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Childhood Family Circumstances and Young Adult People's Receipt of Income Support

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Childhood family circumstances and young adult people's receipt of income support*

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1 Introduction

This report uses data from the Youth in Focus (YIF) Project to analyse how young Australians' receipt of income support is related to their family circumstances while they were growing up. Specifically, our objective is to shed light on the way that a family history of income support receipt affects the probability that young Australians are receiving income support at age 18. We do this by carefully taking account of the complex relationships between the many important demographic, geographic, and family-background characteristics that may underlie a young person's decision to remain in school or find a job on the one hand, and his or her family's experience with the income support system on the other. Identification of the mechanisms by which youths enter or avoid poverty is a necessary first step in formulating sensible policies targeted towards breaking any intergenerational cycle of dependence on income support and promoting the social and economic independence of Australian youth.

1.1 Methodological overview

We begin by summarising the intensity of the family's receipt of income support while the youth was growing up by grouping families into three categories. The first category consists of families that did not receive any income support (as defined in Section 3). The second category consists of families that received income support at various points in time with a total period on income support of less than six years. The third category consists of families that received income support for longer than six years in total. We refer to the second and third groups of families as having received moderate and intensive income support, respectively.

Our analysis then proceeds in two stages. As a first step, we investigate the nature of young Australians' interaction with the income support system generally and consider how a young person's receipt of income support varies with his or her demographic characteristics (age, gender, migrant status, indigenous status), family background characteristics (mother's education, socio-economic status, age, migrant status, indigenous status, locus of control, etc.) and geographic location (state/territory, rural/urban). We pay particular

attention to the ways in which these patterns differ among youths growing up in families that received no, moderate or intensive income support.

In the second stage of the analysis, we specify and estimate a multivariate regression model which incorporates our categorical summary measure of family income support history. Using this framework, we are able to examine how the factors underlying income support receipt as a young adult varies with the intensity of the family's income support receipt while growing up. In other words, we use this model to understand whether or not the link between, for example, a mother's educational attainment or socio-economic status and a youth's receipt of income support depends on whether or not the family has a history of receiving income support. Thus, this analysis sheds light on the ways in which socio-economic disadvantage as a child is translated into socio-economic disadvantage as a young adult.

1.2 Summary of main findings

Our main findings are as follows:

1. Young people from families with a history of intensive income support receipt are substantially more likely to be receiving income support at age 18.

2. Youth Allowance is the most prevalent form of income support irrespective of a young person's background.

3. There is geographic variation in the receipt of income support which is particularly important in understanding which young people in those families with a history of intensive income support receipt are themselves in receipt of Youth Allowance that is not related to study or training.

4. Young people's income support receipt is related to their mother's educational attainment in complex ways even after we account for the family's income support receipt history and a variety of other background characteristics.

5. Young people are less likely to be receiving income support if their mothers have a more external locus of control.

6. Young people from families who have not received income support are more likely to receive student Youth Allowance as their mothers' belief in the importance of education, ambition, and a job for getting ahead in life becomes stronger.

7. Young men are less likely to be in receipt of income support than are otherwise similar young women.

8. The incidence of income support receipt is not in general related to a mother's demographic characteristics or socio-economic status (as measured by her occupational status) once we include detailed controls in the model.

9. There is a link between family structure (i.e. number of siblings, mothers' previous relationships, mothers' current partner status, and the degree of communication between natural parents) and the receipt of income support.

10. The receipt of student Youth Allowance is related to the educational attainment of mothers' partners for those youths growing up in families receiving intensive income support.

1.3 Outline of the report

The outline of the report is as follows. Section 2 provides background information about the transmission of disadvantage from one generation to the next and discusses the reasons that the intergenerational correlation in the receipt of income support is so high. Section 3 presents the Youth in Focus data and discusses our summary measure of family income support history. Section 4 presents the results of the descriptive empirical analysis, while the results of the multivariate analysis can be found in Section 5. Section 6 concludes with a review of our main findings and suggestions for future research.

2 Background

There is a growing international consensus that young people growing up in households receiving public assistance have above-average probabilities of experiencing a range of ad-

verse outcomes as adults. Haveman and Wolfe (1995) and Haveman et al. (2003) review the large empirical literature that attempts to establish the existence and the strength of any linkages between family and community investments in children and children's attainments. The attainments these authors focus on are teen child-bearing, educational attainment, employment and earnings. In a related review, Israel and Seeborg (1998) focus on poverty and, in particular, on those factors influencing the likelihood that impoverished youths will escape poverty. These reviews demonstrate that family income during childhood is an important predictor of youth outcomes, alongside personal characteristics, other family background characteristics, and neighbourhood characteristics.

It is clear that people growing up in families that are dependent upon income support are themselves more likely to require public assistance as adults. This intergenerational correlation in receipt of income support has been documented for the United States in several studies, including those by Solon et al. (1988), Antel (1992), Gottschalk (1992, 1996), and An et al. (1993). At the same time, this phenomenon is not unique to the United States. It has also been observed in Canada (Beaulieu et al., 2005), Sweden (Corak et al., 2000), New Zealand (Maloney et al., 2003), as well as in Australia (Pech and McCoull, 1998, 2000; McCoull and Pech, 2000; Cobb-Clark and Sartbayeva, 2007).

What is less clear is the degree to which this correlation is due to correlation in the factors which lead to needing public assistance, or a causal process whereby children who grow up in families that receive public assistance are more likely themselves to seek public assistance as a direct consequence of their parents having received assistance. As an example of the former, consider that low-income families tend to have a low level of education, and that less educated parents tend to have less educated children who are then more likely to become unemployed and seek public assistance. In this example, it is education which is the confounding factor which drives the intergenerational correlation in the receipt of income support. A causal effect may occur as children learn about the welfare system from their parents, and the more they learn, the easier it is for them to use the system as adults. Or it may be due to the transmission of family and community values which lead young people to view dependence on income support in a more acceptable light

if they grew up in a family who depended on support (see e.g. Barón et al., 2008).

Consequently, in order to understand the process through which dependence on income support is passed from parents to their children it is necessary to understand the extent to which a family history of income support receipt has a direct effect on future income support receipt in early adulthood and the extent to which it operates more indirectly by affecting other important outcomes related to the need for income support in the future. The research presented in this report provides empirical evidence regarding both of these avenues.

3 Data

The data used in this research are from the Youth in Focus (YIF) Project.[1] At the centre of YIF is a cohort of young people. The YIF data are unique in combining historical administrative data on income support payments to each young person and his or her family with survey data collected from both the young person and from one of his or her parents (the mother in almost all cases). The administrative records go back to the time when the young person was about three years of age. The survey data provide detailed information about the youth's and the parent's current situation and activities, as well as information about events which occurred while the young person was growing up. In this section we discuss the analysis sample in more detail and introduce a measure of the family's history of income support receipt.

The YIF Project uses Centrelink administrative records to identify all young people born in the six-month period between 1 October 1987 and 31 March 1988 who ever had contact (directly or indirectly) with the income support system between 1991 and 2006. These administrative records contain high-quality, fortnightly payment details for all Australians who received a wide range of government benefits. The benefits include income support to the unemployed, the disabled, and low-income parents etc., as well as payments which are not considered "income support" such as the Family Tax Benefit and the Child

[1] For more information about the project, see http://youthinfocus.anu.edu.au. For further information about the Youth in Focus data, see Breunig et al. (2007).

Care Benefit. Although young people can appear in the administrative data if they have received payments themselves, most enter the system because a family member (usually a parent) received a payment which depended in part on the youth's relationship to the payee. Many families received income support at some point (e.g. Newstart Allowance or Parenting Payments); however, approximately 40 per cent of families did not. During the period covered by our data, these families received only Family Tax Benefits, Child Care Benefits or one of the precursors of these programs. The generosity of the Australian welfare system implies that nearly all of the young people in the relevant six-month birth cohort appear in the administrative data.[2]

The administrative data were used to stratify youths into one of six groups depending on the timing and the intensity of the family's receipt of income support (i.e. excluding aforementioned payments not considered "income support"). A stratified random sample of youths and a corresponding parent or guardian (in 96.5 per cent of cases the natural mother) was then selected from the administrative data for interview. Data from separate phone interviews with the youths and their parents as well as a self-completion questionnaire administered to the youths were then linked to the administrative data.[3]

The data used for analysis in this report are extracted from both the administrative records and the survey information. We consider only the 2430 cases where we have survey information from both the youth and the parent. Moreover, we drop 74 cases where the responding parent is not the natural mother and additionally 301 cases where either the youth or mother provided incomplete information or did not agree to having their survey responses linked to administrative data. Consequently, our analysis sample consists of 2055 pairs of youths and their mothers who both have complete survey information for

[2]Note that Child Care Benefits are not means tested, and that only families in the top 20 per cent of the income distribution are ineligible for the Family Tax Benefit. Comparing the YIF youth sample with Australian Census data suggests that the administrative data capture about 98 per cent of the youths born in the period (Breunig et al., 2007).

[3]Following best practice (see Groves et al., 2004), approach letters, incentive payments, repeated callbacks, and CATI were all used to maximise response rates. Depending on which definition is used, the final response rates were between 30.1 and 37.2 per cent for youths and between 29.5 and 37.9 per cent for parents. About 73 per cent of youths who completed the phone interview also completed the self-completion questionnaire. More than 96 per cent of young people and 92 per cent of parents completing the survey consented to having this information linked to their administrative social security records. Although the final response rate differed somewhat across strata, these differences stem primarily from differences in contact rates rather than refusal rates (Breunig et al., 2007).

all the variables of interest. See Table 1 for more information about sample size.

Our summary measure of the family's history of income support receipt is derived from the YIF stratification variable. Specifically, we identify three groups of young people as follows: those from families with no history of income support receipt while the youth was growing up, those from families receiving less than six years of support, and those from families that received income support for more than six years. For simplicity, we refer to these families as having received no income support, moderate support and intensive support, respectively.

4 Descriptive analysis

In this section of the report, we describe how many young Australians receive government income support and which programs they are on. We pay particular attention to the way in which the incidence of income support receipt varies across our categorical summary measure of the intensity of their family's receipt of income support. This stage of the analysis allows us to begin to consider how the receipt of income support is related to the socio-economic disadvantage that a young person experienced while growing up. At the same time, socio-economic disadvantage is linked to many other characteristics of a young person and of his or her family background. Understanding these relationships is important in determining the extent to which the variation in young people's receipt of income support is driven by their family's history of income support receipt rather than other confounding factors that drive both family income support receipt history and the likelihood that youths need income support themselves.[4] Therefore, in this section we also present detailed information about the way in which young people's receipt of income support varies not only with their family's history of income support receipt, but also with a selection of other factors, including their demographic, geographic, and family background characteristics. We focus specifically on those characteristics which are likely to be related to outcomes for young adults.

[4] In the next section of the report, we deal with this issue explicitly by conducting a multivariate analysis that allows us to simultaneously account for the family's history of income support receipt as well as the youth's personal and family background characteristics.

4.1 The incidence of income support receipt among youths

Table 2 documents the patterns of income support receipt among the 18-year-olds in our analysis sample. There are striking disparities in the incidence of income support receipt among youths who grew up in different socio-economic circumstances. Young people from families with a history of intensive income support receipt are substantially more likely than those from families who did not receive support to be in receipt of income support at age 18. For example, one in two youths (50.2 per cent) in families with a history of intensive income support receipt are receiving income support in comparison with less than seven per cent of youths in families with no history of income support receipt. Those exposed to moderate income support have an incidence of income support receipt (20.9 per cent) which lies in between the other two groups. Taken together, these results suggest that the intensity of the family's receipt of income support (or socio-economic disadvantage more broadly) while the youth was young is related to his or her receipt of income support in young adulthood.

Youth Allowance is the most prevalent form of income support among recipients irrespective of a young person's background. More than 90 per cent of the young people in our sample who were receiving payments when interviewed at age 18 were receiving Youth Allowance. The remaining 10 per cent received a range of different payments including Carer Payments, Disability Support Pensions, and Parenting Payments. Given its importance for young people, it is useful to understand more about the nature of the Youth Allowance program.

4.2 Understanding the receipt of Youth Allowance

Youth Allowance[5] provides financial support to young (resident) Australians who are either engaged in full-time study (including secondary education courses) and aged 16–24, undertaking a full-time Australian Apprenticeship and aged 16–24, and/or are actively seeking work (or undertaking a combination of approved training and work activities) and

[5]The discussion in this section is drawn from online Australian Government publications, see Centrelink (2008a,b) and Family Assistance Office (2008).

aged 16–20.[6]

The receipt of Youth Allowance is subject to certain income and assets tests. Generally, it is the parental income and assets that are relevant for the purposes of Youth Allowance, although there are some exceptions. The parental means test does not apply if a young person can demonstrate that he or she has been employed a minimum number of hours in the previous two years or has met an earnings threshold over an 18 month period since leaving secondary school.[7] The parental means test also does not apply if the parents are receiving income support payments from the Australian government. In these cases, the income and asset tests are applied solely to the youth.

A further complication in understanding the receipt of Youth Allowance is that some families face a trade-off between a youth receiving Youth Allowance and the parents receiving payments such as Family Tax Benefits (FTB). FTB is available to low-income families with dependent (possibly adult) children. Specifically, families may be eligible for FTB Part A if they have a dependent child under the age of 21 or a dependent full-time student between the ages of 21 and 24.[8] Families who get more than the base rate of Family Tax Benefit may also be eligible for Rent Assistance. However, children cannot be considered a dependent for the purposes of FTB, if they themselves receive income support payments from the Australian government such as Youth Allowance.[9] Some families therefore have to choose which payments to apply for. Their choice can be expected to depend on who receives the payment and the amount of money received. Individuals' ability to comply with any activity tests may also play a role. For both FTB and Rent Assistance, the income thresholds at which the "taper" rates set in depend on the number and ages of the children in the family. It is therefore non-trivial to calculate

[6]In some circumstances, payment may be extended to youths aged 15 or 25. Moreover, it is possible for young people to have a temporary exemption from the activity test, for example, because of illness.

[7]Young people can be considered independent of their family for the purposes of Youth Allowance in a number of other situations including marriage, long-term de facto relationships, extreme family breakdown, etc.

[8]Families may be eligible for FTB Part B only if they have dependent children under the age of 16 or a dependent full-time student under the age of 18 who does not receive Youth Allowance. Since this paper focuses on youths who have turned 18, FTB Part B is not immediately relevant.

[9]Even in cases where the receipt of Youth Allowance, or the amount, depends on the parental means test, the payment is usually made to the youth. Only for youths under the age of 18 are payment generally made to the parents (or guardians).

the parents' potential "loss" if a youth claims Youth Allowance.

The nature of Youth Allowance suggests that recipients fall into two broad categories: those youths receiving payments while they are studying, and those youths who have completed their education and are receiving payments while they search for employment. These two groups may have very different long-term outcomes making it potentially useful to analyse them separately.

Unfortunately, however, the administrative data available to us do not differentiate among Youth Allowance recipients. To try to overcome this problem, we use the details of the YIF Survey data to identify whether young people are studying (or training) and/or looking for work. This information is also reported in Table 2. These results show that the majority of young people in our sample are studying and not looking for work. More than two thirds of youths in families with no history of income support receipt and almost half of those in families with a history of intensive income support receipt fall into this category. At the same time, between a quarter and a third of young people report that they are neither studying nor looking for work.

These activity patterns change somewhat when we consider only the subsample of young people who are receiving Youth Allowance. Relative to the sample of young people as a whole, Youth Allowance recipients are even more likely to be studying and not seeking work and less likely to be neither studying nor looking for a job. These differences are particularly noticeable among young people who grew up in families with no interaction with the income support system.

We use this survey information on youths' activities to identify two groups of Youth Allowance recipients. The first group includes Youth Allowance recipients who report that they are studying (or training) irrespective of whether or not they are also looking for a job. We will refer to these people as receiving "student Youth Allowance". The second group includes young people who receive Youth Allowance, but are neither studying nor training. We refer to these people as "job seekers". This distinction between "students" and "job seekers" results in a conservative estimate of the population of young people who are receiving Youth Allowance for educational rather than labour market reasons. In other

words, we feel reasonably confident that any Youth Allowance recipient who is identified as a "student" is indeed receiving Youth Allowance at least in part for educational reasons (although formally part-time students looking for work may receive Youth Allowance for job seekers). However, given that it is possible for young people to be temporarily exempt from the activity test, some of the Youth Allowance recipients identified as "job seekers" may in fact be on a study break and therefore report that they are not currently studying. These young people have been classified as "job seekers" despite the fact that they may be receiving Youth Allowance predominantly because they intend to study.

Given this distinction, we find that majority of young people who are receiving Youth Allowance appear to do so because they are students (see Table 2). Of the 474 young people in our sample receiving Youth Allowance, more than 70 per cent (335 people) appear to do so for educational reasons. At the same time, there are important differences in the relative importance of the two types of Youth Allowance among those youths with different family income support receipt histories. Almost all (87 per cent) young people in families with no history of income support receipt who receive Youth Allowance do so because they are studying or training. However, more than one third (37 per cent) of Youth Allowance recipients in families with a history of intensive income support receipt appear to receive Youth Allowance because they are job seekers. Thus, not only are young people from families with a history of intensive income support receipt more likely to be in receipt of income support than are their peers, these payments are more frequently related to unemployment as opposed to study.

In the analysis which follows, we consider two separate measures of income support. The first is a measure of income support which includes only students receiving Youth Allowance. The second includes those in receipt of Youth Allowance for non-educational reasons (i.e. "job seekers") and those who receive a range of other income support payments (e.g. disability payments, parenting payments, etc.) whether or not they are studying. As education tends to increase people's future incomes and thereby tends to protect them from needing income support in the future, the receipt of student Youth Allowance may be considered a good outcome for young people. It is therefore the latter group which

are of most concern.

The last section of Table 2 provides information about the incidence of student Youth Allowance and other income support receipt. The incidence of student Youth Allowance ranges from 4.4 per cent (families who have not received income support) to 28.7 per cent (families who have received intensive income support), while the incidence of other income support is somewhat lower, ranging from 2.0 to 21.5 per cent, respectively.

4.3 Income support receipt and youths' demographic characteristics and location

Information about the relationship between youths' receipt of income support and his or her demographic characteristics (age, gender, immigrant status, indigenous status) and location is presented in Tables 3a–3b. We begin by considering the effect of youths' month of birth on income support receipt. Although the youths in the YIF sample are all members of a six month birth cohort (and hence are very close in age at the time of the first interview), it is still possible that the receipt of income support is different for younger and older members of the cohort. The results in Table 3a do, in fact, suggest that there is a surprising amount of variation in the receipt of payments across birth months. For example, the incidence of student Youth Allowance is 3.3 per cent for youths from families with no history of income support receipt who were born in October of 1987. The rate is two and one half times as large in the sample of similar young people born one month later. Interestingly, there appears to be no discernible pattern to the disparity in income support receipt rates across month of birth.[10] Moreover, the relationship between exact age and income support receipt does not appear to be the same across the family income support receipt categories. January births are associated with a high incidence of income support receipt in families with a history of intensive income support receipt, but are associated with one of the lowest incidence rates in families with no history of income support.

[10]Note that a substantially larger proportion of those born in January–March are still in school at the time of their wave 1 interview in late 2006 compared to the older cohorts born in October–December of the previous year (12–16 per cent versus 3–4 per cent).

We investigate these differences more formally by conducting a series of equality tests. Specifically, the figures in the rows labeled "Joint Test" are the p-values resulting from tests of the null hypothesis that the proportion of youths who receive income support is the same across row-categories within each column. For example, in the last row and first column of Table 3a the figure 21.2 per cent is the p-value for the null hypothesis that the proportion of youths in families with no history of income support receipt who receive student Youth Allowance is the same across birth months. Since the p-value is larger than both 5 per cent and 10 per cent the null hypothesis is not rejected at conventional statistical levels. For youths whose family received moderate or intensive income support, the p-values also exceed 10 per cent. There is therefore no statistically significant pattern across birth months in youths' receipt of income support, irrespective of their families' income support receipt history.[11]

We turn now to consider the effects of gender. Young women are somewhat more likely than young men to be receiving student Youth Allowance, irrespective of their family history (see Table 3a). These gender differences are not significant, however. At the same time, the gender gap in the receipt of other income support is reversed in families with no history of income support receipt though again the gap is not significant. There is, however, a significant gender gap in the incidence of other income support among young people growing up in families with a history of intensive income support receipt. In particular, while 25.6 per cent of young women in these families receive some form of other income support, this is true of only 16.9 per cent of their male counterparts.

Income support receipt is also related to both immigrant and indigenous status, though the differences are in general not statistically significant (see Table 3b). The exception is that aboriginal and Torres Strait Islander youths in families with a history of intensive exposure to the income support system are significantly less likely than similarly disadvantaged non-indigenous young people to receive student Youth Allowance, but are significantly more likely to receive other forms of income support.

Finally, there is also geographic variation in the receipt of income support (see Ta-

[11] See the technical appendix for further information about the tests.

ble 3b). Receipt is more common in inner regional areas than in major cities. Moreover, there is important variation across states and territories with the receipt of student Youth Allowance highest in Tasmania and the receipt of other income support highest in Victoria.[12] This geographic variation is particularly important in understanding which young people in families with a history of intensive income support receipt receive income support other than student Youth Allowance. There are also significant differences across urban areas in other income support for young people in families with no history of income support receipt and across states/territories in student Youth Allowance for those growing up in families with moderate income support receipt.

4.4 Income support receipt and mothers' characteristics

Parental education and occupational status can be important determinants of educational and employment outcomes for young adults. The correlation of educational attainment between generations, for example, is well-documented in the research literature, and is considered one of the most important driving mechanisms behind the intergenerational correlation in earnings.[13] Parental education and occupational status are likely to influence the outcomes of children through various mechanisms, including the availability of financial resources to fund education, the ability of parents to assist their children with school homework, and the transfer of attitudes towards education, among other things.

Tables 3c–3d document how young Australians' receipt of income support varies with the educational attainment, socio-economic status, age, immigrant and indigenous status of their mothers. Consider first the relationship between the receipt of student Youth Allowance and the educational attainment of the mother (Table 3c). Results from our joint significance tests indicate that there is a significant relationship between young people's receipt of student Youth Allowance and their mothers educational attainment in families with either no or intensive exposure to the income support system. In families with a history of intensive income support receipt, it is important to distinguish between

[12]Note that the proportion of respondents still in school is particularly low in Queensland and Western Australia (2–3 per cent) and particularly high in Tasmania (28 per cent).

[13]See Cobb-Clark and Gørgens (2004) for a comprehensive review.

having a mother with a Year 11 education or certificates (either major or minor) on the one hand, from the effect of having a mother with either a Year 12 education or more than a Bachelor's degree, on the other. In particular, 40.4 per cent of youths in families with a history of intensive income support receipt receive student Youth Allowance if their mothers completed Year 12, which is nearly identical to the rate among similar young people whose mothers have a Bachelor's degree or more (39.4 per cent). Young people whose mothers have other levels of education have a probability of receiving student Youth Allowance that is closer to 25 per cent. Similarly although the relationship between mothers' education and student Youth Allowance is relatively consistent in families with no history of income support receipt, an important exception is that having a minor certificate is associated with a substantially higher incidence of receiving student Youth Allowance.

There is also a significant relationship between maternal education and young people's receipt of other forms of income support in those families with a history of intensive income support receipt. Much of this appears to be driven by the disparity in outcomes for young people whose mothers have a Year 11 education or less. Taken together, these results indicate that income support receipt is often significantly related to the mother's education even after we account for the family's income support receipt history. However, these patterns are not easy to generalise. The effect of having a mother with a Year 12 education rather than a Bachelor's degree on the receipt of student Youth Allowance is much the same. However, it appears that the incidence of other income support falls with maternal education, at least among those families with some exposure to the income support system. Moreover, it remains the case that the variation across family history (holding constant the mother's education) is much greater than that across maternal education (holding constant the family's history of income receipt). This suggests that a family's history of income support receipt does not simply capture other dimensions of family background such as the mother's educational attainment.

We find no significant relationship between mothers' occupational status and the likelihood that their children are receiving student Youth Allowance at age 18 (Table 3c). In

families with a history of intensive income support receipt, however, young people are less likely to receive other forms of income support if their mothers have high occupational status (i.e. between 70 and 100) rather than if their mothers have low occupational status (i.e. between 0 and 30) or if their mothers never worked. This variation across mothers' occupational status is statistically significant and is u-shaped rather than linear.

Finally, young people's likelihood of receiving income support also appears to be related to the demographic characteristics of his or her mother, though it is important to distinguish between student Youth Allowance and other forms of income support. For example, Table 3c shows that among youths growing up in families with a history of intensive income support receipt, the probability of receiving student Youth Allowance is higher among those with older mothers (39.2 per cent at age 50–65 versus 22.3 per cent at age 30–43), while the probability of receiving other forms of income support is lower (17.6 per cent at age 50–65 versus 27.7 per cent at age 30–43). These differences across age categories are statistically significant in both cases. Similarly, there are significant differences in the incidence of student Youth Allowance receipt across mothers' immigrant status in families with a history of moderate income support receipt (Table 3d). Finally, mothers' indigenous status is significantly related to the incidence of other income support receipt in those families with either a moderate or intensive interaction with the income support system (Table 3d).

4.5 Income support receipt and mothers' psychosocial characteristics

Along with many other questions, YIF respondents were asked to answer a battery of questions designed to measure their sense of control over their lives. Locus of control is a psychological concept that is related to the degree to which people accept responsibility and control for events in their lives.[14] It is meant to distinguish between those who see

[14]See e.g. Lefcourt (1991) and http://en.wikipedia.org/wiki/Locus_of_control accessed 2007/08/14. To measure locus of control, the YIF survey included the Pearlin Mastery Scale (see e.g. Pearlin et al., 1981). It consists of seven items which are answered on a four-point scale (strongly agree, agree, disagree, strongly disagree). Tables 3e and 3f show the seven items with the responses "strongly agree" merged with "agree" and "strongly disagree" merged with "disagree". The original scale is constructed by assigning

control as being internal to themselves and those who believe that it lies externally. This distinction is believed to be related to a person's motivation on the one hand, and sense of helplessness on the other. There is mounting evidence, for example, that people who have "internal" outlooks (which are argued to reflect initiative) have more successful labour market experiences, particularly early in their careers (Andrisani, 1977). Moreover, people's human capital investment decisions are strongly related to their locus of control (Coleman and DeLeire, 2003), while wage rates have been shown to depend on a range of personal traits including locus of control, aggression, and withdrawal (Osborne, 2005). More generally, there is an emerging view among many social scientists that the intergenerational transmission of attitudes, personality or other personal traits may underlie the persistence of socio-economic status across generations (see Dohmen et al., 2006, for a review).

Tables 3e and 3f present evidence on the link between a young person's receipt of government income support and his or her mother's sense of control over her life.[15] The results are striking. The more control that mothers feel they have over their own lives the less likely their children are to be in receipt of income support at age 18. For example, consider the likelihood that young people who grow up in a family with a history of intensive income support receipt receive income support themselves as young adults. The probability of receiving income support other than student Youth Allowance falls from 26.1 per cent among youths whose mothers strongly agree with the statement, "There is no way I can solve some of the problems I have", to only 18.6 per cent among youths whose mothers strongly disagree with the same statement. Similarly, the incidence of student Youth Allowance receipt among youths from families with a history of moderate receipt of income support is 14.9 per cent when their mothers strongly agree that "What

numbers 1, 2, 3 and 4 to the responses from each item and adding them together. In the multivariate section, we use an alternative scale in which the responses for items 4 and 6 are reverse coded (i.e. 4, 3, 2 and 1). This scale is negative in the sense that low numbers represent greater mastery over one's environment while high numbers represent lower control. The measure included in the multivariate regressions in Section 5 is standardised to have mean 0 and standard deviation 1.

[15]The YIF Survey also administered the locus of control questions to young people. However, it is possible that locus of control and the receipt of income support are simultaneously determined in our youth sample making it difficult to disentangle their effects. Consequently, we focus here on the relationship between a mother's locus of control and the outcomes of her children.

happens to me in the future depends mostly on me" and 28.9 per cent, almost twice as high, when their mothers disagree with this sentiment.

We also find that young people's receipt of income support, in particular student Youth Allowance, can be linked to their mother's views about what determines life success. Specifically, YIF respondents were asked how important having a good education, being ambitious, and having a job were in getting ahead in life. Table 3f presents information about the way in which a young person's likelihood of receiving income support is related to his or her mother's views about how one gets ahead in life. We find that young people in families with a moderate history of income support receipt are significantly more likely to be receiving student Youth Allowance if their mothers think that getting a good education is extremely important. These same youths are significantly less likely to be receiving student Youth Allowance if their mothers believe that having a job is extremely important for life success. Youths in families with no interaction with the income support system are more likely to be in receipt of student Youth Allowance if their mothers believe that ambition is extremely important for getting ahead. In contrast, mothers' views about life success are generally unimportant in understanding which young people are receiving other forms of income support.[16]

Taken together these results provide evidence that the outcomes of young people can be linked to the psychosocial characteristics of their mothers.

4.6 Income support receipt and family structure

Table 3g presents information about the way that income support receipt is related to young people's family structure. The results indicate that the proportion of youths receiving both student Youth Allowance and other forms of income support is higher for youths whose mothers are single than for those with partnered mothers, irrespective of the family's history of income support receipt. However, it is important to consider who the current partner is. The incidence of youths' income support receipt is much the same in

[16]The exception is that youths in families with a history of intensive income support receipt are significantly more likely to be receiving other income support if their mothers think having an education is extremely important.

families in which mothers are partnered with someone other than the youth's natural father as it is in families in which mothers is single. Thus it appears that it is the presence of natural fathers specifically, rather than mothers' parter status per se, which is important in understanding the incidence of income support receipt among young people.[17]

We also find that the incidence of income support receipt is related to a mother's fertility and relationship histories (i.e. the number of children and previous relationships the mother has had). In particular, having more siblings is associated with an increase in the probability that young people in families with a history of intensive income support receipt receive income support that is not related to education. In these families, the number of siblings is also related to the likelihood of receiving student Youth Allowance though the relationship is inverse u-shaped. These patterns may occur either because of the disparity in financial resources available in large versus small families or as a result of the explicit incentives in the rules determining eligibility for Youth Allowance benefits.

Taken together, these results suggest that, conditional on family income support history, family structure is also related to the likelihood of young people receiving government payments. It is youths from intact two-parent families who tend have lower rates of income support receipt, not youths whose mother has repartnered.

5 Multivariate analysis

In this section of the report, we present the results of multivariate regression models of the determinants of young people's receipt of income support. As above, we concentrate on identifying the factors underlying two separate income support outcomes: i) receiving Youth Allowance while undertaking some studying or training (i.e. "student Youth Allowance") and ii) receiving either Youth Allowance while neither studying nor training or other types of income support (i.e. "other income support"). This approach allows us to begin to differentiate between those young people who receive income support for educa-

[17] Tables 3h and 3i provide descriptive information about the relationship between youths' income support receipt and both the nature of communication between their natural parents and the characteristics of their mothers' current partners. These variables will be accounted for in the regression analysis, but are not discussed here given their complicated interaction with mother's relationship status. See also Section 5 for a discussion of the parents' participation in school committees shown in Table 3h.

tional reasons from those youths who receive income support for employment-, health-, or parenting-related reasons (see Section 3). The multivariate regression model permits us to simultaneously consider a number of factors that might reasonably be related to a young person's receipt of income support. The models discussed below incorporate those factors that our descriptive analysis identified as being important in understanding youths' probability of receiving income support. Given our limited sample size, we have chosen to estimate a relatively parsimonious specification of the model. The model parameters are estimated separately for youths with different types of family income support receipt history (i.e. no income support, moderate income support, and intensive income support) using probit models.[18] Although the model parameters are estimated jointly, for convenience we discuss them separately in different subsections of this report.

5.1 Interpreting average marginal effects and hypothesis tests

The results are reported in the form of average marginal effects in Tables 4a–4c. The results of pairwise tests of the equality of coefficients across family income support receipt histories are also reported in the tables. Before we turn to the results, this section briefly discusses how the average marginal effects should be interpreted. Further details on the calculation of marginal effects and equality tests are presented in the technical appendix.

Marginal effects are based on estimates of counterfactual outcomes for each youth in the sample. The idea is to compare the predicted probability that a young person receives income support if the value of one of his or her variables (e.g. geographic location) was x (e.g. Tasmania) with the probability of receiving income support if the value of this same variable was y (e.g. Victoria). As another example, to compute the marginal effect of gender for a female, we first ask what would the probability that she receives income support be if the effect for females was the same as that estimated for males. We then ask what would the probability be if the effect for females is as estimated for females. Her marginal effect is the difference between the two. The marginal effect of gender for a male is similarly computed by first asking what would the probability that he receives income

[18] The probit model allows us to take into account the discrete (receipt versus not) nature of our outcome variables.

support be if the effect for males is as estimated for males. We then ask what would the probability be if the effect for males was the same as that estimated for females. Again the marginal effect is difference between the predicted male probability and the predicted female probability.

Average marginal effects are computed by calculating the marginal effect for each youth in the sample and taking the average. This may be interpreted as the marginal effect for a randomly selected person.

Marginal effects for variables with more than two categories are interpreted very similarly. One category is chosen as the base, and marginal effects are computed for each of the other categories separately just as in the male-female example.

Some variables are cardinal rather than categorical. Marginal effects for these variables are interpreted as the difference in the probability of receiving income support that results from a one unit difference (or a one standard deviation difference if the variable is standardised) in the variable of interest. For example, the marginal effect of the mother's age is interpreted as the predicted probability of income support receipt at a certain age minus the predicted probability had the mother been one year younger.

The calculation and interpretation of marginal effects can be quite complicated when the model includes variables which are interrelated or are relevant only for a subset of individuals. Consider for example a young woman whose mother is single. In this case, to predict her probability of receiving income support if her mother was partnered it is necessary to make assumptions about all of the hypothetical partner's characteristics: whether the partner is the youth's natural father, his occupation, country of birth, as well as his education. We note how we handle these cases and our assumptions when we discuss the results below.

Tables 4a–4c also show the results of pairwise tests of the equality of coefficients across family income support receipt histories. These tests allow us to assess whether the factors underlying a young person's propensity to receive income support depends on his or her family's previous interaction with the income support system. The figures in the rows labeled "Joint Test" are p-values for tests of the null hypothesis that the

proportion of youths who receive income support is the same across row-categories within each column.[19] For example, in the last row and first column of Table 4a the figure 40.2 per cent is the p-value for the null hypothesis that the proportion of youths who receive student Youth Allowance is the same across residence area for youths whose family did not receive income support during their childhood. Since the p-value is larger than 10 per cent, the null is not rejected at conventional levels. In other words, there is no statistically significant pattern across residence area in the receipt of income support.

The columns labeled "Equality Test" compares the average marginal effects across the two strata indicated in the heading, for each row-category as well as jointly for each categorical regressor.[20] For example, in the column labeled "NM" and the second last row of Table 4a the null hypothesis is that for youths who are living outside inner regional areas, the marginal effects are the same whether or not the youths' families received no (N) or moderate (M) income support during their childhood. The p-value is 33.9 per cent, so the null hypothesis is not rejected at either the 5 per cent or the 10 per cent level. In the same column and the last row, the null hypothesis is that the pattern of marginal effects across row-categories is the same for the two strata. The p-value is 63 per cent, so this null hypothesis is also not rejected.

5.2 Youths' demographic characteristics and location

We begin by considering the effect that young people's demographic characteristics (specifically age and gender) and location have on the probability that they are receiving income support (see Table 4a). We find no evidence that being born in 1988 (i.e. being in the younger half of the birth cohort) versus 1987 is significantly related to the probability that a young person receives income support at age 18. This lack of an age effect is perhaps not surprising given the narrow range of our birth cohort (only six months). Although our descriptive analysis suggested that there is a great deal of variation in income support receipt across birth months (see Table 3a), these multivariate results confirm that this

[19] The tests are implemented as F-tests of the null hypothesis that the coefficients associated with the row-categories are jointly zero.

[20] The tests are implemented as F-tests of the null hypothesis that the coefficients associated with the row-category or -categories are equal across the strata.

variation is somewhat random and not easily related to exact year of age. Moreover, the effect of age on income support receipt is consistent across income support histories. The exception is that the estimated effect of a 1988 birth on the probability of receiving student Youth Allowance is significantly different (at the 8.3 per cent level) between those growing up in families receiving intensive income support and those growing up in families receiving no income support.

Young men are in general significantly less likely to be receiving either student Youth Allowance or other income support than are young women.[21] The magnitude of these gender differences are particularly large among those youths growing up in families that received intensive income support. Specifically, young men in families with a history of intensive income support receipt are 6.9 percentage points less likely to receive student Youth Allowance and 7.4 percentage points less likely to receive other income support than are otherwise identical young women growing up in similar circumstances. Despite the apparent disparity in the magnitude of the gender effect across family income support types, these differences are in general not significant at standard levels. The exception is that the effect of gender on the likelihood of receiving income support other than student Youth Allowance is significantly different (at the 9.8 per cent level) between those families receiving intensive income support and those families receiving no income support. While there is a large gender gap in the former, there is no gender gap in the latter.

Young people's educational and labour market opportunities may differ across geographic regions as well as by the extent of urbanisation. Consequently, our model includes controls for both state/territory and the remoteness of a young person's residence. The results indicate that while the probability of receiving income support is not constant across all states and territories, the geographic pattern is difficult to quantify and depends on whether we are considering student Youth Allowance or other forms of income support. Queensland and Western Australia/Northern Territory are particularly interesting cases. Young people in Queensland growing up in families that received either moderate or in-

[21] The exceptions are that 1) young men in families receiving no income support are as likely as young women to receive other income support and 2) the gender gap in the receipt of student Youth Allowance for those in families receiving moderate income support is not significant.

tensive income support are significantly less likely than similarly disadvantaged young people in New South Wales/ACT to be receiving student Youth Allowance. These gaps, 11.0 percentage points in families receiving intensive support and 6.2 percentage points in families receiving moderate support, are substantial. At the same time, young people in families receiving intensive income support in Queensland are significantly more likely (7.7 percentage points) than similar young people in New South Wales/ACT to be receiving other forms of income support. Young people living in Western Australia/Northern Territory are significantly less likely than their counterparts in New South Wales/ACT to receive student Youth Allowance (families who have received moderate income support) and other income support (families who have received intensive income support).

It is important to note that the effect of state and territory on the receipt of student Youth Allowance often differs by income support history. Specifically, our joint equality test reveals there are significant differences in the effect of state/territory on student Youth Allowance between those in families receiving no versus moderate income support (at the 7.3 per cent level) as well as between those in families receiving no versus intensive income support (at the 0.1 per cent level). This suggests that the specific economic and educational opportunities associated with particular states or territories may not be experienced equally by all youths residing there, but rather appear to depend on the circumstances in which the young person grew up.

Finally, our model also takes into account whether young people are living in major cities, inner regional areas, or other areas of Australia. The results indicate that young people in inner regional areas in families with a history of intensive income support receipt are significantly more likely than similar youths in major cities to receive student Youth Allowance. Moreover, living in an inner regional area is also associated with a higher probability of receiving other forms of income support for those growing up in families with either no (6.3 percentage points) or an intensive (10.4 percentage points) interaction with the income support system.

5.3 Mothers' demographic characteristics, occupation, and education

One of the advantages of the YIF data for our purposes is that, unlike many other data sources, the YIF data provide detailed information about the characteristics of both young people and their mothers. This gives us the opportunity to consider the way in which a young person's likelihood of receiving Youth Allowance is related to the characteristics of his or her mother (see Table 4b).

Our results indicate that mothers' demographic characteristics (age and immigrant status) are in general not related to the likelihood that their 18-year-old children are receiving income support. The exception is that young people growing up in families with a history of intensive income support receipt are significantly more likely to receive student Youth Allowance and significantly less likely to receive other forms of income support as their mothers get older.

We also find that the probability that a young person receives income support is not related to his or her mother's socio-economic status as measured by her occupational status.[22] Higher occupational status is associated with a reduction in the probability that young people in families with no exposure to the income support system receive student Youth Allowance; however, this effect is small and only marginally significant.

We do find some evidence, however, that the probability of receiving student Youth Allowance is higher when mothers have relatively more education, particularly in families with a history of intensive income support receipt. Youth growing up in families who have received intensive income support are significantly more likely to receive student Youth Allowance when their mothers' have completed Year 12 (19.9 percentage points) or have a Bachelor degree or higher (12.6 percentage points) than when their mothers left school before completing Year 12. Similarly, youths growing up in families with no interaction with the income support system are significantly more likely (10.2 percentage points) to be in receipt of student Youth Allowance if their mother has a minor certificate rather

[22]Occupational status is captured through the ANUO4 scale and we have included indicator variables for the lack of a reported occupation for both mothers and fathers (see Jones and McMillan, 2000).

than less than a Year 12 education. In all other cases, the effect of having a mother with more than a Year 12 education on student Youth Allowance is positive, but insignificant, or essentially zero.

In contrast, mothers' education is typically associated with a reduction in the probability that youths receive other forms of income support, though the effect is generally insignificant. The exception is that young people in families with a history of receiving moderate income support are significantly less likely (6.2 percentage points) to receive other income support if their mothers have a Bachelor's degree or higher rather than less than a Year 11 (or less) education.

The relationship between mothers' educational attainment and the likelihood that young people receive income support generally does not vary across families with different histories of income support receipt. There are, however, significant differences in the effect of mothers having a Year 12 education and minor certificates on the propensity of receiving student Youth Allowance and between mothers having a Bachelors degree (or more) on the propensity of receiving other forms of income support.

5.4 Mothers' locus of control and attitudes towards life success

Our descriptive analysis suggests that young people's outcomes can be linked to their parents' psychosocial characteristics, in particular, their mothers' locus of control. To investigate this issue in more depth we include a standardised measure of mothers' locus of control in the regression model. Higher values of the index are associated with mothers having a more external locus of control, i.e. less of a belief that she is in control of her life.[23] We also account for mothers' views about the importance of having an education, ambition, and a job for getting ahead in life by including a standardised measure of these three variables. Higher values of the index are associated with a stronger view that one's own education, ambition, and job are very important in getting ahead.[24] Finally, the

[23]The measure is standardised to have mean 0 and standard deviation 1. Consequently, the results presented in Table 4b are for a one standard deviation change in mothers' locus of control. See footnote 14 for technical information about this measure.

[24]The index is constructed by assigning the value 1 to the question if the mother responded "extremely important" and assigning 0 otherwise, adding the values for the three questions regarding one's own education, one's own ambition and having a job, and finally standardising the sum to have mean 0 and

model includes an indicator for whether or not the mother reports participating in school committees while her child was growing up. To some degree, we expect that this indicator controls for unobserved disparity in parents' involvement in their children's education.

We find that young people are less likely to be receiving Youth Allowance at age 18 if their mothers have a more external locus of control (Table 4b). A one standard deviation increase in mothers' locus of control (i.e. more external) is associated with a 4.8 percentage point fall in the probability that young people growing up a family receiving moderate income support themselves receive student Youth Allowance and a 5.4 percentage point fall in the probability that young people in families with a history of intensive income support receipt themselves receive other income support. These results are consistent with the descriptive analysis and suggest that parents' psychosocial characteristics can affect their children's outcomes. Moreover, a joint equality test indicates that the effect of mothers' locus of control on the likelihood that their children receive student Youth Allowance varies significantly (at the 0.1 per cent level) between families with a moderate versus an intensive exposure to the income support system.

There is also some evidence that young people from families with no interaction with the income support system are somewhat more likely to receive student Youth Allowance if their mothers' belief in the importance of education, ambition and a job for getting ahead is stronger (Table 4b). This relationship between mothers' attitudes and young people's receipt of student Youth Allowance in these families is significantly different to the (non-existent) relationship which exists in families with a history of moderate or intensive income support receipt.

Finally, youths in families receiving moderate income support are 5.8 percentage points less likely to receive student Youth Allowance if their parents participated in school committees at some point while they were growing up (Table 4b). Given the expected link between parental investment in youths' education and youths' educational outcomes, this effect is somewhat counterintuitive. However, it is important to recall that the receipt of student Youth Allowance depends not only on the educational choices of young people,

standard deviation 1.

but also on their parents' income and assets.

5.5 Family structure

Previous research demonstrates that family structure can be linked to a number of important outcomes for young people including their propensity to take risks, co-reside with their parents, complete their education, find a job, experience an early pregnancy, or become reliant on public benefits (see, for example, Haveman and Wolfe, 1995; Antecol and Bedard, 2007; Cobb-Clark, 2008; Cobb-Clark et al., 2008). Given this, it is important to consider the relationship between the structure of a youth's family and the likelihood that he or she receives income support at age 18. Fortunately, the YIF data provide us with detailed information about mothers' relationship and fertility histories as well as their current relationship status. We are also able to account for the characteristics (in particular, immigrant status, occupational status, and educational attainment) of mothers' current partners. Finally, our model controls for whether or not the mother asks the youth's natural father for advice when making major decisions about the youth. The findings are presented in Table 4c.[25]

Consistent with the previous literature, we find a link between family structure and the receipt of income support. In particular, young people in families with a history of intensive income support receipt have a higher probability of receiving income support other than student Youth Allowance and a lower probability of receiving student Youth Allowance the more siblings they have. This suggests that, everything else being equal, a larger family may be associated with a reduction in the probability that these young people are studying or training at age 18. At the same time, having more siblings is associated with an increased probability that youths in families with a history of moderate income support receipt receive student Youth Allowance. Thus, the effect of the number of siblings on the probability of receiving student Youth Allowance varies significantly

[25]Note that the marginal effects for the mother's partner's characteristics are averaged only over the subsample where the mother is partnered. For how often the mother consults the youth's natural father before making major decisions regarding the youth, the average marginal effects are average only over the subsample where the mother is not partnered with the natural father at the time of interview. See the technical appendix for further discussion.

between families with no or moderate income support receipt on the one hand, and families with a history of intensive income support receipt on the other.

There is some evidence that having a mother who has had more previous relationships is associated with a lower probability of receiving student Youth Allowance and a higher probability of receiving other forms of income support. These effects are only significant for youths growing up in families with a history of moderate income support receipt, however. For them, each additional relationship that their mother has had is associated with a 4.9 percentage point fall in the probability of receiving student Youth Allowance and a 2.2 percentage point increase in the probability of receiving other income support. These patterns suggest that mothers' relationship histories may be related to the likelihood that their children are studying or training at age 18.

We also find that youths' propensity to receive income support is linked to their mothers' current relationship status. Consider first youths growing up in families with either no or moderate interaction with the income support system. In these families, youths are significantly more likely to receive student Youth Allowance if their mothers are single or partnered with someone other than their natural fathers.[26] The magnitudes of these effects are large (as many as 20.2 percentage points), but are not always significant and depend on the method used for calculating the marginal effect.[27] Compared to having a mother who is partnered with one's natural father, having a single mother is associated with a 21.1 (13.8) percentage point higher probability that young people in families with a history of no (moderate) income support receipt themselves receive student Youth Allowance. The effect of mothers' current relationship status on student Youth Allowance varies significantly across family income support receipt history. Finally, a mother's current relationship status has no effect on the probability that youths in families who have received intensive income support receive student Youth Allowance,

[26]In the analysis sample, 27 per cent of mothers are single, 62 per cent are partnered with the youth's natural father, while 11 per cent have repartnered.

[27]When calculating the effect of a difference in relationship status between single and partnered, we need to make some additional assumptions about the characteristics of those partners. For the subsample where the mother is in fact single, we have computed marginal effects assuming that the hypothetical partners' characteristics are represented by the base categories. This amounts to assuming that single mothers would partner with low-skilled men (i.e. Year 11 education and 0 occupational status). See the technical appendix and the notes to Table 4a for further details.

though having a single mother increases the probability of receiving other income support by 12.5 percentage points.

There is also evidence that the nature of the communication between young people's natural parents is related to the receipt of income support. Youths in families with no history of income support receipt whose natural parents are not together are less likely to receive student Youth Allowance if their mothers only rarely or never ask for their fathers' advice, though again this effect is only marginally significant and depends on the method used to calculated the marginal effect. In effect, when natural parents are not together, good communication between natural parents is associated with an increased probability that young people are receiving student Youth Allowance at age 18. This relationship only holds, however, in families with no previous interaction with the income support system. The effect of parental communication is significantly different in families with either a moderate or intensive exposure to the income support system.

Taken together, these results are consistent with the results of previous literature that demonstrates the importance of accounting for the absence of biological fathers in understanding youth outcomes (see Harris and Marmer, 1996; Hanson et al., 1997; Antecol and Bedard, 2007; Cobb-Clark et al., 2008). At the same time, it is interesting to note that this relationship depends heavily on the income support history of the family.

Finally, we turn to consider whether the characteristics of mothers' current partners are important in understanding whether young people are receiving income support at age 18. Our findings indicate that the immigrant and occupational status of mothers' partners are generally unimportant in determining which young people are in receipt of income support. The exception is that youths in families that received moderate income support while they were growing up are 6.7 percentage points more likely to receive student Youth Allowance if their mothers are partnered with immigrants. There is no evidence that the occupational status of mothers' partners is related to the likelihood that young people receive income support. The receipt of student Youth Allowance is related to the educational attainment of mothers' partners for those youths growing up in families receiving intensive income support; however, this effect is not monotonic and

is primarily concentrated amongst those partners with a Year 12 education or those with minor certificates. The relationship between student Youth Allowance and the educational attainment of mothers' partners that we observe in families who have received intensive income support is significantly different to the relationship observed in families with either no or moderate interaction with the income support system.

5.6 Summary: How does family income support receipt history affect the determinants of youth income support receipt?

The multivariate regression results described above indicate that a young person's receipt of income support is most closely linked to his or her gender, geographic location, mother's education, mother's psychosocial characteristics, and family structure. Many of these relationships are consistent with previous research and are not particularly surprising. Others, in particular the role of mother's locus of control and her views on how to get ahead in life, are less well understood. It is also important to note that the underlying determinants of youths' receipt of income support are not always consistent across families with different income support histories. Family income support receipt history is likely to be closely linked to the economic and social disadvantage that a young person experienced while growing up. Thus, it appears that the process which leads some young people to receive income support and others to not differs with the amount of disadvantage that a young person has experienced while growing up. For example, while additional siblings raise the probability that young people in families who have received moderate income support receive student Youth Allowance, additional siblings reduce the probability that young people in families who have received intensive income support receive this same benefit.

Unfortunately, small sample sizes and the relatively small number of young people receiving income support at age 18 imply that our estimates of the determinants of income support receipt are often imprecise making it occasionally difficult to identify differences in patterns of receipt across categories of family income support receipt. Despite this, our results do suggest that the effect of geographic location, mothers' education, mothers'

locus of control, and family structure all appear to differ with the family's history of income support receipt. In these cases, there appears to be an important interaction between economic and social disadvantage while growing up and the underlying factors driving the youths' receipt of income support.

6 Summary of main findings and suggestions for future research

This report uses data from the Youth in Focus (YIF) Project to assess how young Australians' receipt of income support at age 18 is related to their family's receipt of income support while they were growing up. To this end, we pay particular attention to the complex relationships between a young person's demographic, geographic, and family-background characteristics and his or her family's experience with the income support system. This focus allows us to begin to shed light on the ways in which socio-economic disadvantage as a child is translated into socio-economic disadvantage as a young adult.

Our main findings are as follows:

1. Young people from families with a history of intensive income support receipt are substantially more likely to be receiving income support at age 18.

2. Youth Allowance is the most prevalent form of income support irrespective of a young person's background.

3. There is geographic variation in the receipt of income support which is particularly important in understanding which young people in those families with a history of intensive income support receipt are themselves in receipt of Youth Allowance that is not related to study or training.

4. Young people's income support receipt is related to their mother's educational attainment in complex ways even after we account for the family's income support receipt history and a variety of other background characteristics.

5. Young people are less likely to be receiving income support if their mothers have a more external locus of control.

6. Young people from families who have not received income support are more likely to receive student Youth Allowance as their mothers' belief in the importance of education, ambition, and a job for getting ahead in life becomes stronger.

7. Young men are less likely to be in receipt of income support than are otherwise similar young women.

8. The incidence of income support receipt is not in general related to a mother's demographic characteristics or socio-economic status (as measured by her occupational status) once we include detailed controls in the model.

9. There is a link between family structure (i.e. number of siblings, mothers' previous relationships, mothers' current partner status, and the degree of communication between natural parents) and the receipt of income support.

10. The receipt of student Youth Allowance is related to the educational attainment of mothers' partners for those youths growing up in families receiving intensive income support.

These findings suggest a number of important directions for future research. In particular, our analysis makes an important contribution in highlighting the fact that the underlying determinants of young people's income support receipt often vary across families with different histories of income support receipt. Thus, it appears that the process which leads some young people to receive income support and others to not differs with the amount of disadvantage that a young person has experienced while growing up. In particular, there is an important interaction between childhood economic and social disadvantage and the role that geographic location, mothers' education, mothers' locus of control, and family structure play in determining young people's receipt of income support. Future research will be needed to begin to understand why these interactions exist and whether there is any appropriate policy response.

To this end, more progress is likely to be made by considering not just youths' receipt of income support, but also the educational, employment, housing, and parenting outcomes that underlie the need to access the income support system. In particular, the nature of the income support system for young Australians (specifically the Youth Allowance program) makes it difficult to know whether youths' receipt of income support is related to their own outcomes (i.e. study, job search, co-residence, parenting) or to their parents' lack of financial resources. Social policy changes since the 1980s have resulted in many young people qualifying for social assistance on the basis of their parents' (rather than their own) income. It is not a surprise then that today youths aged 15–20 are more financially dependent on their parents than was true in the late 1960s (Schneider, 1999).

Given this trend, we need to know more about they ways that economic and social disadvantage might reduce parents' capacity to provide support for their young adult children's human capital and labour market investments. This requires not only an understanding of the determinants of educational attainment and employment, but also those factors underlying the provision of family support in the form of co-residence with and financial transfers to young adult children.

A Technical appendix

A.1 Joint tests in Section 4

The test statistic for equal proportions across k categories (rows) within each group of family income support receipt (column) s is

$$T_s = \sum_{j=1}^{k} \frac{(\hat{\theta}_{sj} - \hat{\theta}_{s0})^2}{\hat{\theta}_{s0}(1 - \hat{\theta}_{s0})/n_{sj}},$$

where $\hat{\theta}_{sj}$ is the proportion of youths in category j who receive income support within stratum s, $\hat{\theta}_{s0}$ is the overall proportion of youths who receive income support within group s, and n_{sj} is the sample size for category j in group s. The distribution of T_s is approximately chi-square with $k - 1$ degrees of freedom.

A.2 Computation of average marginal effects in Section 5

Let y_i be a binary variable which is one if youth i is receiving income support and 0 otherwise. Let x_i be a vector of regressors and assume that the probability that youth i is receiving income support is

$$\Pr(y_i = 1|x_i) = \Phi(x_i'\beta),$$

where Φ is the standard normal distribution function and β is a conformable vector of unknown parameters.

The marginal effect of a cardinal (non-categorical) regressor represents the difference in probability per unit difference in the regressor (although the formula is only accurate for infinitesimal difference), taking the observed values of all other regressors as given. For example, the marginal effect of a variable such as years of age is the effect (percentage point difference) of being one year older on the probability of receiving income support, holding all other regressors constant. Formally, suppose that the jth element of x_i is a continuous regressor. Then the marginal effect of x_{ij} is

$$\frac{\partial}{\partial x_{ij}}\Phi(x_i'\beta) = \phi(x_i'\beta)\beta_j,$$

where ϕ denotes the standard normal density function.

The marginal effect of a binary regressor (such as gender) measures the difference in the probability of receiving income support between the category indicated by the regressor and the omitted base category, again taking the observed values of all other regressors as given. For example, the marginal effect of a variable such as gender is the difference in probability of receiving income support for a male and female with otherwise identical values of other regressors. In other words, the marginal effect for males in the sample are computed by first predicting the probability that they receive income support and then predicting, and subtracting, the probability that they receive income support under the counterfactual assumption that the effect for males is the same as the effect for females. Formally, suppose that the jth element of x_i is a binary regressor. Then the

marginal effect of x_{ij} is

$$\Phi(1 \cdot \beta_j + x'_{i,-j}\beta_{-j}) - \Phi(0 \cdot \beta_j + x'_{i,-j}\beta_{-j}),$$

where $x_{i,-j}$ and β_{-j} denote the regressor and parameter vectors with the jth element removed.

More generally, marginal effects for a k-categorical regressor (such as education) are defined with respect to the base (omitted) category. The marginal effect for a particular category is calculated the same way as the marginal effect of a binary regressor, except that the other indicators associated with the categorical regressor in question are set to 0 (while taking the observed values of other regressors as given). For example, the marginal effect of living in Victoria is the difference in predicted probabilities for a person living in Victoria and a person living in New South Wales, with otherwise identical values of other regressors. Formally, suppose that the first $k-1$ elements of x_i are binary variables associated with a categorical regressor. One category is the omitted base category. Let z_i denote the remaining regressors, so that $x_i = (x_1, x_2, \ldots, x_{k-1}, z'_i)'$. Similarly, let δ be such that $\beta = (\beta_1, \beta_2, \ldots, \beta_{k-1}, \delta')'$. For $1 \leq j \leq k-1$ the marginal effect of jth category is

$$\begin{aligned}\Phi(0 \cdot \beta_1 + \cdots + 0 \cdot \beta_{j-1} + 1 \cdot \beta_j + 0 \cdot \beta_{j+1} + \cdots + 0 \cdot \beta_{k-1} + z'_i\delta) - \\ \Phi(0 \cdot \beta_1 + \cdots + 0 \cdot \beta_{j-1} + 0 \cdot \beta_j + 0 \cdot \beta_{j+1} + \cdots + 0 \cdot \beta_{k-1} + z'_i\delta).\end{aligned}$$

The marginal effect represents the difference in probability between the jth and the omitted base category.

The average marginal effect is an estimate of the expected marginal effect for a randomly selected youth. Generally, the average marginal effect for regressor j is

$$AME_j = \frac{1}{n}\sum_{i=1}^{n} ME_{ij},$$

where n is the sample size and ME_{ij} is the marginal effect for youth i. This is similar

to the concept of the "average treatment effect on the population" used in the evaluation literature. For categorical regressors, it is also possible to construct a measure similar to the "average treatment effect on the treated" by restricting the averaging to the subpopulation which have $x_{ij} = 1$,

$$AME_j^* = \frac{1}{n_j} \sum_{i=1}^{n} 1(x_{ij} = 1) ME_{ij},$$

where $n_j = \sum_{i=1}^{n} 1(x_{ij} = 1)$ is the number of youths with $x_{ij} = 1$. The numbers presented in this paper are of the former type.

The presence of "interaction terms" or an interrelationship between variables pose a special problem. In our case, the mother's partnering status requires special care, because of its interaction with other regressors. There are two issues. The first issue is that computing predictions assuming the mother has a partner necessarily requires values for the partners' characteristics. For observations where the mother is in fact single, this paper computes marginal effects assuming that the hypothetical partners' characteristics are represented by the base categories. The second issue is that it does not make sense logically to compute predictions assuming the mother is single while "taking the observed values of all other regressors as given", because if there is no partner then there can be no partner's characteristics. For observations where the mother is in fact partnered, this paper sets all regressors representing the partner's characteristics to 0 whenever the indicator for the mother being single is 1.

For a formal description, consider for simplicity the case where there is a single binary regressor which is interacted with a continuous regressor. Let b_1 denote the binary regressor, c_1 the continuous regressor, and let z_i denote remaining regressors. Suppose the model is

$$\Pr(y_i = 1|x_i) = \Phi(b_1\beta + c_1 b_1 \gamma + z_i'\delta),$$

where β, γ and δ are parameters. For a youth with $b_1 = 1$, the marginal effect in this

case is

$$\Phi(\beta + c_1\gamma + z_i'\delta) - \Phi(z_i'\delta).$$

Note that this formula differs from the above in that the interaction term is "turned off" together with b_1 in the base prediction. For observations with $b_1 = 0$, it may be a problem that c_1 is not observed. For example, if b_1 indicates marriage and c_1 is the partner's income, there are no data for c_1 for people who are single. To compute a marginal effect for observations with $b_1 = 0$, it may therefore be necessary to carefully select a value, or several values, for c_1. Once a value has been selected, the marginal effect is computed using the same formula as for observations with $b_1 = 1$.[28] In this example, restricting the averaging to the subsample with $b_1 = 1$ changes the interpretation of the computed average marginal effect, but avoids having to specify hypothetical values for c_1.[29]

Continuing the example with the interaction term, the easiest way of defining an interpretable average marginal effect for c_1 is to use the above formula for a continuous regressor and restrict the averaging to observations for which $b_1 = 1$. For example, to compute an average marginal effect of the partner's income it is sensible to restrict the averaging to persons who are married. The interpretation would be the expected marginal effect for a randomly selected married person.

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[28] If the model is fully interacted $\Pr(y_i = 1|x_i) = \Phi(b_1\beta + c_1(1-b_1)\gamma_0 + c_1b_1\gamma_1 + z_i'\delta)$ there is typically no issue with missing data. (c_1 may be household income.) In this case, the marginal effect of b_1 is

$$\Phi(\beta + c_1\gamma_1 + z_i'\delta) - \Phi(c_1\gamma_0 + z_i'\delta)$$

for both observations with $b_1 = 1$ and with $b_1 = 0$.

[29] Restricting the averaging to a subsample will not work if the model has a term of the form $c_2(1-b_1)\alpha$ where c_2 is a variable which is only meaningful for observations which have $b_1 = 0$. For example, c_2 could be the length of time a person has been without a partner.

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Table 1: Stratification scheme and matched youth-parent sample sizes (analysis sample in parentheses)

<table>
<tr><td rowspan="2">Number of years observed receiving income support</td><td colspan="3">Year first observed receiving income support</td></tr>
<tr><td>Before 1994
(3 years)
3–5#</td><td>1994–1998
(5 years)
6–10#</td><td>1999–2006†
(8 years)
11–18#</td></tr>
<tr><td>Six or more</td><td colspan="3">B
785 (627)</td></tr>
<tr><td>Three or more, but less than six</td><td rowspan="2">E
233 (209)</td><td>F
135 (116)</td><td rowspan="2">C
302 (256)</td></tr>
<tr><td>Less than three</td><td>D
271 (236)</td></tr>
<tr><td>None</td><td colspan="3">A
704 (611)</td></tr>
</table>

Letters indicate the Youth in Focus stratum label. †Probably the end day was sometime in June or July. #Age of person born 1 January 1988. Source: Extract from wave 1 of the Youth in Focus Survey.

Table 2: Type of income support youths received at time of interview

	Frequency			Per cent		
Family group	N	M	I	N	M	I
Total sample						
Total	611	817	627	100.0	100.0	100.0
Income support program						
None	572	646	310	93.6	79.1	49.8
Carer Payment	0	1	0	0.0	0.1	0.0
Disability Support Pension	6	9	13	1.0	1.1	2.1
Parenting Payment (Partnered)	0	0	6	0.0	0.0	1.0
Parenting Payment (Single)	2	4	10	0.3	0.5	1.6
Youth Allowance	31	157	286	5.1	19.2	45.6
Youth activity						
Studying, seeking work	31	62	48	5.1	7.6	7.7
Studying, not seeking work	406	476	287	66.5	58.3	45.8
Not studying, seeking work	15	33	77	2.5	4.0	12.3
Not studying, not seeking work	159	246	215	26.0	30.1	34.3
Youth activity (youths receiving Youth Allowance only)						
Studying, seeking work	3	23	35	9.7	14.7	12.9
Studying, not seeking work	24	105	145	77.4	66.9	50.7
Not studying, seeking work	2	12	45	6.5	7.6	15.7
Not studying, not seeking work	2	17	61	6.5	10.8	21.3
Guestimate (youths receiving Youth Allowance only)						
Youth Allowance (student)†	27	128	180	4.4	15.7	28.7
Youth Allowance (job seeker)†	4	29	106	0.7	3.5	16.9
Guestimate (youths receiving income support only)						
Youth Allowance (student)†	27	128	180	4.4	15.7	28.7
Other income support	12	43	135	2.0	5.3	21.5

N, M, I: the number of years the youth's family received income support (N=none, M=less than six, I=more than six). †Estimate based on survey data ("student" if studying, "job seeker" in all other cases). Note: Studying includes going to secondary school. Source: Extract from wave 1 of the Youth in Focus Survey and linked administrative data.

Table 3a: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Focal youth						
Total sample	4.4	15.7	28.7	2.0	5.3	21.5
	0.8	*1.3*	*1.8*	*0.6*	*0.8*	*1.6*
Youth's birth month						
October	3.3	12.1	30.9	2.2	5.7	20.2
	1.9	*2.7*	*4.8*	*1.5*	*1.9*	*4.1*
November	8.2	15.3	23.2	3.1	3.8	19.5
	2.8	*3.1*	*4.7*	*1.7*	*1.7*	*4.4*
December	5.1	16.2	30.6	2.0	7.0	23.1
	2.2	*3.1*	*4.4*	*1.4*	*2.1*	*4.1*
January	4.1	13.6	35.6	0.0	6.1	24.0
	2.0	*3.0*	*4.7*	.	*2.1*	*4.2*
February	0.9	21.1	28.6	2.7	4.7	21.0
	0.9	*3.6*	*4.4*	*1.5*	*1.9*	*4.0*
March	5.2	16.1	23.9	1.7	4.2	20.9
	2.1	*3.1*	*3.7*	*1.2*	*1.7*	*3.5*
Joint test (%p)	21.2	45.1	35.3	71.4	83.8	97.0
Youth' gender						
Female	5.3	16.9	31.3	1.5	6.3	25.6
	1.2	*1.8*	*2.5*	*0.7*	*1.2*	*2.4*
Male	3.5	14.4	25.8	2.4	4.2	16.9
	1.1	*1.7*	*2.5*	*0.9*	*1.0*	*2.2*
Joint test (%p)	28.2	30.8	12.4	43.3	18.2	0.9**

YA: Youth Allowance; N, M, I: the number of years the youth's family received income support (N=none, M=less than six, I=more than six). Standard errors in italics (no standard errors are provided for estimates of zero proportions). Equality tests are chi-square tests of the null hypothesis that the proportion of youths receiving income support in the category indicated by the row label are the same for the two groups indicated in the column heading; the symbols $*$ and $**$ indicate the null is rejected at the 10% and 5% level, respectively. The row heading "Joint test (%p)" indicates a chi-square test of the null hypothesis that, within each column, the proportion of youth receiving income support is the same in all the categories in the group; the figure reported is the percentage p-value and the symbols * and ** indicate that the null is rejected at the 10% and 5% level, respectively. Source: Extract from wave 1 of the Youth in Focus Survey and linked administrative data.

Table 3b: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Youth's country of birth						
Australia	4.4	15.5	28.3	2.0	5.2	21.6
	0.8	*1.3*	*1.8*	*0.6*	*0.8*	*1.7*
Overseas	4.3	18.4	37.9	0.0	6.1	20.7
	4.3	*5.5*	*9.0*	.	*3.4*	*7.5*
Joint test (%p)	98.6	59.2	26.1	48.9	78.1	91.0
Youth's ATSI status[†]						
No	4.5	16.0	29.7	2.0	5.0	19.5
	0.8	*1.3*	*1.9*	*0.6*	*0.8*	*1.7*
Yes, ATSI	0.0	4.3	18.4	0.0	8.7	38.8
	.	*4.3*	*5.5*	.	*5.9*	*7.0*
Joint test (%p)	47.1	12.9	9.4*	63.5	43.5	0.2**
Youth's residence area[‡]						
Major cities of Australia	3.8	15.5	27.2	0.8	5.0	16.4
	1.0	*1.6*	*2.4*	*0.5*	*1.0*	*2.0*
Inner regional Australia	5.1	17.3	32.9	3.9	5.0	27.9
	1.6	*2.5*	*3.2*	*1.5*	*1.5*	*3.0*
Other areas of Australia[#]	5.9	13.1	23.3	2.9	7.1	26.0
	2.9	*3.4*	*4.9*	*2.0*	*2.6*	*5.1*
Joint test (%p)	66.7	62.9	19.2	4.1**	69.1	0.4**
Youth's residence state[‡]						
NSW&ACT	4.3	18.3	29.5	1.6	4.9	21.3
	1.5	*2.5*	*3.4*	*0.9*	*1.4*	*3.0*
VIC	2.3	17.7	35.1	1.7	6.9	17.9
	1.1	*2.5*	*4.1*	*1.0*	*1.7*	*3.3*
QLD	7.9	10.1	20.6	2.6	6.5	26.9
	2.5	*2.3*	*3.2*	*1.5*	*1.9*	*3.5*
SA	8.0	17.9	30.2	2.0	1.8	25.4
	3.8	*5.1*	*5.8*	*2.0*	*1.8*	*5.5*
WA&NT	1.5	8.3	31.4	3.0	2.4	7.8
	1.5	*3.0*	*6.5*	*2.1*	*1.7*	*3.8*
TAS	4.5	25.0	30.6	0.0	3.1	25.0
	4.4	*7.7*	*7.7*	.	*3.1*	*7.2*
Joint test (%p)	16.2	3.9**	15.0	93.9	42.1	6.9*

See notes for Table 3a. ATSI: Aboriginal or Torres Strait Islander. [†]Excluding 7 additional observations with missing information. [‡]At the time of interview. [#]Comprises "outer regional Australia", "remote Australia" and "very remote Australia".

Table 3c: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Mother's highest level of education						
Year 11 or less	3.5	15.8	24.4	3.5	7.3	28.2
	1.6	*2.4*	*3.0*	*1.6*	*1.7*	*3.1*
Year 12	2.0	12.3	40.4	0.0	6.2	19.1
	2.0	*4.1*	*7.2*	.	*3.0*	*5.7*
Minor or unknown certificate[#]	13.9	14.5	26.4	1.0	4.8	17.8
	3.4	*2.9*	*3.9*	*1.0*	*1.8*	*3.4*
Major certificate or diploma[#]	1.3	17.1	28.4	0.6	5.6	18.8
	0.9	*2.5*	*3.4*	*0.6*	*1.5*	*2.9*
Bachelor or higher	3.0	15.8	39.4	3.0	1.4	16.7
	1.3	*3.1*	*6.0*	*1.3*	*1.0*	*4.6*
Joint test (%p)	0.0**	89.8	5.9*	22.4	18.8	7.5*
Mother's socio-economic status[†]						
Never worked etc	3.7	19.0	40.8	0.0	7.1	28.6
	3.6	*6.1*	*7.0*	.	*4.0*	*6.5*
$[0, 30)$	5.1	16.1	25.6	3.8	7.5	28.5
	2.5	*2.9*	*3.0*	*2.2*	*2.1*	*3.1*
$[30, 40)$	6.7	18.1	29.6	1.2	2.3	16.6
	2.0	*2.6*	*3.5*	*0.9*	*1.0*	*2.9*
$[40, 70)$	5.5	13.4	28.9	1.8	6.1	13.3
	2.2	*2.5*	*4.8*	*1.3*	*1.8*	*3.6*
$[70, 100]$	2.1	14.1	27.7	2.1	5.5	19.6
	0.9	*2.3*	*4.2*	*0.9*	*1.5*	*3.8*
Joint test (%p)	25.3	64.6	33.0	64.7	21.0	0.8**
Mother's years of age						
$[30, 43)$	6.2	15.0	22.3	0.0	9.2	27.7
	3.0	*2.7*	*2.8*	.	*2.2*	*3.0*
$[43, 47)$	3.4	14.1	32.7	2.4	3.4	18.2
	1.3	*2.0*	*3.7*	*1.1*	*1.1*	*3.1*
$[47, 50)$	4.4	14.1	24.4	1.9	4.9	18.5
	1.6	*2.6*	*3.9*	*1.1*	*1.6*	*3.6*
$[50, 65)$	5.0	20.6	39.2	2.2	4.7	17.6
	1.6	*3.1*	*4.4*	*1.1*	*1.6*	*3.4*
Joint test (%p)	76.9	26.0	0.4**	66.2	5.5*	5.0**

See notes for Table 3a. [†]Based on occupation. [#]Major certificates comprises certificates iii and iv, trade certificates, and registered nurse qualifications; minor certificates comprises certificates i and ii and other qualifications in areas such as nursing, child care, teaching, office work etc.

Table 3d: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Mother's birth place						
Australia	4.0	14.2	28.0	2.2	5.4	21.8
	0.9	*1.4*	*2.0*	*0.7*	*0.9*	*1.8*
Overseas	6.1	20.5	31.6	0.9	4.9	20.5
	2.2	*3.0*	*4.3*	*0.9*	*1.6*	*3.7*
Joint test (%p)	33.4	3.8**	44.0	34.8	78.3	76.6
Mother's ATSI status†						
No	4.5	15.7	29.3	2.0	5.1	20.6
	0.8	*1.3*	*1.9*	*0.6*	*0.8*	*1.7*
Yes, ATSI	0.0	16.7	18.2	0.0	16.7	36.4
	.	*10.8*	*6.7*	.	*10.8*	*8.4*
Joint test (%p)	66.6	92.4	16.8	77.6	7.5*	3.1**

See notes for Table 3a. ATSI: Aboriginal or Torres Strait Islander. †Excluding 2 additional observations with missing information.

Table 3e: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Mother: There is no way I can solve some of the problems I have						
Disagree	4.6	13.6	30.4	1.8	4.2	18.6
	1.0	*1.4*	*2.4*	*0.6*	*0.8*	*2.0*
Agree	3.8	20.2	26.1	2.5	7.5	26.1
	1.5	*2.5*	*2.8*	*1.3*	*1.7*	*2.8*
Joint test (%p)	67.3	1.6**	25.2	54.1	5.2*	2.5**
Mother: Sometimes I feel that I'm being pushed around in life						
Disagree	4.4	13.3	29.0	1.6	4.3	17.3
	1.0	*1.5*	*2.5*	*0.6*	*0.9*	*2.0*
Agree	4.4	19.7	28.3	2.8	7.0	26.6
	1.5	*2.3*	*2.7*	*1.2*	*1.5*	*2.6*
Joint test (%p)	99.9	1.7**	84.5	35.6	9.0*	0.5**
Mother: I have little control over the things that happen to me						
Disagree	4.2	13.6	27.8	1.8	4.9	19.7
	0.9	*1.3*	*2.1*	*0.6*	*0.8*	*1.8*
Agree	5.8	27.0	31.4	2.9	7.1	26.9
	2.8	*4.0*	*3.7*	*2.0*	*2.3*	*3.6*
Joint test (%p)	55.4	0.0**	38.9	55.3	30.4	5.9*
Mother: I can do just about anything I really set my mind to						
Disagree	4.8	26.9	32.9	4.8	7.5	24.7
	3.3	*5.4*	*5.5*	*3.3*	*3.2*	*5.0*
Agree	4.4	14.7	28.2	1.8	5.1	21.1
	0.9	*1.3*	*1.9*	*0.6*	*0.8*	*1.7*
Joint test (%p)	91.1	0.8**	40.2	17.6	40.0	48.9
Mother: I often feel helpless dealing with the problems of life						
Disagree	4.3	13.9	29.5	1.9	4.3	20.0
	0.9	*1.4*	*2.2*	*0.6*	*0.8*	*1.9*
Agree	5.3	22.8	26.7	2.7	9.3	25.1
	2.6	*3.3*	*3.2*	*1.9*	*2.3*	*3.2*
Joint test (%p)	68.1	0.5**	47.7	64.0	1.1**	15.3

See notes for Table 3a.

Table 3f: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Mother: What happens to me in the future mostly depends on me						
Disagree	0.0	28.9	32.5	3.8	6.7	27.5
	.	*6.8*	*7.4*	*3.8*	*3.7*	*7.1*
Agree	4.6	14.9	28.4	1.9	5.2	21.1
	0.9	*1.3*	*1.9*	*0.6*	*0.8*	*1.7*
Joint test (%p)	26.3	1.2**	58.4	48.0	66.4	34.3
Mother: There is little I can do to change many of the important things in my life						
Disagree	4.1	13.8	27.8	1.5	5.0	19.5
	0.8	*1.3*	*2.0*	*0.5*	*0.8*	*1.8*
Agree	7.1	27.0	31.9	5.7	7.0	28.4
	3.1	*4.1*	*3.9*	*2.8*	*2.4*	*3.8*
Joint test (%p)	23.9	0.0**	33.9	1.6**	38.0	2.5**
Mother: One's own education is important for getting ahead in life						
Less important‡	2.8	10.5	30.0	2.4	5.8	16.3
	1.1	*1.7*	*3.2*	*1.0*	*1.3*	*2.6*
Extremely important	5.5	18.8	28.1	1.6	5.0	24.1
	1.2	*1.7*	*2.2*	*0.7*	*1.0*	*2.1*
Joint test (%p)	11.6	0.1**	60.8	49.5	62.3	2.6**
Mother: One's own ambition is important for getting ahead in life						
Less important‡	1.4	18.5	27.0	2.9	4.6	18.3
	1.0	*2.8*	*4.0*	*1.4*	*1.5*	*3.4*
Extremely important	5.3	14.8	29.1	1.7	5.5	22.4
	1.0	*1.4*	*2.0*	*0.6*	*0.9*	*1.9*
Joint test (%p)	5.2*	21.9	63.2	37.7	64.2	31.7
Mother: Having a job is important for getting ahead in life						
Less important‡	4.0	20.8	37.1	2.4	5.4	22.4
	1.7	*3.6*	*4.5*	*1.4*	*2.0*	*3.9*
Extremely important	4.5	14.7	26.8	1.9	5.2	21.3
	0.9	*1.4*	*2.0*	*0.6*	*0.9*	*1.8*
Joint test (%p)	78.2	8.1*	2.7**	70.5	94.6	79.8

See notes for Table 3a. ‡Encompasses "fairly important", "not too important", "does not matter at all", and "undesirable".

Table 3g: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Mother's partnering status						
Single	12.5	24.7	29.7	2.1	8.8	24.2
	4.8	*3.2*	*2.5*	*2.1*	*2.1*	*2.4*
Partner with natural father	3.7	12.7	31.8	2.0	3.8	16.9
	0.8	*1.5*	*3.3*	*0.6*	*0.8*	*2.7*
Partner with other person	5.6	14.8	19.6	0.0	6.5	21.6
	5.4	*3.4*	*3.9*	.	*2.4*	*4.1*
Joint test (%p)	1.7**	0.1**	7.5*	83.0	2.8**	14.3
Mother's total number of children						
1	11.1	17.5	28.1	0.0	7.5	9.4
	7.4	*6.0*	*7.9*	.	*4.2*	*5.2*
2	4.7	12.9	36.4	0.9	5.2	14.5
	1.4	*2.0*	*3.7*	*0.6*	*1.3*	*2.7*
3	2.3	14.7	27.7	3.2	3.5	26.2
	1.0	*2.1*	*3.1*	*1.2*	*1.1*	*3.1*
4 or more	6.5	20.5	23.6	2.2	7.3	24.5
	2.1	*2.8*	*2.9*	*1.2*	*1.8*	*2.9*
Joint test (%p)	12.0	13.7	4.8**	32.3	27.0	0.8**
Mother's number of relationships						
1 or less	4.1	16.3	33.2	2.2	4.3	18.3
	0.8	*1.5*	*2.4*	*0.6*	*0.8*	*2.0*
2	8.0	14.1	22.7	0.0	6.8	27.0
	3.8	*2.6*	*3.1*	.	*1.9*	*3.3*
3 or more	0.0	12.5	27.8	0.0	15.6	25.9
	.	*5.8*	*6.1*	.	*6.4*	*6.0*
Joint test (%p)	38.8	69.2	8.3*	53.9	1.2**	4.2**

See notes for Table 3a.

Table 3h: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Mother asks natural father when making major decisions about youth						
Still married or deceased	4.0	13.1	30.9	2.0	4.0	21.3
	0.8	*1.4*	*2.9*	*0.6*	*0.8*	*2.6*
Never or rarely	4.9	20.1	26.9	0.0	8.4	22.6
	3.4	*3.0*	*2.6*	.	*2.1*	*2.5*
Sometimes or often	17.6	23.0	28.4	5.9	6.9	18.9
	9.2	*4.5*	*4.6*	*5.7*	*2.7*	*4.0*
Joint test (%p)	2.6**	1.1**	58.4	33.6	5.7*	74.8
Parents' participation in school committees						
No	3.6	19.3	27.0	3.0	6.1	22.7
	1.4	*2.3*	*2.7*	*1.3*	*1.4*	*2.5*
Yes	4.7	13.6	30.1	1.6	4.8	20.6
	1.0	*1.5*	*2.5*	*0.6*	*0.9*	*2.2*
Joint test (%p)	54.2	3.1**	39.3	26.0	42.0	53.9

See notes for Table 3a.

Table 3i: Per cent of youths who receive income support by demographic, geographic and family characteristics

	Receiving YA and studying			Other receipt of income support		
Family group	N	M	I	N	M	I
Mother's partner's highest level of education						
No partner	12.5	24.7	29.7	2.1	8.8	24.2
	4.8	*3.2*	*2.5*	*2.1*	*2.1*	*2.4*
Year 11 or less	5.0	14.2	30.6	1.9	4.9	21.3
	1.7	*2.2*	*3.6*	*1.1*	*1.4*	*3.2*
Year 12	4.4	14.3	6.8	2.2	1.0	15.9
	2.1	*3.5*	*3.8*	*1.5*	*1.0*	*5.5*
Minor or unknown certificate#	5.1	9.4	13.3	1.3	5.9	26.7
	2.5	*3.2*	*6.2*	*1.3*	*2.6*	*8.1*
Major certificate or diploma#	1.9	10.3	34.5	2.9	3.1	13.8
	1.4	*3.1*	*8.8*	*1.7*	*1.8*	*6.4*
Bachelor or higher	2.3	14.7	47.1	1.5	5.5	5.9
	1.3	*3.4*	*8.6*	*1.1*	*2.2*	*4.0*
Joint test (%p)	6.1*	0.5**	0.1**	97.5	10.3	12.2
Mother's partner's socio-economic status†						
No partner	12.5	24.7	29.7	2.1	8.8	24.2
	4.8	*3.2*	*2.5*	*2.1*	*2.1*	*2.4*
Unknown or never worked	4.0	9.5	29.4	4.0	9.5	29.4
	3.9	*6.4*	*11.1*	*3.9*	*6.4*	*11.1*
$[0, 30)$	3.8	8.9	27.2	2.6	5.2	21.1
	2.2	*2.1*	*4.2*	*1.8*	*1.6*	*3.8*
$[30, 40)$	5.8	18.3	31.7	1.2	4.6	20.0
	2.5	*3.4*	*6.0*	*1.2*	*1.8*	*5.2*
$[40, 70)$	3.8	15.8	23.2	1.9	3.3	11.6
	1.3	*2.7*	*5.1*	*0.9*	*1.3*	*3.9*
$[70, 100]$	2.5	10.3	29.7	1.8	2.8	16.2
	1.2	*2.9*	*7.5*	*1.1*	*1.6*	*6.1*
Joint test (%p)	8.8*	0.1**	90.2	96.3	14.5	23.5
Mother's partner's country of birth						
No partner	12.5	24.7	29.7	2.1	8.8	24.2
	4.8	*3.2*	*2.5*	*2.1*	*2.1*	*2.4*
Australia	4.1	11.3	26.3	2.0	4.4	19.5
	0.9	*1.4*	*2.9*	*0.7*	*0.9*	*2.6*
Overseas	2.5	18.6	32.8	1.7	3.8	14.8
	1.4	*3.1*	*6.0*	*1.2*	*1.5*	*4.5*
Joint test (%p)	1.4**	0.0**	51.2	96.6	5.2*	15.9

See notes for Table 3a. †Based on occupation. #Major certificates comprises certificates iii and iv, trade certificates, and registered nurse qualifications; minor certificates comprises certificates i and ii and other qualifications in areas such as nursing, child care, teaching, office work etc.

Table 4a: Results of multivariate probit regression analysis

	Receiving YA and studying						Other receipt of income support					
	Marginal effect (%)			Equality test (p)			Marginal effect (%)			Equality test (p)		
Family group	N	M	I	NM	NI	MI	N	M	I	NM	NI	MI
Youth's year of birth (base: 1987)												
1988	−2.2	1.3	3.1	11.7	8.3*	79.3	−1.4	−0.6	−2.1	58.2	60.0	93.6
Youth's gender (base: female)												
Male	−2.9*	−2.7	−6.9**	18.3	37.8	53.9	0.8	−2.6*	−7.4**	12.2	9.8*	98.2
Youth's residence state (base: NSW&ACT)												
VIC	−0.6	−0.9	5.5	79.2	36.4	32.7	−0.7	2.3	−1.4	30.3	77.7	29.2
QLD	4.8*	−6.2*	−11.0**	0.9**	0.3**	70.5	1.7	1.2	7.7*	67.6	98.7	53.8
SA	5.7	0.6	0.4	15.1	13.5	96.8	3.0	−3.1	8.8	13.2	79.8	8.1*
WA&NT	−2.3	−10.8**	2.9	96.1	17.2	3.1**	4.3	−2.0	−10.7**	12.9	3.8**	54.3
TAS	2.6	7.7	−6.2	93.1	40.1	20.6	—	−2.1	0.1	—	—	58.8
Joint test (%p)	3.5**	4.2**	3.6**	7.3*	0.1**	11.9	—	40.4	3.3**	—	—	24.1
Youth's residence area (base: major city)												
Inner regional Australia	1.7	3.5	7.9**	73.7	97.1	59.5	6.3**	0.2	10.4**	2.5**	8.4*	10.7
Other areas of Australia[#]	2.5	−0.4	1.9	33.9	46.8	76.9	4.4	2.7	6.2	40.3	19.7	98.6
Joint test (%p)	40.2	48.9	12.7	63.0	74.6	86.0	0.6**	54.0	1.5**	3.0**	19.6	23.7

YA: Youth Allowance; N, M, I: the number of years the youth's family received income support (N=none, M=less than six, I=more than six); p: p-values. Marginal effects are computed for each observation and averaged over the total sample or, for the mother's partner's characteristics, over the subsample for which the mother is partnered. For binary and categorical variables, the marginal effect is computed as the difference between the predicted probability when the variable in question is set to 1 and to 0, with other categorical variables in the group set to 0 (except the base category). For other variables, the analytical formula for a continuous variable is used. The variance matrix is estimated using the delta method, taking into account the randomness in the underlying estimated probit parameters, but not the randomness in the regressors used in the evaluation. The symbols * and ** indicate the estimate is significantly different from 0 at the 10% and 5% level, respectively. Equality tests are test of the null hypothesis that the underlying coefficients corresponding to each row variable are the same for the two groups indicated in the column heading. Joint tests concern joint tests of the underlying coefficients corresponding to the categories defined by the regressor; the columns for marginal effects contain p-values for the null hypothesis that all the coefficients are 0 within the column; the columns for equality tests contain p-values for the null hypothesis that the coefficients are the same across strata (not necessarily 0). The symbol "—" indicates that observations for which the variable is non-zero have been dropped from the estimation. [#]Comprises "outer regional Australia", "remote Australia" and "very remote Australia". Source: Extract from wave 1 of the Youth in Focus Survey and linked administrative data.

Table 4b: Results of multivariate probit regression analysis

	Receiving YA and studying						Other receipt of income support					
	Marginal effect (%)			Equality test (p)			Marginal effect (%)			Equality test (p)		
Family group	N	M	I	NM	NI	MI	N	M	I	NM	NI	MI
Mother's years of age												
Per year	0.2	0.4	1.0**	92.4	70.1	44.8	0.2	−0.1	−0.6**	22.0	10.4	71.9
Mother's birth place (base: Australia)												
Overseas	2.0	4.5	0.1	86.7	47.0	33.5	−1.9	0.0	1.6	37.5	30.0	81.8
Mother's highest level of education (base: Year 11 or less)												
Year 12	−0.9	0.5	19.9**	69.2	17.0	8.3*	—	−0.1	−3.5	—	—	74.1
Minor or unknown certificate#	10.2**	0.6	1.0	0.2**	0.2**	98.1	−3.1	−1.4	−5.2	14.8	18.1	77.9
Major certificate or diploma#	−0.5	4.2	5.8	36.6	36.3	99.0	−3.2	−2.6	−5.2	22.1	17.2	85.9
Bachelor degree or higher	1.4	0.9	12.6*	60.6	72.6	23.8	3.7	−6.2**	−1.8	0.6**	26.7	3.8**
Joint test (%p)	0.0**	75.7	4.4**	0.1**	0.0**	29.7	—	6.2*	68.8	—	—	24.5
Mother's socio-economic status†												
Per standard deviation of index	−2.0*	−0.9	−2.1	13.2	17.6	80.5	−1.3	1.0	−2.1	6.2*	39.2	14.9
SES unknown or never worked	−2.7	−1.9	6.2	52.6	28.4	41.8	—	4.0	3.2	—	—	62.9
Mother's locus of control												
Per standard deviation of index	−0.5	−4.8**	1.4	21.1	29.7	0.1**	−0.8	−1.4	−5.4**	98.3	73.9	54.7
Mother's view on factors important for getting ahead in life												
Per standard deviation of index	2.1**	0.5	−0.6	1.8**	0.7**	62.7	−0.3	−0.3	2.7	82.9	16.8	17.6
Parents' participation in school committees (base: never participated)												
Participated at least once	2.4	−5.8**	2.7	2.0**	29.7	3.3**	−2.1	−0.9	−0.9	43.9	30.9	77.1

See notes for Table 4a. †Based on occupation. #Major certificates comprises certificates iii and iv, trade certificates, and registered nurse qualifications; minor certificates comprises certificates i and ii and other qualifications in areas such as nursing, child care, teaching, office work etc.

Table 4c: Results of multivariate probit regression analysis

	Receiving YA and studying						Other receipt of income support					
	Marginal effect (%)			Equality test (p)			Marginal effect (%)			Equality test (p)		
Family group	N	M	I	NM	NI	MI	N	M	I	NM	NI	MI
Mother's total number of children												
Per child	0.9	2.6**	−2.2*	86.7	3.1**	0.1**	0.8	0.5	2.5**	48.0	68.6	57.2
Mother's number of relationships												
Per relationship	−0.5	−4.9*	−1.0	64.5	91.3	16.5	—	2.2*	2.1	—	—	36.5
Mother's partnering status (base: with natural father)‡												
Single	21.1*[a]	13.8**	−8.0	11.4	0.2**	1.4**	4.0	1.1	13.0*	62.4	99.5	45.0
Partnered with non-father	20.0[a]	7.0	−4.5	8.9*	1.7**	19.6	—	0.9	4.1	—	—	70.2
Joint test (%p)	12.2	0.2**	4.6**	0.2**	2.9**	68.2	—	79.0	15.5	—	—	74.7
Mother asks natural father when making major decisions about youth (base: sometimes or often) :: for mothers not with father												
Rarely or never	−17.0*[a]	1.4	−1.9	1.1**	1.8**	61.8	—	0.3	−3.7	—	—	56.2
Mother's partner's country of birth (base: Australia) :: for partnered mothers												
Overseas	−1.5	6.7*	9.5	14.9	17.6	99.2	0.2	0.4	−3.1	96.9	68.4	57.5
Mother's partner's socio-economic status† *:: for partnered mothers*												
Per standard deviation of index	−0.1	0.5	−3.0	80.3	64.6	42.0	0.5	−2.2	2.1	18.9	98.8	9.3*
SES unknown or never worked	−2.6	−5.9	6.3	72.3	23.6	30.2	5.6	0.6	11.7	48.3	77.0	57.8
Mother's partner's highest level of education (base: year 11 or less) :: for partnered mothers												
Year 12	−0.3	0.8	−26.6**	83.6	0.7**	0.0**	−1.3	−2.8*	−1.9	53.9	73.9	30.5
Minor or unknown certificate#	0.5	−5.4	−21.6**	32.4	3.4**	14.4	−0.9	1.9	10.5	49.6	33.9	68.7
Major certificate or diploma#	−0.4	−2.9	5.1	82.0	63.9	41.1	1.1	−0.4	−0.2	70.6	78.6	90.7
Bachelor degree or higher	−1.1	−1.5	13.4	78.0	20.0	20.8	−1.7	6.2	−11.3*	23.3	73.4	2.8**
Joint test (%p)	81.4	0.1**	0.1**	96.8	64.0	0.0**	72.0	17.1	33.0	25.6	74.7	12.5

See notes for Table 4a. [a]Not robust (the reported figures are higher than the marginal effects evaluated at the mean or the average marginal effects averaging over only the subsample for which the variable is 1). †Based on occupation. #Major certificates comprises certificates iii and iv, trade certificates, and registered nurse qualifications; minor certificates comprises certificates i and ii and other qualifications in areas such as nursing, child care, teaching, office work etc. ‡The counterfactual calculations which assume single mothers are partnered take the mother's partner's characteristics to be the base categories and socio-economic status is 0, while the counterfactual calculations which assume partnered mothers are single sets the partner's characteristics to 0; equivalent assumptions are made regarding whether or not the mother consults the natural father about youth. :: Marginal effects are averaged over the indicated subpopulation.