anticipate, showed a substantially larger mean effect size than random samples (which also include population-based data sets). Furthermore, outcomes measured from multiple item questionnaires were associated with a smaller effect size than single item questions. But the difference was reasonably small, being -0.222 for multiple items compared to -0.242 for single items. Overall, the pattern of coefficients between studies was as expected, following Amato and Keith (1991) and Amato (2000a), with methodologically more sophisticated studies generating lower effect sizes.

Table 13: Effect sizes by type of data set

	N	%	Average	SD
Clinical	70	19%	-0.313	0.292
Random samples or population data	297	81%	-0.210	0.162

70. The most common domain examined for consideration of an impact of sole parenthood was academic attainment, with over a quarter of studies addressing some form of educational outcome (Table 14). Externalising and internalising mental health problems and physical health problems all had a similar degree of prominence. This meta-analysis was much more heavily weighted towards educational outcomes than Amato (41% of the first five outcome domains compared to 22% for Amato), but much the same on Conduct and Depression (24% in both cases here compared to 23% in both cases for Amato). Self concept and social relations were markedly under-represented (3 and 7% respectively compared to 16% in both cases for Amato). A major reason for this difference in shares by outcome domain is the use of OECD PISA data on differences for educational outcomes of children in sole-parent families in this study.

71. What about effect sizes by domain? There are five domains where this study and Amato's overlap (Table 15). Where the five domains are shared in common between the two studies, this study generates an average effect size of -0.216 (recall Amato's directly comparable figure of -0.288). By domain, this study finds a much lower impact on all outcomes (where comparable), with the exception of Conduct, than Amato. It is the inclusion of domains which are not considered by Amato which boosts the average effect size found here.

believe that a similar reduction would not occur if the non-United States OECD data were re-weighted, again suggesting further upward bias in the effect sizes reported here.

Table 14: Effect sizes by outcome domain – A comparison with Amato (2000a)

	Mean unweighted effect size – Amato	Mean unweighted effect size – This study	Difference
Academic achievement	-0.26	-0.19	0.07
Conduct/behaviour/delinquency/ADHD	-0.33	-0.29	0.04
Depression/anxiety/happiness	-0.31	-0.20	0.11
Self concept/esteem	-0.24	-0.13	0.11
Social relations	-0.28	-0.20	0.08
Total – five domains above	-0.29	-0.22	0.07

72. Sole parenthood effect sizes found for the non-United States OECD were larger for externalising-than for internalising type problems, not a result emerging to the same extent out of Amato's meta-analysis (Table 15). This larger effect size for externalising compared to internalising behaviour found in the non-United States OECD may reflect any or all of (a) a true effect (b) the poor performance of instruments for internalising behaviour, something inherently harder to measure than externalising behaviour or (c) selection effects being stronger for externalising behaviour.

Table 15: Effect sizes by outcome domain

	N	%	Average	SD
Academic achievement	100	27%	-0.192	0.150
Conduct/behaviour/delinquency/ADHD	59	16%	-0.288	0.206
Depression/anxiety/happiness	58	16%	-0.203	0.163
Self concept/esteem	8	2%	-0.130	0.126
Social relations	18	5%	-0.198	0.123
Physical health	67	18%	-0.207	0.187
Employment/income	12	3%	-0.214	0.202
Other (a catch-all category)	45	12%	-0.339	0.298
Total	367	100%	-0.230	0.198

73. Table 16 shows that the number of effect sizes by age group has a bias towards secondary school age children, with approaching half of effect sizes being for this group (again partly reflecting the inclusion of PISA data for secondary school pupils). The next most popular age group for study was outcomes for children who had experienced a sole-parent family structure as adults. The number of effect sizes for pre-schoolers was small, probably because the range of child outcomes collected in the early years is low, and also because fewer children are in a sole-parent family at this life-cycle stage..

74. Of interest here is that moderate effect sizes were found into adulthood.[14] In fact adult effect sizes were found to be the largest of any age group. This finding indicates that cause or selection into being a child of a sole parent is a marker which lasts well into adulthood.

14. Recall Amato (2000a) does not consider adult outcomes. Young adult outcomes are however considered in relationship to sole parenthood in Amato (1999).

Table 16: Effect sizes by age range

	N	%	Average	SD
Pre-school	13	4%	-0.178	0.209
Primary school	39	11%	-0.262	0.266
Secondary school	165	45%	-0.218	0.169
Mixed primary and secondary	34	9%	-0.255	0.156
College	3	1%	-0.042	0.138
Adults	66	18%	-0.281	0.247
Other	47	13%	-0.180	0.153

75. The majority of effect sizes mix males and females, but about a fifth respectively are for males and females separately (Table 17). There is some very minor tendency for mean effect sizes to be larger for males. The absolute value of the size differences is almost certainly unimportant for policy purposes. On the other hand Amato (2000a, p. 361) finds "modest support for the notion that divorce has stronger effects on boys than girls, at least in some domains" (see also Amato 2000B, pp. 1283-1284).

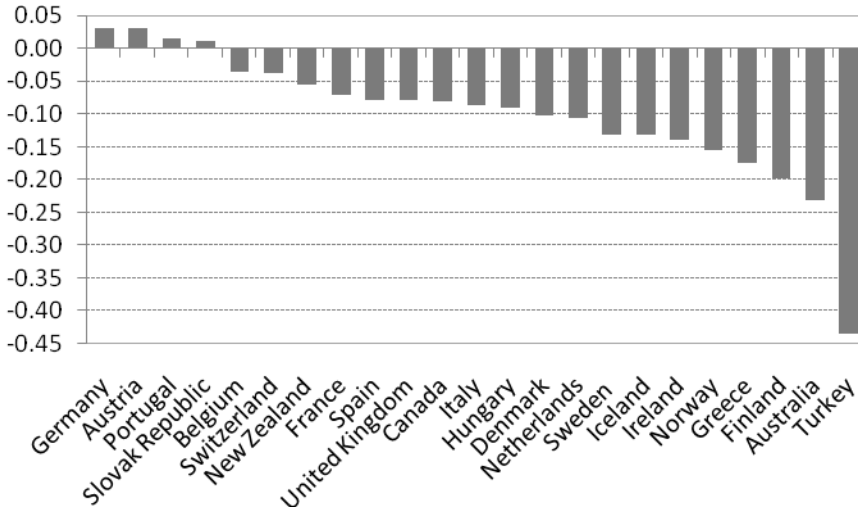
Table 17: Effect sizes by sex

	N	%	Average	SD
Male	80	22%	-0.236	0.235
Female	78	21%	-0.211	0.151
Both	209	57%	-0.234	0.198

76. Effect sizes may differ between countries due to the different composition of the sample of effect sizes. To account for compositional differences, a simple multi-variate regression was run, including outcome domains, whether differences were raw or controlled before and after divorce, stage of life cycle of the affected child, whether the sample was random or convenience, and country dummies. In terms of significant coefficients at a 5 percent level, the existence of pre- and post-divorce controls reduced effect sizes, with post-divorce controls having a larger effect, as anticipated. Random samples had significantly lower effect sizes than convenience samples. In terms of country effect sizes, Australia, Finland and Turkey had significantly higher effect sizes than the United Kingdom, whilst Germany was significantly lower.

77. The effect sizes by country, adjusted for compositional factors, coming out of this regression are shown in Figure 1 below. The calculation of adjusted country effect sizes is for the academic domain, mixed sex, secondary school age, random samples, with pre-divorce controls only. These covariate adjustments are made because it is believed that these chosen dimensions generally represent the higher quality studies, especially random samples with pre-divorce controls. Note that there are missing effect sizes for countries which have a single study (Czech Republic, Korea, Luxembourg, Mexico, Poland) and there are no effect sizes for Japan. The generally even smaller (and sometimes positive) effect sizes reinforce the points made by the bi-variate analysis above: better studies give lower effect sizes. Again, interestingly, the Nordic countries remain at the upper end of the admittedly small effect sizes.

Figure 1: Effect sizes by country adjusted for compositional differences



78. Overall, one might consider the small effect sizes found above to be an upper limit. For a number of reasons, it is likely that there are some upward biases imparted by the methods employed here to summarise the data, and by the fact that so many of the studies do not control for any form of selection into sole parenthood.

79. To obtain a better idea of the possible causal consequences of sole parenthood on child well-being, this study now turns to a literature review of studies which have tried to move on beyond traditional multivariate modelling to more rigorously address election and other methodological issues arising.

LITERATURE REVIEW

80. The gold standard to establish causality of particular family structures on child well-being would be a randomised allocation of children to different family structures. Randomised control trials in this area are impossible for ethical reasons. Consequently researchers have had to turn to a wide variety of different methods to try and unpick the causal impacts on children of growing up in a sole-parent family.[15]

81. Apart from simple bi-variate comparisons, the most common research design for attempting to ascertain the impact of sole parenthood on child well-being uses longitudinal data sets and multi-variate regression techniques. A particular outcome is chosen at a point in the subject's child or adult life cycle. Information on family structure, ideally measured prior to that point at which the individual's outcome is measured, is used as the primary explanatory variable (the "treatment"). To allow for possible selection into sole-parent families, a wide variety of other parent-and child-specific controls, again desirably measured prior to separation (e.g. at birth), are used. The impact of growing up in a sole-parent family is then estimated conditioning on these controls. The coefficient on sole-parent family structure, under certain quite strong assumptions of no selection on unobservable variables and no reverse causality, can then be interpreted as the causal impact on well-being of growing up in a sole-parent family.

82. In all likelihood however there will remain problems of bias due to the failure to control for unobserved variables which mean non-random selection into various family structures. Non-random selection may occur for a wide range of reasons. To take one example, parents may have personalities or mental health difficulties that lead them to be more likely to separate. These difficulties may have a wholly or partly genetic basis. The child also inherits or learns these traits, which may lead to poor well-being outcomes in the child's future. Typically longitudinal studies cannot control for all possible unobserved components leading to selection into a sole-parent family, and may consequently over-estimate the impact of family structure on child well-being.

83. Second, poor child well-being outcomes may be the cause rather than the consequence of changes in family structure. It is a commonplace observation that a handicapped, chronically sick or behaviourally disturbed child can place significant pressures on parental relationships, leading to parental separation. There is some United States evidence to support the anecdotal observation. Having an infant in poor health does seem to raise risks of relationship dissolution, especially amongst parents with low socio-economic status (see Corman *et al.* 2003). Reverse causality has been less of a concern in the literature than identification. While a number of researchers have raised the issue (see the discussion in Hao and Xie 2001, pp. 6-7; Ribar 2004, p. 25), no study which has been found has developed methodologies to address the issue of endogeneity of family structure.

84. In recent years some social scientists and economists are becoming increasingly sceptical about accepting the results from such multi-variate methods as strong evidence of a causal linkage (Moffitt 2005). Hence there has been an explosion in interest in use of other methods to attempt to identify causal effects in many branches of applied economics using unit data sets. This broadening in

15. See Ribar (2004) for a partial survey of the literature on family structure and child well-being undertaken in rather more technical style than in here but structured around different methods for determining causality of family structure.

methodological approach is certainly evident in the literature on family structure and child well-being. Surveying the results arising out of these different methods will be the second focus of this paper.

85. This section considers the impact of sole parenthood on child well-being outcomes using a variety of non-standard methods including models using repeated observations of the same outcome, models using sibling comparisons, models using differential spatial or temporal exposure to divorce laws, models using parental death as a comparator, and models which use behavioural genetic approaches.

Box 2: The effect of timing of exposure to family structure during childhood

Does timing of exposure to sole parenthood during the child's life cycle matter? This question is considered because of an increasing policy focus using a life-cycle framework in a number of OECD countries and because whether timing matters has some important policy implications.

A child may experience the various dimensions of family structure for differing temporal durations and at different points during the period of childhood. Several interesting questions thereby arise. Does different exposure have different effects on child well-being in classic "dose-response" fashion? Are there critical periods during which a particular family structure has greater affects on child well-being than during others?

Both the high proportion of time spent by young children in the family environment (as opposed to the high amount of time spent in schools and peer groups by older children) and their lessened ability to comprehend change in family structure predict that changes in family structure occurring early in the child's life may be most harmful (Wojtkiewicz 1993). On the other the lack of parental supervision and networks may be more important during the turbulent teenage years, especially as teenagers may be better attuned to what is going and more likely to perceive change as unusual or disruptive (Harper and McLanahan 1999).

There is United States, United Kingdom, German, Spanish and French research on this question. Most of the work in this area has focussed on educational attainment as an outcome, although there has been some consideration of other outcomes.

There is some early United States research supporting the "early is worse" proposition from the 1980s (Krein 1986; Krein and Beller 1988). Krein and Beller find the effect on years of completed schooling is strongest during early childhood, increases with amount of exposure and is larger for boys than girls. McLanahan and Sandefur (1994) found a higher risk of high school dropout if separation occurred in early childhood, but it was however not statistically significant. However, Wojtkiewicz (1993) found the opposite result of greater effects on United States high school graduation from separation in late childhood[16], whilst Haveman and Wolfe (1994) found no differences in terms of schooling for parental separation in middle compared to late childhood. Hill, Yeung and Duncan (2001) find some evidence of higher effects of earlier separation for years of schooling for boys in mother-only families, but none of the effects are statistically significant. The results for years of education for girls in mother-only families are positive and marginally statistically significant in early childhood and negative and marginally statistically significant in late childhood.

In other United States studies considering non-educational outcomes, McLanahan and Bumpass (1988) find no impact of timing on subsequent family formation decisions of children and Harper and McLanahan (1999) find no impact of timing of family structure changes on youth incarceration. Hill, Yeung and Duncan (2001) find timing results for non-marital births for daughters are not statistically significant and are in fact negative in early childhood and positive in mid- and late-childhood.[17] A recent United States study of Antecol and Bedard (2007), using traditional multi-variate methods, finds a "dose-response" relationship for forms of youth externalising behaviour (teenage promiscuity, substance use, and crime). In terms of timing, controlling for a broad spectrum of parent and child covariates, they find that youth smoking, sexual activity and marijuana are most influenced by parental separation during early childhood.

16. Researchers in this area typically, but not always, consider a tripartite division of the child's life cycle into early, middle and late childhood, roughly corresponding to pre-school, primary school and secondary school ages.

17. Hill, Yeung and Duncan (2001) also consider affects of sole-mother-with-grandparents structures by age of child. This structure shows generally rising negative treatment effects by child age.

Thus United States results on timing of parental separation, regardless of outcome, are typically considered to be mixed (Liu 2003, p. 7; Antecol and Bedard 2007, p. 56).

Turning next to evidence from other OECD countries, an early United Kingdom study by Chase-Lansdale, Cherlin, and Kiernan (1995) considers mental health in terms of parental separation in middle or late childhood (there is no consideration of early childhood). There is a tendency for effects of parental separation during late childhood to be stronger, but the difference is not statistically significant. Also using the same United Kingdom data, Fronstin *et al.* (2001) finds some tendencies for parental separation during early childhood to have larger and more significant effects earlier on adult outcomes like education and labour market performance at age 33 than parental separation during middle or late childhood. The evidence again is not overwhelmingly strong. Similar United Kingdom results are reported for educational attainment by Francesconi, Ermisch and Pevalin (2004), using a different data set (the British Household Panel Study) and a variety of estimation methods. An explicit test for equality of coefficients by three periods in the child life cycle (early, mid, and late childhood) cannot reject the hypothesis on a standard five percent significance level for educational attainment. Inactivity and adult psychological distress is more likely to be increased by early parental separation using a sibling difference estimate and the hypothesis of temporal equality can be rejected at conventional levels of significance. However there is also no strong evidence of timing effects on parental separation for smoking and early childbearing.

There are a few other studies from a handful of European countries, again mostly educationally focussed. A study using German data on educational qualifications, on the other hand delivers less mixed results, and shows no strong evidence of timing of divorce in the child's life cycle, in either standard multi-variate models or sibling fixed effects models (Francesconi, Jenkins and Siedler 2005). Nor is any strong evidence found of a dose-response relationship for years lived with a divorced or unmarried mother. In a result differing from both the German and United Kingdom studies considered above, a Spanish study considering secondary school attainment, and using four possible child life cycle phases when the parental relationship may dissolve, finds the largest and most significant effects of parental separation occurring between 0 to 3 years of age, and the lowest and typically non-significant effects for separation between 4-15 years (Casquel 2003). A Danish study of bipolar affective disorder using civil registration data finds that death of a parent from birth until 5 years of age has a much higher impact on chances of bipolar disorder, even after controlling for both parent and sibling histories of mental illness than death of a parent thereafter, although these are also statistically significant (Mortensen *et al.* 2003). If parental death can be used as an unbiased estimate of the impact of parental separation, then this lends some support for the "early is worst" hypothesis. Again considering education, Piketty's (2003) examination of French data show somewhat higher effects of separation occurring during middle and late childhood than parental separation during in the early childhood phase.

The literature, from within or outside the United States, allows no clear or strong conclusion to be drawn regarding the timing of separation in relation to the age of the child. Frequently and unfortunately, in most of the studies considered above there is no formal test of equality of coefficients on sole parenthood by period of the child's life cycle reported. In terms of a general conclusion about the impact of timing, there are simply too many variables – countries, estimation techniques, and outcomes – to allow firm conclusions to be drawn.

Prospective studies and studies using repeated observations of the same child outcome

86. Consideration now turns to non-traditional methods of estimation of the impacts of family structure, commencing with prospective and before-and-after techniques.

87. Models using data on child outcomes before divorce to see if later divorce predicts worse outcomes before divorce for children whose parent will divorce are known as "prospective studies". Several small scale early United States studies prospective showed that there were differences in psychological adjustment between children in early and mid-childhood whose parents were going to divorce and children whose parents who were not (Block, Block, and Gjerde 1988; Baydar 1988). Similar findings are reported for larger more representative samples in Cherlin *et al.* (1991) for the United Kingdom and Elliot and Richards (1991) for the United States for psychological and educational outcomes. Mixed results, depending on the outcome, are reported in a small United States sample by Aseltine (1996). Using United States before and after divorce data on psychological adjustment and substance use, in another small scale United States study Doherty and Needle (1991) show that (1) children whose parents are going to divorce have worse outcomes than children whose parents are not, and that (2) divorce lowers boy's outcomes, compared to before divorce, after divorce but not girls, partly supporting the earlier studies. On the other hand, in another small scale United States study, Forehand, Armisted and David (1997) find no difference for the to-be-divorced group

(of 16 children). In addition there are other United States studies also showing identical pre-divorce outcomes for children whose parents were going to divorce compared to those who are not going to (Shaw *et al.* 1993; Morrison and Cherlin 1995). More recent work by Sun (2001) using a large representative two wave United States panel finds that there is a sizeable pre-disruption effect for children's educational, psychological and behavioural problems when parents are going to divorce, even when controlling for other pre-disruption co-variates,. Similarly, in one of the few non-United States prospective studies, Piketty (2003) compares French high school performance of children whose parents will separate in a couple of years to child whose parent have already separated, and finds a considerable and significant pre-disruption effect, after controlling for co-variates.

88. These pre-disruption studies suggest that failing to control for pre-divorce outcomes for those children when considering a post divorce outcome, even if there are controls for other pre-divorce covariates, may result in an over-estimation of the impact of divorce via selection. Alternatively or in addition, they raise the further possibility that poor pre-divorce outcomes for children, especially if these are behavioural problems, may cause parents to divorce. Finally, it is possible that poor outcomes for children before divorce may reflect parental conflict within an intact family that leads to divorce and which is the ultimate cause of the poor outcomes, rather than the family structure per se.

89. There is a further related type of study, using varying empirical methods, which require repeated longitudinal measures of the outcome of interest at the child level. The outcome measure, observed both before and after any parental separation, can be used to identify the causal effects of divorce without the same degree of concerns about omitted variables, since fixed child characteristics can be taken into account in a variety of different ways. Models using before-and-after child-specific fixed effects do not predominate in the literature considering the impact of sole parenthood. There are several reasons for why this might be the case. One issue is to find comparable variables measured at two or more points of the individual's life cycle in longitudinal surveys. As the child progresses through the life cycle, typically age-specific measurements instruments are collected, which are often not directly comparable across different ages (Ribar 2004, p. 28). Such models cannot deal with the effect of family structure on outcomes like obtaining a university degree, which typically only happen once and in adulthood. In addition, as the child ages, measures are currently fashionable or the state-of-the-art method of measuring the underlying concept change, meaning there is not much inter-temporally comparable information collected until the child moves into adulthood and readily temporally comparable adult measures like income and earnings become available.[18]

90. These methods have limitations. They do not allow estimation of the impacts of being born to a sole parent. There are a considerable number of children born to a sole parent in many countries, so this is an important group to omit from consideration when researching the role of family structure. Additionally they cannot, of themselves, deal with time variant unobserved characteristics which may differ between children from separated families and children from intact families. They only identify from within-individual variance. Lastly, as measurement errors are exacerbated by the focus on within-person variation, precision of estimation is sacrificed and standard errors are larger.

91. An early before-and-after study is that of Cherlin *et al.* (1991). Two national longitudinal surveys from Great Britain and the United States were used to investigate the effects of divorce on children. The method was to select a sub-sample of children who were in two-parent families during middle childhood and who were followed up later. Behaviour problems were measured twice. Children whose parents divorced or separated between the two time points were compared to children whose families remained intact. For boys, the apparent effect of separation or divorce on behavior problems and achievement at the later time point was sharply reduced by considering behavior

18. Longitudinal studies which measure child IQ regularly are possibly the best for before-and-after studies.

problems, achievement levels, and family difficulties that were present at the earlier time point, before any of the families had broken up. For girls, the reduction in the apparent effect of divorce occurred to a lesser but still noticeable extent.

92. Utilising the two wave nature of his panel, Sun (2001) considers post-divorce outcomes of educational, psychological and behavioural problems, with a lagged pre-divorce dependent variable on the right hand side of the regressions, along with a range of other fairly standard co-variates. Post-disruption effects on in late childhood are totally or largely predicted by the lagged pre-disruption outcome and covariates. By implication the separation itself may not be the primary cause (see also Sun and Li 2002 for a similar study using two observations of outcomes before and two observations after divorce).[19]

93. Again using United States data, Hao and Xie (2002) use a before-and-after model to examine the impact of family structure on a composite index of parent-reported misbehaviour changes between 6 to 12 years and 11 to 17 years. They find some evidence that conventional OLS models may give downwardly biased estimates of the impact of family structure. Specifically, however, they find that the current duration of years with a sole parent has a negative and significant impact on the exhibition of behavioural problems in a fixed effects model compared to a smaller, non-significant OLS effect. Overall, the study shows that it is the family structure transition variables, rather than single mother status, that are more pertinent for child misbehaviour (perhaps not a surprising conclusion). As well as having the wrong sign the effect sizes for single mothers are typically small (0.05-0.10).

94. In a further United States-data based study employed a fixed-effects style estimator, Sanz-de-Galdeano and Vuri (2006) use double and triple difference models from three outcome observations to look at the impact of parental separation on teen student test scores (in 1998, 1990 and 1992). The triple difference model allows unobserved time related factors jointly influence separation and test scores to increase at the same rate. The main finding from their data and methods is that - in contrast to traditional estimation methods - parental separation, at least in the child's early teenage years, does not seem to greatly impact on IQ-style test scores measures.

95. Another method using this sort of information is growth curve modelling, which uses information from more than two waves of outcome data. Growth curve models treat the outcome for children as part of a developmental trajectory, allowing individual effects and shared growth effects.

96. An early use of growth curve modelling is by Cherlin, Chase-Landsdale and McRae (1998), who look at United Kingdom data on mental health problems at the ages of 7, 11, 16, 23 and 33.They find that mental health problems for children experiencing parental divorce between age 7 and 23 increased slightly faster. There is no separation, however, of growth in pre- and post-divorce periods. This method is also used to considering internalising and externalising behaviour in a Dutch longitudinal cohort of adolescents and young adults by Vandervalk *et al.* (2005) to compare intact and post-divorce families. While outcomes are worse for post-divorce families, developmental trajectories are very similar. The other three studies using growth curve analysis are all Canadian. For a Montreal cohort, Pagani *et al.* do not find any impact of divorce on boys' delinquency trajectories. Using national child longitudinal data, Strohschein (2005) finds that children whose parents later divorce already show higher levels of anxiety and depression and anti-social behaviour than children whose parents remain married. Using the same Canadian data but considering only hyperactivity, Kerr and

19. However, estimating a time series equation like this with a lagged dependent variable results in coefficient estimates which are both biased and inconsistent. In addition, the long run effect of divorce is equal to the coefficient on the separation variable divided by one minus the coefficient on the lagged dependent variable. Given that this coefficient is typically large but less than unity (it is not reported in this study), the long run effects can be much larger than the short run effects. Perhaps data like this is better suited to fixed effects estimation.

Michalski (2004) show that children in lone parent families have an initial disadvantage (contrary to Strohschein's finding) but the same developmental trajectory as children in intact families. Children of divorce, on the other hand, are little different from children from intact families pre-disruption. But divorce means that their trajectory is slightly worse than children from intact families.

97. There is likely to be considerable scope for greater use of these methods in examining the causal impact of sole parenthood on children in a variety of OECD countries. The overall conclusion is that using prospective data shows that children whose parents are to divorce have pre-existing deficits in outcomes and using before-and-after data typically results in smaller or zero impacts of sole parenthood on outcomes than traditional multi-variate econometric methods.

Sibling studies

98. A number of studies have used sibling comparisons to get closer to the causal impacts of sole-parent family structures. Sibling-difference approaches ensure that any omitted or unobserved variables shared between siblings cancel out of the estimated regression equation. Identification of impacts of family structure is via differential exposure by siblings to a given family structure. So if there is family where parents separate, having two children aged eight and five years, the first child experiences 10 years as a child in a sole-parent family (18 less 8 years) and the second experiences 13 years in a sole-parent family (18 less five years). The variation in "treatment" can then be compared to the "response", or difference in outcome of interest between the two siblings. Sibling models can lead to consistent estimates of the impact of family structure on child outcomes if family structure does not respond to children's idiosyncratic endowments. While this is still a strong assumption it is arguably a much weaker assumption than that under-pinning the traditional multi-variate approach. Use of sibling data to removed unobserved common effects of family structure is a comparatively new methodology, with most articles in the area dating from the later part of the 1990s.

99. While requiring what are arguably considerably less strong assumptions to identify causality, sibling studies are not without some potentially serious problems. Data requirements are considerable (Hill, Yeung, and Duncan 2001). Therefore the numbers of studies are comparatively few and, since numbers of siblings can be small, the method can result in imprecise estimates. Sibling studies need longitudinal data which can record differential exposure of siblings to the same family structure. They require longitudinal data which use the same instrument to collect outcome data on both siblings. Many longitudinal studies only follow one child in the family and record little or no information on siblings, let alone comparable outcome information. Perhaps because of these problems, sibling studies are in practice limited in terms of the outcomes they can examine. Most consider adult outcomes for children (earnings and labour market outcomes), since common child outcomes for siblings are less often measured.

100. As already indicated, sibling models are also based on the assumption that parental separation is not a consequence of idiosyncratic endowments – for example child behavioural problems of a younger child which lead to both parental separation and poorer educational attainment for that child. The second possibility is where a parent develops a problem which affects the younger sibling and not the older one – say the father becomes unemployed after the older sibling has left home – and this causes parental separation. In this case the effect of sole parenthood will be over-estimated (see Ermisch and Francesconi 2001a; Ermisch, Francesconi and Pevalin 2004).

101. In addition, sibling studies are difficult to generalise to a population level, since they omit two important sub-groups of children in sole-parent families. They miss *only* children in sole-parent families.[20] Additionally, as with models which use before-and-after data, since they rely on variations

20. Francesconi, Jenkins and Siedler (2006) test for bias from this source. They find little evidence for bias.

in family structure between individuals in the *same* family, they miss consideration of the impact of sole-parent family structure where both siblings are born into a sole-parent family, and where consequently neither sibling has any exposure to a two biological parent family.

102. A final problem with sibling models is that since they identify off a difference sin outcomes between siblings, this raises measurement error in the dependent outcome variable and raises standard errors.

103. Sibling models entered the economic profession through their use to calculate the impact of schooling on earnings during the 1970s. However, it is only recently that they been applied to the impact of family structure on child outcomes. The earliest studies were from the United States, but more recently quality studies have applied the sibling model to German, United Kingdom, and Swedish data. In several cases the studies have compared two countries. An additional advantage is that several of the studies have been undertaken by the same authors, yet give quite different results for different countries, giving a reviewer some confidence in the absence of researcher priors driving the results (the several sibling studies wholly or partly authored by Ermisch and Francesconi). The Swedish studies are especially interesting since they use large national register data sets, and hence do not have the sample size issues which are more apparent in United States, German and United Kingdom studies.

104. One of the earliest published applications of a sibling models to address the question of the impact of family structure on child outcomes is Sandefur and Wells (1999) who find that taking into account the unmeasured but fixed family characteristics yields estimates of the effects of family structure on educational attainment that are smaller, but still statistically significant, than estimates based on analyses that do not take unmeasured family influences into account.

105. Using British Household Panel Survey data, Ermisch and Francesconi (2001a) consider the impact of single parent family structure on education, inactivity, early childbearing, psychological distress, and smoking ten or more cigarettes per day. They find little effect. However, when another four years of data from the British Household panel are added, the results are much more strongly in favour of a significant effect of sole parenthood on outcomes. Indeed, Ermisch, Francesconi and Pevalin (2004) find results using sibling data that are broadly consistent with those generated by traditional multi-variate techniques.

106. Ginther and Pollak's (2004) study is unusual in the small sibling literature because they consider behaviour and educational outcomes during childhood as opposed to focussing on the impact on children when they become adults. They compare outcomes for children from traditional two biological parent families to half siblings from stable blended families where at least one sibling lived with both biological parents ("joint biological children" compared to step children). Children from traditional families did better, but within stable blended families there were no differences in outcomes between step children and biological children of both parents. This latter result is consistent with the selection bias hypothesis.[21]

107. Francesconi, Jenkins, and Siedler's (2005, 2006) suite of papers employ different and complementary estimation strategies, including a sibling estimation strategy (plus the standard level regressions, propensity matching, parental death, and temporal and spatial variation in changes to divorce laws), as well as examining the sensitivity of their results to West German, East German, and guest worker sub-samples, different outcomes, and several definitions of family structure. The key sensitivity for educational outcomes in Germany is found to be to estimation method. Sibling

21. This result might be contrasted with Case, Lin and McLanahan (2001) who find that children raised by step, adoptive and foster mothers get less education – one year less – than do the birth children of the same women.

difference models give much smaller and more imprecisely estimated negative effects from sole-parent structures than more traditional estimation methods. Their overall conclusion is that *"[i]n sum, our findings suggest that the evidence for a causal effect running from family breakdown to schooling outcome is weak" (*Francesconi, Jenkins, and Siedler 2006, p. 29).

108. However sibling difference models show statistically significant impacts from living in a non-intact family by the sibling method on German smoking behaviour. There is no effect from the sibling method on self assessed health (Francesconi, Jenkins, and Siedler 2005). Finally sibling difference models show little impact on unemployment and earnings, but a significant positive impact on receipt of social assistance, but only for the West German sub-sample.

109. Comparing the United Kingdom and Germany results, Francesconi, Jenkins, and Siedler (2005, p. vi) comment that: *"The Anglo-German pattern of differences and similarities in results cannot be easily related to common characteristics of the cross-national differences in education systems, labour markets or welfare states."*

110. In a similar two-country comparative exercise, Björklund, Ginther & Sundström (2007a) estimate sibling difference models on two United States data sets (the PSID and NLYS) and on Swedish population register data, as well as using conventional regression techniques. Sibling methods show much smaller and less significant effects on education and earnings than standard regression methods. In most cases, using either method, contrary to the authors' express expectations, they found little or no significant differences of the effects of family structure in the different data sets and countries, despite potentially large differences in social norms in terms of stigmatisation between the two countries and the much more extensive Swedish welfare state.[22] Similar results, but for Sweden alone, follow in Björklund & Sundström (2006).

111. Overall the results using sibling methods have a general tendency to suggest small and/or not statistically significant effects in comparison to more traditional estimation methods for Sweden, the United States, and Germany, with the exception of some United Kingdom work.

22. An interesting piece of work in progress is another study using Swedish register data using a siblings approach by Björklund, Ginther and Sundström (2007b) which attempts to identify the causal effect of legal marriage compared to cohabitation on grade point average at age 16. Instrumental variables estimation, using the marriage boom created by change in Widows pension policy, and sibling estimators, show no causal effect of marriage.

Table 18: Sibling studies of the impact of sole-parent families on child outcomes (typically when they reach adolescence or adulthood)

Author	Year of last data collection	Country	Outcome	Sibling result
Francesconi, Jenkins and Siedler (2005)	2002	Germany	Educational attainment (*Arbitur)*, Health (smoking, self reported poor health), Receipt of social assistance, Unemployed, and Earnings	Sibling results generally give smaller and more imprecise estimates than the other models. Significant effects exist for West German smoking and benefit receipt.
Francesconi, Jenkins, and Siedler (2006)	2002	Germany	Various measures of educational outcomes during the teen years, but primarily *Arbitur*	Sibling difference models give much smaller negative effects from sole-parent structures than more traditional estimation methods and they are not statistically different from zero
Björklund, Ginther & Sundström (2007)	1994 (NLSY), 1993 (PSID) – both United States, 1996 – Sweden	Sweden & United States	Education, Earnings	Sibling difference models estimated on two United States data sets and one Swedish data set show much smaller and less significant effects than standard regression methods. In many cases there is little or no significant differences between the effects of family structure in the different data sets and countries
Björklund & Sundström (2006)	Large random sample of the Swedish population, population registers	Sweden	Earnings-weighted education	Sibling difference models give typically positive and not statistically significant effects of parental separation, while standard regressions give the standard negative and significant result
Ermisch & Francesconi (2001a)	1995	United Kingdom	Education (A level or higher), Inactivity, Early childbearing, Distress (GHQ-12), Smoking 10+ per day	Marginally significant result for education and significant effect on smoking from sibling estimator of being in a single parent family. Effects are slightly smaller than using traditional regression methods
Ermisch, Francesconi & Pevalin (2004)	1999	United Kingdom	Education (A level or higher), Inactivity, Early childbearing, Distress (GHQ-12), Smoking 10+ per day	An update of their earlier study (2001a), it considers the impact of ever being in a single parent family during childhood. Sibling difference models show a significant negative impact on education, a significant positive effect on inactivity, on early childbearing, and on smoking. In four out of five cases, the impact of family structure is larger in the sibling difference model than for the standard level estimates.

Author	Year of last data collection	Country	Outcome	Sibling result
Grogger and Ronan (1996)	1992 (NLSY)	United States	Education (Years of education), Earnings (average wages)	Using sibling models on the education outcome there are very small (effect size 0.014) and marginally significant effects for whites at a 10% level. The black coefficient is small, significant and has the "wrong" sign. The Hispanic coefficient is small (effect size 0.018) and not statistically significant. In terms of earnings the effects are small and with the wrong sign for whites and blacks and small and not significant for Hispanics
Sandefur & Wells (1999)	1992	United States	Education (years of schooling)	Taking into account unmeasured family characteristics gives estimates of the effects of family structure on educational attainment that are smaller, but still statistically significant
Ginther and Pollak (2004)	1994 (NLSY79), 1993 (PSID), 1994 (NLSY-Child)	United States	Education (years of schooling, high school graduation, college attendance, college graduation, PIAT test), Behaviour (behavioural problems index)	Within stable blended families there were no substantive differences in outcomes between step children – who had experienced parental separation - and biological children of both parents. Their result is consistent with the selection bias hypothesis.
Gennetian (2005)	1994 (NLSY79)	United States	Child cognitive development	Sibling fixed effects models show a small, and not significant effects, of variable signs, on cognitive scores of being a non-marital or a marital birth to a single mother
Hao and Matsueda (2006)	(NLSY79)	United States	Internalising and externalising behaviour	Considers the impact of non-intact family controlling for AFDC and poverty status. Finds negative and non-significant effects of non-intactedness

Differential exposure to divorce laws

112. There is an interesting body of research, now from a variety of OECD countries, trying to identify the causal impact of family structure from temporal and spatial variation in divorce laws. These studies rely on several assumptions. The first is that that a shift to unilateral divorce laws causes a rise in divorce. The second is that changes to divorce law only impact on children via their direct impact on parental divorce. However, changes in divorce regimes may influence intra-family bargaining, with consequent implications for children's outcomes irrespective of divorce. Identification of a causal effect also relies on the assumption that divorce law changes were exogenous and uncorrelated with social changes that might themselves impact on child outcomes. The legal exogeneity assumption, like other identifying assumptions, remains a strong one.

113. This body of research is especially interesting from a policy makers' perspective, since it identifies effects on children off a change in a policy instrument, in this case a legal one.

114. There is some controversy in the United States about whether unilateral divorce laws have caused a rise in permanent increase in divorce, with the most recent work suggesting it did not (see Gruber 2004, pp. 804-805 and Johnson and Mazingo 2000, pp. 3-4 for brief summary and references). However European research by González and Viitanen (2006), which considers the impact of divorce law changes on divorce using a panel of 18 European countries over the period 1950 to 2003[23], finds a significant and large result of changes in divorce laws on divorce. From the perspective of their paper, the long panel and considerable variation in timing of changes of the divorce offer an attractive estimation strategy in terms of the impact of changes in family structure on outcomes in Europe.

115. Using United States data, Antecol, Bedard and Helland (2001) use state-level divorce law changes to instrument for years that the biological father lives in the household. This study provides evidence in favour of a negative causal impact of single-parent status. They find that youth who spend part of their childhood/youth living in a household that does not include their biological father are more likely to smoke regularly, become sexually active, and be convicted of a crime.

116. Gruber (2004) finds significant adult effects of exposure to unilateral divorce laws during childhood, although the welfare implications of the outcomes he chooses may be unclear.

117. Variation over time in German divorce law is used by Francesconi, Jenkins and Siedler (2006) to try and identify an impact on children's education. They find a *positive* and not statistically significant effect on education, which they interpret as suggesting a possibility that unilateral divorce may have exposed children to less parental conflict, hence improving their educational outcomes.

118. González and Viitanen (2007) use ECHP panel data for four countries which legalized divorce since the 1970s (Spain, Italy, Portugal, and Ireland, plus other countries as controls to estimate the impact of legalising divorce on children. Their approach is to consider a very broad spectrum of overlapping and probably correlated adult outcomes of those exposed and those not exposed to divorce laws in childhood, 20 in total,[24] in a panel sample, with separate estimation by sex. Of 40 coefficients in the specification

23. These countries being Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

24. As follows: Never married, Living in a couple, Married, Separated, Divorced, Children under 16, Single parent, Total household income, Per capita income in the household, Individual income, Satisfaction with the financial situation, current employment, current monthly earnings, Hourly wage, Benefit Recipient, Secondary education completed or more, University Education, University education, Bad health (5 categories), Bad health (binary), and Hospital stays.

including country fixed effects and trends, country specific age profiles and four cohort dummies, three coefficients are significant at a 10% level (one with a positive impact on outcomes) and one at a five per cent level. The conclusion that exposure to more lenient divorce laws (and by implication higher rates of sole parenthood) has had little effect seems appropriate.[25]

119. Clearly, creating a joint panel of OECD countries could generate considerable level for this method. Indeed, there is other in-OECD country variation, for example divorce law change in Scotland occurred five years later than in England and Wales, which could be utilised. The issue would to be to find country-time measures of child outcomes (as adults or as children) which could be used to examine the impact of policy variation. Perhaps child mortality or morbidity rates are one option, but there may be others. There is considerable further potential to use variation in divorce laws between OECD countries, in particular the introduction of no fault divorce, to try and identify impacts on child well-being. There would be a considerable amount of data work involved.

120. The suggestion of this literature is that moving to unilateral divorce may have harmed child outcomes in the United States, but evidence is much less strong or non-existent in this regard for Europe, Germany and Canada.

121. An interesting and unique recent United States study uses "near divorce" – where parents file for divorce but do not go through with it, rather than divorce law changes, as a quasi-experiment to identify the causal impact of parental separation.[26] Hoekstra (2007) uses dismissed versus accepted divorce cases to identify the effect of divorce itself on student performance. The data are from a Florida County. The outcomes are student test scores from first to tenth grade as well as days students were suspended and totals of disciplinary infractions. Student data was linked with information on parent couples filing for divorce. Student fixed effects models are used. Students whose parents divorce have worse outcomes than children from intact families, the classic research finding. Children whose parents file for divorce and don't go through with it also perform worse than children form intact families. Comparing children whose parents don't go through with divorce to children with parents who do go through with divorce, the only effect is a temporary increase in behavioural problems for boys three years following divorce. There is a *positive* effect of divorce for educational outcomes for girls.

25. The authors believe, however, that their results show significant long run impacts of divorce. It is hard on the face of it to reconcile their abstract's conclusions with the econometric results presented in their appendix.

26. This study has yet to be published.

Table 19: Divorce law changes and child well-being

Author	Year of last data collection	Country	Outcomes	Divorce result
Corak (2001)	1995	Canada	Child's adult economic outcomes (Income, earnings, years tax returns filed, receipt of unemployment insurance and income assistance), Non-material well-being (probability of ever being married, divorced, or separated)	The postponement effect of divorces just prior to the Canadian divorce law change is used to argue that the average divorce which took place just before the divorce law change was more stressful than that just after the law change. Changes in the divorce law did not lead child to exhibit more marriage instability in turn than their parents
Piketty (2003)	2002	France	Education	Temporal change in the divorce laws to no fault in 1975 and cross-regional variation in divorcee is used to find that conflict intensity between couples was not changed by the divorce law change. The individual impact of divorce declines when divorce is more prevalent
Francesconi, Jenkins and Siedler (2006)	2002	Germany	Education	Regardless of the specification there was no statistically significant impact of the change to unilateral divorce in Germany in 19977 on the probability of attaining educational qualifications. The effects had both positive and negative signs
González and Viitanen (2007)	2001	Italy, Ireland, Portugal, Spain, other European countries	Never married, Living in a couple, Married, Separated, Divorced, Children under 16, Single parent, Total household income, Per capita income in the household, Individual income, Satisfaction with the financial situation, current employment, current monthly earnings, Hourly wage, Benefit Recipient, Secondary education completed or more, University Education, University education, Bad health (5 categories), Bad health (binary), and Hospital stays.	Most of the 40 outcome-by-sex coefficients on divorce are not statistically significant in the most sophisticated specification. Of the four which are significant at a ten percent level, three are for men (less likely to live in a couple, more likely to be employed, less likely to be a benefit recipient) and one for women (less likely to be satisfied with their financial situation)

Author	Year of last data collection	Country	Outcomes	Divorce result
Johnson and Mazingo (2000)	1990	United States	Education, earnings, marital status	Women have lower wages and less schooling. No effect on male wages. Both women and men more likely to marry and more likely to divorce. In addition to a divorce effect they suggests that within-household bargaining power shifts is likely to be driving some of their results
Antecol, Bedard and Helland (2001)	1998 (NLSY)	United States	Smoking, drinking, sex , marijuana use, and criminal conviction	State-level divorce law changes are used to instrument for years the biological father lives in the household. Young people spending part of their time in a household without their biological father are more likely to smoke regularly, become sexually active and, somewhat less consistently, to be convicted of a crime. There is no significant effect on marijuana use and drinking
Gruber (2004)	1990	United States	Family income, marriage, separation, labour force attachment, suicide measured at a state level by age cohort in 1960, 1970, 1980, and 1990 censuses	Adults exposed to unilateral divorce laws as children are less well educated and have lower family incomes. Women are less attached to the labour force and men more so. They are more likely to be both married and separated (early marriage and early separation)

Parental death

122. Another approach to addressing selection issues is to examine well-being outcomes for children where a parent has died. Parental death is arguably more likely to be random than parental separation. It is thus a form of quasi-experimental evidence. Outcomes for children raised by sole parents in event of divorce can be compared with outcomes for children where a parent died. If children whose parent die do better than children whose parent separate, the difference, under certain assumptions, can be identified as the extent of selection bias when further compared to outcomes for children from intact families. If parental death is random, the difference between children of widows and widowers and children of intact families is the "true" effect of family structure.

123. There are a number of studies in the area, coming from at least eight OECD countries, which are summarised in the Table below. Most of these studies are from the United States and the United Kingdom, but there is also evidence for Italy, Hungary, Denmark and Sweden. Again most of these studies are comparatively recent. A number of studies surveyed below do not explicitly or centrally set out to estimate the impact of divorce and selection using this method, rather than present their results by cause of sole parenthood, and these results have been incorporated these results with a star in the table.

124. There are several problems with the parental death approach. The first is that parental death is not random, and this non-randomness cannot always be controlled for. Disadvantaged or previously sick parents are more likely to die. Such parental characteristics may well be associated with worse adult outcomes for children. To overcome this non-randomness problem, one interesting study by Frankel (2006) has used data on paternal death during the American Civil War, where death can be shown to be close to random. He shows no impact of parental death on children's labour market income as an adult, labour force participation, and the child's adult chances of being married. Some effect is found on whether daughters were students, but no effect was found for sons. While the study is of considerable value methodologically, obviously the environment in United States in the latter part of the 19th century is rather different from that in OECD countries today.

125. The second issue with parental death as a quasi-experiment to identify the impact of a sole-parent family structure is the difficulty of finding a data set with sufficient parental deaths during childhood to make such a method worthwhile. As life expectancy rises, this problem becomes more acute, particularly in sample sets. It may also be that as parental death has become a more unlikely event for a child to experience, it has also become more non-random.[27]

126. A third issue is that the financial implications of the death of a parent and a parent leaving the family home because of divorce or separation may be very different. A dead parent may have had a life insurance policy or in some OECD countries at least the bereaved family may receive some form of financial compensation for death, if for example it was from a workplace accident, a bungled medical operation or some other form of liability. Lastly, social stigma experienced by children in a sole-parent family because of parental separation may be very different from that experienced by a child in a sole-parent family because of parental death.

127. The overall results, summarised in the Table below, are mixed and do not present a clear picture regarding patterns of difference between intact families, sole-parent families due to parental death, and sole-parent families due to divorce or separation.

27. Section 2 above suggests that the proportion of children in lone parent families because of death varies considerably across OECD countries. Hill and Callister (2003, p. 4) report for in the United States in 1910 that 17% of children under 16 had a parent who had died. By the 1990s this figure had declined to 5%.

Table 20: Parental death and child well-being

Author	Year of last data collection	Country	Outcomes	Death result compared to two biological parents and to separated parents
Corak (2001)	1995	Canada	Child's adult outcomes (Income, earnings, years tax returns filed, receipt of unemployment insurance and income assistance), Non-material well-being (probability of ever being married, divorced, or separated) by sex	Raw differences suggest coming from a divorced background is more detrimental than when coming from a bereaved background. Adding controls removes most of these differences between death and divorce, but in many cases they also remove the difference between those than experience both death and divorce and those from intact families
Mortensen *et al.* (2003)*	1998	Denmark	Psychiatric disorders in population	Controlling for maternal, paternal and sibling histories of mental illness, death of either mother or father raised risks of mental illness. The effect was largest and strongest if death occurred before age 5
Bukodi and Dronkers (2003)	2000	Hungary	Educational attainment at 17, 20 and 25 years of age	Growing up in a sole-parent family due to death has impacts on education of an inconsistent sign. In one case it is significant and negative, as well as being larger than the negative divorce effect
Albertini and Dronkers (2003)*	2000	Italy	Highest education level of adult children	Widowhood is found to have a significant impact on child educational attainment. The effect is larger than for divorce. However, there were no birth controls for either parent and thus the result may reflect selection bias.
Borgers *et al.* (1996)*	1990	Netherlands	Child's outcomes during secondary school (Pocket money per week, extra money from parents, self evaluated academic success, negative self concept, bad health, truancy and fighting, plans for independence, homework time, housework time)	The effects of paternal death are significantly negative in 3 out of 11 cases, compared to 8 out of 11 cases for divorce in a mother headed family. Where they are negative, the effects are considerably bigger for divorce.
Jonsson and Gahler (1997)*	1992	Sweden	Educational outcomes for teenagers	Children who lose a father to death have slightly worse educational performance than children of an intact family but not greatly different from a family with a separated or divorced mother

Author	Year of last data collection	Country	Outcomes	Death result compared to two biological parents and to separated parents
Sweeting *et al.* (1998)	1993	United Kingdom	Health and delinquent behaviour, sex, pregnancy and relationship formation, education during teenage years and early adulthood	Mixed results but mostly children from both separated and bereaved families are similar to one another and not worse off, except for drug taking, from intact families. Child whose parents die seem somewhat less likely to engage in vandalism, violence and theft than children from divorced backgrounds
Ely *et al.* (2000)	1986, 1987	United Kingdom	Educational qualifications, Smoking, Drinking, Psychological symptoms, Physical health	Unadjusted odds (the multi-variate analysis incorporated contemporaneous variables) show that death or parent was considerably less than the impact of separation for both surveys for educational outcomes. The smoking, drinking and psychological health results were mixed. Physical health of those with dead parents was somewhat better than those from a separated background
Fronstin, Greenberg and Robins (2001)*	1991	United Kingdom	Child's adult outcomes aged 32 (Education qualification and labour market performance - Unemployed, not in labour force, part-time) by sex	Taking intact families at birth and controlling for parent and child variables measured at birth, there are negative impacts of marginal statistical significance of parental death before the child is aged 16 on education at age 33 for both males and females. These effects are much smaller and less significant than the impact of parental separation. In terms of labour force outcomes the results are typically much smaller or have the wrong sign and are not statistically significant. There seem to be strong selection effects in the divorce coefficients.
Amato (1991)	?	United States	Adult depression	Adults who experienced the death of a parent as a child had elevated depression as adults, compared to adults who had been bought up in intact families as children
Amato and Keith (1991)	?	United States	Socioeconomic attainment	Adults who experienced the death of a parent as a child had no difference in their socio-economic attainment as adults, compared with adults who had been bought up in intact families as children
McLanahan and Sandefur (1994)	?	United States	Dropping out of high school, non-marital teenage birth	Children with a deceased parent were no more likely to drop out of high school than children from an intact family. Daughters with a deceased parent were more likely to have a teenage non-marital birth than those form intact families.

Author	Year of last data collection	Country	Outcomes	Death result compared to two biological parents and to separated parents
Bilbarz and Gottainer (2000)	1996	United States	Child's adult outcomes over age 18 (Ninth grade completion, high School completion, entry into college, College completion, SES, Happiness)	Single mother households due to death tend to have negative but no significant differences in outcomes compared to the two biological parent families. In all cases divorced single mother families do worse than widowed single mother families, in most cases significantly so.
Lang and Zagorsky (2001).	1993	United States	Child adult outcomes aged between 28 and 36 (AFQT score, Educational attainment, Married, Earnings) by sex	There is no strong evidence, controlling for background variables, that divorce and death have consistent and significant differential effects on these adult outcomes. Thus there do not seem to be strong selection effects. Most of the effect of being bought up by a sole parent happens via the pathways of education on other adult outcomes

* Not explicitly using the methodology to uncover causal impacts of parental separation

Behavioural genetic approaches

128. There have been several recent studies which use behavioural genetic approaches to estimate the causal impact of parental separation on child behaviour and development, typically by using comparisons of groups with different degrees of genetic and environmental similarity to at least partially control for selection bias. These approaches share much in common with sibling studies.

129. In a small United States cross-sectional sample (123 children), Brodzinksy *et al.* (1993) find that children from non-intact home exhibit worse adjustment, but the results are similar for biological and adopted children. Using a United States longitudinal study of nearly 400 adoptive and biological families (the Colorado Adoption Project), O'Connor *et al.* (2000) examine the impact on children's self-concept, social competence, academic achievement, behavioral and emotional health and likelihood of early drug use of parental separation using a sample of non-adoptive and adoptive children. If there was selection due to uncontrolled genetic similarities between adults and children, one would expect to find stronger effects for divorce for biologically related than for adoptive families. Some evidence was in fact found for a stronger impact of divorce on children in biological families, but it was not overwhelming.[28] This result is consistent with that of Kendler *et al.* (1996), using a twin sample. They found no statistically different impact of divorce or parental death on alcoholism of female twins by MZ (identical twins) or DZ zygosity (fraternal twins) (if there were genetic selection one would expect a stronger effect for MZ twins). The results weakly suggest that parental divorce and children's social competence and academic achievement may be partly genetically influenced.

130. D'Onofrio *et al.* (2006) use a children of twins design on a large Australian twins data set in excess of 2,500 individuals. Such a design studies the children of twins, using between-twin variation in divorce. If the twins were monozygotic (identical, MZ), the children from the twins – who are cousins – share half their genes, even though they are not siblings, and in addition share the observed and unobserved environmental characteristics common to both sibling parents. If the twins were dizygotic (non-identical, DZ), the children from the twins – who are cousins – share a quarter of their genes, and, again, the environmental characteristics common to both sibling parents. Thus consideration of offspring of twins controls for some unobservable genetic and environmental factors. Additionally, the impact of parental separation on offspring of MZ and DZ twins can be compared. If the effect is larger for the offspring of DZ twins, this provides some evidence of genetic selection.

131. Child outcomes considered by D'Onofrio *et al.* (2006) include measures of education, early sex, use of drink, alcohol and drugs, and various measures of depression. The standard multivariate analysis applied to the data shows significant results of the expected sign for parental separation for all 12 outcomes. Using the MZ twin differences, in almost all cases effects sizes fall, often considerably, but retain statistical significance in 3 out of 12 cases (marijuana use, depression and, perhaps not surprisingly, age at first depression). In all cases they retain the expected sign. Comparisons of DZ and MZ twin results also show that the relative impacts of shared genetic and environmental factors differ across the outcomes examined.

132. Further studies using the same method on the impact of divorce on marital instability (D'Onofrio *et al.* 2007A) using Australian twin data and on psychopathology (D'Onofrio *et al.* 2007B), using United States twin data. In terms of marital instability, there is some evidence for genetic selection and a residual, is attributed to causation by the authors (D'Onofrio *et al.* 2007A). In terms of psychopathology, the evidence suggests the relationship between divorce and internalising problems is simply selection – a result inconsistent with D'Onofrio's Australian work (D'Onofrio *et al.* 2007B, p. 673), while – consistent with

28. It is worth noting that Amato (2005, p. 85) interprets these findings in a slightly different way – as the results being "similar" for adopted and biological children.

the Australian results – a relationship remains for alcohol abuse, with some possibility of a small genetic confound.

133. These are methods which are likely to be used more in the future to consider impacts of family structure on child well-being. The results suggest a substantial degree of selection but often (but not always) allow some remaining scope causal effects (cf. Amato 2005). Given (1) not all genetic and environmental effects are accounted for as controls are only for one parent and (2) of the one parent considered, their environment and genetic material are found to be important, any remaining impact of divorce is likely to continue to contain some influence of selection. Additional issues with interpretation of this approach include maintain assumptions about the direction of causation and lack of assortative mating and sample size and representativeness.

Cross-OECD comparative approaches

134. There are a number of studies which compare two or more OECD countries. Some of these studies, which show some similarities and some differences between the United Kingdom and Germany, and similarities between the United States and Sweden in terms of impact of sole-parent families on child outcomes use sibling fixed effects models, have already been considered above (Francesconi, Jenkins and Siedler 2005; Björklund, Ginther & Sundström 2007).

135. There are also large studies comparing a significant number of countries, typically for an educational outcome, which have information on point-in-time family structure. These studies divide up into large-cross OECD studies, based on the TIMMS and PISA data sets, which use cross-sectional information but run a comparable outcome instrument and family structure instrument across many OECD countries with large samples, and pair-wise comparisons of several countries, using a variety of not-strictly-comparable but longitudinal data sets form each country.

136. While designs are often far from ideal, such studies do provide interesting information on the extent of the outcome gap between intact and sole-parent families. What might country comparison show us? Differences between countries in terms of the apparent impact may arise from differential process of selection into sole parenthood. Differences between countries may also arise in terms of impact parenthood, which may in turn arise from social differences, economic differences or social or economic policy differences. While no strong conclusions on the links between social policies and outcomes for children of lone parents can be draw from these studies – there is simply not enough variation in the data to reliably do so – it is interesting to observe whether there are strong differences observed in the impact of sole parenthood between countries.

137. Using traditional OLS models on United States and Swedish data Bjorklund, Ginther and Sundström (2007) find very similar results in terms of the size of the statistically significant, negative impacts of sole parenthood on the subject child's human capital, and adult income. However, the sibling fixed effects models cannot reject the null that all family forms are equal in their impacts on human capital and income for both the United States and Sweden. In both cases, there is little evidence that the more generous Swedish welfare state cushions the children of sole parents against these adverse effects arising in their adulthood. The alternative explanation is that stronger selective pressures apply in the Swedish system to choose lower quality parents as sole parents, which offsets the cushioning effects of the Swedish welfare state.

138. A Nordic-United States comparison is also undertaken by Breivik and Olweus (2006). Using results of a large scale community sample of 12-15 years olds in Bergen, Norway, they compare their effect sizes to those of Amato's (2001) largely United States-based meta-analysis. Outcomes considered included human capital (academic problems), externalising problems, and internalising problems.

Compared to children living with both biological parents, children aged 12-15 living with a single mother showed moderate to medium risks of developing educational and externalising problems. To the apparent surprise of the authors, strong similarities were found between the patterns and size of the results and those in Amato's meta-analysis for the United States. As with the Swedish-United States comparison, the relatively more generous Norwegian welfare system does not seem to results in different Norwegian patterns. There is some support for this finding of comparatively high Norwegian gaps in PISA.

139. A France-United Kingdom comparison is made in Ledoux *et al.* (2000), using a cross sectional data set of 15-16 year olds in France and the United Kingdom, focusing on alcohol and drug use. Effects of intact, restructured, single parent and other family structures are considered. After controlling for maternal and paternal relationships and degree of monitoring, teenage alcohol and cannabis used were related to family structure (both single parent and restructured) in the United Kingdom, but family structure had less of an impact in France. This was despite strong similarities in distributions of family structures between the two countries.

140. An interesting comparison of child well-being in Canada, the United States and Norway is made by Phipps (1998). The child age range considered is between 4 to 11 years of age. A wide range of well-being indicators are used including indicators for physical health, happiness and social adjustment. Phipps employs multi-variate methods, including controls for sole parenthood. In terms of child happiness, child of sole parents in Canada and the United States have significantly worse outcomes, but not in Norway. The ratio of weight to height is positive and significant in Canada and Norway, but not in the United States (it is unclear whether this indicator should have been interpreted positively or negatively. Perhaps a body mass index would have been more useful). There is no significant difference in the likelihood of children from sole parents being injured in Norway, while Norwegian children of sole parents also have significantly lower anxiety and better health. Overall there was some evidence of better comparative outcomes for young children from sole-parent families in Norway compared to the United States and Canada.

141. TIMSS (*Third International Mathematics and Science Study 1995)* mathematics scores for 18 countries (with Belgium split into Flanders and Walloonia, making 19 areas all told) are used by Woessmann (2004) to consider the impact of an intact family structure. Sole parenthood due to divorce and separation is not explicitly included in isolation - living in an intact family is compared to all other forms. Country-OLS equations controlling for parental education, age, sex, country of birth, books in the home and location, show only small effects of living in a two-parent family on test scores. In some cases (Belgium, Austria, Netherlands, and Denmark) effects of an intact family were negative in their impact on mathematics scores, but not statistically significant. The largest positive effect size from an intact family was found in Norway and the United States, consistent with results also found by Breivik and Olweus (2005). TIMSS is also used as a data source by Pong *et al.* (2003), but employing science scores in addition to mathematics scores. New Zealand and the United States rank last among countries in terms of large test score differences between single parent and two-parent families. They find evidence that the gap is smaller in countries where family polices equalize resources and also where single parent families are more prevalent.

142. Griesbach *et al.* (2003) undertake a cross-national, cross-sectional WHO survey of 15 year-olds in seven European countries (Scotland and Wales represent the United Kingdom) focusing on smoking behaviour. Lone parent families are separately distinguished. Controlling for a small number of covariates (gender family affluence, adolescent income and parental smoking), in two out of seven countries there was a significantly increased risk of 15 year olds from lone parent families smoking compared to intact families. The effect sizes (over double) and likelihood of statistical significance (6 out of 7 countries significant) were much larger for step families than lone parents. Another health focused project with smoking as an outcome is Bjarnason *et al.* (2003) who look at 15-16 year olds in eleven European

countries, seven of which are OECD members. A hierarchical multi-level modeling approach is used to show that adolescents in non-intact families smoke more than in intact families. The predictive power of living with a single mother, single father or no biological parent has a bigger influence in some countries than others, whereas the other family types have similar affects across countries. However, single mother families are the non-traditional types least strongly associated with cigarette smoking, result consistent with Griesbach *et al.* The variation in predictive power of single mothers or father for their teenagers smoking behaviour across countries is inversely related to the country share of these family types – the more uncommon sole-parent families are, the larger their negative effect on smoking.

143. There are very few studies of Asian OECD countries in consideration of the impact of sole parenthood. An important recent exception is Park (2007), who considers the impact of sole parenthood using PISA data for OECD members Japan and Korea, and non-members Hong Kong, Indonesia and Thailand. He finds a weak negative impact of sole parenthood in Asian countries, which he puts down in part to the importance of the extended family system and a relatively high proportion of widows amongst sole parents.

GENERAL POLICY CONCLUSIONS

144. Despite limited data for comparison of both levels and trends in sole parenthood across the OECD, it is clear than many countries have experienced substantial rises in numbers of sole parents, over the last generation. These rises have been pronounced in some Anglophone countries. It is also clear that in most OECD countries a significant minority of children will experience a sole-parent family at some point in their life cycle. These changes have placed sole-parent family structures on the policy agenda in some OECD countries. What is not clear is whether the trend to increased shares of sole parents will continue in countries with high rates of sole parenthood, or whether saturation has now been reached.[29] What is also not clear is whether countries currently with low rates of sole parenthood will converge to those with higher rates. In fact, the causes which have given rise to differential changes in rates of sole parenthood across the OECD have not been well-investigated (in part because of the weaknesses in the data).

145. For policy makers, the first point to note is that, in comparison say to some policy-related literatures like the impact of education on earnings or even the employment effects of minimum wages, the empirical literature on the impact of family structure on child outcomes is at an immature stage. The immaturity is signalled by the lack of a consensus regarding the existence of a causal effect of sole-parent family structure. To draw stronger conclusions means the application of priors to the existing body of evidence. The quotation below illustrates the cautious recent approach taken by some researchers to the question:

> *"Our findings are that there is currently no unambiguous proof that growing up in a lone-parent family has adverse effects for later-life outcomes (with the exception of the effect on smoking). To reiterate, this does not mean that there is no effect. It means that the size and direction of the effect is not known for sure (for important statistical reasons). Indeed, our results are consistent with the effects being adverse"* (Francesconi, Jenkins and Siedler 2005b, p. 48).

However, despite the ambiguity, researchers are also holding out some hope that a more precise conclusion may be able to be drawn in the future:

> *"Identification of a causal impact [of family structure on child well-being] must, however, await data which contain sufficiently convincing instruments that allow family structure to be modelled as an endogenous variable"* (Ermisch and Francesconi 2001, p. 263).

146. In their position of caution, the researchers cited above are also reflecting a more general shift towards scepticism, within the economics profession at least, of using results from traditional multi-variate analysis to determine causality. Moffitt (2005, p. 91) puts it this way: *"[w]ithin economics, thinking about causal estimation has shifted dramatically in the past decade towards a more pessimistic reading of what is possible and a retreat in the ambitiousness of claims to causal determination"*. It is fair add to this that, in addition, economists as a profession tend to be both more technically focussed on conditions required for causal identification and perhaps hence more sceptical about identifying cause and effect that many in

29. There is some evidence of stabilisation and even recent decline in proportions of sole parents, for example, in New Zealand.

other disciplines – such a psychology, sociology and demography – who have contributed to the literature on sole parenthood and child well-being.

147. What policy conclusions are possible? Putting aside the causal question, something more definitive can be said on size of any effect. The meta-analysis, undertaken here, and in conjunction with Amato's similar study of (mostly) United States research, suggests that at a maximum that the likely causal effect sizes of being bought up in a sole-parent family are small. In addition, the meta-analysis undertaken here, due to the dominance of raw mean effect sizes and use of unweighted estimates, delivers estimates of the average size of the sole-parent effect on children which are almost certainly still too high. Additionally, it seems likely that the average effect for non-United States OECD countries is somewhat smaller than for the United States. The finding here that the non-United States OECD generates on average lower effects sizes than the United States may be seen to offer some support for a more sceptical view of the sole-parent literature outside the United States. However, there is one important caveat to this scepticism – the Nordics generate quite similar effect sizes to the United States.

148. The largest effect sizes found in the meta-analysis in a well-defined category were for externalising behaviour. Externalising behaviour has clear social costs to third parties, as well as to the individual who has those issues. Again, the temptation to regard this finding as causal is strong, but there are obvious selection mechanisms whereby people who are unable to successfully sustain a relationship are more likely to have children who have behavioural problems without there being a causal link from the resulting family structure into externalising child behaviour.

149. Small effect sizes of being bought up as a child in a sole-parent family structure were found into adulthood. In fact adult effect sizes were found were the largest of any age group. A further interesting, if somewhat negative finding, was little evidence that males in the non-United States OECD are more affected by sole parenthood than females. This finding would suggest that recent deteriorating relative performance, especially in education, by boys in several OECD countries is unlikely to be able to be readily attributed to rising numbers of children being bought up by sole parents.

150. The extent to which different welfare regimes across the OECD influence the transmission of causal effects of sole parenthood is extremely difficult to judge, since the causal effects of sole parenthood are so difficult to define. However, it is the case that there are some differences between OECD countries in terms of the impact of sole parenthood. The extent to which these differences can be put down to policy choices regarding welfare regimes is unclear. There are other differences between countries, not simply welfare regime variation, which may account for inter-country differences in between children of sole parents and children in intact families. For example, parental selection into sole parenthood may differ across countries, due to factors like cross-country differences in divorce laws or the social stigma of divorce. Socio-cultural differences across the OECD are obvious in relation to family issues and these differences may be responsible for observed cross-country differences. And for policy makers, even if it was known conclusively that differences in causal effects of sole parenthood on child outcomes were due to the differences in the operation of welfare states, this would not positively identify which dimension of policy difference across a wide range of benefits and services in kind (including education and housing policies), singularly or interactively, were responsible for the outcome difference. It is noteworthy than the few studies found here which explicitly discussed such questions were either extremely reluctant to attribute differences to policy or found that their results contradicted their priors.

151. A surprising conclusion of the meta-analysis were the higher than average effect sizes found in the Nordic countries, with an overall average which was very similar to the mean United States-effect size found by Amato (2000a). It was anticipated, prior to commencing this work, that the re-distributional nature of these states towards sole parents would overcome other environmental or selection factors leading to worse results for children in such families. Consequently children of sole parents in the United

States would be considerably worse off in terms of well-being measures than Nordic children. The results presented here suggest that there are other things going on. The unexpected result of the meta-analysis in this regard actually broadly concurred with other very recent evidence found in the literature review, for example the recent comparative studies of Breivik and Olweus (2006), Bjorklund, Ginther and Sundström (2007a) and PISA. Nevertheless, the consensus on this matter is not unanimous, at least for Norway (see Phipps 1998).

152. The meta-analysis reveals that the average size effects are small, but this does not, however, mean the effects are necessarily unimportant as a policy issue. Most effect sizes in almost all multi-variate regression studies of social phenomena are small. Effects can also found across a wide range of outcomes, across much of the child and young adult life cycle, and, in addition, may affect a considerable group of children. Of course, given the considerable apparent variation in exposure to sole parenthood across different OECD countries, this means that sole parenthood will be a greater policy concern in countries with higher rates of sole parenthood, all other things being equal.

153. The effect sizes considered in the meta-analysis are average effects. Again, only on the basis of strong assumptions are these effect sizes those most relevant to policy. For any particular policy being contemplated, the relevant effects are the effects of reducing separation for the currently intact families which are marginal to the policy change. Different sort of families are likely to be marginal to different policy changes.

154. Policy makers need to additionally keep in mind that average effects conceal an enormous amount of variation. Many children bought out with sole parents do well on all counts. Many children bought up in stable two-parent families do poorly. This is because many other factors - some well understood, others less so, influence the social outcomes for children of interest (Amato 2005). This additionally means that crudely targeting resources towards sole parents, in addition to possibly reinforcing social stigma which may undermine well-being of children from sole-parent families, is likely to lead to high false positives (providing a service to children of sole-parent families who have no need of it) and high false negatives (not providing a service to many children of two-parent families have need of it).

155. The meta-analysis also shows that the methodologically more sophisticated studies, in terms of several indictors of sophistication, tend to yield smaller effect sizes. The literature review part of this paper has focussed on non-traditional and higher quality research designs for addressing causal questions. Before-and-after models, parental death, changes in divorce laws, and sibling models have all been considered. The results from these designs are mixed and do not always point in the same direction. However the most robust conclusion is that higher quality research designs typically show a smaller and less statistically significant effect on sole-parent family structure on child well-being than more traditional bi-variate or multi-variate methods. However, the results depend on the method, the sample, and the country. Given the comparatively few studies using higher quality designs, it is not possible to say definitively which one of these three possible dimensions is driving the results. It should be also recalled that these designs are better for answering causal questions, but they still rely on some important maintained hypotheses for identification of causal effects. Furthermore, and more importantly, they achieve their better methodology at a considerable cost. This cost is due to loss of generalisability of conclusions to the population of children in sole-parent families.

156. Policy levers to change children's experience of sole-parent family structure or change the impact on children of a sole-parent family structure are not a core part of this review. But if there is a casual effect of sole parenthood on children's outcomes, a further issue becomes the relative efficacy and cost of a very broad range of policies to (a) encourage people who are unlikely to form a stable family unit to more carefully consider decisions to have children, (b) encourage parents who may be at risk of separating to consider staying together, and (c) to compensate children who find themselves in a sole-

parent family structure from any adverse causal consequences of their family structure. The costs of the various policies to influence child well-being via influencing family structure will then have to be compared against the social benefits of so doing. Information on relative policy efficacy in this area is, at best, patchy and – probably for most member states of the OECD – non-existent.

157. In conclusion, policy makers should be aware that the current immature state of the literature does not allow strong conclusions to be drawn regarding the impact of sole parenthood on child well-being in the absence of additional strong priors. There is certainly enough in the literature to suggest policy makers should be concerned about the implications of family structure for child well-being and should keep a close eye on social trends in terms of changes in family structure as well as on the developing social scientific literature on the impact of family structure on child well-being. However, there does not seem to be enough in the literature, in the absence of application of extra-scientific priors in terms of identification, to advocate radical policy change, especially if levers to change family form are at all costly to undertake or uncertain in effect. What should be clear from this review is that this is an area of social science which is rapidly expanding, in terms of new estimation techniques, in terms of growth of useful longitudinal data sets and in terms of countries where the impact of sole parenthood is being researched. It may well be that in another decade research will cast a more precise and certain light on the questions addressed above in this paper.

BIBLIOGRAPHY [BOLD REFERENCES ARE INCLUDED IN THE META-ANALYSIS]

Alcon, Maria and Johan Pedersen (2001), "Family as a child development context and smoking behaviour among school children in Greenland", *International Journal of Circumpolar Health*, 52-63.

Agerbo, Esben, Merete Nordentoft, and Preben Bo Mortensen (2002), "Familial, psychiatric, and socioeconomic risk factors for suicide in young people: nested case-control study", *British Medical Journal*, 325 (July): 74-79.

Albert, Cecilia (2000), "Higher Education Demand in Spain: The Influence of Labour Market Signals and Family Background", *Higher Education*, 40: 147-162.

Albertini, Marco and Jaap Dronkers (2003), "Intergenerational Effects of Divorce in a Mediterranean Society", EUI working paper SPS 2003/11.

Almqvist, F, K Kumpulainen, K Ikäheimo, S-L. Linna, I. Henttonen, E. Huikko, E. Tuompo-Johansson, E. Aronen, K. Puura, J. Piha, T. Tamminen, E. Räsänen and I Moilanen (1999), "Behavioural and emotional symptoms in 8-9-year-old children", *European Child and Adolescent Psychiatry*, 8 (Supplement 4): IV/7-IV/16.

Amato, Paul (1991), "Parental Absence during Childhood and Adult Depression", *Sociological Quarterly*, 32: 543-546.

Amato, Paul (1999), "Children of divorced parents as young adults", in E.M. Hetherington (ed.), Coping with divorce, single parenting, a remarriage: A risk and resilience perspective, Mahwah NJ, Earlbaum.

Amato, Paul (2000a), "Children of Divorce in the 1990s: An Update of the Amato and Keith (1991) Meta-Analysis*." Journal of Family Psychology* 15: 355-370.

Amato, Paul (2000b), "Consequences of Divorce for Adults and Children." *Journal of Marriage and the Family* 62: 1269-1287.

Amato, Paul (2002), "Good Enough Marriages: Parental Discord, Divorce, and Children's Well-Being." *Virginia Journal of Social Policy & the Law,* 9: 71-94.

Amato, Paul (2005), "The Impact of Family Formation Change on the Cognitive, Social and Emotional Well-being of the Next Generation", *Future of Children*, 15 (2): 75-96.

Amato, Paul R., and Jacob Cheadle (2005), "The Long Reach of Divorce: Tracking Marital Dissolution and Child Well-Being Across Three Generations." *Journal of Marriage and Family* 67: 191-206.

Amato, Paul R. and Danelle DeBoer (2001), "The Transmission of Divorce Across Generations: Relationship Skills or Commitment to Marriage?" *Journal of Marriage and Family* 63: 1038-1051.

Amato, Paul and Bruce Keith (1991a), "Separation from a Parent during Childhood and Adult Socio-economic Attainment", *Social Forces*, 70: 187-206.

Amato, Paul and Bruce Keith (1991b), "Parental Divorce and the well-being of children: A meta-analysis", *Psychological Bulletin*, 110: 26-46.

Amato, Paul R. and Juliana M. Sobolewski (2001), "The Effects of Divorce and Marital Discord on Adult Children's Psychological Well-Being." *American Sociological Review* 66: 900-921.

Amato, Paul and Alan Booth (2001), "The Legacy of Marital Discord: Consequences for Children's Marital Quality." *Journal of Personality and Social Psychology* 81: 627–638.

Amato, Paul and Joan G. Gilbreth (1999), **"**Nonresident Fathers and Children's Well-Being: A Meta-Analysis**",** *Journal of Marriage and the Family*, 61 (3): 557-573.

Antecol, Heather, Kelly Bedard & Eric Helland (2001), "Does Single Parenthood Increase the Probability of Teenage Promiscuity, Drug Use, and Crime? Evidence from Divorce Law Changes," Claremont Colleges Working Papers 2001-11, Claremont Colleges.

Antecol, Heather and Kelly Bedard (2007), "Does single parenthood increase the probability of teenage promiscuity, substance use, and crime?", *Journal of Population Economics*, 20: 55-71.

Andersson, Gunnar (2002a), "Children's experience of family disruption and family formation: evidence from 16 FFS countries", *Demographic Research* 7 (7). Available at http://www.demographic-research.org.

Andersson, Gunnar (2002b), "Children's experience of family disruption and family formation: evidence from 16 FFS countries", *Demographic Research* 7 (7). Available at http://www.demographic-research.org.

Aral N, Gursoy F, Dizman H. (2006), "A comparison of depression in children with and without mothers", *Psychological Reports*, 99(2): 619-29.

Artis, Julie (2007), "Maternal Cohabitation and Child Well-Being among Kindergarten Children", *Journal of Marriage and Family* 69 (1): 222–236.

Aseltine, Robert (1996), "Pathways linking parental divorce with adult depression", *Journal of Health and Social Behaviour*, 34: 133-148.

Barnow S, Lucht M, Freyberger HJ. (2001), "Influence of punishment, emotional rejection, child abuse, and broken home on aggression in adolescence: an examination of aggressive adolescents in Germany", *Psychopathology*, 34(4): 167-73.

Baumer JH, Hunt LP, Shield JP. (1998), "Social disadvantage, family composition, and diabetes mellitus: prevalence and outcome", Arch Dis Child. 79(5): 427-30.

Baydar, N (1988), "Effects of parental separation and re-entry into union on the emotional well-being of children", *Journal of Marriage and the Family*, 50: 967-981.

Berntsson, Leeni and Lennart Kohler (2001), "Long-term illness and psychosomatic complaints", *European Journal of Public Health*, 11(1): 35-42.

Biblarz Timothy and Greg Gottainer (2000) "Family structure and children's success: a comparison of widowed and divorced single-mother families", *Journal of Marriage and the Family*, 62(2): 533–548.

Blakely, Tony, June Atkinson, Cindy Kiro, Alison Blaiklock and Amanda D'Souza (2003), "Child mortality, socioeconomic position, and one parent families: Independent associations and variation by age and cause of death", *International Journal of Epidemiology*, 32: 410-418.

Block, J.H., J. Block and P.F. Gjerde (1986), "The impact of divorce on children", *Journal of Marriage and the Family*, 57: 619-648.

Bonell C, Allen E, Strange V, Oakley A, Copas A, Johnson A, Stephenson J. (2006), "Influence of family type and parenting behaviours on teenage sexual behaviour and conceptions", *Journal of Epidemiology and Community Health,* 60(6): 502-6.

Booth, Alan and Paul R. Amato (2001), "Parental predivorce relations and offspring postdivorce well-being." *Journal of Marriage and the Family* 63: 197-212.

Björklund Anders, Donna Ginther and Sundström Marianne (2007a), "Family Structure and Child Outcomes in the United States and Sweden", *Journal of Population Economics*, 20: 183-201.

Björklund, Anders, Donna Ginther, and Marriane Sundström (2007b), "Does Marriage Matter for Children? Assessing the Causal Impact of Legal Marriage", IZA DP No. 3189, November.

Björklund Anders, Donna Ginther and Sundström Marianne (2007c), "Is Cohabitation Bad for Children? Assessing the Causal Impact of Legal Marriage on Child Outcomes", Princeton Working Paper, 1 March.

Björklund Anders and Marianne Sundström (2006), "Parental Separation and Children's Educational attainment: A Siblings Approach", *Economica* 73: 605-624.

Biblarz Timothy, and AE Raftery (1999), "Family structure, educational attainment, and socioeconomic success: rethinking the 'pathology of matriarchy", *American Journal of Sociology*, 105(2): 321–365.

Bjarnason, Thoruddur, Aleksandra Davidaviciene, Patrick Miller, Alojz Nociar, Adreas Pavlakis and Eva Stergar (2003), "Family structure and adolescent cigarette smoking in eleven European countries", *Addiction*, 98: 815-824.

Bockelbrink, A, J. Heinrich, I. Schäfer, A. Zutavern, M. Borte, O Herbarth, B. Schaaf, A. Von Berg, T. Schäfer for the LISA Study Group (2006), "Atopic eczema in children: another harmful sequel of divorce", *Allergy*, 61: 1397-1402.

Borgers, Natacha, Jaap Dronkers and Bernard van Praag (1996), "Different forms of two- and lone-parent families and the well-being of their children in secondary education", *Social Psychology of. Education*, 1: 147-169.

Bosman, R and W. Louwnes (1988), "School careers of children from one-parent and two parent families", *Netherlands Journal of Sociology,* 24: 98-116.

Bradshaw, Jonathon and N. Finch (2002), A comparison of child benefit packages in 22 countries, United Kingdom, Department of Work and Pensions.

Breivik, Kyree and Dan Olweus (2006), "Children of divorce in a Scandinavian welfare state: Are they less affected than United States children?", *Scandinavian Journal of Psychology*, 47: 61-74.

Brodzinksy, David, Jennifer Hitt and Daniel Smith (1993), "Impact of Parental Separation and Divorce on Adopted and Nonadopted Children", *American Journal of Orthopsychiatry*, 63 (3): 451-460.

Bukodi, Erzsebet and Jaap Dronkers (2003), "Family Structure and Educational Attainment in Hungary", Paper presented at the second conference of The European network for empirical and comparative research on the sociological aspects of divorce, Tilburg (Netherlands), November 13-16.

Butters JE. (2005), "Promoting healthy choices: the importance of differentiating between ordinary and high risk cannabis use among high-school students", *Substance Use and Misuse*, 40(6): 845-55.

Capron, Christiance, Carine Thérond and Michel Duyme (2007), "Brief Report: Effect of menarcheal status and family structure on depressive symptoms and emotional/behavioural problems in young adolescent girls", *Journal of Adolescence*, 30 91): 175-179.

Carbonneau R, Tremblay RE, Vitaro F, Dobkin PL, Saucier JF, Pihl RO. (1998), "Paternal alcoholism, paternal absence and the development of problem behaviors in boys from age six to twelve years", *Journal of the Study of Alcohol*, 59(4): 387-98.

Case, Anne, I-Fen Lin and Sara McLanahan (2001), "Educational attainment of siblings in step-families", *Evolution and Human Behaviour*, 22: 269-289.

Casquel, Elena (2003), "The Effect of Labour Market Conditions and Family Background on Educational Attainment of Spanish Youngsters", ISER Working Paper, January 16 [http://www.iser.essex.ac.uk/pubs/workpaps/pdf/2003-01.pdf].

Chase-Lansdale PL, Cherlin AJ, Kiernan KE. (1995), "The long-term effects of parental divorce on the mental health of young adults: a developmental perspective", *Child Development* 66(6): 1614-34.

Cheng, Helen, Judy Dunn, Thomas O'Connor, Jean Golding and the ALSPAC Study Team (2006), "Factors Moderating Children's Adjustment to Parental Separation: Findings From a Community Study in England", *Journal of Abnormal Psychology*, 34 (2): 239-250.

Cherlin, Andrew (2005), "American Marriage in the Early Twenty-First Century", *Future of Children*, 15 (2): 33-55.

Cherlin A.J., Furstenberg FF, Chase-Lansdale PL, and Kiernan KE et al (1991), "Longitudinal studies of effects of divorce on children in Great Britain and the United States", *Science* 252(5011): 1386–1389.

Cherlin, A.J., Furstenburg, P.L. Chase-Lansdale PL and C. McRae (1998), "Effects of parental divorce on mental health through the life course", *American Sociological Review*, 63: 239-249."

Cherlin, Andrew, P.L. Chase-Landsdale and C. McRae (1998), effects of parental divorce on mental health through the life cycle", *American Sociological Review*, 63: 239-249.

Chinn, Susan (2000), "A simple method for converting an odds ratio to an effect size for use in meta-analysis", *Statistics in Medicine*, 19: 3127-3131.

Corak, Miles (2001), "Death and Divorce: The Long-term Consequences of Parental Loss on Adolescents", *Journal of Labour Economics*, 19(3): 682-715.

Christoffersen MN, and K. Soothill (2003), "The long-term consequences of parental alcohol abuse: a cohort study of children in Denmark", *Journal of Substance Abuse and Treatment*, 25(2):107-16.

Crowder, K and J. Teachman (2004), "Do Residential Conditions Explain the Relationship Between Living Arrangements and Adolescent Behavior?", *Journal of Marriage and Family*, 66: 721-738.

Csorba, J. S. Rózsa, A. Vetro, J. Gadoros, J. Makra, E. Somogyi, E. Kaczvinszky and K. Kapornay (2001), "Family- and school-related stresses in depressed Hungarian children", *European Psychiatry*, 16: 18-26.

Curtis LJ, Dooley MD, Lipman EL, Feeny DH. (2001), "The role of permanent income and family structure in the determination of child health in Canada", *Health Economics*, 10(4): 287-302.

Deding, Mette, Mette Lausen and Angelo Rosenstjerne Andersen (2007), "Starting School. The effect of early childhood factors on child well-being", Programme area 4: The effects of welfare policy, Working Paper 2.

Demers M, Brodeur JM, Mouton C, Simard PL, Trahan L, Veilleux G. (1992), "A multivariate model to predict caries increment in Montreal children aged 5 years", *Community Dental Health*, 9(3): 273-81.

Doherty, William. and Richard Needle (1991), "Psychological adjustment and substance use among adolescents before and after a parental divorce", *Child Development*, 62 (2): 328-337.

D'Onofrio, Brian, Eric Turkheimer, Robert Emery, Andrew Heath, Pamela Madden, Wendy Slutske and Nicolas Martin (2006), "A Genetically Informed Study of the Processes Underlying the Association Between Parental Martial Instability and Offspring Adjustment", *Developmental Psychology*, 42 (3): 486-499.

D'Onofrio, Brian, Eric Turkheimer, Robert Emery, Paige Harden, Wendy Slutske, Andrew Heath, Pamela Madden, and Nicolas Martin (2007A), "A Genetically Informed Study of the Intergenerational transmission of marital instability", *Journal of Marriage and the Family*, 69 (August): 793-809.

D'Onofrio, Brian, Eric Turkheimer, Robert Emery, Hermine Maes, Judy Silberg, and Lindon Eaves (2007B), "A Children of Twins Study of Parental Divorce and Offspring Psychopathology", *Journal of Marriage and the Family*, 69 (August): 793-809.

Dronkers, Jaap (1994), "The Changing Effects of Lone Parent Families on the Educational Attainment of their Children in a European Welfare State", *Sociology*, 28 (1): 171-191.

Dronkers, Jaap (1999), "The Effects of Parental Conflicts and divorce on Well-Being of Pupils in Dutch Secondary School", *European Sociological Review*, 15 (2): 195-212.

Duncan, Greg (with Martha Hill and Wei-Jun J. Yeung) (1997), "Childhood Family Structure and Young Adult Behavior" *Journal of Population Economics*, 14(2): 271-299.

Elliot, B.J. and Richards, M.P.M. (1991), "Children and divorce: Educational performance and behaviour before and after parental separation", *International Journal of Law and the Family*, 5: 258-276.

Ellis, B.J. *et al.* (2003), "Does Father Absence Place Daughters at Special Risk for Early Sexual Activity and Teenage Pregnancy?", *Child Development*, 74: 801-821.

Ellwood, David, and Christopher Jencks (2001), "The Growing Differences in Family Structure: What Do We Know?" Mimeo, 2001.

Ely, Margaret, Patrick West, Helen Sweeting and Martin Richards (2000), "Teenage Family Life, Life Chances, Lifestyles and Health: A Comparison of Two Contemporary Cohorts", *International Journal of Law, Policy and the Family*, 14: 1-30.

Ermisch John and Mario Francesconi (2001a), "Family structure and children's achievements", *Journal of Population Economics*, 14(2): 249–270.

Ermisch John and Mario Francesconi (2001B), "Family matters: Impacts of family background on educational attainments", *Economica*, 68(270): 137-156.

Ermisch John, Mario Francesconi and D.J. Pevalin (2004), "Parental partnership and joblessness in childhood and their influence on young people's outcomes", *Journal of the Royal Statistical Society A*, 167(1): 69-101.

Esping-Anderson, Gosta (1990), *The Three Worlds of Welfare Capitalism*, Princeton University Press, New Jersey.

Evenhouse E, and S. Reilly (2004), "A sibling study of stepchild well-being", *Journal of Human Resources*, 39(1): 248–276.

Evren, Cuneyt, Sevil Kural and Duran Cakmak (2006), "Clinical correlates of childhood abuse and neglect in substance dependents", *Addictive Behaviours*, 31: 475-485.

Eydoux, Anne and Marie-Thérèse Letablier (2007), *Les familles monoparentale en France*, Centre d'études de l'émploi, Juin.

Fleming, D.M. and J.R.H. Charlton (1998), "Morbidity and healthcare utilisation of children in households with one adult: comparative observational study", *British Medical Journal*, 316 (May): 1572-1576.

Fombonne E, and Vermeersch S. (1997), [Children of the GAZEL Cohort: I--Prevalence of contacts with the medico-educational system for psychological reasons, and associated factors], *Revue Epidemiology et Santé Publique,* 45(1): 29-40. [Article in French].

Forehand, R. L. Armistead and Corrine David (1997), "Is adolescent adjustment following parental divorce a function of pre-divorce adjustment?" *Journal of Abnormal Child Psychology*, 25: 157-164.

Frisch M, and A. Hviid (2006), "Childhood family correlates of heterosexual and homosexual marriages: a national cohort study of two million Danes", *Archives of Sexual Behaviour*, 35(5): 533-47.

Francesconi, Marco, Stephen Jenkins and Thomas Siedler (2005), "Childhood Family Structure and Schooling Outcomes: Evidence for Germany", Centre for Economic Policy Research, Working Paper No. 5362.

Francesconi, Marco, Stephen Jenkins and Thomas Siedler (2005), "Childhood Family Structure and Schooling Outcomes: Evidence for Germany", Centre for Economic Policy Research, Working Paper No. 5362.

Franz, M., H. Lensche and N. Schmitz (2003), "Psychological distress and socio-economic status in single mothers and their children in a German city", *Social Psychiatry and Epidemiology*, 38: 59-68.

Fergusson, David, John Horwood and Michael Lynskey (1994), "Parental Separation, Adolescent Psychopathology and Problem Behaviours", *Journal of the American Academy of Child and Adolescent Psychiatry*, 33 (8): 1122-1131.

Fergusson, David, Michael Lynskey and John Horwood (1994), "The Effects of Parental Separation, the Timing of Separation and Gender on Children's Performance on Cognitive Tests", *Journal of Child Psychology and Psychiatry*, 35 (6): 1077-1092.

Francesconi, Marco, Stephen Jenkins and Thomas Siedler (2005), "The impact of family structure during childhood on later-life attainment", Anglo-German Foundation for the Study of Industrial Society, September.

Francesconi, Marco, Stephen Jenkins and Thomas Siedler (2006), "Childhood Family Structure and Schooling Outcomes: Evidence for Germany", DIW Berlin, Discussion Papers 610, Berlin, July.

Frankel, David (2006), "How does Family Structure Affect Children's Outcomes? Evidence from the Civil War", Iowa State University, Department of Economics, Staff General Research Papers with number 12819, May 19.

Fröjd, Sari, Mauri Marttunen, Mirjami Pelkonen, Bettina von der Pahlen and Riittakerttu Kaltiala-Heino (2006), "Perceived financial difficulties and maladjustment outcomes in adolescence", *European Journal of Public Health*, 16 (5): 542-548.

Fronstin, Paul, David Greenburg and Philip Robins (2001), "Parental disruption and the labour market performance of children when they reach adulthood", *Journal of Population Economics*, 14: 137-172.

Gähler, M. (1998), "Self-reported Mental Well-being among Adult Children of Divorce in Sweden", *Acta Sociologica*, 41(3): 209-225.

Garib, Gettha, Teresa Martin Garcia and Jaap Dronkers (2003), "Are the effects of different family forms on children's educational performance related to the demographic characteristics and family policies of modern societies?" Paper presented at the second conference of the European network for empirical and comparative research on the sociological aspects of divorce, Tilburg, Netherlands November 13-16.

Garnefski, Nadia and Rene Diekstra (1997), "Adolescents from one parent, stepparent and intact families: emotional problems and suicide attempts", *Journal of Adolescence*, 20: 201-208.

Gennetian, L (2005), "One or two parents? Half or step siblings? The effect of family composition on young children's achievement", *Journal of Population Economics*, 18(3): 415–436.

Gertler, Paul, David Levine and Minnie Ames (2003), "Schooling and Parental Death", Centre for International and Development Economics Research Working Paper No. C03-128.

Ginther D.K., and Pollak R.A. (2004), "Family structure and children's educational outcomes: blended families, stylized facts, and descriptive regressions", *Demography*, 41(4): 671–696.

Ginther, Donna and Robert Pollak (2003), "Does Family Structure Affect Children's Educational Outcomes?", NBER Working Paper Series, working Paper 9628, April.

de Goede M, Spruijt E, Maas C, Duindam V. (2000), "Family problems and youth unemployment", *Adolescence,* 35(139): 587-601.

González, Libertad (2005), "The Determinants of the Prevalence of Single Mothers: A Cross Country Analysis", IZA DP No. 1677.

González, Libertad and Tarja Vitanen (2006), "The Effect of Divorce Laws on Divorce Rates in Europe", The University of Sheffield, Department of Economics, Working Paper number 2006003. October.

González, Libertad and Tarja Vitanen (2007), "The Long Run Effects of Legalizing Divorce on Children", EALE Conference Paper, February.

Griesbach, Dawn, Amanda Amos and Candace Currie (2003), "Adolescent smoking and family structure in Europe", *Social Science and Medicine*, 56: 41-52

Grogger, Jeff and Nick Ronan (1995), "The intergenerational effects of fatherlessness on education attainment and entry level wages", National Longitudinal Surveys, U.S. Department of Labour, Bureau of Labour Statistics, September.

Gruber Jonathan (2004), "Is making divorce easier bad for children? The long run implications of unilateral divorce", *Journal of Labor Econonomics*, 22(4): 799–834.

Gunther, Nicole, Barbara Slavenburg , Frans Feron and Jim van Os (2003), "Childhood social and early developmental factors associated with mental health service use", *Social Psychiatry and Psychiatric Epidemiology*, 38: 101-108.

Harland, P., S.A. Reijneveld, E. Brugman, S.P. Verlove-Vanhorick, and F.C. Verhulst (2002), "Family factors and life events as risk factors for behavioural and emotional problems in children", *European Child and Adolescent Psychiatry*, 11: 176-184.

Harper, CC and McLanahan, Sara (1999), "Father Absence and Youth Incarceration", Centre for Research and Child Well-being Working Paper Number 99-03.

Hammer T, Vaglum P. (1990), "Initiation, continuation or discontinuation of cannabis use in the general population", *British Journal of Addiction*, 85(7): 899-909.

Hansagi, Helen, Lena Brandt and Sven Adreasson (2000), "Parental divorce: Psychological well-being, mental health and mortality during youth and young adulthood. A longitudinal study of Swedish conscripts" *European Journal of Public Health*, 10 (2): 86-92.

Hao, Lingxin and Ross Matsueda (2006), "Family dynamics through childhood: A sibling mdoel of behavioural problems", *Social Science Research*, 35: 500-524.

Hao, Lingxin and Guihua Xie (2002), "The Complexity and Endogeneity of Family Structure in Explaining Children's Misbehaviour", *Social Science Research*, 31: 1-28.

Hassani, Kobra, Elsie Kosunen and Arja Rimpela (2006), "The Use of Oral Contraceptives Among Finnish Teenagers from 1981 to 2003"", Journal of Adolescent Health, 39: 649-655.

Haveman, R and B Wolfe (1994), *Succeeding Generations*, Russell Sage, New York.

Hill, Martha and Paul Callister (2003), "Is 'Single Parent Family' a Misnomer Misdirecting Research and Policies?", Paper for presentation at Family Demography Conference, Bethesda, Maryland, November 13-14, 2003.

Hill, Martha, WJJ Yeung, and Greg Duncan (2001), "Childhood family structure and young adult behaviours", *Journal of Population Economics*, 14 (2): 271-299.

Hoekstra, Mark (2006), "Just Kidding Dear. Using Dismissed Divorce Cases to Identify the Effect of Parental Divorce on Student Performance", 9 February.

Hope, Steven, Chris Power and Bryan Rodgers (1998), "The relationship between parental separation in childhood and problem drinking in adulthood", *Addiction*, 93 (4): 505-514.

Huurtig, Tuula, Anja Taanila, Hanna Ebeling, Jouko Miettunen and Irma Moilanen (2005), "Attention and behavioural problems of Finnish adolescents may be related to the family environment", *European Child and Adolescent Psychiatry*, 14: 471-478.

Huurre, Taina, Hanna Junkkari and Hillevi Aro (2006), "Long-term Psycho-social effects of parental divorce", *European Archives of Clinical Neuroscience*, 256: 256-263.

Icks, A., J. Rosenbauer, K. Strassburger, M. Grabert, G. Giani, and R.W. Holl (2007), "Persistent social disparities in the risk of hospital admission of paediatric patients in Germany – prospective data from 1277 diabetic children and adolescents", *Diabetic Medicine*, 24: 440-442.

Isohanni M, Oja H, Moilanen I, Koiranen M.(1994), "Teenage alcohol drinking and non-standard family background", *Social Science Medicine*, 38(11): 1565-74.

Isir, Aysun Barasei, Mehmet Todemir, Hüdaverdi Kücüker, and Hikmet Ergin Dulger (2007), "Role of Family Factors in Adolescent Delinquency in an Elazi/Turkey Reformatory", *Forensic Science*, 52 (1): 125-127.

Johnson, J., and C. Mazingo (2000), "The Economic Consequences of Unilateral Divorce for Children", Office of Research, University of Illinois, Champaign, IL.

Jonsson JO, and M Gähler (1997), "Family dissolution, family reconstitution, and children's educational careers: recent evidence from Sweden", *Demography*, 34(2):277–293.

Jonsson, Fridrik, Urdur Njardvik, Gudlaug Olafsdottir, and Sidurdir Gretarsson (2000), "Parental divorce: Long-term effects on mental health, family relations and adult sexual behaviour". *Scandinavian Journal of Psychology*, 41: 101-105.

Joshi, Heather, Elizabeth Cooksey, Richard Wiggins, Andrew McCulloch, Georgia Verropoulou and Lynda Clarke (1999), "Diverse Family Living Situations and Child Development: A multi level analysis comparing longitudinal evidence from Britain and the United States", *International Journal of Law, Policy and the Family*, 13 (3): 292-314.

Kapornai, Krisztina, Amy Gentzler, Ping Tepper, Enikö Kiss, László Mayer, Zsuzsanna Tamás, Maria Kovacs, and Ágnes Vetró (2006), "Early developmental characteristics and features of major depressive disorder among child psychiatric patients in Hungary", *Journal of Affective Disorders*, (in press):

Kendler, K.S, M.C. Neale, C.A. Prescott, R.C. Kessler, A.C. Heath, L.A. Corey and L.J. Leaves (1996), "childhood parental loss and alcoholism in women: A causal analysis using a twin-family design", *Psychological Medicine*, 26: 79-95.

Kerr, Don and Joseph Michalski (2007), "Family Structure and Children's Hyperactivity Problems: A longitudinal Analysis", *Canadian Journal of Sociology*, 32 (1): 85-112.

Kestilä, Laura, Seppo Koskinen, Tuija Martelin, Ossi Rahkonen, Tiina Pensola, Hillevi Aro, Arpo Aromaa (2006), "Influence of parental education, childhood adversities and current living conditions on daily smoking in early adulthood?", *European Journal of Public Health*, 16 (6): 617-226.

Kestilä, Laura, Seppo Koskinen, Tuija Martelin, Ossi Rahkonen, Tiina Pensola, Hillevi Aro, Arpo Aromaa (2005), "The determinants of health in early adulthood: what is the role of parental education, childhood adversities and own education?", *European Journal of Public Health*, 16 (3): 305-314.

Kaltiala-Heino, Riittakerttu, Matti Rimpelä, Päivi Rantanen, Pekka Laippala (2001), "Adolescent depression: the role of discontinuities in life course and social support", *Journal of Affective Disorders*, 64: 155-156.

Kotimaa A.J., I. Moilanen, A. Taanila, H. Ebeling, S.L. Smalley, McGough JJ, Hartikainen AL, Jarvelin MR (2003), "Maternal smoking and hyperactivity in 8-year-old children", *Journal of the American Academy of Child and Adolescent Psychiatry,* 42(7): 826-33.

Krein, S. F. (1986), "Growing Up in A Single Parent Family: The Effect on Education and Earnings of Young Men", *Family Relations*, 35: 161-168.

Krein, S. F. and Beller A.H. (1988), "Educational Attainment of Children from Single-Parent Families: Differences by Exposure, Gender and Race", *Demography*, 25: 221-234.

von Kries, Rudiger, André Toschke, Berthold Koletzko and William Slikker (2002), "Maternal Smoking during Pregnancy and Childhood Obesity", *American Journal of Epidemiology*, 156 (10): 954-961.

Kuh D, and Maclean M. (1990), "Women's childhood experience of parental separation and their subsequent health and socioeconomic status in adulthood", *Journal Biosocial Science*, 22(1):121-35.

Kumpulainen, Kirsti and Eila Räsänen (2002), "Symptoms and Deviant Behaviour Among eight-Year olds as Predictors of Referral for Psychiatric Evaluation by Age 12", *Psychiatric Services*, 53 (2): 201-206.

Kumpulainen, Kirsti (2000), "Psychiatric symptoms and deviance in early adolescence predict heavy alcohol use 3 years later", *Addiction*, 95 (1): 1847-1857.

Laftman, Sara Brolin and Viveca Östberg (2006), "The pros and cons of social relations: An analysis of adolescents' health complaints", *Social Science and Medicine*, 63: 611-623.

Lamerz, A, J Kuepper-Nybelen, C Wehle, N Bruning, G Trost-Brinkhues, H Brenner, J Hebebrand and B Herpertz-Dahlmann (2005), "Social class, parental education, and obesity prevalence in a study of six-year-old children in Germany", *International Journal of Obesity*, 29: 373-380.

Lang, Kevin and Jay Zagorsky (2001), "Does growing up with a parent absent really hurt?", *Journal of Human Resources*, 36(2): 253–273.

Langille, Donald, Jean Hughes, Gail Murphy, Janet Rigby (2005), "Socio-economic factors and adolescent sexual activity and behaviour in Nova Scotia", *Canadian Journal of Public Health*, 96(4): 313-8.

Lanz, Margherita, Raffaella Iafrate, Rosa Rosnati and Eugenia Scabini (1999), "Parent-child communication and adolescent self-esteem in separated, inter-country adoptive and intact non-adoptive families", *Journal of Adolescence*, 22: 785-794.

Larsson, Bo and Anne Mari Sund (2007), "Emotional/behavioural, social correlates and one-year predictors of frequent pains among early adolescents: Influences of pain characteristics", *European Journal of Pain,* 11: 57-65.

Ledoux, Sylvie, Patrick Miller, Marie Choquet and Martin Plant (2002), "Family Structure, Parent-Child Relationships and Alcohol and Other Drug Use among Teenagers in France and United Kingdom", *Alcohol and Alcoholism*, 37 (1): 52-60.

Leeners, B., P. Neumaier-Wagener, S. Kuse, C. Irawan, B. Imthurn and W.Rath (2006), "Family stability during childhood and the risk to develop hypertensive diseases in pregnancy", *Early Human Development*, 82: 441-446.

Li, Leah and Chris Power (2004), "Influences on childhood height: comparing two generations in the 1958 British birth cohort", *International Journal of Epidemiology*, 33: 1320-1328.

Li, Leah, Orly Manor and Chris Power (2004), "Early environment and child-to-adult growth trajectories in the 1958 British birth cohort", *American Journal of Clinical Nutrition*, 80: 185-192.

Lintonen, T., M. Rimpelä, A. Vikat and A. Rimpelä (2000), "The effects of societal changes on drunkenness trends in early adolescence", *Health Education Research*, 15 (3): 261-269.

Lissau, Inge and Thorkold Sorensen (1994), "Parental neglect during childhood and increased risk of obesity in young adulthood", *The Lancet*, 343 (February): 324-327.

Liu, Shirley (2007), "Is my parent's divorce to blame for my failure in life? A joint model of child educational attainments and parental divorce", paper, Department of Economics, University of Miami, July 16.

Locard Elisabeth, Nicole Mamelle, Agathe Billette, Michel Miginiac , Francoise Munoz, and Sylvie Rey (1992), "Risk factors of obesity in a five year old population. Parental versus environmental factors", *International Journal of Obesity*, 16(10): 721-9.

Lont, A. & J. Dronkers (2004), "Parental Divorce and the Well-being of Adolescent Children. Changes between 1984-1999 in the Netherlands." pp. 249-270 in *Challenges for Quality of Life in the Contemporary World. Advances in quality-of-life studies, theory and research*, edited by W. Glatzer, S. von Below & M. Stoffregen, Dordrecht, Boston & London: Kluwer.

Lundberg, Shelly and Robert Pollak (2007), "The American Family and Family Economics", NBER Working Paper 12908, February.

Lund Jens (1990), "Mentally retarded criminal offenders in Denmark", ***British Journal of Psychiatry*,** 1990 156: 726-31.

Lund Karl Erik, Anders Skrondal, Harry Vertio, and Asgeir Helgason (1998), "To what extent do parents strive to protect their children from environmental tobacco smoke in the Nordic countries? A population-based study", *Tobacco Control*, 7(1): 56-60.

McLanahan, Sara and L. Bumpass (1988), "Intergenerational Consequences of Family Disruption", *American Journal of Sociology*, 94 (1): 130-152.

McLanahan, Sara and Gary Sandefur (1994), *Growing Up with A Single Parent*, Harvard University Press, Cambridge, MA.

Mahler, Phillipe and Rainer Winkelmann (2004), "Single Motherhood and (Un)Equal Educational Oppportunities: Evidence for Germany", IZA Discussion Paper No. 1391, November.

Meezan, William and Jonathon Rauch (2005), "Gay Marriage, Same Sex Parenting, and America's Children", *Future of Children*, 15 (2): 97-115.

McMunn, Anne, James Nazroo, Michael Marmot, Richard Boreham and Robert Goodman (2001), "Children's emotional and behavioural well-being and the family environment: findings from the Health Survey for England", *Social Science & Medicine* 53: 423-440.

Miller, Patrick and Martin Plant (1999), "Truancy and perceived school performance: An alcohol and drug study of United Kingdom teenagers", *Alcohol and Alcoholism*, 34 (6): 886-893.

Moffitt, Robert (2005), "Remarks on the Analysis of Causal Relationships in Population Research", *Demography*, 42(1): 91-108.

Morrison, D.R. and A.J. Cherlin (1995), "The divorce process and young children's well-being: a prospective analysis", *Journal of Marriage and the Family*, 57: 800-812.

Murray, Äsa and Karen Sandqvist (1990), "Father Absence and Children's Achievement from Age 13 to 21", *Scandinavian Journal of Educational Research*, 34 (1): 3-28.

Noack, Peter, Christine Krettek and Sabine Walper (2001), "Peer relations of adolescents from nuclear and separated families", *Journal of Adolescence*, 24: 535-548.

Nock, Steven (2005), "Marriage as a Public Issue", *Future of Children*, 15 (2): 13-28.

O'Connor, Thomas, Avshalom Caspi, John C DeFries and Robert Plomin (2000), "Are associations between parental divorce and children's adjustment genetically mediated? An adoption study." *Developmental Psychology*, 36(4): 429-437.

Ostberg, A-L., U Lindblad and A. Halling (2003), "Self-perceived oral health in adolescents associated with family characteristics and parental employment status", *Community Dental Health*, 20: 159-164.

Otten, Roy, Rutger Engels, Monique van de Ven and Jonathon Bricker (2007), "Parental Smoking and Adolescent Smoking Stages: The Role of Parents' Current and Former Smoking, and Family Structure", *Journal of Behavioural Medicine*, 30 (2): 143-154.

Pagani, L. R.E. Tramblay, F. Vitaro, M. Kerr and P. McDuff (1998), "The impact of family transition on the development of delinquency in adolescent boys: A 9-year longitudinal study", *Journal of Child Psychology and Psychiatry*, 39: 489-499.

Pagaini, Linda, Bernard Boulerice, Frank Vitaro and Richard Tremblay (1999), "Effects of poverty on academic failure and delinquency in Boys: A change and process model approach"

Painter G, and D Levine(2000), "Family structure and youths' outcomes: which correlations are causal?", *Journal of Human Resources*, 35(3): 524–549.

Parera, Núria and Joan-Carles Surís (2004), "Having a Good Relationship with Their Mother: A Protective Factor against Sexual Risk Behaviour among Adolescent Families?", *Journal of Pediatrics and Adolescent Gynecology*, 17: 267-271.

Park, Hyunjoon, (2007), "Single-Parenthood and Children's Reading Performance in Asia", *Journal of Marriage and the Family*, 69 (August): 863-877.

Phipps, Shelley (1998), "Outcomes for children in Canada, Norway, and the United States: A Microdata Comparison", Department of Economics, Dalhousie University, September.

Phipps, Shelley (2002) "The Well-being of Young Canadian Children in International Perspective: A Functionings Approach", *Review of Income and Wealth*, 48: 493-515.

Piketty, Thomas (2003), "The Impact of Divorce on School Performance: Evidence from France, 1968-2002", Centre for Economic Policy Research Discussion Paper No. 4146, December.

Piko, B.F. and K.M. Fitzpatrick (2006), "Socioeconomic status, Psychosocial Health and Health Behaviours among Hungarian Adolescents", *European Journal of Public Health*, November [Epub].

Pollard, Elizabeth and Patrice Lee (2003), "Child Well-Being: A Systematic Review of the Literature", *Social Indicators Research*, 61: 59-78.

Pong, Suet-Ling, Jaap Dronkers and Gillian Hampden-Thompson (2003), "Family Policies and Children's School Achievement in Single- versus Two-Parent Families", *Journal of Marriage and the Family*, 65 (August): 681-699.

Ponnet, Kaat, Robert Vermeiren, Ine Jespers, Belo Mussche, Vladislav Ruchkin, Mary Schwab-Stone and Dirk Deboutte (2005), "Suicidal behaviour in adolescents: Associations with parental marital status and perceived parent-adolescent relationship", *Journal of Affective Disorders*, 89: 107-113.

Quinlivan, Julie, Louisa Tan, Angela Steele and Kirsten Black (2003), "Impact of demographic factors, early family relationships and depressive symptomatology in teenage pregnancy", *Australian and New Zealand Journal of Psychiatry*, 38: 197-203.

Ram, Bali and Feng Hou (2003), "Changes in family structure and child outcomes: roles of economic and familial resources", *Policy Studies Journal*, 31 (3): 309-330.

Reichman, Nancy, Hope Corman and Kelly Noonan (2003), "Effects of Child Health on Parents' Relationship Status", NBER Working Paper 9610.

Ribar, David (2004), "What do Social Scientists Know About the Benefits of Marriage? A Review of Quantitative Methodologies", IZA DP No. 998.

Richards, M and M.E.J. Wadsworth (2004), "Long term effects of early adversity on cognitive function", *Archives of Disability and Childhood*, 89: 922-927.

Ringbäck Weitoft, G *et al.*, (2003) "Mortality, severe morbidity, and injury in children living with single parents in Sweden: A population-based study," *The Lancet*, 361(9354): 289-295.

Rodgers, Bryan (1994), "Pathways between parental divorce and adult depression", *Journal of Child Psychology and Psychiatry*, 35 (7): 1289-1308.

Romelsjo, Anders, George Kaplan, Richard Cohen, Peter Allenback and Sven Andreasson (1992), "Protective factors and social risk factors for hospitalization and mortality among young men", American Journal of epidemiology, 135 (6): 649-658.

Ruschena, Eda, Margot Prior, Ann Sanson and Diana Smart (2005), "A longitudinal study of adolescent adjustments following family transitions", *Journal of Child Psychology and Psychiatry*, 46 (4): 353-363.

Sandefur, Gary and Thomas Wells (1997), "Using Siblings to Identify the Effects of Family Structure on Educational Attainment", Institute for Research on Poverty Discussion Paper no. 1144-97.

Sandefur, Gary and Thomas Wells (1999), "Does Family Structure Really Influence Educational Attainment?", *Social Science Research*, 28 (December): 331-357.

Sanz-de-Galdeano, Anna and Daniela Vuri (2006), "Parental Divorce and Students' Performance: Evidence from Longitudinal Data", *Oxford Bulletin of Economics and Statistics*, 69 (3): 321-328.

Sauvola, Anu, Outi Koskinen, Jari Jokelainen, Helina Hakko, Marjo-Riitta Jarvelin, Pirkko Rasanen (2002), "family type and criminal behaviour of male offspring: The northern Finland 1966 Birth Cohort Study", *International Journal of Social Psychiatry*, 48 (2): 115-121.

Shaw, D.S., R.E. Emery and M.D. Tuer (1993), "Parental functioning and children's adjustment in families of divorce: a prospective study", *Journal of Abnormal Child Psychology*, 21: 119-133.

Sidebotham, Peter, Jean Golding and the ALSPAC Study Team, "Child maltreatment in the 'Children of the Nineties'. A longitudinal study of parental risk factors", *Child Abuse and Neglect*, 25: 1177-1200.

Sjöberg, Richard, Kent Nilsson and Jerzy Leppert (2005), "Obesity, Shame and Depression in School-Aged Children: A Population-Based Study", *Pediatrics*, 116: 389-392.

Skinner, C., Bradshaw, J. and Davidson, J. (2007), *Child Support Policy: An international perspective*, Department for Work and Pensions Research Report, vol. 405, Corporate Document Services, Leeds.

Sigle-Rushton, Wendy, John Hobcraft and Kathleen Kiernan (2005), "Parental divorce and subsequent disadvantage: A cross-cohort comparison", *Demography*, 42 (3): 427-446.

Sleskova, Maria, Jolanda Tuinstra, Andrea Madarova Geckova, Jitse van Dijk, Ferdinand Salonna, Johan Groothoff, and Sijmen Reijneveld (2006), ""Influence of parental employment status on Dutch and Slovak adolescents' health", BMC Public Health, 6: 250.

Sourander, Andre and Leila Helstä (2005), "Childhood predictors of externalizing and internalizing problems in adolescence", *European Child and Adolescent Psychiatry*, 14: 415-423.

Sourander, Andre, Minna Aromaa, Leena Pihlakoski, Antti Haavisto, Päivi Rautava, Hans Helenius, and Matti Sillanpää (2006), "Early predictors of deliberate self-harm among adolescents. A prospective follow-up study from age 3 to age 15", *Journal of Affective Disorders*, 93: 87-96.

Sourander, A., L. Helstelä, T. Ristkari, K. Ikäheimo, H. Helnius, and J. Piha (2001), "Child and adolescent mental health service use in Finland", *Social Psychiatry and Psychiatric Epidemiology*, 36: 294-298.

Spencer, Nick (2005), "Maternal education, lone parenthood, material hardship, maternal smoking, and longstanding respiratory problems in childhood: testing a hierarchical conceptual framework", *Journal of Epidemiology and Community Health*, 59: 842-846.

Spence, Susan, Jake Najman, William Bor, Michael O'Callaghan and Gail Williams (2002), "Maternal anxiety and depression, poverty and marital relationship factors during early childhood as predictors of anxiety and depressive symptoms in adolescence

Spruijt, Ed, and Martijn DeGoede (1996), "Changing Family Structure and Adolescent Well-being in the Netherlands", *International Journal of Law Policy and the Family*, 10: 1-16.

Spruijt, Ed, Martijn DeGoede and Inge Vandervalk (2001), "The well-being of youngsters coming from six different family types", *Parent Education and Counselling*, 45: 285-294.

Stevenson, Betsey and Justin Wolfers (2008), "Divorce and Children: What Do We Know?", *Cato Unbound*, January 27th.

Strohscheim, Lisa (2005), "Parental Divorce and Child Mental Health Trajectories", *Journal of Marriage and the Family*, 67 (December): 1286-1300.

Sun, Yongmin (2001), "Family environment and adolescents' well-being before and after parents' marital disruption: A longitudinal analysis", *Journal of Marriage and the Family*, 63 (3): 697-713.

Suris, Joan-Carles and Nuria Parera (2005), "Being old-for-grade and drug use: Not such a clear connection", *Act Paediatrica*, 94: 1807-1814.

Sweeting, Helen, Patrick West and Martin Richards (1998), "Teenage Family Life, Lifestyles, and Life Chances: Associations with Family Structure, Conflict with Parents and Joint Family Activity", *International Journal of Law, Policy and the Family*, 12: 15-46.

Taanila, A, H. Ebeling, A. Kotimaa, I Moilanen and M-R Jarvelin (2004), "Is a large family a protective factor against behavioural and emotional problems at the age of 8 years?", *Acta Paediatrica*, 93: 508-517.

Thrane, Nana, Charlotte Sondergaard, Henrik Carl Schonheyder and Henrik Toft Sorensen (2005), "Socioeconomic factors and risk of hospitalization with infectious diseases in 0- to 2-year-old Danish children", European Journal of Epidemiology 20: 467-474.

Theodorakis, Y, A. Papaioannou A, and K. Karastogianidou (2004), "Relations between family structure and students' health-related attitudes and behaviours", *Psychol. Rep*. 95 (3 Pt 1): 851-858.

Thomsen, Per hove (1994), "Children and adolescents with obsessive compulsive disorder: an analysis of socio-demographic background", *Psychopathology*, 27: 303-311.

Thomas, Adam and Isabell Sawhill (2005), "For Love *and* Money? The Impact of Family Structure on Family Income", *Future of Children*, 15 (2): 57-74.

Ulusoy, Demet and Nilufer Ozcan Demir (2006), "Situational runaway adolescents. A study on risk factors from a Turkish sample", *International Journal of Adolescent Medical Health*, 18 (2): 271-280.

Undheim, Anne Mari and Anne Mari Sund (2005), "School factors and the emergence of depressive symptoms among young Norwegian adolescents", *European Child and Adolescent Psychiatry*, 14: 446-453.

Valle, Ann-K., Leila Torgersen, Espen Roysamb, Knut-Inge Klepp and Dag Thelle (2005), "Social class, gender and psychosocial predictors for early sexual debut among 16 year olds in Oslo", *European Journal of Public Health*, 15 (2): 185-192.

VanderValk, Inge, Ed Spruijt, Martijn de Goede, Cora Maas and Wim Meeus (2005), "Family Structure and Problem Behavior of Adolescents and Young Adults: A Growth-Curve Study," *Journal of Youth and Adolescence* 34: 533-546.

VanderValk, Inge, Ed Spruijt, Martijn de Goede, Wim Meeus and Cora Maas (2004), "Marital Status, Marital Process and Parental Resources in Predicting Adolescents Emotional Adjustment: A Multilevel analysis", *Journal of Family Issues*, 25: 291-317.

Vatten LJ and R. Skjaerven (2003), "Effects on pregnancy outcome of changing partner between first two births: prospective population study", *British Medical Journal*, 327(7424): 1138-1141.

Vikat, A., A. Rimpelä, E. Kousnen and M. Rimpelä (2002), "Sociodemographic differences in the occurrence of teenage pregnancies in Finland in 1987-1998: a follow-up study", *Journal of Epidemiology and Community Health*, 56: 659-668.

Vingilis, Evelyn, Terrance Wade, and Edward Adlaf (1998), "What factors predict self-rated physical health?", *Journal of Adolescence*, 21: 83-97.

Wadsworth, M., R.J. Hardy, A.A. Paul, S.F. Marshall and T.J. Tate (2002), "Leg and trunk length at 43 years in relation to childhood health, diet and family circumstances; evidence from the 1946 national birth cohort", *International Journal of Epidemiology*, 31: 383-390.

Weitoft, Gunilla Ringbäck, Anders Hjern, Bengt Haglund and Mäns Rosén (2003), "Mortality, severe morbidity, and injury in children living with single parents in Sweden: A population based study", *The Lancet*, 361 (January 25): 289-295.

Wilson, C. M. and A. J. Oswald (2005), "How Does Marriage Affect Physical and Psychological Health? A Survey of the Longitudinal Evidence", IZA Discussion Paper No. 1619.

Wicks, Susanne, Anders Hjern, David Gunnell, Glyn Lewis, Christina Dalman (2005), "Social adversity in childhood and the risk of developing psychosis: a national cohort study", Amercian Journal of Psychiatry, 162 (9): 1652-1657.

Winkelmann Rainer (2006), "Parental separation and well-being of youths", *Journal of Socio-economics*, 35(2):197–208.

Woessman, Ludger (2004), "How Equal Are Educational Opportunities? Family Background and Student Achievement in Europe and the United States", IZA DP No. 1284, September.

Wojtkiewicz, R.A. (1993), "Simplicity and Complexity in the Effects of Parental Structure on high School Graduation", *Demograph*y, 30 (4): 701-717.

Zafiriadis, Kiriakos, Miltos Livaditis, Kiriakos Xenitidas, Miranta Diamanti, Evgenia Tsatalmpasidou, Ioannis Sigalas, Nikitas Polemikos (2005), "Social and psychological characteristics of Greek secondary school students with learning difficulties", *Journal of Adolescence*, 28: 741-752.

OECD SOCIAL, EMPLOYMENT AND MIGRATION WORKING PAPERS

Most recent releases are:

No. 81 *A GOOD TIME FOR MAKING WORK PAY? TAKING STOCK OF IN-WORK BENEFITS AND RELATED MEASURES ACROSS THE OECD*
Herwig Immervoll and Mark Pearson (2009)

No. 80 *MAIN FEATURES OF THE PUBLIC EMPLOYMENT SERVICE IN POLAND*
Daniela Kalužná (2009)

No. 79 *MANAGING HIGHLY-SKILLED LABOUR MIGRATION: A COMPARATIVE ANALYSIS OF MIGRATION POLICIES AND CHALLENGES IN OECD COUNTRIES*
Jonathan Chaloff and Georges Lemaitre (2009)

No. 78 *ACTIVATION POLICIES IN NORWAY*
Nicola Duell, Shruti Singh and Peter Tergeist (2009)

No. 77 *PENSION, PURCHASING-POWER RISK, INFLATION AND INDEXATION*
Edward Whitehouse (2009)

No. 76 *AN EVALUATION OF THE TAX-TRANSFER TREATMENT OF MARRIED COUPLES IN EUROPEAN COUNTRIES*
Herwig Immervoll, Henrik Jacobsen Kleven, Claus Thustrup Kreiner and Nicolaj Verdelin (2009)

No. 75 *ACTIVATION POLICIES IN IRELAND*
David Grubb, Shruti Singh and Peter Tergeist (2009)

No. 74 *MAIN FEATURES OF THE PUBLIC EMPLOYMENT SERVICE IN THE CZECH REPUBLIC*
Daniela Kaluzna (2008)

No. 73 *LONG TIME-SERIES FOR PUBLIC EXPENDITURE ON LABOUR MARKET PROGRAMMES*
David Grubb and Agnès Puymoyen (2008)

No. 72 *MAIN FEATURES OF THE PUBLIC EMPLOYMENT SERVICE IN THE SLOVAK REPUBLIC*
Daniela Kaluzna (2008)

No. 71 *SOCIO-ECONOMIC DIFFERENCES IN MORTALITY*
Edward Whitehouse and Asghar Zaidi (2008)

No. 70 *INVESTMENT RISK AND PENSIONS: MEASURING UNCERTAINTY IN RETURNS*
Anna d'Addio, Jose Seisdedod and Edward Whitehouse (forthcoming)

No. 69 *FILLING THE PENSION GAP: COVERAGE AND VALUE OF VOLUNTARY RETIREMENT SAVINGS*
Antolin, P. and Edward Whitehouse (2009) (forthcoming)

No. 68 *THE IMPACT OF FOREIGN DIRECT INVESTMENT ON WAGES AND WORKING CONDITIONS*
Elena Arnal and Alex Hijzen (2008)

No. 67 *THE DYNAMICS OF SOCIAL ASSISTANCE RECEIPT: MEASUREMENT AND MODELLING ISSUES, WITH AN APPLICATION TO BRITAIN*
Lorenzo Cappellari and Stephen P. Jenkins

No. 66 *REFORMING RETIREMENT-INCOME SYSTEMS: LESSONS FROM THE RECENT EXPERIENCES OF OECD COUNTRIES*
John P. Martin and Edward Whitehouse (2008)

No. 65 *THE JOINT DISTRIBUTION OF HOUSEHOLD INCOME AND WEALTH: EVIDENCE FROM THE LUXEMBOURG WEALTH STUDY*
Markus Jantti, Eva Sierminska and Tim Smeeding (2008)

Other series of working papers available from the OECD include: OECD HEALTH WORKING PAPERS

RECENT RELATED OECD PUBLICATIONS:

PENSIONS AT A GLANCE – SPECIAL EDITION: ASIA/PACIFIC (2009)

GROWING UNEQUAL? Income Distribution and Poverty in OECD Countries (2008)

SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS (VOL. 3) – DENMARK, FINLAND, IRELAND AND THE NETHERLANDS (2008)

JOBS FOR YOUTH: JAPAN (2008)

JOBS FOR YOUTH: CANADA (2008)

JOBS FOR YOUTH: NETHERLANDS (2008)

JOBS FOR YOUTH: NEW ZEALAND (2008)

JOBS FOR YOUTH: NORWAY (2008)

JOBS FOR YOUTH: UNITED KINGDOM (2008)

A PROFILE OF IMMIGRANT POPULATIONS IN THE 21ST CENTURY (2008)

OECD EMPLOYMENT OUTLOOK (2008)

OECD LABOUR FORCE STATISTICS: 1987-2007 (2008)

INTERNATIONAL MIGRATION OUTLOOK - 2008 Edition

IMMIGRATION HEALTH WORKERS IN OECD COUNTRIES IN THE BROADER CONTEXT OF HIGHLY SKILLED MIGRATION (2008)

OECD REVIEWS OF LABOUR MARKET AND SOCIAL POLICIES IN SERBIA (2008)

JOBS FOR IMMIGRANTS (VOL. 2): Labour Market Integration in Belgium, France, The Netherlands and Portugal (2008)

MODERNISING SOCIAL POLICY FOR THE NEW LIFE COURSE (2007)

BABIES AND BOSSES - Reconciling Work and Family Life: A Synthesis of Findings for OECD Countries (2007)

BENEFITS AND WAGES – OECD Indicators (2007)

FACING THE FUTURE: KOREA'S FAMILY, PENSION AND HEALTH POLICY CHALLENGES (2007)

PENSIONS AT A GLANCE: Public policies across OECD countries (2007)

JOBS FOR YOUTH: KOREA (2007)

JOBS FOR YOUTH: BELGIUM (2007)

JOBS FOR YOUTH: SPAIN (2007)

JOBS FOR YOUTH: SLOVAK REPUBLIC (2007)

SICKNESS, DISABILITY AND WORK: BREAKING THE BARRIERS (VOL. 2) – AUSTRALIA, LUXEMBOURG, SPAIN AND THE UNITED KINGDOM (2007)

WOMEN AND MEN IN OECD COUNTRIES (2006)

For a full list, consult the OECD On-Line Bookstore at www.oecd.org