



Australian Government

**Department of Families, Housing,
Community Services and Indigenous Affairs**

Occasional Paper No. 48

Parental joblessness, financial disadvantage and the wellbeing of parents and children

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ISSN 1833-2342 (SPRP)/1833-4415 (OP)/1832-7451 (SP)

ISBN 978 1 921975 87 5

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Acknowledgements

This report uses unit record data from *Growing Up in Australia: The Longitudinal Study of Australian Children*. The study is the project of a partnership between the Department of Families, Housing, Community Services and Indigenous Affairs, the Australian Institute of Family Studies and the Australian Bureau of Statistics. The authors are grateful to the staff of these agencies for valuable comments on earlier versions of the report, noting that its findings are attributable to them and not to the agencies.

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Executive summary

Despite the strength of the Australian economy and the relatively low rate of unemployment, joblessness among families with children remains high in Australia relative to many other OECD countries. Australia also has one of the highest rates of part-time employment among OECD countries, and this is particularly prevalent among employed mothers. Gaining a better understanding of the effect on families with dependent children of joblessness or working only short part-time hours is important for child policy and service delivery—to the extent that any negative effects on a family’s economic resources and social connectedness, and on the psychological wellbeing of the parents, may negatively affect the wellbeing of children.

This report uses data from the first four waves of data from the Longitudinal Study of Australian Children (LSAC) to analyse the links between joblessness/short part-time hours of employment and the wellbeing of parents and their children.

Key findings

Joblessness and short part-time employment

According to the LSAC data for children aged 0 to 10–11 years, over the first four waves of LSAC, at the time of the interviews:

- Of the children living in couple-parent families 93 per cent had a parent working full-time/long part-time hours, 2 per cent had a parent working short part-time hours (parental employment of 20 hours or less per week) and 4 per cent lived in jobless families.
- Of the children in single-parent families 31 per cent had a parent working full-time/long part-time hours, 20 per cent had a parent working short part-time hours and one-half were living in jobless families.

Jobless families had on average a lower socioeconomic status (educational attainment, health, unemployment rate in the area of residence, safety of neighbourhood and access to basic services) than families working full-time/long part-time hours. Families working short part-time hours had a socioeconomic status somewhere between that of jobless families and those working full-time/long part-time hours. Single-parent families had on average lower levels of educational attainment and were less likely to come from a non-English speaking background than couple-parent families.

Economic circumstances and financial wellbeing

A strong relationship between parental employment and financial wellbeing was found. For both couple- and single-parent families, those in short part-time employment had a lower weekly income than those in full-time/long part-time employment. It was noted that the increase in income in going from jobless to short part-time hours was less than in going from short part-time hours to full-time/long part-time hours. The equalised parental incomes of jobless couple- and single-parent families were similar, indicating that jobless couple- and single-parent families had similar incomes after adjusting for differences in the costs of living associated with the different composition and size of the families.

The overall picture was similar when the number of financial hardships experienced was examined. While there was some reduction in the experience of hardships when moving from being jobless to working short part-time hours, the biggest reduction in the experience of financial hardships came from moving from short part-time hours to full-time/long part-time hours.

Analysis of how changes in employment or relationship status related to changes in income revealed quite large increases in income associated with increased parental employment: movements from joblessness, to having some employment, especially to full-time/long part-time hours, and movement from short part-time hours to longer hours were associated with increases in income. Shifts from being a single- to a couple-parent family were also associated with increases in income. Incomes declined when a couple-parent family changed to being a single-parent family and went from working full-time/long part-time hours to fewer or no hours.

Social capital

Having strong social connections, participating in community activities and being able to get support and help (social capital) are increasingly recognised as important indicators of wellbeing in the context of socioeconomic advantage or disadvantage.

In general, jobless families had the lowest levels of social capital, while families working full-time/long part-time hours had the highest. There was some variation in the level of social capital among those with short part-time hours of employment, although it was usually somewhere between the two other groups. However, once differences in financial wellbeing were held constant, there was no clear pattern in the relationship between parental employment and social capital.

Mental health

There was a strong association between parents' employment and their mental health. The key finding was that jobless parents experienced worse mental health (as indicated by higher levels of psychological distress) compared to parents working full-time/long part-time hours. The difference in mental health between parents working short part-time hours and parents working full-time/long part-time hours was smaller and, when explored further, was explained by other factors, such as financial hardship. There was a significant difference in mental health between single and couple mothers: single mothers, on average, experienced higher levels of psychological distress than couple mothers, irrespective of employment level.

Further, it was apparent from the longitudinal analyses of changes in mental health that changing from being partnered to being single was associated with a decline in mental health (that is, an increase in psychological distress), and changing from being single to being partnered was associated with improvements in mental health (declines in psychological distress).

Child wellbeing and developmental outcomes

Children living in a jobless family had poorer cognitive and social–emotional outcomes compared to children in families working full-time/long part-time hours. Children living in families working short part-time hours also had poorer developmental outcomes than those in families working full-time/long part-time hours, but the differences in developmental outcome between these groups of children were smaller than the differences when comparing jobless families and those working full-time/long part-time hours.

About half of the difference in developmental outcome between children in jobless families and those in families working full-time/long part-time hours was explained by differences in financial wellbeing. Once financial wellbeing was taken into account in the statistical modelling, there were no significant differences in the cognitive or social–emotional wellbeing of children between families working short part-time hours and families working full-time/long part-time hours. The remaining differences in outcomes between jobless families and those working full-time/long part-time hours appeared to be related to differences in the underlying characteristics of families. Child cognitive outcomes did not vary significantly by parental employment once detailed controls for social capital, sociodemographics and local area information were included in the statistical models.

While the poorer developmental outcomes for children of jobless families and those working short part-time—compared to full-time/long part-time—hours can be partially explained by parental characteristics such as education level, joblessness does appear to have an effect on developmental outcomes through its impact on financial wellbeing, parental mental health, nature of the neighbourhood, and parenting style.

Taken as a whole, the analyses in this report suggest that joblessness and, to some extent, short part-time hours of employment are associated with lower levels of wellbeing for parents and for children, compared to families working full-time/long part-time hours. Lack of parental employment affects children by having consequences for their parents' finances and mental health. The remaining differences in outcome between families who are jobless or work short part-time hours and families working full-time/long part-time hours are explained to some extent by existing socioeconomic differences that characterise parental employment, which also increase the chances of poorer developmental outcomes for children, compared to families in full-time/long part-time work.

1 Introduction

Although the Australian economy has experienced strong economic growth since the mid-1990s and unemployment is low, a relatively high proportion of Australian children live in jobless families—that is, families in which no adult is employed (Organisation for Economic Co-operation and Development [OECD] 2011). This is in part due to the relatively low employment rate of single parents in Australia and the relatively high proportion of Australian children living in single-parent families (Adema & Whiteford 2007). Australia also has one of the highest rates of part-time employment of the OECD countries, and a significant number of children live in families where there is an employed parent, but that parent is working short part-time hours. Single-parent families comprise a disproportionate share of jobless families and families working short part-time hours.

Lack of employment may affect the wellbeing of parents in a number of ways: financial stress, which can have a negative impact on the psychological health of parents and family relationships; and reduced social capital and social support. There may be also be negative effects on the wellbeing and developmental outcomes of children.

This report explores and analyses the effects of joblessness and short part-time hours on parents and children¹ using data from the Longitudinal Study of Australian Children (LSAC). LSAC provides longitudinal data on a large sample of families with young children and is the best available Australian dataset for examining this question.

The report is structured in three parts. The first part provides an overview of selected research on the impacts of joblessness and short part-time hours on parents and children (Section 2) and an overview of the LSAC data (Section 3). The second part of the report describes patterns of parental employment (Section 4), documents the links between parental employment and financial wellbeing (Section 5) and explores the links between parental employment and social capital (Section 6). The third part of the report brings together the preceding analyses to estimate the associations between parental employment and parental mental health (Section 7) and between parental employment and child wellbeing (Section 8). The final section concludes the report.

2 Background

There is extensive Australian and international literature on issues such as unemployment, joblessness, poverty and social exclusion, and their effects on families and children. This section provides a summary of some of the key issues that have emerged and highlights the contribution that this report makes to the literature. Given the extensive nature of the literature, a comprehensive literature review has not been undertaken.

2.1 Joblessness, financial wellbeing and social exclusion

There has long been concern among policy-makers about unemployment and the potential negative effects of unemployment on parents and children. Since the late 1990s the focus of these policy discussions has shifted from unemployment per se to the broader concept of joblessness, particularly for families with children. Greater attention has also been paid to policies and services that can help ameliorate the effects of long-term joblessness on families.²

The shift towards a policy focus on joblessness occurred for several reasons. First, there has been a recognition that unemployment—as understood to be not having a job, being available to start work and being actively looking for employment—is too narrow a definition, missing the many people who would like a job but are not actively looking or are not available for work. There is a range of reasons why jobless parents may not be actively looking for work, including that they have given up hope of finding employment; their personal circumstances (such as caring responsibilities) mean that they cannot manage paid employment; or they are not able to work for reasons of disability or ill health. There are other parents who do not want to work and live on a low income, experiencing financial hardships.

As noted above, a feature of joblessness in Australian families with children is that it is disproportionately concentrated in single-parent families. Single-parent families are at greater risk of being jobless than are couple-parent families, in part because in single-parent families joblessness occurs when the only parent is not in paid employment, whereas for couple-parent families it requires two parents to not be in paid employment. Also, the characteristics of single parents put them at greater risk of being jobless. For example, single mothers have, on average, lower levels of educational attainment and poorer health than couple mothers (Gray & Baxter 2012). Given the very different rates of joblessness between single- and couple-parent families and the differences in characteristics between parents in jobless couple- and parents in single-parent families, much of the analysis in this report examines the differences between these family types.

In addition to jobless families, there are families in which the total number of hours worked by parents is relatively low. For this report the category ‘short part-time hours’ has been created to consider this group of families (see Section 2 for more details). An important question is whether, and to what extent, employment for short part-time hours improves the financial wellbeing of families and is associated with higher levels of wellbeing in parents and children, or whether these families have low incomes and experience high rates of financial hardships.³

It may be that parents in families with short part-time hours are choosing to work these hours in order to balance their work and family responsibilities and that working short part-time hours is not associated with the experience of financial hardships. Alternatively, short part-time hours may be the result of one parent who was previously employed full-time being temporarily out of employment or between jobs. Understanding the effects of short part-time hours of employment on families is of particular interest in the Australian context given the high rates of part-time employment in Australia compared to most other OECD countries.⁴

Another feature of parental employment in Australia is that, compared to other OECD countries, a relatively high proportion of Australian couple families with young children have only one parent in full-time employment. This may leave some families vulnerable to joblessness or only short part-time employment, should that parent lose their job or lose some hours of paid employment.

Families in which there are employed parents have, on average, much higher levels of income, experience fewer financial hardships and are less likely to be living in poverty than are jobless families (Whiteford 2009; Whiteford & Adema 2007). There is also evidence that, while part-time employment increases income and reduces the likelihood of being in poverty, the biggest reductions in poverty are associated with full-time employment (Saunders 2011). There has been a growing awareness that income-based measures of poverty need to be supplemented with measures of financial hardship and deprivation (Bray 2001, 2003; Saunders 2008).

The current policy approaches, while recognising the need to provide government financial support to low-income families, have moved toward emphasising the importance of paid employment, both for income (McClure 2000; McHugh & Millar 1996) and a range of social outcomes. The broader consequences of a lack of paid employment are sometimes thought to be an aspect of social exclusion, with the long-term jobless thought to have an increased risk of social exclusion. The concept of social exclusion applies to people who experience multiple and long-term disadvantage in most, if not all, areas of their lives (Hayes, Gray & Edwards 2008). Reducing the proportion of Australian children living in jobless families is part of the Social Inclusion Agenda (Gillard 2008) – the concepts of social exclusion and inclusion being closely related. In this report these terms are used to refer to two ends of a single dimension.

A related conceptual framework is the social capital framework, which focuses on people's social connections and the extent to which they can draw upon their networks to achieve a range of outcomes they value (Bourdieu 1993; Coleman 1988; Putnam, Leonardi & Nanetti 1993). Social exclusion is a broader concept, which generally encompasses both low levels of social capital and low income.

2.2 Characteristics of jobless and working families

In order to understand the effects of joblessness and low working hours on families, it is important to understand the differences in socioeconomic and demographic characteristics between families who are jobless, families who work low hours and families who work full time. These characteristics may both increase the likelihood of parents being in paid employment and themselves be affected by parental employment. Differences in the socioeconomic and demographic characteristics of families can also explain variation in parental and child wellbeing.

As noted above, throughout these analyses we will consider couple- and single-parent families separately as family type is a key variable analysed throughout this report. Other examples of socioeconomic and demographic characteristics that need to be considered are number and age of children, parents' educational attainment (an important aspect of human capital), being from a non-English speaking background (NESB), Indigenous status and health status. Previous research has found differences in these characteristics between couple- and single-parent families, and between employed and not-employed parents (Australian Social Inclusion Board [ASIB] 2011; Baxter & Renda 2011; Gray & Baxter 2012; Whiteford 2009). Recent Australian research has highlighted that these characteristics often intersect with each other and with employment outcomes in complex ways (Hand, Gray, Higgins, Lohoar & Deblaquiere 2011).

Further, on average, jobless families are more likely to live in lower socioeconomic neighbourhoods—as there are concentrations of joblessness in particular areas. There is evidence that the nature of the area in which families live can have flow-on effects on their wellbeing (ASIB 2011; Edwards & Bromfield 2009; Miranti, Harding, McNamara, Ngu & Tanton 2010; Saunders 2011; Vinson 2007).

Consideration of these various characteristics helps to identify families who are at greatest risk of experiencing disadvantage, as measured in this report.

2.3 Joblessness, family functioning and child outcomes

Joblessness can affect the wellbeing of parents in two main ways. First, joblessness accompanied by low income reduces material living standards, which can adversely affect parents' health, ability to participate socially and ability to improve their level of human capital through activities such as education. Second, a lack of paid employment can be psychologically stressful (Brewer, Francesconi Gregg & Grogger 2009; Clark-Kauffman,

Duncan & Morris 2003), which can have negative effects on parental mental health and a couple's relationship—increasing the chance of relationship breakdown (Conger & Elder 1994; Conger, Rueter & Elder 1999; Elder Jr 1999; Kraft 2001; Liker & Elder 1983; Mendolia & Doiron 2008).

There is also evidence that children living in jobless families enjoy, on average, lower levels of wellbeing than do those living in families with employed parents (e.g. Gray & Baxter 2012). The areas in which parental joblessness might have a negative effect on children's developmental outcomes include:⁵

- ▶ *Investments*—Lack of paid employment limits a family's economic resources, so less is spent on education, food, housing and so on. This can result in a child not doing as well as he or she would have otherwise (Duncan & Brooks-Gunn 1997; Solantaus, Leinonen & Punamäki 2004).
- ▶ *Social connectedness and social capital*—The connection between lack of employment and lower levels of social connectedness and social capital may be for several reasons. First, low income may limit the ability to participate in society. Second, any mental health effects of living in a family with a lack of parental employment may limit social participation and social capital. Third, the jobless tend to live in less advantaged neighbourhoods, which can reduce social connectedness and social capital (e.g. Bradbury & Chalmers 2003; Dockery 2000). Lower levels of social connectedness and social capital can have an adverse consequence for children's developmental outcomes (e.g. Furstenberg Jr & Hughes 1995; Zubrick, Williams & Silburn 2000). Living in a less advantaged neighbourhood has been found to be associated with poorer learning and behavioural outcomes for children compared to living in a more advantaged neighbourhood (Leventhal, Leventhal & Brooks-Gunn 2000).
- ▶ *Family stress*—The psychological effects of joblessness can in turn adversely affect the quality of parenting, which in turn can have a negative effect on a child's wellbeing. There is also, as discussed above, some evidence that the stress of joblessness can have an adverse effect on a couple's relationship and increase the chance of relationship breakdown.
- ▶ *Role model*—Children without an employed parent for a role model do not learn the skills required to find and retain a job and may have diminished motivation to succeed in education.

Previous research with LSAC has shown that family joblessness is associated with poorer outcomes for children, although a range of other family characteristics are important explanatory variables (Gray & Baxter 2012). Similarly, earlier work has shown that children in financially disadvantaged families are not as developmentally prepared to make the transition to school as other children (Smart, Sanson, Baxter, Edwards & Hayes 2008).

2.4 Contribution of this report

This report makes several contributions to the existing literature. First, it provides analyses of the links between joblessness/short part-time hours of employment and financial wellbeing, social capital and mental health, using four waves of data from a large, nationally representative longitudinal study of Australian families with children under the age of 12. Second, it provides estimates of the extent to which children's wellbeing varies according to whether their parents are jobless, work short part-time hours or work longer hours. To our knowledge, this is the first study of the effects on children's wellbeing of living in a family where the parents only have short part-time hours of employment. Third, it extends previous work by Gray and Baxter (2012) on the effect of joblessness on child wellbeing to consider in more detail the mechanisms by which a lack of parental employment can affect children, including the roles of financial stress, social capital, parental mental health, parenting style and quality, and the nature of the neighbourhood in which children are growing up.

3 The Longitudinal Study of Australian Children

The analyses in this report are based on data from the Longitudinal Study of Australian Children (LSAC), which follows two cohorts of children selected from across Australia. Children in the B cohort ('birth' at Wave 1) were born between March 2003 and February 2004, and children in the K cohort ('kindergarten' at Wave 1) were born between March 1999 and February 2000. An overview of the design of LSAC is provided by Gray and Smart (2009).

This report uses data from the first four waves of the survey, collected in 2004, 2006, 2008 and 2010.⁶ The LSAC sample was 10,090 children at Wave 1. Like all longitudinal studies, LSAC experiences sample attrition—that is, not all of the original study participants are interviewed at each subsequent wave—and by Wave 4, 83 per cent of the original Wave 1 sample was successfully interviewed. This retention rate compares favourably with similar longitudinal studies (Gray & Smart 2009).

The attrition resulted in some biases being introduced into the sample. For example, single parents and parents with lower levels of educational attainment were more likely to drop out of the study. The dataset includes sample weights that are designed to adjust sample estimates to take account of differential rates of attrition for a range of observable characteristics. However, it is not possible to adjust estimates for possible differences in attrition rates for characteristics that are not observed in the dataset.⁷ All of the estimates in this report have been produced using the sample weights.

The main focus of LSAC is the collection of information about each child selected into the study (referred to as 'study child'). A large amount of information is also collected about the family more broadly, including about the paid employment of the study child's parent(s).

The LSAC methodology involves collecting information about the family from the study child's primary carer or the parent who knows most about the child (Parent 1). In couple-parent families, in the vast majority of cases, Parent 1 is the mother. In single-parent families, Parent 1 is the parent with whom the child is residing at the time of the data collection—again, in most cases the mother. Data are collected from the primary carer in face-to-face interviews and self-completion questionnaires, including computer-assisted instruments in more recent waves. In the case of couple-parent families, information is also collected from the other parent. Data from these different sources are used in this report.

Information is also collected from the children themselves—increasingly so as the children grow older—and some of this is used in this report in the analyses of children's outcomes. For children with a parent living elsewhere, an attempt is made to collect information from the parent living elsewhere, but this information is not used in this analysis. Table 1 provides information on the number of responding LSAC families at each wave for the B and K cohorts.⁸

Table 1: Number of children and their families responding to each wave of LSAC

	B cohort				K cohort			
	0–1 year	2–3 years	4–5 years	6–7 years	4–5 years	6–7 years	8–9 years	10–11 years
Total families	5,107	4,606	4,386	4,242	4,983	4,464	4,331	4,169
% of Wave 1 sample re-interviewed		90.2	85.9	83.1		89.6	86.9	83.7
Families in scope for the analyses in this report	5,085	4,585	4,329	4,197	4,930	4,413	4,209	4,054

Note: The number of in-scope families is slightly less than the total number in the sample, as families were excluded if the resident 'mother' or 'father' of the study child was someone other than a biological, step-, foster or adoptive parent. Families were also excluded if the information about parents' relationship status or parental employment status was missing.

Source: LSAC Waves 1–4, B and K cohorts.

In much of the analysis contained in this report the data from the two cohorts and the four waves are pooled across waves and cohorts. Pooling the data means that the same child may appear multiple times (up to four times for those who participated in all four waves). This approach was taken in order to increase the sample size of jobless families and families employed for short part-time hours. The multivariate analyses based on the pooled sample take account of the fact that the same study child and family may appear multiple times in the dataset, in order to estimate accurate standard errors.⁹

A consequence of this approach is that the children in the pooled sample range in age from 0–1 years (Wave 1, B cohort) to 10–11 years (Wave 4, K cohort). Of course, many LSAC children have older and/or younger siblings, which widens the age range of all children in these families.

The specific measures used in the report are described in the section they are first used in. In this section, we describe the classifications of family type and parental employment, given that these variables are used throughout the report.

A key variable used throughout the report is family type. Couple-parent families are those with both a mother and father to the study child present in the household at the time of the study (including biological, step-, adoptive and foster parents). If the study child has just one parent in the household in which they live at the time of the study, this family is categorised as a single-parent family.¹⁰ If another parent is only temporarily absent (for example, for work-related reasons), this family is classified as a couple-parent family. Some children may have complex family arrangements that involve spending their time living in different households—for example, in shared care with a non-resident parent. Our analyses do not consider to what extent this occurs, since our interest is in the circumstances of the family in which children are living at the time of the study. We do not make the distinction here, but the vast majority (95 per cent) of single-parent families are single-mother families.

The distribution of the family type variable is shown in Table 2.

Families are also classified into the parental employment categories ‘jobless’, ‘short part-time hours’ and ‘full-time/long part-time hours’. Those classified as jobless are all parents who are not employed at a particular wave of LSAC, including those classified as being either unemployed or not in the labour force. While unemployment and ‘not in the labour force’ are useful distinctions in regard to attachment to the labour force, the distinction is not necessary when our primary concern is whether or not parents have employment.¹¹

The category ‘short part-time hours’ was created to identify families that are not jobless but whose hours of employment are few enough to put them at risk of financial hardship and other poor outcomes. In this report we define ‘short part-time hours’ as parents working 1–20 hours per week. For single parents ‘working hours’ means the hours worked by the single parent; for couples it is the sum of the hours worked by both parents. The balance is the category we have labelled ‘full-time/long part-time hours’, which includes families in which the total work hours of two parents is 21 hours or more per week. Parental employment by cohort, wave and family type is also shown in Table 2.

Table 2: Parental employment and family type by cohort and wave (%)

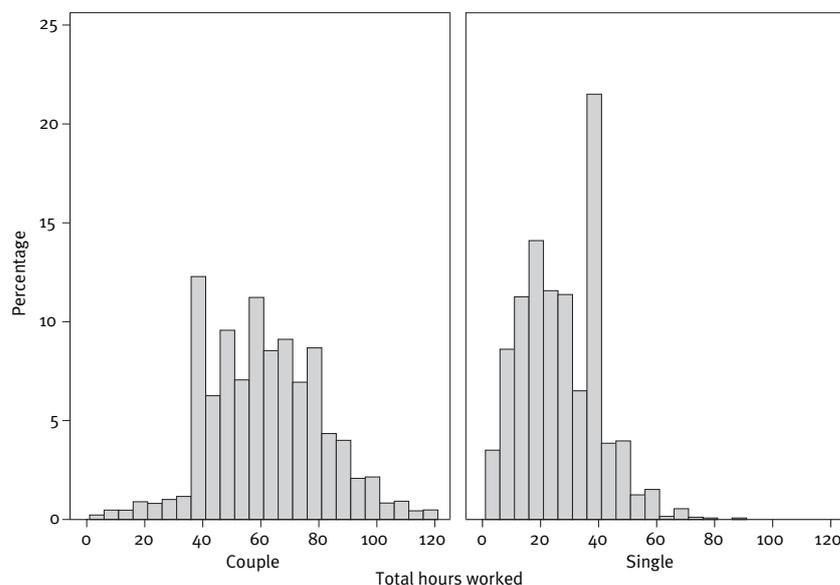
	B cohort				K cohort			
	0-1 year	2-3 years	4-5 years	6-7 years	4-5 years	6-7 years	8-9 years	10-11 years
Couple-parent families								
Full-time/long part-time hours	82.1	81.0	80.9	77.3	78.6	78.1	78.7	74.2
Short part-time hours	2.7	1.6	1.5	2.1	2.3	1.8	1.8	1.9
Jobless	4.8	4.2	3.4	3.6	4.2	3.2	2.1	3.7
All couple-parent families	89.5	86.8	85.8	83.0	85.1	83.2	82.6	79.8
Single-parent families								
Full-time/long part-time hours	0.9	2.5	4.5	6.4	3.1	5.5	6.9	9.6
Short part-time hours	1.4	2.4	2.5	3.3	3.0	3.9	3.8	4.3
Jobless	8.2	8.2	7.2	7.5	8.8	7.4	6.8	6.3
All single-parent families	10.5	13.2	14.2	17.0	14.9	16.8	17.4	20.2
All families								
Full-time/long part-time hours	83.0	83.5	85.4	83.7	81.7	83.6	85.6	83.8
Short part-time hours	4.1	4.1	4.0	5.4	5.3	5.8	5.5	6.2
Jobless	13.0	12.4	10.6	11.0	13.1	10.6	8.8	10.0
All families	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	5,085	4,585	4,329	4,197	4,930	4,413	4,209	4,054

Source: LSAC Waves 1-4, B and K cohorts.

The cut-off of 20 hours was chosen because it is approximately half the hours of a standard full-time job (about 40 hours per week). It should be recognised that in a sense it is arbitrary, and an alternative cut-off for short part-time hours could have been chosen. Figure 1 shows the distribution of parental working hours for couple- and single-parent families. A significant minority of the employed single parents worked these shorter part-time hours. For couple parents, the cut-off used resulted in quite a small proportion of families falling into this group.

This approach to defining families with short part-time hours is similar to that used in the identification of job-poor families in recent analyses of the Household, Income and Labour Dynamics in Australia Survey (Wilkins, Warren, Hahn & Hough 2011). The authors of that report used a cut-off of 35 hours to define 'job-poor' households, but they also acknowledged there is no standard in this respect. A cut-off of 35 hours would not be as appropriate in these analyses, as it would result in the majority of employed single parent families being classified as job-poor.

Figure 1: Distribution of parental working hours, by family type



Notes: The small number of families with total hours exceeding 120 hours per week (< 1 per cent of the sample) is not shown. The vertical line shows the cut-off at which point families were classified as being employed for short part-time hours (≤ 20 hours per week) or for full-time/long part-time hours (> 20 hours per week). Jobless families are not included in this figure.

Source: LSAC Waves 1–4, B and K cohorts.

Table 3 provides information on the average parental income according to the combined weekly working hours of parents, expressed as jobless; 1–20 hours (short part-time hours); 21–34 hours (long part-time hours), 35 hours or more (full-time hours), by family type. As expected, on average, couple-parent families had a much higher weekly income than single-parent families (\$1,576 cf. \$577). There is a clear gradation in income, with income increasing as parental hours worked increases. For example, the average income of families in which the parents worked 1–20 hours per week was \$601, which increased to \$785 for families working 21–34 hours, and was \$1,637 for families with parental working hours of 35 hours or more per week.

Table 3: Average parental gross weekly income (\$2004) by parental working hours, by family type

	Couple-parent families	Single-parent families	All families
	Mean		
35 hours or more	1,661	983	1,637
21–34 hours	883	695	785
1–20 hours	719	530	601
Jobless	547	418	457
All families	1,576	577	1,416
Sample size	28,475	4,478	32,953

Notes: Excludes those with missing income data. Income is gross income (before tax or other deductions) and is adjusted to be in constant 2004 dollars, using the Consumer Price Index, in order to adjust for the impact of inflation.

Source: LSAC Waves 1–4, B and K cohorts.

4 Parental employment

This section provides an overview of patterns of parental employment for families with young children and describes how the socioeconomic, demographic and local area characteristics of families vary for those families who are jobless or have lower levels of employment.

Given the potentially different effects of joblessness and part-time employment in couple- and in single-parent families, the data are presented by family type. This is also of interest given that single-parent families comprise a disproportionate number of jobless families.

4.1 Overview of parental employment status

The majority of children at any point in time were living in a family with one or more parents who were in paid employment. Table 4 shows that the estimates from LSAC (across Waves 1 to 4) are that:

- 84 per cent of children were living in a family in which the combined parental working hours were more than 20 hours per week (full-time/long part-time hours)
- 5 per cent were living in a family in which parents worked a total of 20 hours a week or less (short part-time hours)
- 11 per cent were living in a family with no parent in paid employment (jobless).

Table 4: Parental employment status, by family type

	Couple-parent families	Single-parent families	All families	% that are single-parent families
	%			
Full-time/long part-time hours	93.3	30.9	83.7	5.7
Short part-time hours	2.4	19.6	5.0	60.2
Jobless	4.4	49.5	11.3	67.3
All families	100.0	100.0	100.0	15.3
Sample size	31,136	4,666	35,802	35,802

Note: Percentages may not total exactly 100.0 per cent due to rounding.

Source: LSAC Waves 1–4, B and K cohorts.

There are significant differences between couple- and single-parent families in the extent to which they were jobless or had short part-time hours of employment. The vast majority of couple-parent families (93 per cent) work full-time/long part-time parental hours, with just 2 per cent working short part-time hours and 4 per cent being jobless. In contrast, in almost one-third (31 per cent) of the single-parent families the parent worked full-time/long part-time hours, in one-fifth (20 per cent) the parent worked short part-time hours, and in one-half (50 per cent) the parent was not employed.

Focusing on couple-parent families, in 97 per cent of the families with parental working hours of more than 20 hours per week, the combined parental working hours were 35 hours or more (around the standard full-time working week) (as indicated in Figure 1). In contrast, of single-parents working more than 20 hours per week, 57 per cent were working 35 hours or more. These differences, of course, reflect the fact that couple-parent families have the potential for two parents to be employed.

The concentration of joblessness and short part-time hours of employment in single-parent families is made clear in Table 4. Overall, 15 per cent of children were living in single-parent families, but single-parent families accounted for 67 per cent of jobless families and 60 per cent of families with short part-time hours of work.

At any point in time, the large majority of children were living in a family with parents who worked full-time/long part-time hours. Among the children in all four waves of LSAC, 73 per cent were in a family with full-time/long part-time hours of employment at each wave. However, over these first four waves of LSAC, 19 per cent of children were in a jobless family for at least one of the four waves and 14 per cent were living in a family working short part-time hours for at least one of the four waves. (Children who were in a jobless family at some time may also have been in a family with only short part-time hours employment at some time, so these percentages add up to more than 100 per cent.)¹²

4.2 Characteristics of families according to parental employment status

This subsection describes the socioeconomic and demographic characteristics of families according to parental employment status. Knowing how these characteristics differ will contribute to the understanding of the effects of a lack of parental employment on outcomes such as financial wellbeing, social capital, parental mental health, parenting style and quality, and child development outcomes. The socioeconomic and demographic variables considered are:

- ▶ highest level of parental educational attainment
- ▶ home ownership
- ▶ age of youngest child
- ▶ number of children in the family
- ▶ whether either parent has poor health
- ▶ whether the family lives with another adult
- ▶ age of the youngest parent
- ▶ whether either parent is Indigenous
- ▶ whether the main language spoken at home by the parent/s is a language other than English.

Clearly, some of these variables explain why parents have lower levels of employment (such as lower levels of education and poorer health).

As discussed in Section 2, the nature of a family's local area is also likely to be relevant to joblessness and the related outcomes for families. The local area characteristics examined are:

- ▶ the unemployment rate of the statistical local area (SLA)
- ▶ whether the residence is in a metropolitan or non-metropolitan area
- ▶ parents' ratings of their neighbourhood's safety and access to basic services.

A detailed description of each of the socioeconomic, demographic and local area variables is provided in Table 5, and the data are presented by cohort and wave in Appendix A.

The socioeconomic, demographic and local area characteristics of families, according to parental employment and family type, are shown in Table 6. As discussed in endnote 9, tests of statistical significance are not included in the cross-tabulation of the pooled data. While not reported, these tests were done for each wave separately rather than for the pooled data that are presented. Throughout the report, the findings discussed were statistically significant at conventional levels of significance in all or most waves.

Table 5: Socioeconomic, demographic and local area variables

Variable	Categories/values	Source and notes
Highest parental education	< secondary, ≥ secondary	Based on the education levels of Parents 1 and 2 to determine the highest education level of either parent
Owens/buying own home	Yes, no	
Lives with other adult	Yes, no	Captures those who have a co-resident grandparent, aunt/uncle or non-relative, not including older siblings of the study child
Indigenous parent	Yes, no	Based on Indigenous status of Parents 1 and 2
Non-English speaking parents	Yes, no	Based on main language spoken at home by Parents 1 and 2. The indicator captures those families in which the single parent or both couple parents mainly speak a language other than English at home.
Parent with poor health	Yes, no	Based on self-reported health of Parents 1 and 2 to capture those who say their health is poor or very poor
Metropolitan area	Yes, no	
Age of youngest child (years)	Continuous, mean = 3.7	Age of the youngest child in the family
Number of children	Continuous, mean = 2.5	Counts the number of children in the home. This includes siblings of the study child who are aged 15 years or older
Age of youngest parent (years)	Continuous, mean = 35.1	Based on age of parents 1 and 2
Local area unemployment rate (per cent)	Continuous, mean = 5.2	The month and the year of each respondent's interview was matched to the unemployment rate in that SLA for that quarter, using data from the Small Area Labour Market (SALM) series (DEEWR, 2009, 2010, 2011)
Low rating of neighbourhood safety	Four-point scale—mean of 1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree	Based on the degree to which parents agreed that their neighbourhood or local area is safe
Low rating of access to basic services	Four-point scale—mean of 1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree	Based on the degree to which parents agreed that their neighbourhood or local area has access to services such as banks and medical clinics

Notes: These variables generally have a small amount of missing data. The main exceptions are for health status and parental ratings of neighbourhood safety and services. Some imputation was done to minimise missing data on these items (see Appendix A for details). The means in the above table were calculated from the pooled LSAC dataset of both cohorts and all four waves.

Table 6: Characteristics of couple- and single-parent families, by parental employment status

	Couple-parent families				Single-parent families			
	FT/ long PT hours	Short PT hours	Jobless	All couple- parent families	FT/long PT hours	Short PT hours	Jobless	All single- parent families
	%							
Highest parental education < secondary	5.8	13.9	24.5	6.9	21.5	25.0	43.1	32.9
Owens/buying own home	77.7	53.0	38.1	75.4	44.4	31.5	15.2	27.4
Lives with other adult	4.9	11.7	13.6	5.5	15.8	12.7	16.8	15.7
Indigenous parent	2.7	6.6	13.7	3.2	3.9	3.3	10.8	7.2
Non-English speaking parents	12.7	28.2	30.2	13.8	10.2	9.0	13.3	11.5
Parent with poor health	13.4	24.3	32.6	14.4	11.1	13.5	21.9	16.6
Metropolitan area	65.4	63.4	63.1	65.3	62.8	57.8	56.6	58.7
	Mean							
Local area unemployment rate	5.05	5.88	6.48	5.13	5.26	5.46	6.26	5.79
Age of youngest child (years)	3.6	3.1	2.8	3.5	6.0	4.8	3.4	4.5

As expected, there were big differences in parental educational attainment between families working full-time long part-time hours, those working short part-time hours and families without jobs. Focusing first on couple-parent families working full-time/long part-time hours, just 6 per cent indicated a highest level of parental educational attainment of incomplete secondary education. The proportion of families who indicated low parental education was more than double that, at 14 per cent, among parents with short part-times hours of employment and was around five times higher, at 25 per cent, in jobless families.

There was a similar pattern for single-parent families, although single-parent families were much more likely to have incomplete secondary school as their highest level of education than were couple-parent families (33 per cent cf. 7 per cent). This difference is partly explained by the fact that in couple-parent families there are two parents, so the chances of them both having a low level of educational attainment is lower than it is for the one parent in a single-parent family. However, even if we separately examined the educational attainment of mothers and fathers in couple-parent families, compared to single parents, there were smaller percentages with these lower levels of educational attainment. (Overall, 20 per cent of mothers and 16 per cent of fathers in couple families had an incomplete secondary education; see Appendix Table B2.)

Home ownership differences were quite marked between single- and couple-parent families—75 per cent of couple parents being home owners/purchasers, compared to 27 per cent of single parents. Also, there were large differences within family types, by parental employment: home ownership/purchasing was at 78 per cent among full-time/long part-time hours couples, compared to 38 per cent for jobless couples. Similar differences were apparent among single parents.

A much higher proportion of jobless families had a parent who is Indigenous than did families who had either short part-time or full-time/long part-time employment. For example, in the LSAC data for couple-parent families, 14 per cent of jobless families included an Indigenous parent, compared to 7 per cent of families who had short part-time work and 3 per cent of families who had full-time/long part-time work. Similar findings were apparent among single parents. The finding that a higher proportion of jobless families had an Indigenous parent than was the case for working families is consistent with there being a lower employment rate for Indigenous Australians (Gray & Hunter 2011). However, the precise estimates should be treated with some caution because the sample size of Indigenous parents in LSAC is relatively small, and remote and very remote areas of Australia were excluded from the sampling frame for the survey (Hunter 2008).

Among couple-parent families, those who were jobless and in short part-time work were much more likely than those in full-time/long part-time work to include parents who mainly speak a language other than English at home. The pattern was similar for single-parent families, but the differences between jobless and full-time/long part-time hours were smaller than they were for couple-parent families.

There was a clear and strong association between parental health and parental employment. For both couple- and single-parent families, jobless families were much more likely to have a parent with poor health than were those in full-time/long part-time work. Families with parents working short part-time hours fell somewhere in between. In couple-parent families, 33 per cent of jobless families had a parent with poor health, compared to 24 per cent of families with short part-time work and 13 per cent of those in full-time/long part-time work. The percentage with poor health was 22 per cent among jobless single parents, compared to around half of this (11 per cent) for single parents in full-time/long part-time work.

Families working full-time/long part-time hours, whether couple- or single-parent, were more likely to live in metropolitan areas of Australia, compared to families who were jobless and worked short part-time hours. We can also see from Table 6 that the unemployment rate in the areas of residence of jobless families was, on average, higher than in areas of residence of other families; the lowest average unemployment rates were in areas of residence of families with full-time/long part-time hours.

There were differences in other demographic characteristics according to parental employment. For both couple- and single-parent families, the age of the youngest child was lower in jobless families than in families who had full-time/long part-time work; the age of the youngest child in families who had short part-time hours work was somewhere in between. On average, the age of the youngest child was greater in single- than in couple-parent families, reflecting the different childbearing behaviours of single and couple parents—couple parents being more likely to be still adding to their families.

For both couple- and single-parent families, the average number of children was higher in jobless families than in those working full-time/long part-time hours; the average number of children in families working short part-time hours fell somewhere in between. This probably reflects the fact that parents with a lower level of education tend to have larger families than parents with a higher level of education (de Vaus 2004). It also reflects the association of larger families with a lower rate of maternal employment (Baxter & Renda 2011; Gray, Qu, de Vaus & Millward 2002) and hence a higher rate of joblessness.

Among couple-parent families, there were few differences in the age of the youngest parent according to parental employment status, but among single-parent families, parents working full-time/long part-time hours tended to be older than those who were jobless. The age of parents working short part-time hours fell between the two. The youngest parent in couple-parent families was often the mother. Appendix Table B2 shows that, when the ages of mothers and fathers were examined separately, for those in couple-parent families, there were only small differences according to parental employment status among couple-parent families.

Single parents were more negative in their rating of neighbourhood safety compared to couple parents. Ratings of access to basic services in the local area, however, did not differ between single and couple parents. Within single-parent families, ratings of safety were worst for jobless families, but there was no discernible difference in this regard between single parents working short part-time and those working full-time/long part-time hours. In relation to access to basic services by single parents, those who were jobless or worked short part-time hours gave poorer ratings on average than those who had more hours of employment. In couple-parent families, neighbourhood safety and access to basic services were rated best by families who had full-time/part-time hours of employment.

The differences in many of these characteristics between jobless and working families are consistent with previous research (Baxter & Renda 2011; Whiteford 2009).

4.3 Summary

While the majority of children were living in families with employed parents, a substantial minority lived in families with no parent in paid employment or parents who had short part-time hours of employment. There were big differences between the employment patterns of couple- and single-parent families. Overall, of the children living in couple-parent families, 93 per cent were in families who worked full-time/long part-time hours, 2 per cent were in families working short part-time hours and 4 per cent were in jobless families. Almost one-third (31 per cent) of children living in single-parent families had a parent working full-time/long part-time hours, 20 per cent had a parent in short part-time employment and one half were living in jobless families.

Jobless families had, on average, lower socioeconomic status than families working full-time/long part-time hours; the socioeconomic status of families working short part-time hours fell somewhere in between. The three employment groups also differed in parental educational attainment, health status and Indigenous status. Families who were jobless and worked short part-time hours lived in areas with a higher level of unemployment, rated their neighbourhood as being less safe and had poorer access to basic services compared to families in full-time/long part-time employment.

Compared to couple-parent families, single-parents on average had lower levels of educational attainment, lower rates of home ownership and were less likely to speak a language other than English at home.

A question we have not examined in these analyses is the extent to which families experience multiple and overlapping 'risk factors'—for example, families being particularly disadvantaged in finding or keeping employment because they have low education, poor health and live in an unsafe neighbourhood. This is left for future research to explore.

5 Economic circumstances and financial wellbeing

As discussed in Section 2, the negative economic effect of parental joblessness or low hours of employment affects families, including children. This section describes how the financial wellbeing of families varies according to the level of parental employment (jobless, short part-time hours and full-time/long part-time hours) and family type. Descriptive and multivariate analyses are used to explore these associations. Also, the longitudinal nature of LSAC shows how income changes with changes in parental employment status and family type.

There is extensive literature on the effect of a lack of paid employment on financial wellbeing (Saunders 2011; Whiteford 2009; Whiteford & Adema 2007). This section makes two main contributions to the literature. First, it provides new data, for a large sample of families with children, on the link between joblessness and short part-time employment on financial wellbeing and how this differs between couple- and single-parent families. Second, the longitudinal analyses of changes in financial wellbeing provide a new way of exploring the associations between parental employment and financial wellbeing, given there have been few Australian longitudinal studies on this subject.

LSAC contains a range of measures of economic circumstances and financial wellbeing, the key ones being parental income and the number of financial hardships experienced by families. It is useful to incorporate these two different measures of financial wellbeing, as they provide two quite different sets of information. Parental income is the amount of financial resources coming into the family at the time of the survey, whether from employment or from other sources.¹³ While LSAC does not provide information about the value of parents' assets (including savings), income is nevertheless a good indicator of resources available to the family. The information included on financial hardships indicates the degree to which the financial needs of families are met—given their employment circumstances as well as income. These associations will be explored in this analysis.

5.1 Measures of economic circumstances and financial wellbeing

Parental income

The parental income variable used in this report is total gross parental income (before tax or any other deductions) from all sources—that is, wages, self-employment, government pensions or allowances, and any other forms of income. For single parents, this would include income paid as child support if they reported it as a regular source of income. Pooling data across waves of LSAC means that the sample includes income for four different years. In order to adjust for the impact of inflation, parental income is converted to 2004 dollars using the CPI. This inflation-adjusted income is referred to as 'real income'.¹⁴

When comparing incomes across households with the purpose of assessing economic living standards, it is necessary to take into account the costs of living of different households by using an equivalence scale to adjust income according to household size and composition. This report uses the modified OECD equivalence scale (see Appendix A).

Table 7 provides information on parental income by cohort and wave. For both cohorts, gross parental income and equivalised parental income increased quite substantially between Waves 1 and 2 and between Waves 2 and 3 (2004 to 2008). While there were increases between Waves 3 and 4, they were much smaller than those between earlier waves. It is not clear why the increases in real incomes were so much smaller between 2008 and 2010.

Table 7: Parental gross weekly income (\$2004), by cohort and wave

	B cohort				K cohort			
	0-1 year	2-3 years	4-5 years	6-7 years	4-5 years	6-7 years	8-9 years	10-11 years
Mean parental income (\$)	1,207	1,371	1,516	1,537	1,273	1,425	1,546	1,557
Mean equivalised parental income (\$)	584	640	687	694	579	639	687	696
Sample size (n)	4,830	4,355	4,085	3,559	4,634	4,168	3,924	3,437

Notes: The modified OECD equivalence scale was used. Incomes have been converted to 2004 dollars using the CPI. Excludes those with missing income data.

Source: LSAC Waves 1-4, B and K cohorts.

Financial hardships

Another measure of the financial circumstances of a family is the experience of financial hardships. In LSAC, the primary carer was asked whether any of the following hardships had occurred in the previous 12 months due to shortage of money: not been able to pay gas, electricity or telephone bills on time; not being able to pay the mortgage or rent on time; adults or children going without meals; being unable to heat or cool the home; having pawned or sold something; and having sought assistance from a welfare or community organisation. This information was used to derive indicators and counts of having had financial hardships.

This information was available at each wave for both cohorts and, because it was collected in the main interview, it was missing for only a very small number of families. Table 8 shows the distribution of the experience of financial hardships by cohort and wave. These data suggest that for both cohorts there was a substantial decrease in the proportion of families experiencing financial hardships between Wave 1 and Wave 2 (2004 to 2006). Since Wave 2 this has been stable. This pattern of change is difficult to explain. There were increases in income between Waves 1 and 2, but there were also increases in income between Waves 2 and 3, with no corresponding decrease in the experience of financial hardships. One possible explanation is selective attrition, which was highest between Waves 1 and 2. However, while this may explain some of the drop in hardship, it cannot explain most of it, as among the families that participated in all four waves of LSAC there was also a marked decline in the reporting of financial hardships between Wave 1 and later waves (Appendix Table B1).

Table 8: Experience of financial hardships, by cohort and wave

	B cohort				K cohort			
	0-1 year	2-3 years	4-5 years	6-7 years	4-5 years	6-7 years	8-9 years	10-11 years
	%							
No hardships	67.3	77.9	78.7	78.5	68.0	79.4	79.9	79.4
1 or more hardship	32.7	22.1	21.3	21.5	32.0	20.6	20.1	20.6
1 hardship	18.1	13.8	13.3	12.9	17.0	12.3	11.4	12.0
2 hardships	8.2	5.5	5.6	5.3	8.4	5.2	5.9	5.5
3 hardships	4.0	2.0	1.5	2.0	3.9	1.9	1.7	1.9
4 hardships	1.6	0.6	0.9	1.1	2.0	0.9	0.8	0.8
5-6 hardships	0.9	0.3	0.1	0.2	0.7	0.2	0.4	0.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	5,075	4,553	4,311	4,133	4,921	4,391	4,199	3,986

Note: Percentages may not total exactly due to rounding.

Source: LSAC Waves 1 to 4, B and K cohorts.

5.2 The relationship between parental employment and income

This subsection first explores income according to level of parental employment. As in the previous section, the analysis is presented separately for couple- and for single-parent families. The income, before and after applying equivalence scales, is shown in Table 9.

Table 9: Weekly parental income (\$2004), by family type and parental employment

	Couple-parent families		Single-parent families		All families	
	Mean (SD)					
Mean gross income						
Full-time/long part-time hours	1,640	(1,052)	858	(463)	1,594	(1,043)
Short part-time hours	719	(537)	530	(217)	601	(382)
Jobless	547	(283)	418	(178)	457	(223)
All families	1,575	(1,054)	577	(359)	1,415	(1,043)
Mean equivalised income						
Full-time/long part-time hours	737	(487)	514	(304)	723	(481)
Short part-time hours	306	(237)	308	(132)	308	(179)
Jobless	219	(119)	228	(106)	225	(110)
All families	706	(488)	333	(232)	646	\$(477)

Notes: Incomes have been converted to 2004 dollars using the CPI. Excludes those with missing income data.

Source: LSAC Waves 1 to 4, B and K cohorts.

As expected, on average, couple-parent families had a much higher gross weekly parental income than single-parent families (\$1,575 cf. \$577). This is also true if considering equivalised income, where weekly incomes have been adjusted for differences in household size and composition (\$706 cf. \$333).

Couple-parent families had a higher gross parental income than single-parent families, irrespective of parental employment status. However, there was no difference in equivalised incomes between couple- and single-parent families in short part-time employment, and equivalised parental income was similar among jobless couple- and single-parent families.

For both couple- and single-parent families, there was a clear and strong relationship between parental employment and income. Among couple-parent families, those working full-time/long part-time hours had a gross parental weekly income of \$1,640, which was more than twice the income of families working short part-time hours and three times that of jobless families. For single-parent families, there was a similar pattern, although the differences between the full-time/long part-time hours, short part-time hours and jobless families were smaller, both in proportionate and dollar terms.

For both couple- and single-parent families, the increase in gross and equivalised weekly income when going from jobless to short part-time hours is much smaller than when going from short part-time hours to full-time/long part-time hours. This increase is much larger for couple-parent families than single-parent families, reflecting the fact that in many couple-parent families in full-time/long part-time employment both parents are working and their combined working hours are more than those typically worked in a full-time job.¹⁵

5.3 Changes in parental employment, family type and income

The above analysis focused on cross-sectional associations between parental employment status, family type and parental income. The longitudinal nature of the LSAC data can be used to estimate the effect of changes in parental employment and family type on parental income over time. We do this by comparing the incomes at two consecutive waves of LSAC (that is, comparing Wave 1 to Wave 2, Wave 2 to Wave 3, and

Wave 3 to Wave 4). The averages presented are based on the pooled data formed from each of these possible comparisons. As the main waves of LSAC are conducted every two years, these changes represent two-yearly changes in income. For each comparison of two waves, we refer to the first of the two consecutive waves as ‘Time 1’.

Information about parental employment status and family type at Time 1 is compared to the corresponding information two years later to see how changes in either parental employment or family type relate to a change in parental income.

Before looking at changes in income, we consider to what extent families change across waves in regard to parental employment and family type.¹⁶ The largest group at any time comprises couple-parent families with full-time/long part-time hours of employment. Table 10 is a transition matrix showing that the majority (93 per cent) of these families remained as couple parents working full-time/long part-time hours two years later. Single parents working full-time/long part-time hours were also fairly stable across two years: 70 per cent of them remained single parents working full-time/long part-time hours two years later. The next most stable groups were jobless single parents (63 per cent remaining jobless single parents) and jobless couple parents (49 per cent remaining jobless couple parents).

Table 10: Changes in family type and parental employment

Two years later		Couple-parent families			Single-parent families			All families
		FT/long PT hours	Short PT hours	Jobless	FT/long PT hours	Short PT hours	Jobless	
At Time 1		%						
Couple-parent families	FT/long PT hours	93.2	1.1	1.1	2.1	1.1	1.5	100.0
	Short PT hours	58.6	21.3	8.8	3.6	1.4	6.3	100.0
	Jobless	30.3	9.0	48.6	1.6	0.9	9.7	100.0
Single-parent families	FT/long PT hours	13.3	0.0	0.5	70.2	9.3	6.7	100.0
	Short PT hours	11.8	0.4	0.1	31.2	37.7	18.8	100.0
	Jobless	11.3	1.1	2.8	9.0	13.3	62.6	100.0
All families		78.8	1.7	2.9	6.1	3.4	7.2	100.0
Sample sizes (n)								
Couple-parent families	FT/long PT hours	17,566	166	149	379	188	233	18,681
	Short PT hours	222	74	28	12	5	19	360
	Jobless	189	47	235	7	6	49	533
Single-parent families	FT/long PT hours	103	0	2	563	69	41	778
	Short PT hours	70	3	1	177	217	90	558
	Jobless	138	12	28	118	177	702	1,175
All families		18,288	302	443	1,256	662	1,134	22,085

Notes: Excludes those with missing income data. Percentages may not total exactly 100 per cent due to rounding.

Source: LSAC Waves 1–4, B and K cohorts.

There is some movement between couple and single parenthood and between the groups of parental employment. Some single parents had a partner two years later, while smaller proportions (but a greater number in terms of sample count) of couple parents had become single parents two years later. Some families gained employment, while others had lower levels of employment two years later—there were changes in whether families were jobless or not, as well as changes in total hours worked by parents.

Table 10 also shows the sample sizes associated with all the possible transitions. In some categories there were only a small number of respondents, and analysing how parental income changes for those cells would not be reliable. Therefore, where cell sizes included a sample of 25 or fewer families, income changes were not examined.

Table 11 is a transition matrix that shows changes in income over a two-year period according to parental employment and family type, at the start of the period and two years later.

Table 11: Changes in weekly gross parental income (\$2004), by family type and parental employment

Two years later		Couple-parent families			Single-parent families			All families
		FT/long PT hours	Short PT hours	Jobless	FT/long PT hours	Short PT hours	Jobless	
At Time 1		Average change (\$2004)						
Couple-parent families	FT/long PT hours	166	-308	-356	-670	-746	-692	115
	Short PT hours	438	36	-98	-	-	-	245
	Jobless	462	113	33	-	-	-68	160
Single-parent families	FT/long PT hours	862	-	-	86	-54	-223	156
	Short PT hours	889	-	-	155	8	-50	147
	Jobless	737	-	114	230	50	-10	109
All families		188	-122	-85	-97	-185	-141	121

Notes: Incomes have been converted to 2004 dollars using the CPI. Excludes those with missing income data. Cells are set to missing (-) if the sample count was 25 or less.

Source: LSAC Waves 1 to 4, B and K cohorts.

Focusing on those who were couple parents working full-time/long part-time hours at Time 1, gross weekly income increased by \$166 per week among those who were still in a couple-parent family with full-time/long part-time hours two years later. For couple-parent families working full-time/long part-time hours, the biggest decreases in income were associated with becoming single. Among those who became single parents two years later, incomes decreased by \$670 per week for those working full-time/long part-time hours and by \$746 per week for those working short part-time hours. There were also decreases in income associated with becoming jobless, but these were smaller than those associated with becoming single. For parents who remained in a couple-parent family but who had moved from full-time/long part-time hours to short part-time hours or became jobless, there were substantial decreases in weekly income (\$308 and \$356 respectively).

If a couple-parent family with short part-time hours at the initial wave became a couple family with full-time/long part-time employment two years later, their income increased by \$438 per week.

It can be seen that for those who were in a jobless couple-parent family at Time 1, the only group experiencing a large change in income two years later were those who changed to living in a full-time/long part-time hours couple-parent family (with an increase in income of \$462). There was some decline in income associated with this group becoming single-parent families two years later.

Those in single-parent families who were not working full-time/long part-time hours at the initial time period and who had become partnered two years later, had by some margin the largest increases in income (between \$737 and \$889 per week) if they worked full-time/long part-time hours at this later time. Single-parent families who moved from full-time/long part-time hours at Time 1 to joblessness two years later experienced a quite substantial fall in income (\$223 per week). Of course, if there are changes in family size and composition, the impact this has on the costs of living need to be taken into account through the use of equivalised income.

The patterns of changes in equivalised parental income as related to changes in parental employment and relationship status (Table 12) are similar to those observed for gross parental income. The main difference is that, while the economic benefits of partnering remain, the increases in equivalised household income are smaller, reflecting the increases in family size that result from partnering. Conversely, the falls in income for those working full-time/long part-time hours who go from being a couple-parent family to a single-parent family remain large, but are partly offset by the reduction in family size.¹⁷ There are large economic gains for single parents of becoming partnered if the resulting family has full-time/long part-time hours of parental employment. No such gains are apparent if the family is jobless before and after partnering.

Table 12: Change in weekly equivalised parental income (\$2004), by family type and parental employment

Two years later		Couple-parent families			Single-parent families			All families
		FT/long PT hours	Short PT hours	Jobless	FT/long PT hours	Short PT hours	Jobless	
At Time 1		Average change (\$2004)						
Couple-parent families	FT/long PT hours	59	-146	-161	-184	-271	-251	41
	Short PT hours	184	14	-46	-	-	-	110
	Jobless	188	40	8	-	-	30	70
Single-parent families	FT/long PT hours	206	-	-	60	-48	-106	58
	Short PT hours	283	-	-	98	8	-41	59
	Jobless	226	-	0	149	35	-5	41
All families		66	-64	-47	10	-62	-51	45

Notes: Incomes have been converted to 2004 dollars using the CPI. Excludes those with missing income data. Cells are set to missing (-) if the sample count was 25 or less.

Source: LSAC Waves 1 to 4, B and K cohorts.

5.4 The relationship between parental employment and financial hardships

We now turn to an analysis of how the experience of financial hardship varies according to parental employment and family type (Table 13).

Consistent with the analyses of income, single parents were much more likely than couple parents to have experienced at least one hardship in the previous 12 months (47 per cent cf. 20 per cent) and to have experienced a larger number of hardships (mean of 0.9 cf. 0.3). As expected, couple-parent families working full-time/long part-time hours were the least likely to have experienced one or more hardship and experienced the smallest number of financial hardships. For both couple- and single-parent families the experience of financial hardship was more common for those working short part-time hours than for those working full-time/long part-time hours. Jobless families were the most likely to have experienced financial hardships. The difference in the experience of financial hardships was greater between families working full-time/long part-time hours and short part-time hours than between short part-time employed families and jobless families.

Table 13: Parental employment by number of financial hardships and family type

	Couple parent families	Single parent families	All families
Mean number of hardships			
Full-time/long part-time hours	0.3	0.6	0.3
Short part-time hours	0.8	0.9	0.9
Jobless	0.9	1.1	1.1
All families	0.3	0.9	0.4
% with at least one hardship			
Full-time/long part-time hours	18.2	31.9	19.0
Short part-time hours	42.2	46.7	44.9
Jobless	49.4	56.2	54.0
All families	20.2	46.8	24.2
Sample size	30,933	4,636	35,569

Source: LSAC Waves 1 to 4, B and K cohorts.

Multivariate models of the determinants of the number of financial hardships were estimated in order to test whether the differences in financial wellbeing according to parental employment status and family type remained after controlling for the socioeconomic and demographic characteristics of families. Characteristics included in the model are listed in Table 5 (excluding the local area characteristics). Interactions between family type and parental employment were included to allow for the different effects of being jobless or working short part-time hours in single-parent as opposed to couple-parent families.

Two models were estimated. The first did not include parental income, so that independent associations between parental employment status and financial wellbeing could be looked for. In the second model, the log of parental income was added. This allowed us to explore whether associations between parental employment status and financial hardships were explained by parental income, such that associations between parental employment status and financial hardships altered after taking account of income. Ordinary least squares (OLS) was used. The full regression results are shown in Table 14.

We found that, after controlling for a range of socioeconomic and demographic characteristics, parental employment status was strongly related to the number of hardships experienced, and this remained the case when income was included in the analyses. Parental income, then, did not completely capture the way in which parental employment affects families' financial wellbeing.

Table 14: Multivariate analyses of number of hardships experienced, OLS results

Variable	Number of hardships (without income)	Number of hardships (with income)
	Coefficients	
Jobless	0.44 ^{***}	0.31
Short part-time hours	0.42 ^{***}	0.31 ^{***}
Single-parent	0.30 ^{***}	0.19 ^{***}
Jobless and single-parent	-0.11	-0.06
Short part-time hours and single-parent	-0.23 ^{**}	-0.18 ^{**}
Full-time/long part-time hours	Ref.	Ref.
Parental income (log)	-	-0.41 ^{***}
Highest parental education < secondary	0.07 [*]	0.04
Owns/buying own home	-0.21 ^{***}	-0.20 ^{***}
Lives with other adult	-0.03	-0.04
Indigenous parent	0.09 [*]	0.08 [*]
Non-English speaking parent	-0.06 ^{**}	-0.08 ^{***}
Parent with poor health	0.24 ^{***}	0.22 ^{***}
Age of youngest child	0.01 [*]	0.01 ^{**}
Number of children	0.08 ^{***}	0.08 ^{***}
Age of youngest parent	-0.01 ^{***}	-0.01 ^{***}
Constant	0.73 ^{***}	1.89 ^{***}
Sample size	35,485	35,485
R-square	0.16	0.17
Chi-square test of significance of additional variables	-	***

Notes: The standard errors are adjusted to take account of multiple records per person. Models also included control variables to indicate from which wave and cohort the data were taken. Indicators of parental health status and parental income being missing were also included. * $p < .05$; ** $p < .01$; *** $p < .001$. '-' = not applicable.

Source: LSAC Waves 1-4, B and K cohorts.

According to these analyses, single parents experienced more hardships than couple parents. The interaction between being jobless and a single-parent family was not statistically significant for the number of hardships experienced. This indicates that while single parents had more hardships than couple parents, and jobless families had more hardships than families working full-time/long part-time hours, there was no additional (or reduced) financial disadvantage associated with being both jobless and a single parent. This is consistent with the quite similar numbers of hardship experienced by jobless single- and couple-parent families, shown in Table 13.

The interaction between being a single-parent family and working short part-time hours was negative and statistically significant. Put together with the coefficients for being a single parent (associated with more financial hardships) and working short part-time hours (also associated with more financial hardships), this interaction indicates that both single- and couple-parent families working short part-time hours experienced a similar number of financial hardships as the otherwise similar— at least in terms of the factors controlled for in the multivariate analysis— couple-parent families working full-time/long part-time hours.

A number of the demographic characteristics that varied according to parental employment status were significant in explaining financial wellbeing, even with the inclusion of parental employment and income in the models. Home-owner families had fewer financial hardships. Number of children and parental health were associated with financial wellbeing, and more children and poorer health were associated with having experienced a greater number of financial hardships. Also, the older the youngest child, the more hardships were experienced. Families with a younger parent experienced more financial hardships, as did families with an Indigenous parent, although, NESB families had somewhat fewer financial hardships. Having a co-resident adult did not have an association with financial hardships.

5.5 Summary

As expected, a strong relationship between parental employment and financial wellbeing was found in the LSAC data. For both couple- and single-parent families, those working short part-time hours had a lower weekly income than those in full-time/long part-time hours families, but the increase in income in going from jobless to short part-time hours was less than going from short part-time hours to full-time/long part-time hours. The relationship between parental employment and equivalised parental income (income-adjusted to take account of differences in household size and composition) was similar to the relationship between parental employment and gross (unequalised) parental income.

The overall picture was similar when the number of financial hardships was examined. While there was some reduction in the experience of hardships for a jobless family moving to short part-time hours, the biggest reduction in the experience of financial hardships came from moving from short part-time hours to full-time/long part-time hours.

Further, we can see that there are the expected differences in financial wellbeing between single- and couple-parent families. Even when the differences in levels of parental employment between couple- and single-parent families were held constant, these analyses showed that single-parent families experienced more financial hardships than couple-parent families.

The data indicated that the equivalised parental incomes of jobless couple- and single-parent families were similar after adjusting for differences in the costs of living associated with different compositions and sizes of the families. Similar findings were apparent for families with short part-time hours of employment: equivalent incomes did not differ a great deal between couple- and single-parent families.

The longitudinal analyses in this section show how changes in family type and parental employment were associated with changes in income. Clearly, families can experience considerable shifts in financial resources with changes to either employment or family type. Gains in income were associated with increased parental employment— that is, movements from joblessness, especially to full-time/long part-time hours of employment— and also with shifts from being single to couple parents.

Conversely, incomes declined when changing to a single-parent family from a couple-parent family. Going from full-time/part-time hours to lower or no hours also reduced parental income. It was important to analyse equivalised income changes here—as it was with the cross-sectional perspective—because some of the gains and losses in income associated with changes in family type were less dramatic once the changes in family size that accompanied such changes were taken into account.

The analyses in this section show that higher income was associated with fewer financial hardships, as would be expected. Various factors were related to families experiencing a greater number of financial hardships, in addition to the association between income and hardships. As noted above, even after taking account income differences, single parents experienced more financial hardships. But also, many of the characteristics that are commonly linked to joblessness and social exclusion were seen in these data.

Families experiencing a greater number of financial hardships include those that were larger in size and those headed by: parents with lower parental education (although this appears to be related to income, as education reduced in significance as a predictor once income was included in the analyses); a parent with poor health; younger parents; and Indigenous parents. Interestingly, families headed by non-English speaking parents had fewer financial hardships than other families. Home owners/buyers had fewer financial hardships, which might be related to these families having more savings, or perhaps a history of better financial resources.

6 Social capital

Having strong social connections, participating in community activities and being able to get support and help are increasingly recognised as important indicators of wellbeing. Consideration of these measures here extends the previous research, which often focused on financial wellbeing and outcomes such as health and housing. Having strong social connections and being able to get help are associated with better mental health, parenting and outcomes for children (Australian Institute of Health and Welfare [AIHW] 2012). Further, being more socially connected and being able to get support may be useful for outcomes such as finding employment. Social connections and the ability to get support and help if needed are often conceptualised as social capital or social inclusion.

There is some evidence that jobless parents and those experiencing financial hardship are on average more socially isolated and not able to get support and help when needed (Hayes et al. 2008). There are a number of explanations as to why this might be so. One possibility is that social participation often involves some financial cost, and this is a barrier for low-income or jobless parents. Another is that joblessness and low income may also correlate with poorer mental or physical health, which in themselves may reduce social participation and connections. A third explanation is that there is a set of pre-existing factors that both increase the likelihood of being jobless or financially poorer and reduce the level of social connections and support. Such factors may include local area or community characteristics.

This section analyses the extent to which there is an association between parental employment and social connectedness, participation and the ability to get help and support if needed. Throughout these analyses we will refer to social connectedness, participation and the ability to get help and support if needed as measures of social capital.

First, the section describes the measures of social capital; then it explores the associations between these measures and parental employment. Multivariate models that estimate the links between parental employment and social capital are presented. These models also focus on associations between financial wellbeing and social capital. Further, the models include the range of sociodemographic and also local area characteristics used in these analyses (see Table 5) in order to explore how other factors beyond those related to employment and income might result in different levels of social capital.

6.1 Measures of social capital

There is no agreed-upon set of indicators of social capital. (See, for example, Stone & Hughes 2002 for a discussion of measuring social capital.)

LSAC collects a number of measures of social capital. For these analyses we have focused on a set of items that are available for both cohorts and across each of the four waves of the study. These are:

- ▶ neighbourhood belonging
- ▶ frequency of contact with family and friends
- ▶ having an unmet need for support or help
- ▶ participation in community or volunteer groups.

For the analyses we used these measures for primary carers in the family, who are usually the children's mothers.¹⁸ Each of these measures is discussed further below. The means of these variables by cohort and wave, and more specific information about their derivation, is provided in Appendix A.

Neighbourhood belonging

The neighbourhood belonging measure is a scale that captures parents' trust of neighbours and sense of identity with the neighbourhood, how well informed parents are about local affairs, and how much knowledge they have about where to find information about local services. The scale has a range of 1 to 5, with 5 indicating lower levels of perceived belonging in the neighbourhood. To be consistent with other measures of social capital used in this report, the scale was converted to a binary variable that captured having lower neighbourhood belonging (scores on the scale of between 3 and 5). On the underlying items, 3 corresponds to 'neither agree or disagree' and 5 corresponds to 'strongly disagree'.

Other measures of neighbourhood quality—parents' perceptions of neighbourhood safety and access to basic services—were used as explanatory variables in the analyses, rather than as measures of social capital. That is, the analyses explored how perceptions of safety and access to services are associated with perceptions of belonging and other measures of social capital. An alternative approach would have been to also include perceptions of neighbourhood quality as measures of social capital; however, our approach assumes that safety and access to services are more objective measures of the local area, as they apply to others living in that area, rather than being the individual experiences of that family.

Contact with friends and family

The data item used is an indicator of primary carers' reports of having or not having at least weekly contact with friends and family. This is derived from information on the frequency of contact with friends and the frequency of contact with family.

Needing support or help

This indicator is derived from the question, 'How often do you feel that you need support or help but can't get it from anyone?', as answered by the primary carer. Parents were classified as 'often having an unmet need for support or help' if they answered 'very often' or 'often'; they were classified as 'less often having an unmet need for support or help' if they answered 'sometimes', 'never' or 'I don't need it'.¹⁹

Participation in community or volunteer groups

This is an indicator of the primary carer participating in community or volunteer groups.

6.2 Overview of the relationship between parental employment and social capital

Across the categories of parental employment, for most of the measures of social capital, primary carers in jobless families had the lowest levels of social capital; parents working full-time/long part-time hours had the highest levels; and those working short part-time hours scored somewhere in between (Table 15). For example, on the measure of neighbourhood belonging, the percentages of primary carers indicating low levels were 26 per cent of those in jobless families, 20 per cent of those in families working short part-time hours and 14 per cent of those in families working full-time/long part-time hours. Similarly, those in jobless families were twice as likely to report having unmet demand for support or help than those in full-time/long part-time hours families (20 per cent cf. 10 per cent).

There were some differences in the association of employment with social capital between couple-parent families and single-parent families. In couple-parent families, there was generally a bigger difference in levels of social capital between those working full-time/long part-time hours and those working short part-time hours than there was between those working short part-time hours and those who were jobless. The exception was for the measure of involvement in community or volunteer groups. Primary carers in jobless families were much less likely to have participated in these groups than those in families working short part-time hours, and there was a relatively small difference between families working short part-time hours and full-time/long part-time hours.

For single-parent families, the links between employment and social capital were not as clear as for couple-parent families, although it was the case that the jobless generally had lower levels of social capital than those who worked full-time/long part-time hours. Jobless single parents were more likely to have low neighbourhood belonging than single parents working full-time/long part-time hours (28 per cent cf. 17 per cent); they were more likely to be without weekly contact with friends and families (19 per cent cf. 14 per cent) and more likely to have an unmet demand for support or help (22 per cent cf. 15 per cent).

There was very little difference between single parents who were jobless and those working full-time/long part-time hours in level of involvement in community or voluntary groups. The results for single parents with short part-time hours varied. For example, these parents were similar in their level of neighbourhood belonging to single parents in full-time/long part-time hours, but they were similar to jobless single parents in regard to having an unmet need for support or help.

Table 15: Social capital, by parental employment and family types

	Full-time/ long part-time hours	Short part-time hours	Jobless	All families
			%	
Couple-parent family				
Low neighbourhood belonging	13.7	23.4	21.3	14.2
No weekly friends/family contact	18.7	26.0	22.7	19.0
Unmet need for support/help	10.1	12.5	14.6	10.4
No involvement in community groups	46.7	55.3	62.8	47.5
Single-parent family				
Low neighbourhood belonging	17.3	17.7	27.8	22.3
No weekly friends/family contact	14.0	11.7	18.9	15.8
Unmet need for support/help	15.3	19.6	22.1	19.3
No involvement in community groups	68.7	57.3	65.2	65.6
All family types				
Low neighbourhood belonging	13.9	19.9	25.7	15.4
No weekly friends/family contact	18.5	17.4	20.1	18.6
Unmet need for support/help	10.4	16.7	19.7	11.6
No involvement in community groups	47.9	57.3	65.2	50.1

Source: LSAC Waves 1–4, B and K cohorts.

6.3 Statistical modelling of the relationship between parental employment and social capital

The above analysis presents associations between parental employment and social capital. It has a descriptive approach that makes it difficult for us to introduce financial wellbeing as a factor. However, we do wish to ascertain the extent to which differences in social capital by parental employment and family type are explained by different levels of financial wellbeing. That is, is it being jobless that explains differences in social capital, or are the financial circumstances (or even other characteristics) of those jobless families the more important factor? We therefore turn to statistical modelling, which allows us to examine how multiple factors may be related to differences in social capital.

The links between parental employment status, financial wellbeing, family type and social capital were estimated using regression models. Four models were estimated—one for each measure of social capital. Because the dependent variables are binary variables, logistic regression models were used. The standard errors were adjusted to allow for the possibility of multiple records per person.

The explanatory variables included in the models were: parental employment, family type, parental income, number of hardships experienced, and the socioeconomic, demographic and local area characteristics that were used in earlier analyses.

The coefficient estimates are presented in Table 16, with results expressed as odds ratios. These are interpreted as follows. The ‘odds’ of having a particular outcome is the ratio of the probability of having it in relation to the probability of not having it. For these analyses, the particular outcome we are interested in is having poorer social capital—measured against the four factors shown in the table. Odds ratios are an estimate of how the odds vary for those with and without a particular characteristic, such as being jobless. They provide an indication of whether having low levels of social capital is more likely (odds ratio is greater than 1) or less likely (odds ratio is less than 1) for those with a particular characteristic relative to not having this characteristic. The full regression results are shown in Appendix Table B4.

There is no statistically significant relationship between joblessness and primary carers’ reports of neighbourhood belonging, weekly contact with friends and family, and unmet need for support—once parental income, the experience of financial hardships and other variables were included in the analyses. Primary carers in jobless families, however, were estimated to be less likely to be involved in community or volunteer groups, and this effect was statistically significant. Working short part-time hours was only statistically significantly when related to having low neighbourhood belonging and having no weekly contact with friends and family; however, as we included interaction terms in our models referring to parental employment, these also need to be examined in interpreting the findings.

Table 16: Multivariate analyses of measures of social capital, logistic regression

	Low neighbourhood belonging	No weekly friends/family contact	Unmet need for support/help	No involvement in community groups
	Logistic regression odds ratios			
Jobless families	0.94	1.11	0.85	1.50***
Short part-time hours families	1.30*	1.29*	0.96	1.23*
Single-parent families	1.30**	0.68***	1.72***	2.21***
Jobless and single-parent families	1.09	1.13	1.17	0.45***
Short part-time hours and single-parent families	0.65*	0.65*	1.10	0.49***
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.
Parental income (log)	0.94	0.97	0.95	1.16*
Number of hardships	1.10***	1.02	1.37***	1.05*
Highest parental education < secondary	1.10	1.03	0.87	1.76***
Owns/buying own home	0.70***	0.97	0.87*	0.75***
Lives with other adult	1.25**	1.24**	0.93	1.39***
Indigenous parent	0.85	0.94	1.12	1.20*
Non-English speaking parent	1.35***	1.22**	1.46***	1.80***
Parent with poor health	1.61***	1.37***	2.40***	1.21***
Age of youngest child	1.00	0.99	0.94***	0.93***
Number of children	0.95*	0.91***	1.03	0.78***
Age of youngest parent	0.98***	1.02***	1.02**	0.97***
Metropolitan area	1.20***	1.05	1.26***	1.24***
Local area unemployment rate	1.03**	1.00	0.98*	1.04***
Low rating of neighbourhood safety	1.86***	1.17***	1.18***	1.18***
Low rating of access to basic services	1.48***	1.15***	1.11***	1.04*
Constant	0.08***	0.12***	0.02***	0.90
Sample size	31,445	30,385	28,951	31,213
Log-pseudo-likelihood	-11,624	-14,200	-9,305	-19,822

Notes: These coefficients were estimated from logistic regression estimations in which four waves and two cohorts of LSAC data were pooled. The standard errors were adjusted to take account of multiple records per person. Models also included control variables to indicate from which wave and cohort the data were taken. Indicators of parental health status and parental income being missing were also included. * $p < .05$; ** $p < .01$; *** $p < .001$.

Source: LSAC Waves 1–4, B and K cohorts.

Because the logistic model is non-linear, interpreting the interactions between family type and parental employment is not straightforward. One way of illustrating results is to use predicted values. The predicted values show for each parental employment group (jobless; short part-time hours; full-time/long part-time hours), in interaction with family type (couples and single parents), the predicted percentage with low social capital, holding constant all other explanatory variables at the sample mean. The predicted social capital outcomes are shown in Table 17.

Table 17: Parental employment and social capital, predictions from regression model, by family type

	Low neighbourhood belonging	No weekly friends/family contact	Unmet need for support/help	No involvement in community groups
	Predicted (%)			
Couple-parent family				
Full-time/long part-time hours	11.4	18.2	8.9	44.9
Short part-time hours	14.3	22.4	8.7	50.2
Jobless	10.8	19.8	7.7	55.0
Single-parent family				
Full-time/long part-time hours	14.3	13.3	14.4	64.3
Short part-time hours	12.4	11.3	15.2	51.9
Jobless	14.7	16.0	14.4	54.7

Note: Predicted values were calculated using the ‘margins’ command in Stata, based on the models shown in Table 16. All predictions were calculated holding the financial wellbeing, socioeconomic, demographic and local area characteristics constant at the sample mean.

Source: LSAC Waves 1–4, B and K cohorts.

The predicted social capital measures show that for couple-parent families there was no strong link between parental employment and social capital. The only social capital measure showing a substantial (and statistically significant) difference was not being involved in community or volunteer groups. Percentages for this measure varied from (a predicted) 45 per cent for those working full-time/long part-time hours to 50 per cent for those with short part-time work and 55 per cent for the jobless.

Among single-parent families there was little difference between the jobless and those with full-time/long part-time hours in the measures of neighbourhood belonging, having weekly contact with friends and family or having unmet need for support. For neighbourhood belonging and having weekly contact with friends and family, the differences between those working short part-time hours and the jobless were statistically significant—the former having higher levels of social capital. Further, single parents who worked full-time/long part-time hours were the least likely to be involved in community or volunteer groups (64 per cent not involved), and those working short part-time hours were the most likely to be involved (52 per cent not involved). Jobless single parents were predicted to be in between (55 per cent not involved).

While the parental employment effects were not particularly marked, single parents had on the whole significantly poorer social capital outcomes than did couple parents—after taking account of the full range of variables in these models. The poorer social capital of single parents is consistent with previously reported research on social exclusion (Scutella, Kostenko & Wilkins 2009).

Financial wellbeing information was included in these analyses (financial hardships and parental income) so that we could examine associations between parental employment and social capital, holding constant the experience of financial hardships and parental income. The results suggest that factors other than joblessness or short part-time hours were more likely to explain variation in social capital, at least as measured against the four indicators examined here. These analyses identified associations between financial wellbeing and social capital for three of its four measures. There was no statistically significant association between contact with friends and family, and either parental income or financial hardships.

Higher income was associated with a greater likelihood of the primary carer not being involved in community or volunteer groups, but income was not significantly associated with the other measures of social capital, after taking account of parental employment and sociodemographic and local area variables. A greater number of financial hardships were associated with primary carers having low neighbourhood belonging, an unmet need for support, and not being involved in community or volunteer groups.

There were some especially strong findings of associations between demographics and social capital—for example, consistently poorer outcomes were found for families in which a parent had poor health, and for families with a non-English speaking parent. These findings are consistent with research identifying people with these characteristics as being at greater risk of social exclusion (Scutella et al. 2009).

6.4 Summary

This section analysed four indicators of social capital to see how it may be linked to parental employment, in particular joblessness or short part-time hours of employment. The indicators cover some aspects of how connected, involved and supported parents are in relation to family, friends and community.

One indicator in particular yielded somewhat different results: not participating in community or volunteer groups captured half of the LSAC sample, while for the rest of the indicators the overall percentage was less than 20 per cent. The fact that so many parents were reflected as having poor social capital on this measure suggests that it may represent more than poor social capital. We can imagine, for example, that not belonging to community or volunteer groups might follow from being time poor because of other commitments, including those of paid work. Not belonging to community or volunteer groups, may then reflect anything from having poor social capital, to being time poor, to having a different set of interests.

There were some differences in social capital according to parental employment status. In general, jobless families had on average lower levels of social capital, while families in full-time/long part-time work had the highest levels. There was some variation in the level of social capital experienced by families working short part-time hours, although it was usually somewhere between the other two groups.

When these associations were explored more fully through multivariate analyses taking account of other factors that co-vary with parental employment, including financial wellbeing, the differences according to parental employment were less marked. We did not consistently find poorer social capital among primary carers in jobless families compared to primary carers in families with full-time/long part-time hours. This was so only for the measure of involvement in community or volunteer groups, and only for couple-parent families. For single-parent families, it was those working full-time/long part-time hours who had lower levels of involvement, probably to some degree reflecting time constraints on these parents.

On measures of neighbourhood belonging and contact with family and friends, there was some evidence of difference between primary carers in families working short part-time hours and those in jobless families. However, in single-parent families poorer social capital was found in jobless families; among couple-parent families it was families with short part-time hours who had poorer social capital.

Overall, it appears that the associations between parental employment and social capital, taking account of family type, are not straightforward. It is also important to be mindful that the measures used here are not intended to be comprehensive measures of social capital, nor of the broader concept of social inclusion. A wider range of indicators may provide different insights into the relationship between employment and social capital.

Some associations were found between financial wellbeing and social capital—that is, more hardships tended to be associated with poorer levels of social capital. Income was important in explaining variation in involvement in community or volunteer groups, but this association indicated that more income was associated with less involvement, suggesting an effect of time constraints.

Various socioeconomic, demographic and local area characteristics were strongly related to social capital. The socioeconomic and demographic variables again highlighted the poorer outcomes of families we often found to be at greater risk of financial hardships.

The local area variables introduced in these multivariate analyses helped explain variation in social capital, confirming the need to take account of the characteristics of families' local areas when considering factors that might help or hinder the social capital and social inclusion of families.

7 Mental health

As outlined in Section 2, previous studies have found that joblessness can have a negative effect on parents’ mental health. Poor mental health may also contribute to parents being jobless. It has also been well established that having poor mental health can negatively affect parenting, which can have flow-on effects on children’s developmental outcomes.

This section provides insights into how the previously analysed measures of parental employment, financial wellbeing and social capital are related to differences in parental wellbeing. It uses the LSAC data to attempt to understand the association between joblessness or working short part-time hours and parental mental health. While this is important to understand in itself, it is also important in respect of the next section, which analyses the links between these different indicators and children’s outcomes.

The first part of this section describes the measure of mental health used. The second part describes the relationship between parental employment and mental health for couple and single parents. The third part uses regression analysis to estimate the associations between these factors.

7.1 Measures of mental health

In previous sections we explored either family-level measures of wellbeing or measures reported by one parent in the family—the primary carer of the LSAC study child. In this section we broaden the focus and examine both parents’ mental health to find out whether the association of mental health outcomes with parental employment differs between mothers and fathers.

Parental mental health was measured using the Kessler K6 scale, which is a measure of non-specific psychological distress. The Kessler K6 measure has been widely used and validated in many epidemiological studies (Kessler et al. 2002).²⁰ The scale takes the values of 1 to 5 and has a mean value of 4.44. A higher score indicates a lower level of psychological distress, which is referred to often in this section as ‘better mental health’.

The mean and standard deviation of this measure, by cohort and wave, are shown in Appendix A. Note that this item was derived from questions asked in the self-completion component of LSAC and so was subject to somewhat more non-response than other items.

7.2 The relationship between parental employment and mental health

Across the parental employment groups, for both mothers and fathers, the level of mental health was best for those in families working full-time/long part-time hours, and worst for those in jobless families (Table 18). Families in short part-time work had levels of mental health in between the other two groups. Single mothers had poorer mental health than couple mothers. The average level of mental health was very similar for both mothers and fathers in the couple families.

Table 18: Parental mental health, by parental employment and family type

	Full-time/long part-time hours	Short part-time hours	Jobless	All families
Mean Kessler K6 score (1 to 5, higher = better wellbeing)				
Mothers				
Couple mothers	4.47	4.29	4.21	4.45
Single mothers	4.28	4.21	4.01	4.14
All mothers	4.46	4.24	4.08	4.41
Couple fathers	4.49	4.32	4.23	4.48

Note: Single fathers have not been shown due to insufficient sample sizes.

Source: LSAC Waves 1–4, B and K cohorts.

7.3 Changes in parental employment and relationship status and changes in mental health

The analysis above examined the cross-sectional association between parental employment status and mental health. Another approach is to utilise the longitudinal nature of LSAC to see how changes in relationship or employment status relate to changes in mental health, as was done to examine changes in income (Section 5).

We derived a new variable from the Kessler measure of mental health by adjusting the measure to have a mean of zero and a standard deviation of one. This measure was compared at each two consecutive waves of LSAC—that is, comparing the score in Wave 1 to that in Wave 2, then comparing Wave 2 to Wave 3, and Wave 3 to Wave 4. The changes in this score were calculated according to parental employment and family type for each of the wave pairs. For simplicity in these analyses we focused only on primary carers, without making the distinction between mothers and fathers. The results are shown in Table 19.

When interpreting findings presented in terms of standard deviations, a rule of thumb is that a deviation of between 0.1 and 0.2 is considered ‘small’, between 0.3 and 0.5 ‘medium’ and 0.6 and above ‘large’ (Cohen 1988).

For primary carers who were in a family with full-time/long part-time hours family at Time 1, those who remained in this type of family two years later had slightly improved mental health at this later time. Those who had become single between Time 1 and two years later experienced, on average, a decline in their level of mental health. The biggest decline in mental health was for those who moved from being in a couple who had full-time/long part-time hours to being a jobless single-parent family (a decrease of 0.34 of a standard deviation). Those who remained in a couple-parent family, but changed from full-time/long part-time hours to short part-time hours or to being jobless on average experienced a decline in their level of mental health.

Table 19: Change in parental mental health, by parental employment and family type

		Couple-parent families			Single-parent families			
		FT/long PT hours	Short PT hours	Jobless	FT/long PT hours	Short PT hours	Jobless	
At Time 1	Average change in mental health (higher = better mental health)							
	Couple-parent families	FT/long PT hours	0.06	-0.14	-0.11	-0.09	-0.08	-0.34
		Short PT hours	0.09	-0.12	-	-	-	-
		Jobless	0.27	0.07	-0.05	-	-	-0.06
	Single-parent families	FT/long PT hours	0.21	-	-	0.12	0.38	-0.07
		Short PT hours	0.16	-	-	0.04	-0.02	-0.30
		Jobless	0.19	-	-	0.09	0.29	0.16

Notes: Excludes those with missing mental health data and those families in which the person who was the primary carer changed across subsequent waves. The mental health variable has been standardised to have a mean of 0 and a standard deviation of 1 (based on Kessler K6). The numbers in this table can therefore be interpreted in standard deviation terms. Cells are set to missing (-) if the sample count was 25 or less.

Source: LSAC Waves 1–4, B and K cohorts.

Single parents who became partnered between Time 1 and two years later, and who were in a family with full-time/long part-time hours of employment at the later time, had higher levels of mental health at the later time, regardless of their employment arrangements as single parents.

Those who were single parents and working full-time/long part-time hours both at Time 1 and two years later also experienced an improvement in mental health over that period (0.12 standard deviation). Single parents who moved from working full-time/long part-time hours to short part-time hours were estimated to have had, on average, an increase in mental health of 0.38 standard deviations. Those who moved from full-time/long part-time hours to being jobless had a small decline in mental health.

Single parents who started out as jobless (at Time 1) experienced improvements in mental health, on average, across the two years, irrespective of changes in parental employment and relationship status. The biggest improvement was for single parents who remained single parents but moved into short part-time hours.

A substantial decline in mental health was experienced by single parents who moved from short part-time hours to being jobless two years later.

Overall, these analyses of change show that mental health is related to both parental employment and relationship status. We have not attempted to attribute such changes to any sort of causal relationship, as change in mental health may lead to, or be a consequence of, changes in relationship or employment status. Further, these associations may reflect other underlying characteristics of parents and families, which is why we explore these associations using multivariate analyses in the following subsection.

7.4 Statistical modelling of the relationship between parental employment and mental health

The statistical modelling in this subsection aims to examine to what extent relationships between parental employment (and family type) and mental health remain after we take account of other parental and family characteristics. These analyses also allow us to introduce some of the measures explored in earlier sections of the report (financial wellbeing and social capital) to examine how strongly (or otherwise) they are related to parental mental health.

Following the analyses above, we used one approach that allows us to focus more on the cross-sectional relationship and one that examines changes in mental health. These approaches are described below.

The dependent variables in these statistical models were mothers' and fathers' levels of mental health, and they were modelled using linear regression. Specifically, two model types were estimated. The first were random effects (RE) models and the second were fixed effects (FE) models. These models are designed especially for analysing associations between a particular outcome and a range of explanatory variables using longitudinal data.

Results from the random effects models can be interpreted in the same way as the other linear models presented in this report. The coefficients in random effects models represent the amount of change in the dependent variable associated with the presence of a particular characteristic but, because they are derived from multiple records per person, they represent both differences across mothers or fathers (at any wave) and individuals' differences across waves. Some characteristics, such as Indigenous status, do not change at all across waves, while some do—for example, relationship status, employment and income. For variables that may change across waves, the estimated coefficient will reflect these changes across the waves, as well as variables between mothers and fathers. The difference between these models and those used earlier is that a 'random effect' component is estimated, which attempts to estimate each individual's average level of mental health.

Two specifications of the random effects model were estimated. The first included parental employment and family type only. The second added to this model socioeconomic, demographic and local area characteristics; financial wellbeing measures; and social capital. The expanded models allowed us to test to what extent associations between parental employment and mental health were explained by these other factors. Note that, in these models, interactions between parental employment and family type were not included, so interactions do not appear to exist in Table 18.

Fixed-effects models were also estimated. These models are useful for analysing how a change in one characteristic—for example, parental employment status—is associated with a change in an outcome variable, such as parental mental health. The fixed-effects models analysed changes in outcomes *between* waves with respect to characteristics of parents or families that also changed across waves. Analysing change in this way removes from the model the effects of time-invariant characteristics that contribute to parental wellbeing. The fixed-effects model can only include variables that change over time, which means that a much more limited range of variables could be included in the specification.

The results are presented in Table 20. The sociodemographic variables have not been presented in these tables, since these variables were included as controls. The full results are provided in Appendix Table B5.

Table 20: Multivariate analyses of parental mental health (Kessler K6), mothers and fathers, random and fixed effects models

	Mothers			Fathers		
	Random effects		Fixed effects	Random effects		Fixed effects
	Basic	Full		Basic	Full	
	Coefficient					
Jobless families	-0.18***	-0.06***	-0.05**	-0.19***	-0.10***	-0.07*
Short part-time hours families	-0.05**	0.01	0.03	-0.07**	-0.01	0.00
Single-parent families	-0.14***	-0.12***	-0.10***	-0.02	-0.08	-0.03
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		0.07***	0.04*		0.06**	0.03
Number of hardships		-0.08***	-0.04***		-0.05***	-0.04***
Metropolitan area		-0.03***	-0.01		-0.03*	-0.01
Local area unemployment rate		-0.00*	0.00		0.01**	0.01*
Low rating of neighbourhood safety		-0.02***	-0.01		-0.02***	-0.02*
Low rating of access to basic services		-0.02***	-0.01		-0.01	-0.01
Low neighbourhood belonging		-0.08***	-0.04***		0.00	0.01
No weekly contact with friends/family		-0.05***	-0.02*		-0.03**	-0.01
Unmet need for support/help		-0.35***	-0.26***		-0.10***	-0.07***
No involvement in community groups		0.00	-0.01		0.01	0.00
Sociodemographic variables		Yes	Yes		Yes	Yes
Constant	4.49***	4.35***	4.41***	4.50***	4.30***	4.47***
Sample size	28,193	28,193	28,215	21,250	21,250	21,263
R-square	0.04	0.20	0.20	0.01	0.07	0.06
Chi-square test of significance of additional variables	-	***	-	-	***	-

Notes: Models also include sociodemographic variables, dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. The full results are presented in Appendix Table B6. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. The range of the dependent variable is 1 to 5; 5 = better mental health. * $p < .05$; ** $p < .01$; *** $p < .001$. ‘-’ = not applicable.

Source: LSAC Waves 1–4, B and K cohorts.

Common across all models for mothers is that being a single parent was associated with a lower level of mental health. The lack of significant association for fathers reflects the much smaller number of single fathers in the sample.

In the initial random-effects model for mothers and fathers, there was a statistically significant association between parental employment and mental health. Consistent with Table 18, parents in jobless families had poorer mental health than those working full-time/long part-time hours. Relative to those working full-time/long part-time hours, mental health was also poorer among mothers and fathers in families working short part-time hours. Joblessness had a more adverse effect than working short part-time hours. The effects sizes were similar for mothers and fathers.

The addition of financial wellbeing and other variables to the random effects models reduced the estimated effect of joblessness on mental health (by two-thirds for mothers and almost one-half for fathers), but there was still a significant difference for mothers and fathers—between those who were jobless and those who

were in families with full-time/long part-time employment. For both mothers and fathers, with the inclusion of these additional variables, the difference between full-time/long part-time and short part-time hours was no longer significant.

For both mothers and fathers, a higher parental income was associated with better mental health (holding parental employment status constant). Also, having experienced financial hardships was associated with a lower level of mental health for both mothers and fathers.

In the fixed-effects estimates, a negative effect of joblessness on the mental health of mothers and fathers remained, but working short part-time hours had no effect. This indicates that becoming jobless was associated with a decline in mental health (or conversely, leaving joblessness was associated with an improvement in mental health). The particular value of these models is that, as the analyses were based on changes for individuals across the waves of the study, these associations could not be said to reflect other underlying characteristics of mothers, thus providing greater evidence of a relationship between joblessness and mental health.

Parental mental health is quite strongly related to a number of the other factors included in these analyses. Of particular interest is that primary carers' reports of social capital, and mothers' and fathers' (but especially mothers') mental health are related, which is consistent with prior research showing higher levels of social exclusion among those with poorer mental health (Scutella et al. 2009). The association between social capital and mental health being more apparent for mothers than for fathers is likely to reflect the fact that the social capital measures were often reported by mothers (as the primary carer in the family) and so would be more closely related to mothers' mental health than fathers' mental health. Neighbourhood measures were also related to mothers' and fathers' mental health: lower levels of mental health were associated with living in areas rated as being less safe (for both mothers and fathers) and having poorer access to services (only mothers).²¹

It is important to note that these analyses represent associations and do not provide evidence of joblessness causing poorer mental health. It may also be that having poorer mental health leads to being less able to find and keep paid employment.

7.5 Summary

This section presented cross-sectional and longitudinal analyses of associations between parental employment and parental mental health. The observed associations cannot be attributed to a causal relationship between parental employment and mental health, since poorer mental health may be a consequence of, or contribute to, employment outcomes. Nevertheless, some clear relationships exist.

Given the focus throughout this report on differences between couple-families and single-parent families, it is important to note that there were significant differences between couple and single parents in mental health, as measured using the Kessler K6 measure of psychological distress. Specifically, no differences between couple mothers and fathers in levels of mental health were apparent, but single mothers had poorer mental health than couple mothers. This difference was also apparent when the range of socioeconomic, demographic and local area variables was included in the analyses. Further, it was apparent in the longitudinal analyses of changes in mental health: changing from being partnered to single was associated with declines in mental health; changing from being single to partnered was associated with improvements in mental health.

Associations between parental employment and mental health were also apparent. Significantly lower levels of mental health were observed among mothers and fathers in jobless families compared to mothers and fathers in families with full-time/long part-time hours of employment. This was also seen in the longitudinal analyses, where declines in mental health were associated with families becoming jobless.

The mental health of parents in families with short part-time hours of employment tended to fall between that of parents in jobless families and families with full-time/long part-time hours of employment. Once the range of other characteristics of families was included in the analyses, however, mental health differences were no longer statistically significant for mothers and fathers in families with short part-time hours compared to full-time/long part-time hours.

The analyses also included information about how financial wellbeing and social capital related to mental health. Not surprisingly, higher income was associated with better mental health, and experiencing more hardships was associated with poorer mental health. There were some associations for the social capital indicators, with poorer social capital being associated with poorer mental health (although this was not apparent for the indicator of involvement in community or volunteer groups). The strongest association was for having an unmet demand for help or support.

Further, the local area variables again played an important role in explaining variation in this measure of mental health. While not discussed here, the socioeconomic and demographic variables were also related to differences in mental health.

Factors that were more common among jobless families that were risk factors for financial hardships and low social capital were often observed in this study as being risk factors for having poorer mental health.

8 Child wellbeing and developmental outcomes

This section provides estimates of the links between a lack of parental employment and the wellbeing of children. It builds on existing literature that has found that children in jobless families have poorer developmental outcomes and lower levels of wellbeing than children in families with an employed parent (for example, Gray & Baxter 2012).

The analysis in this section extends the existing literature in several ways. First, it provides estimates of the effect of living in a family working only short part-time hours. To our knowledge, this is not a question on which there is existing Australian research. Second, it extends previous analyses of the links between parental employment and child wellbeing from three waves to four waves of LSAC data. Third, fixed effects models are estimated. Fourth, the mechanisms by which a lack of parental employment affects children are explored.

As discussed in Section 2, the literature suggests four mechanisms by which joblessness or insufficient employment could negatively affect children's developmental outcomes. These are investments, social connectedness and social capital, family stress, and role models.

This conceptual framework has been used to structure the analysis of the associations between parental employment and children's outcomes. The investments perspective incorporates into the analyses the financial wellbeing measures used throughout the report, while social connectedness and social capital consider how the different measures of parents' social capital are associated with child wellbeing. In relation to family stress, information about parents' mental health is examined, along with information about styles of parenting. We have not been able to consider the role model perspective here, as suitable data are not yet available in LSAC because of the age of the children. This may be explored as the children in the study grow older.

An important question is whether parental joblessness or low hours of employment have a causal impact on the wellbeing of family members. It is very difficult to establish the causality of any such associations because parents who are jobless or work short part-time hours may have characteristics that increase both their likelihood of being jobless and are associated with poorer developmental outcomes for children. We have certainly seen in this report that parents without full-time/long part-time hours of employment do differ in characteristics from those working full-time/long part-time. Some of these differences, such as in educational attainment, may have implications for children's developmental outcomes.

8.1 Data and methods

The method for this section was to use a series of regression models to estimate the association between a lack of parental employment and children's developmental outcomes and then to sequentially add controls for other factors that may be related both to a lack of parental employment and child wellbeing. The purpose was to assess (if applicable) to what extent these factors provide potential explanations for lower levels of child wellbeing in jobless and short part-time hours families.

The measures of child developmental outcomes were selected to cover cognitive outcomes as well as social-emotional outcomes. Only measures that were available across at least two waves of the study were used. All the measures applied to children aged at least 4–5 years, so data from the B cohort at waves 1 and 2 were not used in this section. The measures used are outlined in Table 21, and the means and standard deviations for these measures by cohort and wave are shown in Appendix Table A5.

Table 21: Measures of child outcomes

Domain	Outcome measure	Values	Notes
Cognitive	Receptive vocabulary	Scaled score Higher score = better outcome; range 28–101 Mean across the pooled data = 71.1; SD = 7.8	Measured by the Peabody Picture Vocabulary Test (Dunn & Dunn 1997). Available for children from age 4–5 years to 8–9 years
	Non-verbal intelligence	Standardised score Higher score = better outcome; range 1–19 Mean across the pooled data = 10.6; SD = 3.0	Measured by the matrix reasoning test Not designed to measure how children change over time, as test score is a relative measure or rank comparing children to their peers Available for children 6–7 years, 8–9 years and 10–11 years
Social–emotional	Total difficulties scale	Possible range of 0 (no) to 40 (most difficulties) Mean across the pooled data = 8.2; SD = 5.2	Derived as the sum of parent-reported (primary carer) scores of Strengths and Difficulties Questionnaire (SDQ) subscales of hyperactivity, emotional problems, peer problems, and conduct problems subscales (Goodman 2001). Available for children from age 4–5 years to 10–11 years
	Prosocial behaviour	Possible range 0–10 Mean across the pooled data = 8.1; SD = 1.8	Measured by the SDQ prosocial subscale to capture more positive social–emotional behaviours (Goodman 2001). Available for children from age 4–5 years to 10–11 years

The basic empirical approach taken was to estimate a series of regression models for each of the measures of child developmental outcome. As in the parental mental health section, two model types are estimated: random effects models and fixed effects models. (See subsection 7.4 for a description of, rationale for, and use of, these different types of models.)

For the random-effects models, four models were estimated for each measure of child developmental outcome. The first model estimated the relationship between parental employment and child wellbeing, controlling for family type (couple-parent versus single-parent) but not controlling for any other difference except for the child's age and gender. The second set of variables included the measures of financial wellbeing in order to begin to assess how much of the relationship between parental employment and child wellbeing can be explained by the effect that joblessness has on financial circumstances, which in turn affects child developmental outcomes. The third model added to the second model the social capital variables, along with the range of socioeconomic, demographic and local characteristics of the families in which children were growing up.²² The fourth model added to the third model measures of parental wellbeing and parenting, to gain some understanding of how the effects of joblessness on child developmental outcomes are mediated by these aspects of family wellbeing.²³

The explanatory variables used here are the same as those included in previous sections of the report. In addition, measures of parental mental health (the mental health of the primary carer) and parenting style are included. The measures of parenting style included in the statistical models are those of the primary carer and measure three dimensions of parenting. These dimensions are warm parenting, consistent parenting, and angry parenting (each measured on a scale of 1 to 5). Information about these measures is provided in Appendix A. Appendix Table B6 provides information on the extent to which the measures of parenting vary according to parental employment. Only small differences were apparent at this aggregate level for warm parenting and angry parenting, although primary carers in jobless families appeared to be less consistent in their parenting compared to primary carers in full-time/long part-time hours families.

The fixed effects models estimated the relationship between a lack of parental employment and child developmental outcomes, holding constant all differences between children and their families that are constant over time, irrespective of whether the characteristic was measured in the dataset. Stated slightly differently, the fixed effects models allowed both observable and unobservable differences between children and their families that are constant (fixed) over time to be controlled for. The set of explanatory variables used in these analyses was more restricted than those used in the random effects models, as only those variables that had the potential to change over time could be included.

Detailed results from these analyses are presented in Appendix B (Table B8 to B11). The tables presented below omit the coefficients for the sociodemographic variables of families and children that were included in the analyses as control variables.

8.2 Parental employment and child cognitive outcomes

This subsection presents the results of the statistical modelling of the links between parental employment and each of the dimensions of cognitive child outcomes. Given that the models that included parental employment and family type were estimated, the cross-tabulation of children's developmental outcomes by parental employment were not reported in this subsection, but are provided in Appendix Table B7.

The estimates indicated that children living in a jobless family had lower levels of receptive vocabulary than those in families with full-time/long part-time hours of employment. This difference was statistically significant (Table 22). Those living in families with short part-time hours of employment also had lower levels of receptive vocabulary, but the effect of short part-time hours was smaller than the effect of joblessness when compared to full-time/long part-time hours.

With the addition of the financial wellbeing measures (parental income and number of hardships), the effect of a family being jobless on receptive vocabulary remained statistically significant, although the size of the coefficient was reduced by about one-half. Once social connectedness, socioeconomic, demographic and local area variables were added to the model, there was no independent statistically significant relationship between parental employment and receptive vocabulary. The results were similar in the subsequent model that included parental mental health and parenting styles.

Table 22: Multivariate analyses of receptive vocabulary (PPVT), random and fixed effects models

	Random effects				Fixed effects
	Basic model	Plus financial wellbeing	Plus background variable	Plus parenting and mental health	
	Coefficient				
Jobless families	-1.61***	-0.74***	-0.17	-0.11	-0.08
Short part-time hours families	-0.58**	0.01	0.19	0.19	0.12
Single-parent families	-0.24	0.49**	0.24	0.27	0.18
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		2.45***	1.66***	1.60***	0.06
Number of hardships		-0.33***	-0.16**	-0.12	-0.02
Metropolitan area			0.20*	0.20*	0.15
Local area unemployment rate			0.02	0.03	0.06
Low rating of neighbourhood safety			-0.21**	-0.17*	-0.15
Low rating of access to basic services			-0.14**	-0.12*	0.03
Low neighbourhood belonging			-0.05	0.00	-0.05
No weekly friends/family contact			0.04	0.10	-0.04
Unmet need for support/help			0.06	0.21	-0.07
No involvement in community groups			-0.89***	-0.83***	-0.32**
Warm parenting				0.15	0.18
Consistent parenting				0.77***	0.01
Angry parenting				0.15	-0.03
Parental mental health				0.24**	0.05
Sociodemographic variables			Yes	Yes	Selected
Child age and gender	Yes	Yes	Yes	Yes	
Constant	48.76***	41.29***	42.84***	37.48***	44.42***
Sample size	16,662	16,662	16,662	16,662	16,682
R-square	0.50	0.51	0.54	0.54	0.45
Chi-square test of significance of additional variables	-	***	***	***	-

Notes: Models also include sociodemographic variables as indicated above, dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. The full results are presented in Appendix Table B8. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. * $p < .05$; ** $p < .01$; *** $p < .001$. ‘-’ = not applicable.

Source: LSAC Waves 1–4, B and K cohorts.

The patterns of associations between parental employment and non-verbal intelligence (as measured by matrix reasoning scores) were very similar to those found for receptive vocabulary, with children in families that were jobless and working short part-time hours having lower levels of non-verbal intelligence compared to those in families with full-time/long part-time employment (Table 23). But there are no longer statistically significant differences once measures of financial wellbeing, social connectedness, socioeconomic, demographic and local area characteristics are included in the regression model.

In the fixed effects analyses of each of the cognitive outcomes, changes in parental employment status were not associated with changes in outcomes. This result is not surprising given that the variables measuring parental employment status are not statistically significant in the random effects model with the full set of control variables.

Table 23: Multivariate analyses of non-verbal intelligence (matrix reasoning), random effects and fixed effects models

	Random effects				Fixed effects
	Basic model	Plus financial wellbeing	Plus background variable	Plus parenting and mental health	
	Coefficient				
Jobless families	-0.76***	-0.39***	-0.22	-0.21	-0.24
Short part-time hours families	-0.26*	0.00	0.03	0.03	-0.01
Single-parent families	-0.12	0.19*	0.19	0.19	0.24
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		1.07***	0.75***	0.74***	0.31
Number of hardships		-0.11**	-0.05	-0.06	0.04
Metropolitan area			0.35***	0.35***	-0.12
Local area unemployment rate			-0.03**	-0.03**	0.01
Low rating of neighbourhood safety			-0.10*	-0.09*	-0.12
Low rating of access to basic services			0.00	0.00	0.01
Low neighbourhood belonging			0.06	0.06	0.09
No weekly contact with friends/family			0.10	0.09	0.09
Unmet need for support/help			-0.05	-0.07	-0.02
No involvement in community groups			-0.21***	-0.20***	-0.05
Warm parenting				-0.14**	0.05
Consistent parenting				0.26***	0.02
Angry parenting				-0.03	0.04
Parental mental health				-0.09	-0.04
Sociodemographic variables			Yes	Yes	Selected
Child age and gender	Yes	Yes	Yes	Yes	
Constant	10.66***	7.33***	7.87***	7.94***	8.68***
Sample size	13,884	13,884	13,884	13,884	13,902
R-square	0.01	0.02	0.04	0.04	0.00
Chi-square test of significance of additional variables	-	***	***	***	-

Notes: Models also include sociodemographic variables as indicated above, dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. The full results are presented in Appendix Table B9. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. * $p < .05$; ** $p < .01$; *** $p < .001$. '-' = not applicable.

Source: LSAC Waves 1-4, B and K cohorts.

For both receptive vocabulary and non-verbal intelligence there were no statistically significant differences in outcomes between children in couple- and single-parent families when only parental employment was held constant. This also remained the case in most of the later models, which included additional variables.

The measures of financial wellbeing were statistically significant and in the direction expected: higher levels of financial wellbeing were associated with a better receptive vocabulary and non-verbal intelligence. In the fixed effects models, for both cognitive measures, neither of the financial wellbeing measures was statistically significant. This result can be interpreted to mean that the association between financial wellbeing and receptive vocabulary and non-verbal intelligence is explained by unmeasured differences that are constant over time and captured by the individual fixed effects. This does not mean that income is not important for child developmental outcomes; rather, it suggests that there is a complex interplay between the factors that contribute to child wellbeing.

The consistent finding in these analyses was the association between primary carers' involvement in community or volunteer groups and children's cognitive scores. When the primary carer was not involved in such groups, on average children had lower Peabody Picture Vocabulary Test (PPVT) and matrix reasoning scores. This was also apparent in the fixed effects analyses for PPVT. The other social capital measures had weaker associations with cognitive outcomes.

It is interesting to note that there were associations for the local area variables in the random effects analyses: PPVT scores were lower for children living in areas parents rated as being less safe and having poorer access to basic services. For matrix reasoning, children had higher scores in metropolitan regions, but lower scores in areas of higher unemployment and in areas rated as less safe by parents.

While the inclusion of the parenting and mental health variables did not change the coefficients on the other variables a great deal, the measures of consistent parenting and mental health explained some of the variation in PPVT scores. For matrix reasoning, more consistent parenting was associated with better outcomes, but we observed that warmer parenting was weakly associated with poorer outcomes. These variables, however, were not statistically significant in the fixed effects analyses for either of the cognitive outcomes.

The full results shown in Appendix Tables B10 and B11 show that several demographic characteristics explained variation in children's cognitive outcomes. Some key findings are:

Poorer cognitive outcomes (for receptive vocabulary and non-verbal intelligence) are apparent for children with parents with lower educational attainment, with an Indigenous parent, children in larger families, and with younger parents.

Receptive vocabulary was poorer for children with a non-English speaking parent, but there was some evidence of non-verbal intelligence being better.

8.3 Parental employment and child social–emotional outcomes

This subsection presents the results of the statistical modelling of the links between parental employment and children's social–emotional outcomes. As with the cognitive outcomes, we relied only on the multivariate analyses to explore associations between parental employment and the two measures. The cross-tabulation of these measures by parental employment is provided in Appendix Table B7.

Table 24 shows that children in jobless families had more social–emotional difficulties (SDQ total difficulties) than those in families working full-time/long part-time hours. Similarly, children in families with short part-time work experienced more social–emotional difficulties than those in families with full-time/long part-time hours work. But the effect of short part-time hours of employment was smaller than that of being in a jobless family. The association between joblessness and social–emotional difficulties remained when financial circumstances were controlled for but disappeared once the other variables (social capital and socioeconomic, demographic and local area characteristics) were included.

Likewise, prosocial behaviour (Table 25) was lower in jobless families than in families working full-time/long part-time hours; however, there was no association between short part-time hours and prosocial behaviour. The negative association between joblessness and prosocial behaviour remained, even after taking into account financial wellbeing; social connectedness; socioeconomic, demographic and local area characteristics; and parenting information.

For both social–emotional difficulties and prosocial behaviour, in the fixed effects model there were no statistically significant differences in outcomes among children in jobless families, and families in short part-time and full-time/long part-time hours of employment.

In the analyses of total difficulties, children consistently had poorer outcomes if living in a single-parent family compared to a couple-parent family. This was true in the model that included social capital, local area and sociodemographic variables, but it was no longer the case when parenting measures and mental health were

included in the model. In the fixed effects analyses, single parenthood was associated with an increase in total social–emotional difficulties. Prosocial behaviour, however, did not vary significantly according to whether children lived with a single parent or couple parents.

In the random effects models, the measures of financial wellbeing all had significant associations with the measures of social–emotional difficulties. The SDQ total difficulties score was lower when parents' incomes were higher, and the score was higher when parents had experienced more financial hardships. These associations, however, were not apparent in the fixed effects analyses. Also, we found the effects were much less apparent when looking at prosocial behaviour.

Associations between the measures of social capital and children's social–emotional outcomes were relatively strong. In the random effects models of total difficulties, children had more difficulties when the primary carer had low neighbourhood belonging, had no weekly contact with family or friends, had an unmet need for support or help and did not belong to a community or volunteer group. Further, when examining prosocial behaviour, we also saw that the social capital of the primary carer (according to the measures used) was associated with poorer outcomes for children.

In the fixed effects analyses the effect of the primary carer not belonging to a community or volunteer group was also significant. It was reflected in children having more social–emotional difficulties and lower levels of prosocial behaviour.

Some findings for social–emotional outcomes relating to the demographic variables are worth noting (see Appendix Table B12 and B13):

- ▶ Lower levels of parental educational attainment and having an Indigenous parent or a parent who has poor health are associated with a child having poorer social–emotional outcomes.
- ▶ Having relatively young parents is associated with a higher total difficulties score.
- ▶ Having more siblings was associated with fewer social–emotional difficulties but was also associated with less prosocial behaviour. This finding for prosocial behaviour, however, was not statistically significant once parenting and parent mental health were included in the model.
- ▶ Children had fewer social–emotional total difficulties in families who own or are purchasing their home, compared to other children. Conversely, the score for social–emotional total difficulties was higher among children in families in which there was another adult co-resident. Further analyses would be required to explain these findings, as they may reflect other unobserved characteristics of these families, given that there is no a priori reason for these factors having a direct impact on children's outcomes.
- ▶ Similarly, the findings in regard to children with a parent who mainly speaks a language other than English at home are quite mixed, requiring more analyses to be fully explained. These results showed that children with a parent who mainly speaks a language other than English at home had better prosocial behaviour than other children. However, before parenting and parent mental health were included in the model, these children also had more social–emotional difficulties than other children.

Table 24: Multivariate analyses of social-emotional difficulties (SDQ total difficulties), random and fixed effects models

	Random effects				Fixed effects
	Basic model	Plus financial wellbeing	Plus background variable	Plus parenting and mental health	
	Coefficient				
Jobless families	1.07***	0.51***	0.21	0.15	-0.28
Short part-time hours families	0.39**	0.00	-0.06	-0.03	-0.25
Single-parent families	1.10***	0.58***	0.47***	0.22	0.34*
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		-1.49***	-0.95***	-0.86***	-0.28
Number of hardships		0.53***	0.42***	0.27***	-0.02
Metropolitan area			-0.07	-0.18*	-0.17
Local area unemployment rate			0.09***	0.09***	-0.01
Low rating of neighbourhood safety			0.31***	0.20***	0.09
Low rating of access to basic services			0.11**	0.07*	0.01
Low neighbourhood belonging			0.56***	0.33***	0.11
No weekly contact with friends/family			0.42***	0.22**	0.14
Unmet need for support/help			1.00***	0.16	0.09
No involvement in community groups			0.40***	0.29***	0.26***
Warm parenting				-0.28***	-0.37***
Consistent parenting				-0.79***	-0.52***
Angry parenting				2.51***	1.76***
Parental mental health				-1.26***	-0.82***
Sociodemographic variables			Yes	Yes	Selected
Child age and gender	Yes	Yes	Yes	Yes	
Constant	8.42***	12.87***	12.83***	17.48***	14.03***
Sample size	21,086	21,086	21,086	21,086	21,113
R-square	0.05	0.08	0.14	0.34	0.30
Chi-square test of significance of additional variables	-	***	***	***	-

Notes: Models also include sociodemographic variables as indicated above, dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. The full results are presented in Appendix Table B10. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. * $p < .05$; ** $p < .01$; *** $p < .001$. '-' = not applicable.

Source: LSAC Waves 1-4, B and K cohorts.

Table 25: Multivariate analyses of prosocial behaviour (SDQ), random effects and fixed effects models

	Random effects				Fixed effects
	Basic model	Plus financial wellbeing	Plus background variable	Plus parenting and mental health	
	Coefficient				
Jobless families	-0.22***	-0.19***	-0.11	-0.11*	-0.08
Short part-time hours families	-0.07	-0.04	-0.02	-0.02	0.04
Single-parent families	-0.06	-0.02	-0.03	-0.02	-0.08
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		0.08	0.04	0.01	-0.02
Number of hardships		-0.04*	-0.02	0.00	0.02
Metropolitan area			0.04	0.05	0.04
Local area unemployment rate			0.01	0.01	-0.01
Low rating of neighbourhood safety			-0.10***	-0.06**	-0.02
Low rating of access to basic services			-0.05**	-0.03*	-0.02
Low neighbourhood belonging			-0.11***	-0.06	-0.04
No weekly contact with friends/family			-0.12***	-0.05*	-0.01
Unmet need for support/help			-0.10**	0.05	0.04
No involvement in community groups			-0.13***	-0.08***	-0.06*
Warm parenting				0.54***	0.39***
Consistent parenting				0.25***	0.22***
Angry parenting				-0.53***	-0.36***
Parental mental health				0.01***	0.06*
Sociodemographic variables			Yes	Yes	Selected
Child age and gender	Yes	Yes	Yes	Yes	
Constant	7.67***	7.42***	8.14***	5.39***	5.86***
Sample size	21,093	21,093	21,093	21,093	21,120
R-square	0.06	0.06	0.08	0.20	0.13
Chi-square test of significance of additional variables	-	*	***	***	-

Notes: Models also include sociodemographic variables as indicated above, dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. The full results are presented in Appendix Table B11. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. * $p < .05$; ** $p < .01$; *** $p < .001$. '-' = not applicable.

Source: LSAC Waves 1-4, B and K cohorts.

8.4 Summary

An important question that this report sought to answer was to what extent—and by what pathways—are the developmental outcomes of children related to differences in levels of parental employment (full-time/long part-time hours, short part-time hours and joblessness).

These analyses were undertaken by considering to what extent there are associations between children's cognitive and social–emotional outcomes and parental employment. The analyses were informed by the literature and the theoretical work on this topic, which led us to explore to what extent associations between parental employment and children's outcomes might be related to the economic resources of the family, the social connectedness of parents or parental wellbeing or stress.

A range of sociodemographic and local area variables were also taken into account to hold constant the effects of contextual variables that might be relevant to child wellbeing. In addition, measures of the parenting styles of parents were included in the analyses.

For the cognitive measures (receptive vocabulary and non-verbal intelligence)—before incorporation of the full range of characteristics of families in the models—there was evidence that children in jobless families had somewhat poorer outcomes than those in families with full-time/long part-time hours of employment. Poorer outcomes were also evident for those in families working short part-time hours of work, while the difference between these children and those in families with full-time/long part-time hours was not as marked as the difference between jobless families and those working the longer hours.

It appears that these associations have in part a financial resources explanation. When income and financial hardships were added to the models, the gap between the jobless and families working full-time/long part-time hours was reduced. It did not disappear entirely, though, which suggests there are other factors at play.

The remaining differences in outcomes between jobless families and families working full-time/long part-time hours appeared to be related to the underlying differences in characteristics of families with lower hours of employment, since child cognitive outcomes did not vary significantly by parental employment once the full set of variables related to social capital, sociodemographics and local area information was included.

Looking specifically at the social capital variables, these analyses found that child cognitive outcomes were poorer when parents indicated that they were not involved in community or volunteer groups. This was not only apparent in the random effects models (which allow cross-sectional associations to be examined, as well as longitudinal) but also significant in the fixed effects analyses of receptive vocabulary. Similar associations were previously reported by Edwards and Baxter (2012), who suggested that this may reflect the fact that parents who are more engaged in their community may themselves have children who are more engaged with school and out-of-school activities, which creates opportunities for benefits to their receptive vocabulary. The association between involvement in community or volunteer groups and cognitive outcomes may need further exploration in order to assess whether the social capital perspective is important in explaining links between joblessness and child outcomes. Other social capital variables were not statistically significant, suggesting this may not be a dominant explanation for these links.

Analyses of social–emotional outcomes were conducted separately to analyses of cognitive outcomes. These analyses used 'total difficulties' and 'prosocial behaviour' measures from items from the Strengths and Difficulties Questionnaire.

Overall, children in jobless families had poorer social–emotional outcomes than children in families with full-time/long part-time hours of employment. Those in families with short part-time hours of employment fell between these two groups with regard to their average scores for social–emotional outcomes. The differences between families who were jobless and families working full-time/long part-time hours remained with the inclusion of financial wellbeing measures in the analyses, even though financial wellbeing had some relationships with child outcomes (especially total difficulties). However, the effects reduced in size when the fuller models, containing background variables and parenting and mental health variables, were included. That is, while poorer outcomes were observed in families with lower levels of parental employment, these poorer outcomes were partly related to differences in financial wellbeing and partly related to the different background characteristics of families.

As with the cognitive outcomes, there were some associations between the measures of social capital and children's social–emotional outcomes. Each of the four indicators of social capital—neighbourhood belonging, contact with family or friends, unmet need for support or help, and belonging to a community or volunteer group—was associated with these outcomes overall. Even after taking account of parental mental health and styles of parenting, we found that better social–emotional outcomes were apparent when children had a primary carer who was involved in a community or volunteer group.

For the cognitive as well as the social–emotional outcomes, there were many significant associations with sociodemographic variables, as well as local area variables. These are particularly important in these analyses, since these factors do vary across the different parental employment groups, as seen in Section 4 of this report.

The analyses allowed some examination of the extent to which parenting stress might be a way in which joblessness or low hours of parental employment flows through to the outcomes of children. For cognitive outcomes, some associations were evident for parental mental health and for parenting styles. In particular, parenting consistency had a positive association with both measures of cognitive outcomes, and the associations were stronger for social–emotional outcomes, with better outcomes for children when parents had better mental health and more positive parenting styles.

Taken as a whole, the analysis suggests that living in a jobless family is associated with poorer developmental outcomes for children in single- and couple-parent families than living in a family with full-time/long part-time hours of employment and that children living in a family with part-time only employment have better developmental outcomes than children in jobless families but not as good as children living in families in full-time/long part-time hours of employment. The findings related to joblessness are consistent with the findings of other research. As far as we are aware, the findings relating to short part-time employment are novel, certainly in the Australian context.

While we have not been able to estimate the precise mechanisms by which a lack of parental employment translates into poorer outcomes for children, it appears that the financial consequences of low levels of parental employment are important, as are the negative impacts on parental mental health. The roles played by social capital, support and connectedness are much less clear, although these factors are both related to financial wellbeing and parental mental health.

9 Discussion and conclusion

Despite the strength of the Australian economy and the relatively low rate of unemployment, joblessness among families with children remains high in Australia relative to many other OECD countries, even among those that have higher overall unemployment rates. Australia also has one of the highest rates of part-time employment among OECD countries, and this is particularly prevalent among employed mothers. Therefore, it is important for those in policy and service delivery to gain a better understanding of the effects on families with dependent children of joblessness or working only short part-time hours. It is also important to gain a better understanding of the mechanisms by which a lack of parental employment might affect children growing up in these households.

This report makes use of data from the first four waves of LSAC to analyse links between joblessness/short part-time hours of employment and the lives and wellbeing of families. The aspects of wellbeing considered in the report are financial wellbeing, social capital and parental mental health. It was expected that these aspects of wellbeing would be affected by a lack of parental employment. Further, it was expected that associations between parental employment and these aspects of wellbeing might be pathways by which a lack of parental employment affects the developmental outcomes of children.

Single-parent families make up a disproportionate number of jobless families and families working short part-time hours, so it is important to understand the extent to which there are differences in the effect of a lack of parental employment on couple-parent families compared to single-parent families.

While the majority of children live in families with employed parents, a substantial minority at any point in time are living in families with no parent in paid employment or parents with short part-time hours of employment. Children in single-parent families are much more likely to be living in families without full-time/long part-time hours of employment than are children in couple-parent families.

9.1 Characteristics of families according to parental employment status

Throughout this report, analyses took account of a range of family characteristics that are likely to be correlated with families' experiences of parental employment. This included information about parents' human capital, in particular parental educational attainment, since those with higher levels of human capital are likely to have stronger connections to the labour market. Information about home ownership was also included, as this may be an indicator of assets that could help explain variation in families' financial wellbeing and possibly social capital. Indeed, these variables were important in explaining variation in several of the indicators of wellbeing analysed in this report. Several other background characteristics were captured, including household composition, health status and information about parents being Indigenous or mainly speaking a language other than English. This information was also important, as there were compositional differences for most of these characteristics according to parental employment levels, and these variables were often associated with the wellbeing analyses.

An important set of variables included in these analyses was that of local area characteristics. We expected there to be some geographic clustering of disadvantage, and these analyses often identified that poorer outcomes for families emerged when parents lived in areas of higher unemployment, or when they lived in areas rated as being less safe or having poorer access to services.

9.2 Economic wellbeing

For both couple- and single-parent families, as expected, jobless families had the lowest levels of income and were the most likely to experience financial hardships. Families with short part-time hours of employment had higher incomes and were less likely to experience financial hardships than were jobless families, but they had much lower incomes than families with full-time/long part-time hours of work.

An interesting finding is that, while couple-parent families had much higher equivalised and unequivalised incomes than single-parent families, this income gap to some extent reflected the different rates of parental employment in single-parent compared to couple-parent families. A much greater proportion of couple-parent families worked full-time/long part-time hours compared to single-parent families. Of course, of families working full-time/long part-time hours, incomes were higher in couple-parent families because of the potential for couple-parent families to have more than one parent employed.

The equivalised parental incomes of jobless couple- and single-parent families were similar, largely reflecting the design of the income support and family payments systems. Despite the similarities of equivalised household incomes, jobless single-parent families were a little more likely to experience financial hardships than jobless couple-parent families. Even after taking account of income differences, single-parent families experience more financial hardships.

Analysis of how changes in employment or relationship status were related to changes in income revealed quite large increases in income associated with increased parental employment (that is, movements from joblessness, especially to full-time/long part-time hours) and with shifts from being in single- to couple-parent families. Conversely, incomes declined when changing to a single-parent family from a couple-parent family. Going from full-time/long part-time to lower or no hours also reduced parental income.

9.3 Social capital

There were some differences in social capital according to parental employment status, although the various other socioeconomic, demographic and local area variables tended to have stronger associations with these measures of social capital.

In general, jobless families had the lowest levels of social capital, while families with full-time/long part-time hours of work had the highest. There was then some variation in where those with short part-time hours of employment fell in terms of the measures, although it was usually somewhere between the two other groups. However, once differences in financial wellbeing were held constant, there was no clear pattern in the relationship between parental employment and social capital. The exception was for involvement in community or volunteer groups, where there were significant differences according to parental employment status. In couple-parent families, jobless families were the least likely to have involvement in community or volunteer groups and families working full-time/long part-time hours the most likely. For single-parent families, those working full-time/long part-time hours were the least likely to be involved in community or volunteer groups, perhaps reflecting a lack of time. Little difference was found between the jobless and those working short part-time hours.

9.4 Parental mental health

There was a strong link between parental employment and parents' psychological distress. The key finding was that mothers and fathers in jobless families experienced higher levels of psychological distress (worse mental health) than mothers and fathers in families working full-time/long part-time hours. While there were some differences in parental health between working full-time/long part-time hours and short part-time hours, these differences were smaller and when explored further were explained by other factors, such as financial hardship.

There were significant differences in the levels of psychological distress experienced by single and couple mothers, with single mothers, on average, experiencing higher levels. Further, it was apparent from the longitudinal analyses of changes in mental health that changing from being partnered to single was associated with declines in mental health, and changing from being single to partnered was associated with improvements in mental health.

9.5 Child wellbeing and developmental outcomes

Consistent with the findings of other research, living in a jobless family was associated with children having poorer cognitive and social–emotional outcomes than children in families working full-time/long part-time hours. Children living in families with short part-time hours of employment also had poorer developmental outcomes than those in families with full-time/long part-time hours of work, but the differences in developmental outcomes were smaller than for those in jobless families. As far as we are aware, the findings relating to short part-time employment are novel, certainly in the Australian context.

About half of the difference in developmental outcomes between children in jobless families and children in families in full-time/long part-time hours of work was explained by differences in financial wellbeing (income and experience of financial hardships). Once financial wellbeing was taken into account in the statistical modelling, there were no significant differences in cognitive or social–emotional wellbeing between children in families with short part-time hours of employment and those in families with full-time/long part-time hours.

There were many significant associations with developmental outcomes for the range of socioeconomic and demographic characteristics included in the analyses. These findings suggest that among the reasons for the poorer developmental outcomes for children in families that are jobless and working short part-time hours compared to those living in families with full-time/long part-time hours are underlying differences in the characteristics of the parents that explain both joblessness/working short-part-time hours and child developmental outcomes. An example of such a factor is parental education.

However, there did appear to be an effect of joblessness that operated via financial wellbeing and factors such as parental mental health, the nature of the neighbourhood the family is living in (such as access to basic services and the safety of the neighbourhood) and parenting. It is hard to know the role played by the social capital variables, given that there were no strong differences in these measures according to parental employment once other factors had been taken into account—except for the indicator of the primary carer being involved in community or volunteer groups.

For children’s social–emotional developmental measures, there was some evidence that children who had parents with higher levels of social capital had better outcomes. Once parental mental health and parenting style were taken into account, the effects of the social capital variables on children’s social–emotional wellbeing were reduced. Except for the indicator of involvement in community or volunteer groups, relationships between social capital and child outcomes were not apparent for the cognitive developmental outcome measures.

The relationship between parental involvement in community or volunteer groups and child cognitive and social–emotional outcomes was suggested by Edwards and Baxter (2012) to reflect the fact that parents’ engagement in their community may lead to their children’s greater engagement—within school and in out-of-school activities. This engagement may then create opportunities that benefit children’s cognitive and social–emotional development.

While various significant associations were found to be important in explaining the wellbeing of children, it is important to note that children’s outcomes are likely to be determined by many variables that we have not included in the analyses. Indeed, some such factors are not available in the LSAC data—for example, in considering cognitive outcomes, the intelligence of parents might be important to take into account. In this study parental educational attainment is a proxy for this.

In regard to cognitive as well as social–emotional outcomes, the nature of the family environment may not be fully captured in these analyses—for example, there was limited information about factors that might be a negative influence on children, such as parental drug or alcohol abuse, which could be included in the analyses. Therefore, in all analyses such as these, it is important to be mindful that the associations reported on may be more complex than is suggested. This applies to the analyses of child outcomes presented here, but it also applies to the analyses of financial wellbeing, social capital and mental health.

Taken as a whole, the analysis in this report suggests that joblessness and, to some extent, short part-time hours of employment are associated with lower levels of wellbeing for parents and lower levels of wellbeing for children in comparison to families working full-time/long part-time hours. The financial consequences are an important mechanism by which a lack of parental employment affects children, as are the associations with parental mental health. The remaining differences in outcomes between jobless and short part-time hours families and full-time/long part-time hours families are explained by differences in socioeconomic characteristics, which increases the chances of having both low levels of parental employment and poorer developmental outcomes for children. These findings suggest that policies addressing joblessness and short part-time employment in families need to consider both the factors that lead to joblessness (such as educational attainment) and the consequences of joblessness for parental mental health.

Appendix A: Variable derivation

A.1 Parental income

The first measure of financial wellbeing referred to is that of parental income—that is, total gross parental income. The following points are worth noting about this measure:

- Parental income is the sum of the gross weekly income of the resident mother and the father, or the gross weekly income of the single parent where there is only one parent. Where this income was missing for either or both parents, the total parental income was captured in ranges, and these data were used to replace missing parental data where necessary.²⁴
- Parental income is not a measure of total family or household income, as details were not collected at each wave that enabled the summation of income data from all family members. Analysing this parental income is similar to treating the immediate family as an income unit, one of the usual approaches to poverty research (Department of Family and Community Services 2003).
- It is a measure of income from all sources, since income was not disaggregated by source.
- The child's primary carer (usually the mother) was asked for details of her partner's income, if she had one, as well as her own. It is not possible to determine whether this resulted in some inaccuracy in the collection of income data.
- In Waves 2 and beyond, the income questions differed to those of Wave 1. Parents were prompted about different possible sources of income. The total income from all sources was then collected for each parent. However, unlike in Wave 1, there was no additional question to capture total parental income for those who did not provide these details. This resulted in more missing income data than in Wave 1.

When comparing incomes across different population groups to assess living standards, it is necessary to adjust household income for household size and composition in order to take into account differences in the costs of living. This is generally done using equivalence scales. A number of equivalence scales are used. A widely used scale is the modified OECD equivalence scale.²⁵ This equivalence scale gives a weight of one to the first adult, 0.5 to the second and subsequent adults, and 0.3 to all dependent children. For analyses of parental income, children aged 15 years and over were considered to be dependent on the parental income, and were represented as additional adults in the equivalence scale.²⁶ Children, then, were those aged under 15 years. It was assumed that other adults living in the household had separate financial arrangements and were not dependent on, or did not contribute significantly to, the finances of the study child's parents. Each household's parental income was converted to an equivalised income by dividing total parental income by the value of the scale for that household.

Table A1: Weekly income in LSAC families

	B cohort				K cohort			
	0–1 year	2–3 years	4–5 years	6–7 years	4–5 years	6–7 years	8–9 years	10–11 years
	\$2004							
Mean parental income	1,207	1,371	1,516	1,537	1,273	1,425	1,546	1,557
Mean household income ^(a)	1,207	1,412	1,550	1,574	1,273	1,468	1,591	1,604
Mean equivalised parental income	584	640	687	694	579	639	687	696
Mean equivalised household income ^(a)	584	652	695	701	579	651	696	705
Sample size	4,830	4,355	4,085	3,559	4,634	4,168	3,924	3,4437

(a) In Wave 1 this is set to be equal to parental income. Excludes those with missing income data.

Note: OECD equivalence scale used. Incomes have been converted to 2004 dollars using the CPI.

Source: LSAC Waves 1–4, B and K cohorts.

As a robustness check of these parental income data, additional analyses made use of the household income, which had been collected since Wave 2. This household income includes the incomes of all household members aged 15 and over. These data were also equivalised, as described above, except that in calculating the household's equivalence scale, any additional adults in the household were included.²⁷

As we have income data for a number of different time points, these data were converted to 2004 dollars by adjusting income in 2006, 2008 and 2010 by the CPI.²⁸

A.2 Sociodemographic variables

Health status was collected using the self-completion questionnaire in Waves 2 and 3, resulting in some non-response. If this variable was missing in Wave 2 or 3, its value was imputed as the average of the value at the previous and subsequent wave. This imputation only works when there is a non-missing value at the previous and subsequent wave, so for some respondents the variable will remain missing. No imputation was done for missing values at Wave 1 or Wave 4. After imputation, there was missing data for 11 per cent of respondents. Respondents with missing values on these variables were retained in the analyses by using a variable that indicates that this variable is missing. Parental ratings of neighbourhood safety and services were collected in the self-completion questionnaire in Wave 2 and, if missing at this wave, if possible, the mean of the Wave 1 and Wave 3 response was used to impute a value for those cases affected. A missing value indicator for these items was also included in the analyses.

Table A2: Socioeconomic, demographic and local area characteristics, B and K cohorts, Waves 1–4

	B cohort				K cohort			
	0–1 year	2–3 years	4–5 years	6–7 years	4–5 years	6–7 years	8–9 years	10–11 years
	%							
Highest parental education < secondary	9.9	10.4	9.2	8.8	12.5	13.3	11.8	10.8
Owns/buying home	62.4	65.4	67.0	68.6	68.4	71.2	71.5	71.0
Lives with other adult	4.5	6.3	6.1	8.1	5.0	7.2	8.9	11.4
Indigenous parent	4.5	4.6	4.2	4.4	3.5	3.1	3.0	3.2
Non-English speaking parents	12.5	11.2	11.9	14.1	14.1	14.7	14.0	15.6
Parent with poor health	13.4	10.8	12.9	11.7	14.9	12.4	13.7	14.8
Missing poor health data	15.7	16.2	10.3	1.4	15.2	14.9	9.4	1.7
Metropolitan area	66.6	62.7	65.0	63.6	63.8	66.1	63.2	62.8
	Mean							
Local area unemployment rate (%)	5.59	5.30	4.45	5.63	5.54	5.24	4.43	5.57
Age of youngest child (years)	0.16	1.70	2.92	4.46	2.94	4.51	6.07	7.77
Number of children	1.99	2.30	2.52	2.62	2.52	2.62	2.69	2.70
Age of youngest parent (years)	30.39	32.46	34.49	36.53	34.03	36.20	38.17	40.21
Low rating of neighbourhood safety (scale 1–4)	1.81	1.78	1.72	1.66	1.79	1.76	1.71	1.68
Low rating of access to basic services (scale 1–4)	2.09	2.14	2.13	2.03	2.11	2.15	2.15	2.05
Sample size	5,088	4,585	4,332	4,199	4,936	4,414	4,209	4,067

Source: LSAC Waves 1–4, B and K cohorts.

A.3 Measures of social capital

Neighbourhood belonging

The neighbourhood belonging scale captures parents' trust of neighbours, their sense of identity with the neighbourhood, how well informed they are about local affairs, and their knowledge of where to find information about local services. The scale has a range of 1 to 5, with 5 indicating *lower* levels of perceived belonging in the neighbourhood. This was reported by the primary carer at each wave for both cohorts. In Waves 1 and 2, this was collected through self-completion questionnaires and was missing for 16 per cent of the Wave 1 sample and 27 per cent of the Wave 2 sample. In later waves, it was collected in the interview, which resulted in much lower levels of non-response (\leq 1 per cent in Waves 3 and 4).

Contact with friends and family

The data item used here is an indicator of primary carers' reports of having or not having at least weekly contact with friends and family. This is derived from information on the frequency of contact with friends and the frequency of contact with family. Those who said they had no friends or family were included in those without at least weekly contact with friends or family. These items were collected in the self-completion questionnaires in Waves 1, 2 and 3 but by interview in Wave 4, so the non-response is greater for the first three waves. Non-response in the first three waves was 16 per cent (Wave 1), 26 per cent (Wave 2) and 15 per cent (Wave 3).

Needing support or help

This indicator is derived from primary carers' answer to the question: 'How often do you feel that you need support or help but can't get it from anyone?' Parents were classified as 'often having an unmet need for support or help' (those who answered 'very often' or 'often') or 'less often having an unmet need for support or help' (those who answered 'sometimes', 'never' or 'I don't need it'). Those who in a previous question had said they did not need any help were coded as not having an unmet demand for support or help, and these people were not asked about their unmet demand for support or help. This only applied in Wave 1. These items were collected in the self-completion questionnaires in Waves 1, 2 and 3, but by interview in Wave 4; therefore, the non-response is greater for the first three waves. Non-response in the first three waves was 19 per cent (Wave 1), 26 per cent (Wave 2) and 30 per cent (Wave 3). In Wave 4 non-response to this item was 2 per cent.

Participation in community or volunteer groups

The question used to derive this item varied across waves/cohorts. In B cohort, Waves 1 and 2, parents were asked, 'Are you involved with any of these types of groups or organisations in a voluntary (unpaid) capacity? (this can be as a participant or voluntary worker/office bearer)'. A list of 14 groups and organisations was provided. In B cohort, Waves 3 and 4, and in K cohort, Waves 1 to 4, parents were asked 'Do you participate in any ongoing community service activity (e.g., volunteering at a school, coaching a sports team or working with a church or neighbourhood association)?' The result is a binary variable indicating 'yes' or 'no' for involvement in community or volunteer groups. In Waves 1 and 2, this was collected through self-completion questionnaires, and was missing for 19 per cent of the Wave 1 sample and 27 per cent of the Wave 2 sample. In later waves, it was collected by interview, which resulted in much lower levels of non-response (\leq 2 per cent in Wave 3 and 4).

Table A3: Social capital measures (primary carers' reports)

	B cohort				K cohort			
	0-1 year	2-3 years	4-5 years	6-7 years	4-5 years	6-7 years	8-9 years	10-11 years
Low neighbourhood belonging (score of 3-5 on 1-5 scale, %)	23.9	18.6	12.7	10.7	19.2	15.3	11.0	12.3
Sample size	4,295	3,491	4,322	4,155	4,157	3,421	4,205	4,012
No weekly contact with friends/family (%)	25.0	18.7	16.8	16.0	20.8	16.3	15.6	18.3
Sample size	4,298	3,497	3,773	4,145	4,151	3,432	3,683	3,999
Unmet need for support/help (%)	9.0	16.1	11.5	9.6	9.2	15.6	12.6	11.2
Sample size	4,205	3,503	3,268	4,155	4,000	3,441	2,952	4,008
No involvement in community groups (%)	45.2	66.0	62.8	52.7	31.0	39.2	54.3	49.8
Sample size	4,165	3,482	4,328	4,157	4,068	3,407	4,209	4,012

Source: LSAC Waves 1-4, B and K cohorts.

A.4 Parental mental health and parenting

Table A4: Primary carers' mental health and parenting measures

	B cohort				K cohort			
	0-1 year	2-3 years	4-5 years	6-7 years	4-5 years	6-7 years	8-9 years	10-11 years
Kessler, K6								
Mean	4.41	4.48	4.44	4.43	4.30	4.44	4.39	4.39
SD	0.59	0.58	0.59	0.64	0.64	0.62	0.64	0.67
Sample size	4,296	4,474	3,769	4,156	4,163	4,301	3,693	4,007
Warm parenting								
Mean	4.56	4.60	4.51	4.53	4.44	4.45	4.33	4.27
SD	0.41	0.43	0.48	0.53	0.46	0.49	0.56	0.61
Sample size	5,075	4,476	3,771	4,162	4,927	4,301	3,702	4,015
Consistent parenting								
Mean	-	-	4.14	4.19	4.02	4.11	4.14	4.11
SD			0.63	0.63	0.69	0.64	0.63	0.67
Sample size			3,764	4,161	4,924	4,299	3,698	4,015
Angry parenting								
Mean	-	-	2.15	2.15	2.19	2.18	2.15	2.16
SD			0.59	0.61	0.59	0.59	0.61	0.66
Sample size			3,768	4,161	4,926	4,300	3,698	4,015

Note: Each of these scales has a range of 1 to 5, with a higher number indicating better mental health and more warm, consistent or angry parenting. Consistent parenting and angry parenting were not available for 0-1 year olds or 2-3 year olds. '-' = not applicable.

Source: LSAC Waves 1-4, B and K cohorts.

A.5 Child outcomes

Table A5: Child outcome measures

	B cohort		K cohort			
	4-5 years	6-7 years	4-5 years	6-7 years	8-9 years	10-11 years
PPVT						
Mean	64.6	73.9	63.9	73.5	77.9	–
SD	6.4	5.2	6.3	5.1	4.9	
Sample size	4211	4140	4366	4267	4152	
Matrix reasoning						
Mean	–	10.6	–	10.2	10.5	10.5
SD		3.0		3.0	3.1	3.0
Sample size		4,135		4,362	4,149	3,989
SDQ total difficulties						
Mean	8.5	8.5	9.6	8.2	7.8	8.4
SD	4.8	5.3	5.3	5.1	5.4	5.7
Sample size	3,771	4,166	4,918	4,288	3,699	4,009
SDQ prosocial behaviour						
Mean	7.7	8.3	7.7	8.2	8.2	8.5
SD	1.8	1.8	1.8	1.7	1.7	1.7
Sample size	3,778	4,166	4,919	4,293	3,702	4,009

Notes: In the sample used in these analyses (across the cohorts and waves) PPVT has a range of 28 to 101, matrix reasoning has a range of 1 to 19, SDQ total difficulties has a range of 0 to 35 and SDQ prosocial behaviour has a range of 0 to 10. '–' = not applicable.

Source: LSAC, B cohort Waves 3–4 and K cohort, Waves 1–4.

Appendix B: Supplementary analyses

Table B1: Financial wellbeing, balanced panel (responding in all waves)

	B cohort				K cohort			
	0-1 year	2-3 years	4-5 years	6-7 years	4-5 years	6-7 years	8-9 years	10-11 years
	%							
No hardships	70.8	79.9	80.1	79.7	72.5	81.8	81.9	80.8
1 or more hardship	29.2	20.1	19.9	20.3	27.5	18.2	18.1	19.2
1 hardship	17.5	13.0	12.7	12.3	16.0	11.1	10.6	11.5
2 hardships	7.2	4.8	5.1	5.0	7.0	4.6	5.2	5.3
3 hardships	2.8	1.6	1.2	1.7	2.8	1.6	1.5	1.6
4 hardships	1.1	0.5	0.7	1.1	1.2	0.8	0.6	0.7
5 or 6 hardships	0.7	0.2	0.1	0.2	0.5	0.1	0.3	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sample size	3,936	3,914	3,926	3,882	3,818	3,804	3,815	3,752

Notes: Includes only those who responded to LSAC in all four waves. There was some item non-response, which explains the different sample sizes across waves. Percentages may not total exactly due to rounding.

Source: LSAC Waves 1 to 4, B and K cohorts.

Table B2: Characteristics of mothers and fathers in couple-parent families, by parental employment status

	Couple mothers				Couple fathers			
	FT/ long PT hours	Short PT hours	Jobless	All couple mothers	FT/long PT hours	Short PT hours	Jobless	All couple fathers
	%							
Highest education < secondary	18.3	37.2	54.7	20.3	15.1	27.6	35.0	16.2
Indigenous	1.7	0.1	10.6	2.2	1.4	4.0	8.9	1.8
Non-English speaking	15.6	31.8	33.4	16.7	14.4	31.7	32.4	15.6
Has poor health	7.3	13.7	19.0	7.9	8.5	16.5	26.4	9.2
	Mean							
Age (years)	35.9	34.9	34.2	35.8	38.3	39.7	39.2	38.4
Sample size	25,519	620	993	31,132	29,467	618	982	31,067

Note: Sample sizes vary somewhat for different characteristics due to item non-response. Parental health status, in this table, excludes those with missing values—imputations were not done, as they were in the main analyses in this report, so the percentages differ from those given in Table 6.

Source: LSAC Waves 1-4, B and K cohorts.

Table B3: Predictors of parental income, 2004 dollars (unequalised), coefficients

Variable	Coefficients
Jobless families	-799***
Short part-time hours families	-717***
Single-parent families	-817***
Jobless & single-parent families	705***
Short part-time hours & single-parent families	499***
Full-time/long part-time hours families	Ref.
Highest parental education <secondary	-161***
Owens/buying own home	166***
Lives with other adult	-28
Indigenous parent	2
Non-English speaking parent	-218***
Parent with poor health	-123***
Age of youngest child (years)	3
Number of children	-9
Age of youngest parent (years)	26***
Metropolitan versus non-metropolitan	202***
Local area unemployment rate (%)	-59***
Low rating of neighbourhood safety	-36***
Low rating of access to basic services	-90***
Constant	1004***
Sample size	32,197
R-square	0.25

Notes: These coefficients were estimated from an ordinary least squares model in which four waves and two cohorts of LSAC data were pooled. The standard errors were adjusted to take account of multiple records per person. Models also included control variables to indicate from which wave and cohort the data were taken. An indicator of parental health status being missing was also included. The interactions between family type and parental employment were included to allow for different effects of being jobless or working short part-time hours in single-parent as opposed to couple-parent families (as was evident in Table 9). * $p < .05$; ** $p < .01$; *** $p < .001$.

Source: LSAC Waves 1-4, B and K cohorts.

Table B4: Predictors of mothers' and fathers' social capital, couple-parent families

	Low neighbourhood belonging		No weekly contact with friends/family		No involvement in community groups	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
	Odds ratios					
Jobless families	0.91	0.78	0.93	0.94	1.57**	1.49**
Short part-time hours families	1.43	0.80	1.60**	1.08	1.36*	1.00
Full-time/long part-time hours	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)	1.08	1.05	1.05	1.23*	1.42***	1.04
Number of hardships	1.10	1.08	1.06	1.04	1.08	1.08
Highest parental education <secondary	0.97	1.51***	0.89	0.67***	1.69***	1.76***
Owns/buying own home	0.71***	0.73***	0.90	1.00	0.78***	0.86*
Lives with other adult	1.45*	1.36*	1.27*	0.98	1.54***	1.23*
Indigenous parent	1.04	0.86	0.86	0.89	1.04	1.11
Non-English speaking parent	1.22	0.97	1.30**	0.82**	1.79***	1.51***
Parent with poor health	1.71***	1.56***	1.40***	1.30***	1.26***	1.47***
Age of youngest child (years)	0.98	1.01	0.99	0.97**	0.92***	0.94***
Number of children	0.95	0.98	0.91**	0.95*	0.75***	0.71***
Age of youngest parent (years)	0.97***	0.97***	1.03***	1.03***	0.96***	0.98***
Metropolitan area	1.25**	1.46***	1.02	1.05	1.25***	1.14**
Local area unemployment rate	1.02	1.03*	1.00	0.98	1.05***	1.03**
Low rating of neighbourhood safety	1.99***	1.40***	1.19***	1.06	1.19***	1.16***
Low rating of access to basic services	1.50***	1.14***	1.15***	1.08***	1.03	0.97
Constant	0.03***	0.15***	0.05***	0.08***	2.14*	6.31***
Sample size	11039	11039	15977	15977	16020	16020
Log pseudo likelihood	-3,748	-4,984	-7,252	-10,268	-10,332	-10,183

Notes: These coefficients were estimated from logistic regression estimations in which four waves and two cohorts of LSAC data were pooled. Only those families in which there was both a mother and a father response to the social capital item were included. Unmet demand for help or support has not been included as this was not asked of the second parent, only the primary carer. None of these items were collected from the second parent in Wave 1, and the neighbourhood belonging question was not asked of the second parent in Wave 4. The standard errors were adjusted to take account of multiple records per person. As a result the model fit is presented as 'log pseudo likelihood'. Models also included control variables to indicate from which wave and cohort the data were taken. Indicators of parental health status and parental income being missing were also included. * $p < .05$; ** $p < .01$; *** $p < .001$.

Source: LSAC Waves 1-4, B and K cohorts.

Table B5: Detailed results from multivariate analyses of parental mental health (Kessler K6), mothers and fathers, random and fixed effects models

	Mothers			Fathers		
	Random effects		Fixed effects	Random effects		Fixed effects
	Basic	Full		Basic	Full	
	Coefficient					
Jobless families	-0.18***	-0.06***	-0.05**	-0.19***	-0.10***	-0.07*
Short part-time hours families	-0.05**	0.01	0.03	-0.07**	-0.01	0.00
Single-parent families	-0.14***	-0.12***	-0.10***	-0.02	-0.08	-0.03
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		0.07***	0.04*		0.06**	0.03
Number of hardships		-0.08***	-0.04***		-0.05***	-0.04***
Highest parental education <secondary		0.04*			0.01	
Owens/buying own home		0.02*	-0.01		-0.01	-0.01
Lives with other adult		-0.02	-0.01		-0.01	-0.01
Indigenous parent		-0.01			0.02	
Non-English speaking parent		-0.16***			-0.11***	
Parent with poor health		-0.22***	-0.15***		-0.21***	-0.14***
Age of youngest child		0.00			0.01***	
Number of children		-0.01	-0.01		0.01	-0.02*
Age of youngest parent		0.01***			0.00**	
Metropolitan area		-0.03***	-0.01		-0.03*	-0.01
Local area unemployment rate		-0.00*	0.00		0.01**	0.01*
Low rating of neighbourhood safety		-0.02***	-0.01		-0.02***	-0.02*
Low rating of access to basic services		-0.02***	-0.01		-0.01	-0.01
Low neighbourhood belonging		-0.08***	-0.04***		0.00	0.01
No weekly contact with friends/family		-0.05***	-0.02*		-0.03**	-0.01
Unmet need for support/help		-0.35***	-0.26***		-0.10***	-0.07***
No involvement in community groups		0.00	-0.01		0.01	0.00
Constant	4.49***	4.35***	4.41***	4.50***	4.30***	4.47***
Sample size	28,193	28,193	28,215	21,250	21,250	21,263
R-square	0.04	0.20	0.20	0.01	0.07	0.06
Chi-square test of significance of additional variables	-	***	-	-	***	-

Notes: Models also include dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. The range of the dependent variable is 1 to 5, 5 = better mental health. * $p < .05$; ** $p < .01$; *** $p < .001$. ‘-’ = not applicable.

Source: LSAC Waves 1–4, B and K cohorts.

Table B6: Measures of parenting styles, primary carers, mothers and fathers, by parental employment and family type

	Full-time/long part-time hours	Short part-time hours	Jobless	All families
	Mean			
Warm parenting (1–5, 1 = more warm)				
Primary carers				
Couple parents	4.47	4.37	4.47	4.47
Single parents	4.47	4.50	4.46	4.47
All primary carers	4.47	4.44	4.47	4.47
Mothers				
Couple parents	4.47	4.37	4.48	4.47
Single parents	4.48	4.50	4.47	4.48
All mothers	4.47	4.45	4.47	4.47
Couple fathers	4.15	4.15	4.19	4.15
Consistent parenting (from age 4–5 years) (1–5, 1 = more consistent)				
Primary carers				
Couple parents	4.16	3.89	3.83	4.14
Single parents	4.06	4.06	3.83	3.96
All primary carers	4.15	4.00	3.83	4.11
Mothers				
Couple parents	4.16	3.89	3.83	4.15
Single parents	4.06	4.06	3.82	3.96
All mothers	4.16	4.00	3.82	4.12
Couple fathers	4.06	3.96	3.77	4.05
Angry parenting (from age 4–5 years) (1–5, 1 = more angry)				
Primary carers				
Couple parents	2.15	2.26	2.20	2.15
Single parents	2.17	2.19	2.26	2.21
All primary carers	2.15	2.22	2.24	2.16
Mothers				
Couple parents	2.15	2.26	2.20	2.15
Single parents	2.19	2.19	2.27	2.22
All mothers	2.15	2.22	2.25	2.17
Couple fathers	2.18	2.23	2.21	2.18

Source: LSAC Waves 1–4, B and K cohorts.

Table B7: Measures of child wellbeing, by parental employment and family type

	Couple-parent families	Single-parent families	All families
		Mean	
PPVT			
Jobless	66.6	68.3	67.8
Short part-time hours	68.7	71.4	70.4
Full-time/long part-time hours	71.0	72.2	71.1
All families	70.8	70.2	70.7
Matrix reasoning			
Jobless	9.3	9.6	9.5
Short part-time hours	10.1	10.1	10.1
Full-time/long part-time hours	10.6	10.3	10.6
All families	10.5	10.0	10.5
SDQ total difficulties			
Jobless	10.9	11.6	11.4
Short part-time hours	9.7	9.8	9.8
Full-time/long part-time hours	8.0	9.3	8.1
All families	8.2	10.4	8.5
SDQ prosocial behaviour			
Jobless	7.9	7.7	7.7
Short part-time hours	7.8	8.0	7.9
Full-time/long part-time hours	8.1	8.2	8.1
All families	8.1	7.9	8.1

Source: LSAC Waves 1–4, B and K cohorts.

Table B8: Detailed results from multivariate analyses of receptive vocabulary (PPVT), random and fixed effects models

	Random effects				Fixed effects
	Basic model	Plus financial wellbeing	Plus background variable	Plus parenting and mental health	
	Coefficient				
Jobless families	-1.61***	-0.74***	-0.17	-0.11	-0.08
Short part-time hours families	-0.58**	0.01	0.19	0.19	0.12
Single-parent families	-0.24	0.49**	0.24	0.27	0.18
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		2.45***	1.66***	1.60***	0.06
Number of hardships		-0.33***	-0.16**	-0.12	-0.02
Highest parental education <secondary			-1.22***	-1.11***	
Owns/buying own home			0.26*	0.22	0.40*
Lives with other adult			-0.25	-0.22	0.91**
Indigenous parent			-1.14***	-0.99***	
Non-English speaking parent			-2.81***	-2.53***	
Parent with poor health			-0.17	-0.06	0.09
Number of children			-0.58***	-0.57***	-0.03
Age of youngest parent			0.10***	0.10***	
Metropolitan area			0.20*	0.20*	0.15
Local area unemployment rate			0.02	0.03	0.06
Low rating of neighbourhood safety			-0.21**	-0.17*	-0.15
Low rating of access to basic services			-0.14**	-0.12*	0.03
Low neighbourhood belonging			-0.05	0.00	-0.05
No weekly contact with friends/family			0.04	0.10	-0.04
Unmet need for support/help			0.06	0.21	-0.07
No involvement in community groups			-0.89***	-0.83***	-0.32**
Warm parenting				0.15	0.18
Consistent parenting				0.77***	0.01
Angry parenting				0.15	-0.03
Parental mental health				0.24**	0.05
Age of child (months)	0.31***	0.30***	0.30***	0.30***	0.36***
Gender of child = boy	-0.06	-0.06	-0.07	-0.08	
Constant	48.76***	41.29***	42.84***	37.48***	44.42***
Sample size	16,662	16,662	16,662	16,662	16,682
R-square	0.50	0.51	0.54	0.54	0.45
Chi-square test of significance of additional variables	-	***	***	***	-

Notes: Models also include dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. * $p < .05$; ** $p < .01$; *** $p < .001$. '-' = not applicable.

Source: LSAC Waves 1-4, B and K cohorts.

Table B9: Detailed results from multivariate analyses of non-verbal intelligence (matrix reasoning), random and fixed effects models

	Random effects				Fixed effects
	Basic model	Plus financial wellbeing	Plus background variable	Plus parenting and mental health	
	Coefficient				
Jobless families	-0.76***	-0.39***	-0.22	-0.21	-0.24
Short part-time hours families	-0.26*	0.00	0.03	0.03	-0.01
Single-parent families	-0.12	0.19*	0.19	0.19	0.24
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		1.07***	0.75***	0.74***	0.31
Number of hardships		-0.11**	-0.05	-0.06	0.04
Highest parental education <secondary			-0.63***	-0.60***	
Owns/buying own home			0.04	0.03	-0.09
Lives with other adult			-0.16	-0.15	0.11
Indigenous parent			-0.76***	-0.70***	
Non-English speaking parent			0.18	0.25*	
Parent with poor health			-0.01	-0.02	-0.06
Number of children			-0.12***	-0.12***	0.00
Age of youngest parent			0.03***	0.03***	
Metropolitan area			0.35***	0.35***	-0.12
Local area unemployment rate			-0.03**	-0.03**	0.01
Low rating of neighbourhood safety			-0.10*	-0.09*	-0.12
Low rating of access to basic services			0.00	0.00	0.01
Low neighbourhood belonging			0.06	0.06	0.09
No weekly contact with friends/family			0.10	0.09	0.09
Unmet need for support/help			-0.05	-0.07	-0.02
No involvement in community groups			-0.21***	-0.20***	-0.05
Warm parenting				-0.14**	0.05
Consistent parenting				0.26***	0.02
Angry parenting				-0.03	0.04
Parental mental health				-0.09	-0.04
Age of child (months)	0.00***	0.00**	0.00	0.00	0.01
Gender of child = boy	-0.27***	-0.27***	-0.27***	-0.27***	
Constant	10.66***	7.33***	7.87***	7.94***	8.68***
Sample size	13,884	13,884	13,884	13,884	13,902
R-square	0.01	0.02	0.04	0.04	0.00
Chi-square test of significance of additional variables	-	***	***	***	-

Notes: Models also include dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. * $p < .05$; ** $p < .01$; *** $p < .001$. ‘-’ = not applicable.

Source: LSAC Waves 1–4, B and K cohorts.

Table B10: Detailed results from multivariate analyses of social-emotional difficulties (SDQ total difficulties), random and fixed effects models

	Random effects				Fixed effects
	Basic model	Plus financial wellbeing	Plus background variable	Plus parenting and mental health	
			Coefficient		
Jobless families	1.07***	0.51***	0.21	0.15	-0.28
Short part-time hours families	0.39**	0.00	-0.06	-0.03	-0.25
Single-parent families	1.10***	0.58***	0.47***	0.22	0.34*
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		-1.49***	-0.95***	-0.86***	-0.28
Number of hardships		0.53***	0.42***	0.27***	-0.02
Highest parental education <secondary			0.75***	0.63***	
Owns/buying own home			-0.27**	-0.24**	0.04
Lives with other adult			0.32*	0.43***	0.22
Indigenous parent			1.07***	0.79***	
Non-English speaking parent			0.67***	0.02	
Parent with poor health			0.82***	0.33***	0.05
Number of children			-0.16***	-0.22***	-0.08
Age of youngest parent			-0.09***	-0.07***	
Metropolitan area			-0.07	-0.18*	-0.17
Local area unemployment rate			0.09***	0.09***	-0.01
Low rating of neighbourhood safety			0.31***	0.20***	0.09
Low rating of access to basic services			0.11**	0.07*	0.01
Low neighbourhood belonging			0.56***	0.33***	0.11
No weekly contact with friends/family			0.42***	0.22**	0.14
Unmet need for support/help			1.00***	0.16	0.09
No involvement in community groups			0.40***	0.29***	0.26***
Warm parenting				-0.28***	-0.37***
Consistent parenting				-0.79***	-0.52***
Angry parenting				2.51***	1.76***
Parental mental health				-1.26***	-0.82***
Age of child (months)	-0.02***	-0.01***	-0.01***	-0.01***	-0.01
Gender of child = boy	1.32***	1.31***	1.29***	1.04***	
Constant	8.42***	12.87***	12.83***	17.48***	14.03***
Sample size	21,086	21,086	21,086	21,086	21,113
R-square	0.05	0.08	0.14	0.34	0.30
Chi-square test of significance of additional variables	-	***	***	***	-

Notes: Models also include dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. * $p < .05$; ** $p < .01$; *** $p < .001$. '-' = not applicable.

Source: LSAC Waves 1-4, B and K cohorts.

Table B11: Detailed results from multivariate analyses of prosocial behaviour (SDQ), random and fixed effects models

	Random effects				Fixed effects
	Basic model	Plus financial wellbeing	Plus background variable	Plus parenting and mental health	
	Coefficient				
Jobless families	-0.22***	-0.19***	-0.11	-0.11*	-0.08
Short part-time hours families	-0.07	-0.04	-0.02	-0.02	0.04
Single-parent families	-0.06	-0.02	-0.03	-0.02	-0.08
Full-time/long part-time hours families	Ref.	Ref.	Ref.	Ref.	Ref.
Parental income (log)		0.08	0.04	0.01	-0.02
Number of hardships		-0.04*	-0.02	0.00	0.02
Highest parental education <secondary			-0.20***	-0.12*	
Owns/buying own home			-0.02	-0.01	-0.07
Lives with other adult			-0.03	-0.07	0.00
Indigenous parent			-0.14	-0.09	
Non-English speaking parent			0.01	0.16***	
Parent with poor health			-0.23***	-0.14***	-0.13**
Number of children			-0.07***	-0.03	-0.01
Age of youngest parent			0.00	-0.01	
Metropolitan area			0.04	0.05	0.04
Local area unemployment rate			0.01	0.01	-0.01
Low rating of neighbourhood safety			-0.10***	-0.06**	-0.02
Low rating of access to basic services			-0.05**	-0.03*	-0.02
Low neighbourhood belonging			-0.11***	-0.06	-0.04
No weekly contact with friends/family			-0.12***	-0.05*	-0.01
Unmet need for support/help			-0.10**	0.05	0.04
No involvement in community groups			-0.13***	-0.08***	-0.06*
Warm parenting				0.54***	0.39***
Consistent parenting				0.25***	0.22***
Angry parenting				-0.53***	-0.36***
Parental mental health				0.01***	0.06*
Age of child (months)	0.01***	0.01***	0.01***	0.01***	0.00
Gender of child = boy	-0.66***	-0.66***	-0.66***	-0.60***	
Constant	7.67***	7.42***	8.14***	5.39***	5.86***
Sample size	21,093	21,093	21,093	21,093	21,120
R-square	0.06	0.06	0.08	0.20	0.13
Chi-square test of significance of additional variables	-	*	***	***	-

Notes: Models also include dummy variables for the cohort from which the data were collected (RE models only) and the wave from which the data were collected (FE model only), missing income and missing health status. All RE models were restricted to the sample with non-missing information on the full range of variables in the final RE model. * $p < .05$; ** $p < .01$; *** $p < .001$. ‘-’ = not applicable.

Source: LSAC Waves 1–4, B and K cohorts.

List of shortened forms

ABS	Australian Bureau of Statistics
AIFS	Australian Institute of Family Studies
AIWH	Australian Institute of Health and Welfare
ASIB	Australian Social Inclusion Board
FE / RE	fixed effects / random effects
LSAC	Longitudinal Study of Australian Children
NESB	non-English speaking background
OLS	ordinary least squares
PPVT	Peabody Picture Vocabulary Test
SALM	small area labour market
SDQ	Strengths and Difficulties Questionnaire
SLA	statistical local area

Endnotes

- 1 In this report, the term ‘short part-time hours’ of employment is used to identify families who are not jobless but whose hours of employment are not large, putting them at an increased risk of experiencing financial hardships. See Section 3 for a more detailed discussion.
- 2 Early studies on economic and social disadvantage tended to focus on poverty rather than unemployment. For example, Rowntree (1901) found that a major reason for poverty was low wages (working poor), and that unemployment played a lesser role. Following the Great Depression of the early 1930s and the rise of mass unemployment, the focus of research shifted from low wages to unemployment and the impact this had on families. Negative effects were found (e.g., Rowntree 1941), and other research has suggested that the high rates of unemployment during the Great Depression had a long-lasting negative impact on children who grew up during this period (Elder Jr 1999).
- 3 Short part-time hours may be associated with poor job quality—for example, having less security. On the other hand, short part-time hours may offer benefits to parents if those hours can be set to fit around family responsibilities. Aspects of job quality are not included in these analyses, but may be particularly relevant to findings regarding short part-time hours and parental wellbeing (see, for example, Strazdins, Clements, Korda, Broom & De Souza 2006; Strazdins, Korda, Lim, Broom & De Souza 2004).
- 4 In principle, an alternative approach to identifying families who have a low income because of insufficient hours of employment would be to use labour market earnings; however, LSAC does not distinguish between income earned in the labour market and other sources of income, so this approach is not possible using the LSAC data.
- 5 Kalil (2009), in a review of the literature, identified the investments, family stress and role model perspectives.
- 6 In addition to the main waves of the survey, which are conducted face-to-face every two years, a mail-out survey is administered in the year between the main waves. Data from the between-waves survey are not used in this report.
- 7 These sample weights have not been adjusted to take account of non-response to particular instruments, such as the self-completion questionnaire, or to other items of non-response. For further details on the procedures used to construct the sample weights, see Siphthorp and Misson (2009).
- 8 In this report, we exclude a small number of families in which the resident ‘mother’ or ‘father’ of the study child was someone other than a biological, step-, foster or adopted parent (e.g. a grandparent). The more complicated nature of these families, and also the fact that some data are not collected on these household members, makes their inclusion too difficult. The numbers affected are quite small, as shown in Table 1.
- 9 Multivariate analyses were used to test the statistical significance of associations. This approach has been used in order to deal with the pooled nature of the data. While not shown, each of the cross-tabulations was replicated for each wave and statistical tests conducted to ensure that the associations that are discussed were statistically significant for all or almost all of the waves.
- 10 There are a small number of single parents who have a partner with whom they live, but the partner is not recorded as being a parent of the study child. Also, some single-parent families have another adult, such as the child’s grandparent, living in the household. In the regression models, these situations are taken into account through the inclusion of a variable that indicates whether there is another adult co-resident who is not a parent.
- 11 Parents who have a job, but are on leave from that job, are classified as being in paid employment.

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- 12 These calculations are based on the experiences of LSAC children, from both cohorts, for whom information was available about parental employment at each of the four waves of LSAC.
 - 13 For a small number of respondents, income was instead based on annual income (Appendix A).
 - 14 There was some missing income data due to non-response to the income questions. Non-respondents on income comprised about 5–6 per cent of the sample in Waves 1, 2 and 3. In Wave 4 it was much higher, comprising 15 per cent of the sample. Those with missing income data were excluded in the exploration of the predictors of parental income. When income was used as an explanatory variable in the multivariate analyses, income non-respondents were retained by flagging them as having missing income data and replacing the missing income information with the overall mean of the sample. More information about the derivation and analyses of income data is provided in Appendix A.
 - 15 The statistical significance of the difference in gross (unequalised) income for couple and single parent families according to parental employment has been tested using a simple OLS regression model which includes family type, parental employment status, interaction terms between family type and parental employment status and some basic sociodemographic characteristics of the parents and children. See Appendix Table B3.
 - 16 This analysis uses only those in the sample who have non-missing income information, as this subsample is used for the analysis of change in income.
 - 17 This analysis does not take into account the impact of relationship breakdown on assets, particularly the family home and whether it needs to be sold as a result of the end of the relationship.
 - 18 This means that for couple families, the fathers' perspectives were not taken into account. Some of the questions underlying these measures, at some waves, were collected from both parents. As a check that the views of the primary carers were not providing a biased perspective, additional analyses examined mothers' and fathers' measures in couple-parent families, limiting those analyses to families in which both parents had a value for the measure being examined. These analyses are shown in Table B4. Given that single parents are excluded, the results are not comparable to those presented in this section. However, we can see that associations between most of the sociodemographic and neighbourhood measures and the social capital indicators were similar for mothers and fathers.
 - 19 This measure was selected as the Children's Headline Indicator for family social network (AIHW 2010).
 - 20 The K6 questions ask respondents how often in the last four weeks they had felt (a) nervous, (b) hopeless, (c) restless or fidgety, (d) so depressed that nothing could cheer them up, (e) that everything was an effort or (f) worthless. There were five response categories, with values of 1 to 5 — 'none of the time' to 'all the time' — which were averaged to produce the K6 scale.
 - 21 Associations between the sociodemographic variables and mental health were also apparent. Refer to Appendix Table B5 for further information.
 - 22 Age of youngest child has been excluded, because in these analyses age of the LSAC child is used instead.
 - 23 The models presented in this section do not include interactions between parental employment status and family type. The models with the interaction terms were estimated but the interaction terms were not statistically significant.
 - 24 When information about the separate income of either parent was missing, total parental income was used instead. This parental income was captured in ranges, following the question — 'Before income tax is taken out, what is your present yearly income (for you and partner combined)? Include pensions and allowances, before tax, superannuation or health insurance.' The midpoint of the selected range was recorded. For example, the top range (\$2400 or more per week) was substituted with \$2900, which was the median of exact income for those who selected a total parental income in this range.
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- 25 See Citro and Michael (1995) for a discussion of different equivalence scales and their use, and ABS (2005) for a discussion of the modified OECD equivalence scale and application to Australian data.
- 26 With later waves of LSAC, particularly in the older cohort, it has become increasingly common for the study child to have siblings in the family aged 15 years or older. For example, in Wave 4 of the K cohort, in 68 per cent of families the only family members aged 15 years or older were parents; in another 21 per cent of families, there were parents as well as older siblings aged 15 years and older, with another 6 per cent including parents and other adults, and another 5 per cent including parents, other adults and older siblings. For comparison, of the B cohort at Wave 1, these percentages were 87 per cent, 8 per cent, 1 per cent and 3 per cent.
- 27 The question about income of others was: “The next question is about the income of members of your household aged 15 years or over, excluding yourself [and partner]. Before income tax is taken out, how much income in total do these people usually receive from all sources?”. From Waves 2 and 3, B and K cohorts combined, income of other household members was missing in 24 per cent of cases (calculated for families with family members aged 15 years and over). In another 28 per cent of cases the income of these other household members was reported to be zero, leaving 48 per cent of cases with some income reported. There was an increased percentage of missing income when these other household members were not older siblings. When income was missing, these household members were not included in calculation of equivalence scales as it was assumed they had separate financial arrangements.
- 28 The conversion rate from 2006 to 2004 dollars was 1.06301653, from 2008 to 2004 dollars 1.1351584 and from 2010 to 2004 dollars 1.188705234. Incomes from 2006 onwards were divided by their respective conversion rate to attain the value of 2004 dollars. These rates were based on the CPI as reported by the ABS (2011).

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Occasional Papers

1. *Income support and related statistics: a ten-year compendium, 1989–99*
Kim Bond and Jie Wang (2001)
2. *Low fertility: a discussion paper*
Alison Barnes (2001)
3. *The identification and analysis of indicators of community strength and outcomes*
Alan Black and Phillip Hughes (2001)
4. *Hardship in Australia: an analysis of financial stress indicators in the 1998–99 Australian Bureau of Statistics Household Expenditure Survey*
J Rob Bray (2001)
5. *Welfare Reform Pilots: characteristics and participation patterns of three disadvantaged groups*
Chris Carlile, Michael Fuery, Carole Heyworth, Mary Ivec, Kerry Marshall and Marie Newey (2002)
6. *The Australian system of social protection—an overview (second edition)*
Peter Whiteford and Gregory Angenent (2002)
7. *Income support customers: a statistical overview 2001*
Corporate Information and Mapping Services, Strategic Policy and Knowledge Branch, Family and Community Services (2003)
8. *Inquiry into long-term strategies to address the ageing of the Australian population over the next 40 years*
Commonwealth Department of Family and Community Services submission to the 2003 House of Representatives Standing Committee on Ageing (2003)
9. *Inquiry into poverty and financial hardship*
Commonwealth Department of Family and Community Services submission to the Senate Community Affairs References Committee (2003)
10. *Families of prisoners: literature review on issues and difficulties*
Rosemary Woodward (2003)
11. *Inquiries into retirement and superannuation*
Australian Government Department of Family and Community Services submissions to the Senate Select Committee on Superannuation (2003)
12. *A compendium of legislative changes in social security 1908–1982*
(2006)
13. *A compendium of legislative changes in social security 1983–2000*
Part 1 1983–1993, Part 2 1994–2000
Bob Daprè (2006)
14. *Evaluation of Fixing Houses for Better Health Projects 2, 3 and 4*
SGS Economics & Planning in conjunction with Tallegalla Consultants Pty Ltd (2006)
15. *The ‘growing up’ of Aboriginal and Torres Strait Islander children: a literature review*
Professor Robyn Penman (2006)
16. *Aboriginal and Torres Strait Islander views on research in their communities*
Professor Robyn Penman (2006)
17. *Growing up in the Torres Strait Islands: a report from the Footprints in Time trials*
Cooperative Research Centre for Aboriginal Health in collaboration with the Telethon Institute for Child Health Research and the Department of Families, Community Services and Indigenous Affairs (2006)

18. *Costs of children: research commissioned by the Ministerial Taskforce on Child Support*
Paul Henman; Richard Percival and Ann Harding; Matthew Gray (2007)
19. *Lessons learnt about strengthening Indigenous families and communities: what's working and what's not?*
John Scougall (2008)
20. *Stories on 'growing up' from Indigenous people in the ACT metro/Queanbeyan region*
Cooperative Research Centre for Aboriginal Health in collaboration with the Telethon Institute for Child Health Research and the Department of Families, Housing, Community Services and Indigenous Affairs (2008)
21. *Inquiry into the cost of living pressures on older Australians*
Australian Government Department of Families, Housing, Community Services and Indigenous Affairs submissions to the Senate Standing Committee on Community Affairs (2008)
22. *Engaging fathers in child and family services: participation, perception and good practice*
Claire Berlyn, Sarah Wise and Grace Soriano (2008)
23. *Indigenous families and children: coordination and provision of services*
Saul Flaxman, Kristy Muir and Ioana Oprea (2009)
24. *National evaluation (2004–2008) of the Stronger Families and Communities Strategy 2004–2009*
Kristy Muir, Ilan Katz, Christiane Purcal, Roger Patulny, Saul Flaxman, David Abelló, Natasha Cortis, Cathy Thomson, Ioana Oprea, Sarah Wise, Ben Edwards, Matthew Gray and Alan Hayes (2009)
25. *Stronger Families in Australia study: the impact of Communities for Children*
Ben Edwards, Sarah Wise, Matthew Gray, Alan Hayes, Ilan Katz, Sebastian Misson, Roger Patulny and Kristy Muir (2009)
26. *Engaging hard-to-reach families and children*
Natasha Cortis, Ilan Katz and Roger Patulny (2009)
27. *Ageing and Australian Disability Enterprises*
Shannon McDermott, Robyn Edwards, David Abelló and Ilan Katz (2010)
28. *Needs of clients in the Supported Accommodation Assistance Program*
Australian Institute of Health and Welfare (2010)
29. *Effectiveness of individual funding approaches for disability support*
Karen R Fisher, Ryan Gleeson, Robyn Edwards, Christiane Purcal, Tomasz Sitek, Brooke Dinning, Carmel Laragy, Lel D'aegher and Denise Thompson (2010)
30. *Families' experiences of services*
Morag McArthur, Lorraine Thomson, Gail Winkworth and Kate Butler (2010)
31. *Housing costs and living standards among the elderly*
Bruce Bradbury and Bina Gubhaju (2010)
32. *Incentives, rewards, motivation and the receipt of income support*
Jacqueline Homel and Chris Ryan (2010)
33. *Problem gamblers and the role of the financial sector*
The South Australian Centre for Economic Studies (2011)
34. *Evaluation of income management in the Northern Territory*
Australian Institute of Health and Welfare (2010)
35. *Post-diagnosis support for children with Autism Spectrum Disorder, their families and carers*
Kylie valentine and Marianne Rajkovic, with Brooke Dinning and Denise Thompson; Marianne Rajkovic, Denise Thompson and kylie valentine (2011)
36. *Approaches to personal money management*
The Social Research Centre and Data Analysis Australia (2011)

37. *Fathering in Australia among couple families with young children*
Jennifer Baxter and Diana Smart (2011)
38. *Financial and non-financial support to formal and informal out-of-home carers*
Marilyn McHugh and kylie valentine (2011)
39. *Community attitudes to disability*
Denise Thomson, Karen R Fisher, Christiane Purcal, Chris Deeming and Pooja Sawrikar (2011)
40. *Development of culturally appropriate problem gambling services for Indigenous communities*
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42. *New father figures and fathers who live elsewhere*
Jennifer Baxter, Ben Edwards and Brigid Maguire (2012)
44. *Paid Parental Leave evaluation: Phase 1*
Bill Martin, Belinda Hewitt, Marian Baird, Janeen Baxter, Alexandra Heron, Gillian Whitehouse, Marian Zadoroznyj, Ning Xiang, Dorothy Broom, Luke Connelly, Andrew Jones, Guyonne Kalb, Duncan McVicar, Lyndall Strazdins, Margaret Walter, Mark Western, Mark Wooden (2012)
46. *Parental marital status and children's wellbeing*
Lixia Qu and Ruth Weston (2012)