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Intergenerational Disadvantage: Learning about Equal Opportunity from Social Assistance Receipt*

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Abstract

We use variation in the extent of generational persistence across social assistance payments to shed light on the factors leading to intergenerational disadvantage. Our administrative data come from the Australian social security system and provide us with detailed social assistance trajectories – across the entire social safety net – for a birth cohort of young people and their families over an 18-year period. We find that young people are 1.8 times more likely to need social assistance if their parents have a history of receiving social assistance themselves. These young people also receive more intensive support; an additional $12,000 over an 8-year period. The intergenerational correlation is particularly strong in the case of disability payments, payments for those with caring responsibilities, and parenting payments for single parents. Disadvantage stemming from parents' poor labor market outcomes seems to be easier for young people to overcome. This suggests that parental disadvantage may be more harmful to children's later life outcomes if it is more strongly driven by circumstances rather than personal choice.

INTRODUCTION

Across the globe there is a growing divide between the wellbeing of those at the top of the socioeconomic ladder and those at the bottom. Despite tremendous economic growth, more than 75 percent of people in developing countries are living in societies that are more unequal today than they were in the 1990s (UNDP 2013). In OECD countries, the ratio of average disposable income in the top versus the bottom decile now stands at 9.5; up from around seven in the 1980s (Keeley 2015). Today the richest eight percent of the world's population earn half of the world's total income, leaving the remaining 92 percent of people with the other half (Milanovic 2012). The top one percent owns about 40 percent of the world's assets, while the poorest half of the world's population owns at most one percent (UNDP 2013).

Rising inequality pulls the rungs of the socioeconomic ladder further apart, reducing intergenerational mobility by making it harder for poor children to avoid becoming poor adults. The link in social and economic wellbeing across generations makes redistributive policy design extremely challenging. Governments largely focus on individuals – not families – and attempt to bring about social change by taxing one group (the advantaged) and transferring to another (the disadvantaged). However, "there is little support for the claim that untargeted income transfer policies to poor families significantly boost child outcomes" (Heckman and Mosso 2014 p. 2). Thus, it is important that we look beyond traditional tax-and-transfer programs to find new approaches to supporting disadvantaged families. The U.K. is responding by undertaking an independent review of poor children's life chances in an attempt to identify policy options (Field 2010), while in New Zealand and Australia social safety nets are being redesigned to make greater investments in people who have the highest chances of experiencing life-long disadvantage. The goal is to not only reduce the fiscal burden of social assistance, but also to increase economic efficiency by ensuring that everyone's capabilities are productively utilized. To this end, it is crucial to understand the mechanisms underpinning intergenerational persistence in social and economic welfare (Corak 2006; Black and Devereux 2011).

The objective of this paper is to examine the factors underlying intergenerational disadvantage by analyzing variation in the degree of generational correlation across different social assistance payments. We focus our study on the Australian safety net because it provides a particularly interesting case for studying the issues at hand. Australian social policy is determined at the national level under the auspices of several key policy departments; it is then administered by the Department of Human Services (DHS) through a single central agency known as Centrelink. The advantage of these institutional arrangements for our purposes is that they result in DHS maintaining an administrative database that includes payment records for the universe of all Australians receiving any form of social security payment from the government. Some of these payments can be characterized as social assistance (welfare); others have either no or only a weak income test, making them nearly universal for families with children. We use administrative social security (Centrelink) records linked over time and within families; giving us detailed social assistance trajectories – across the entire social safety net – for a birth cohort of young adults and their families over an 18-year period. Our strategy is to exploit variation in the degree of generational correlation across social programs – which differ in their target population and eligibility rules – to draw conclusions about how disadvantage is transmitted from parents to children.

Our work is an important extension of the literature that seeks to isolate the mechanisms behind social and economic mobility. Researchers have analyzed heterogeneity in the degree of intergenerational mobility across time (e.g., Gottschalk 1996; Beaulieu et al. 2005; Ekhaugen 2009); geographic areas (e.g., Corak 2006, 2013; Chetty et al. 2014); or family structure (e.g., Björklund et al. 2006, 2007) to rule some mechanisms into the possibility set and others out. We are the first to address this issue by exploiting disparity in intergenerational mobility across social assistance programs. In effect, we use the targeted nature of various social assistance programs – each designed to address different forms of disadvantage – to draw inferences about the process through which social and economic disadvantage is passed from Australian parents to their children. Differences in intergenerational mobility across the extensive (simple receipt) and intensive (total dollars) margins of

social assistance highlight the effects of sustained exposure to disadvantage; while our single-country analysis effectively controls for the broader institutional context (e.g., labor markets, health and educational systems, social norms).

Importantly, we circumvent many of the data limitations that have plagued researchers in the past. Previous studies demonstrate the sensitivity of intergenerational mobility estimates to the way that they are constructed. Short observation windows (Page 2004; Mazumder 2005) and attenuation bias due to measurement error in the outcomes of both generations (Solon 1992; Zimmerman 1992; Bowles and Gintis 2002) or the use of noisy proxies (e.g., income, occupation, education) to capture social and economic status (Clark and Cummins 2015) both lead to smaller estimates of intergenerational persistence – thus overstating social and economic mobility. Estimates may also be subject to recall bias as many people find it difficult to accurately report the nature of the benefits that they have received (Pepper 2000). Our data capture the universe of Australians receiving social assistance. They are drawn from the Australian government's administrative system and span an 18-year period allowing us to avoid any biases associated with measurement error, recall issues, sample attrition, or short study periods. Our large sample sizes make it possible to precisely estimate differences in economic mobility across narrowly-defined benefit types.

Our research contributes to the broader debate on whether the playing field is uneven; that is, whether equality of opportunity is becoming simply an elusive goal.[1] Equality of opportunity is often described as "seeking to offset differences in outcomes attributable to luck, but not those differences in outcomes for which individuals are responsible" (Roemer and Trannoy 2016 p. 1289).[2] Importantly, measures of generational correlations are in and of themselves not very helpful in forming judgements about the extent to which children face equal opportunities. Sorting this out requires that we distinguish the influence of differential circumstances (luck) – for which people should be compensated – from the influence of differences in personal choices (effort) – for which they should not (see Corak 2013; Jusot

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[1] Chetty et al. (2014) argue that the consequences of the birth lottery are more important today than they were in the past.
[2] Roemer and Trannoy (2016) discuss the philosophical origins of equality of opportunity – as distinct from equality of outcomes – as a principle of social justice.

et al. 2013). We argue that some social programs are primarily designed to insure people from bad luck (e.g., disability benefits); others (e.g., unemployment benefits, parenting payments) also reflect important choices that people have made. Understanding how generational correlations vary across social assistance programs is therefore useful in distinguishing the relative importance of circumstances versus choice in intergenerational disadvantage.[3]

Administrative data linking the receipt of social assistance across generations – such as we analyze here – are rare (Corak 2006; Dahl et al. 2014; Mitnik et al. 2015) – yet they are proving to be very powerful. In the U.S., researchers are using administrative data to develop new insights into social and economic mobility (e.g., Mazumder 2005; Chetty et al. 2014; Johnson et al. 2015), while the Australian and New Zealand governments are exploiting administrative data to conduct actuarial analyses of people's statistical risk of long-term benefit use in the hopes that targeted investments (social interventions) might reduce the cost of providing social assistance (Caspi et al. 2016; Fraser-Jones and Tabarias 2016; PWC 2016). Our work investigates mobility across the entire social safety net – not simply an isolated program – thus offering a broad perspective on what it means to be disadvantaged. Socioeconomic disadvantage is about more than simply having low income; it is also characterized by "poverty of experience, influence, and expectation" (Corak 2006 p. 171).

We find that young people are not only more likely (1.8 times) to need social assistance if their parents have a history of receiving social assistance; they also need more intensive support, receiving an additional $12,000 of social assistance over an 8-year period. The intergenerational correlation is particularly strong in the case of disability payments, payments for those with caring responsibilities, and parenting payments for single parents. Parental disability and single parenthood are the clearest pathways through which disadvantage is being passed from Australian parents to their children. In contrast, other forms of disadvantage, in particular those stemming from parents' poor labor market outcomes, seem to be easier for young people to overcome. This suggests that parental disadvantage

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[3] See Mahler and Ramos (2017) who discuss the alternative approaches economists have used to operationalize the notion of equality of opportunity.

may be more harmful to children's later life outcomes if it is more strongly driven by circumstances rather than personal choice.

A BRIEF REVIEW OF THE ISSUES

Social scientists have a long tradition of demonstrating that socioeconomic status is passed from parents to their children. Intergenerational correlations have been observed in numerous domains including in economic resources (wealth, earnings, and income); educational attainment (e.g., Björklund and Salvanes 2011); health status (e.g., Black and Devereux 2011; Thompson 2014); financial decisions (e.g., Li 2014; Kriener et al. 2016; Frimmel et al. 2017); and consumption patterns (e.g., Charles et al. 2014). The existence of intergenerational relationships in numerous – often quite specific – domains indicates that many factors may be responsible for tying children's life chances to the family circumstances into which they are born.

If children "largely 'inherit' their parents' socioeconomic status" (d'Addio 2007 p. 68), then it is not particularly surprising that there is also an intergenerational link in welfare dependency.[4] Research has centered on estimating the within-benefit correlation in social assistance; that is, the extent to which adult children are more likely to receive a particular benefit if their parents received the same benefit while they were growing up. Early evidence of intergenerational welfare dependency in the United States comes mainly from the Aid to Families with Dependent Children (AFDC) program which between 1935 and 1996 provided basic income support to low-income families – primarily single mothers – raising dependent children. The general conclusion is that children growing up in AFDC-reliant families had a substantially higher probability of receiving AFDC themselves (see Gottschalk 1992; Moffitt 1992; Page 2004 for reviews).[5] More recent evidence demonstrates that intergenerational

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[4] For reviews of the literature on the intergenerational transmission of socioeconomic status generally see Solon (1999, 2002); Corak (2006); d'Addio (2007); and Black and Devereux (2011). For reviews of the literature on intergenerational welfare receipt see Moffitt (1992); Page (2004); and Black and Devereux (2011).

[5] Evidence of an intergenerational correlation in AFDC participation was in part the impetus for a major reform of U.S. welfare programs – the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996 – which

reliance on social assistance is not simply a U.S. phenomenon. Disability benefits are correlated across generations in Norway (Bratberg et al. 2015; Dahl et al. 2014) as well as in the United States (Deshpande 2016). Sons' receipt of unemployment insurance is correlated with that of their fathers in both Canada and Sweden (Corak et al. 2004), while there is evidence of an intergenerational correlation in social assistance (income support) in Québec (Beaulieu et al. 2005) and the Nordic countries (Sweden, Finland, Norway) (Stenberg 2000; Moisio et al. 2015).

In the first instance, these within-benefit correlations reflect an intergenerational link in the specific circumstances – e.g., having dependent children, being unemployed, becoming disabled – that lead people in low-income families to be eligible for particular programs. At the same time, there is a broader institutional context; families, education and health systems, labor markets, and tax and transfer policy all interact to drive the extent to which children's opportunities and outcomes depend on their family background (Corak 2013). Consequently, the way that social and economic policy is designed, delivered, and funded matters for intergenerational mobility (Solon 2004; d'Addio 2007).

From a policy perspective, it is therefore important to distinguish between "poverty traps" and "welfare cultures". Poverty traps arise from an intergenerational correlation in low income which – because welfare eligibility is means-tested – can produce an intergenerational correlation in welfare receipt. A welfare culture, sometimes referred to as a "welfare trap", occurs when some aspect of the social assistance system itself leads parental welfare receipt to be associated with children's welfare receipt.[6] Poverty traps argue for a focus on poverty itself, while welfare cultures suggest a redesign of the way that social assistance is delivered.

Isolating the influence of social assistance from the influence of poverty is not easy, however. The most compelling approach is to exploit experimental variation in access to social assistance within a group of equally disadvantaged families. Dahl et al. (2014), for example, use the random assignment of Norwegian disability insurance (DI) applicants to appeal judges – who systematically differ in their

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targeted the "culture of welfare". The legislation refers in its findings to the fact that "children born into families receiving welfare assistance are 3 times more likely to be on welfare when they reach adulthood than children not born into families receiving welfare" (Government Printing Office 1996).

[6] Levine and Zimmerman (1996) provide an excellent discussion of these issues.

leniency – to demonstrate that granting parents access to disability benefits increases their adult-children's participation in the DI system over the next five years by six percentage points. Similarly, Dahl and Gielen (2016) find that Dutch children of parents who had their disability benefits cut or stopped after a major policy reform are less likely to receive disability benefits themselves as adults. In contrast, Edmark and Hanspers (2015) estimate the effect of short-term welfare spells in Sweden on children's welfare receipt in adulthood. Although there is a substantial intergenerational correlation in welfare dependency, the authors find no evidence of a causal impact once they account for unobserved heterogeneity using sibling fixed effects.[7] The range of settings, like these, in which experimental variation in social assistance can be combined with information on intergenerational benefit receipt has been quite limited, however. Experimental estimates of the impact of parental welfare receipt on their adult children also usually do not resolve the "black box problem"; they provide little guidance about the processes generating any generational link in social assistance.

Researchers have also turned to studying differentials in the extent of intergenerational income persistence and welfare dependence as a way of understanding the mechanisms through which socioeconomic disadvantage is transmitted across generations. Evidence of substantial geographic variation in economic mobility, for example, highlights the importance of the institutional context – families, education systems, labor markets, and public policy generally – in under-pinning children's long-term success. Sons' receipt of unemployment benefits more closely mirrors that of their fathers in Canada, which operates an unemployment insurance system, than in Sweden, where unemployment benefits are an element of labor market adjustment policy (Corak et al. 2004). Moreover, the share of parents' earnings advantage that is passed on to their children differs across wealthy OECD countries (Corak 2006) and there is disparity in economic mobility across geographic areas within the United States where welfare policy is a state responsibility (Chetty et al. 2014).

Others have used variation in intergenerational mobility across different family structures to illustrate the relative importance of pre- and post-birth environments in the transmission of social and

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[7] Blank (2002), Moffitt (2003) and Grogger and Karoly (2005) review the effects of U.S. welfare reform.

economic advantage. In particular, Björklund and his co-authors exploit Swedish data that link adopted children to their biological and adoptive parents to differentiate between pre-birth factors (influence of biological parents) from post-birth factors (influence of adoptive parents). They find that both contribute to intergenerational earnings and education transmissions (Björklund et al. 2006) and to the intergenerational transmission of socioeconomic status more generally (Björklund et al. 2007).

Similarly, variation over time in the relationship in children's and parent's outcomes has been used to assess the potential for intergenerational disadvantage to be characterized as a causal process rather than merely a spurious correlation. In his seminal paper, Gottschalk (1996) presents the conditions under which the correlation between daughters' current and mothers' future AFDC receipt captures correlation in the determinants of AFDC receipt (i.e., heterogeneity). Comparing this to the overall intergenerational correlation in welfare receipt sheds light on the potential role of causal influences. Gottschalk concludes that some component of the intergenerational relationship in AFDC receipt is causal. Beaulieu et al. (2005) apply Gottschalk's method and confirm the existence of a significant causal link in parents' and children's reliance on social assistance in Québec, while Ekhaugen (2009) finds that the causal link in intergenerational unemployment in Norway is statistically insignificant using both the Gottschalk approach and sibling fixed-effects estimation.

In short, disparity in the extent of intergenerational persistence has proven to be useful in isolating the pathways linking socioeconomic disadvantage across generations. We make an important contribution by being the first to address this issue using variation in intergenerational welfare dependence across multiple, highly targeted, social programs within a single institutional context.

AUSTRALIAN SOCIAL ASSISTANCE

Australia is characterized by a regulated labor market with high minimum wages (Bray 2013); a health system that provides universal health care through a combination of public and private insurance (Glover 2016); an education system with a high degree of choice, privatization, and competition (Perry and Southwell 2014); and a social safety net with low, essentially flat-rate, entitlement levels that

provide universal cash benefits to those in most need (Whiteford 2010). Income mobility in Australia appears to be lower than that in much of Europe, but greater than that in the United States (d'Addio 2007; Leigh 2007; McLachlan et al. 2013; Mendolia and Siminski 2016).

The primary purpose of Australia's social security system is to provide people with a 'minimum adequate standard of living' (Australian Treasury 2010 p. 485). The 1991 Social Security Act provides the legislative basis for the social security system and social security law is administered by DHS through Centrelink. Responsibility for social policy is shared across a number of departments, including the Department of Social Services (DSS), the Department of Education and Training, and the Department of Employment. Evidence of intergenerational disadvantage first emerged in Australia in the late 1990s when Centrelink data began to be linked across generations. Policymakers in DSS were the first to identify that young Australians in welfare-dependent families were experiencing many adverse outcomes, the intensity of which increased with the extent of parental disadvantage and welfare dependence (McCoull and Pech 2000; Pech and McCoull 2000).

The Australian social security system is nearly universal for families with children, with some payments such as the Child Care Benefit having no income test at all and others, such as the Family Tax Benefit, being denied only to families in the top quintile of the income distribution.[8] At the other extreme are social assistance (welfare) payments that are directed towards low-income parents (mainly single parents) or unemployed individuals which are also subject to income, asset and/or activity tests. Our focus is exclusively on social assistance. Unlike the case in the United States, the Australian social assistance system delivers benefits to a broad cross-section of the working-age population through one of several core payments outlined in Table 1. Disabled individuals (over the age of 16) receive a *Disability Support Pension* (DSP), while those who have the responsibility of caring for an individual with a severe disability can receive the *Carer Payment* (CP). Low-income families with dependent children receive parenting benefits. Single-parent families with at least one child less than 8 years old are eligible for *Parenting Payment Single* (PPS), while couple-headed families with children under the

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[8] To place these payments in context, similar benefits in the United States are provided to families through the tax system in the form of standard deductions for dependent children and child care rebates.

age of 6 are eligible for *Parenting Payment Partnered* (PPP). Unemployed individuals (over the age of 22) meeting certain activity tests receive unemployment benefits in the form of *Newstart Allowance* (NA).[9] Finally, *Youth Allowance Jobseeker* (YAJ) provides support to young adults (under the age of 22) who are unemployed.[10]

Table 1 Here

Australian social assistance is highly targeted. Australia ranks fifth lowest in the OECD in terms of the proportion of gross domestic product spent on public social cash transfers (OECD 2014a), but close to 80 percent of public social cash spending occurs through income and asset-tested benefits – a rate that is nearly three times that in the U.S. and U.K. (OECD 2014b). All of Australia's social assistance payments are income and asset tested. Unemployment and parenting benefits are also subject to activity tests (e.g., seeking work, training, volunteering) (see Table 1). Parenting and carer payments disproportionately flow to women, however, all other benefits are largely gender-neutral. Consequently, the rate of social assistance receipt among working-age women (36.3 percent) is only 5.6 percentage points higher than that among working-age men (30.7 percent) (Tseng and Wilkins 2003, Table 4).

DATA

Australian social security (Centrelink) records provide high-frequency payment information for the universe of Australians receiving a broad range of social security payments from the government (see above). Our project relies on the 2014 version of the Transgenerational Data Set (TDS) constructed by DSS.[11] Specifically, Centrelink records were used to identify all young people born between October 1987 and March 1988 who ever had contact with the social security system between 1993 (age 5-6) and

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[9] In contrast to Canada and the United States, which operate unemployment insurance systems, unemployment benefits in Australia are a key element of the social assistance system and are paid out of general tax revenue.

[10] Although Youth Allowance also supplements the incomes of young adults who are studying or training – and hence is considered to be a social assistance payment by the Australian government – given our focus on social and economic disadvantage, we have chosen to report results which exclude Youth Allowance for students and apprentices.

[11] Multiple versions of the TDS have been constructed over the years. The initial TDS was constructed in the 1990s and was the basis for the early work of DSS staff on intergenerational disadvantage (McCoull and Pech 2000; Pech and McCoull 2000). In the early 2000s, a second version of the data (TDS2) was created and matched to survey data as part of the Youth in Focus (YIF) project which ended in 2008 (Breunig et al. 2009). In 2014, the TDS2 data were extended (referred to as TDS2-E) to include updated administrative records for the period 2008-2014. We utilize TDS2-E data.

beginning of 2014 (age 25-26). Young people are in the administrative data if they receive benefits themselves. Most, however, are in the data because a family member (usually a parent) received at least one Centrelink payment at some point between 1993 and 2005 (before they turned 18) which depended in part on his or her relationship to the youth. Comparing the number of young adults in these administrative data to census data suggests that over 98 percent of young people born between October 1987 and March 1988 are included in the TDS data (Breunig et al. 2009). Thus, we can link the social assistance receipt of young adults (age 25-26) to that of the families in which they grew up. In total, the TDS data includes 126 million fortnightly payments by Centrelink over the 1996-2014 period. Of these, 29 percent are means-tested social assistance payments, with the remaining 71 percent being other types of transfer payments that need not be income- or asset-tested.

Matching Youths and Parents

Our analysis is based on the cohort of individuals born between October 1987 and March 1988 who we refer to as "youths" or "young people". We wish to link youths to their parents; however, we do not observe biological relationships in our data. Instead, we observe the person who had the primary caring responsibility for the youth at every point in time while he or she was growing up. We use this information to identify the person with the longest duration of primary care responsibility while the youth was a legal minor (i.e., before age 18). In the case of ties, we use an algorithm based on gender and age that attempts to identify mothers. This allows us to match a unique primary carer to each youth who we refer to as the "parent". In prior research using a subset of our data linked to survey data, this strategy successfully identified biological mothers (biological parents) in 96.5 (98.6) percent of cases (Breunig et al. 2009). Our estimation is based on 124,285 unique matched youth-parent pairs.[12]

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[12] Summary statistics about the typical payment and family structure of Social Assistance recipients in our data can be found in Tables A.1 and A.2 in the Appendix.

Social Assistance Measures

Parental social assistance receipt captures any payments made between June 1, 1996 – when the youths are eight years old – and the youths' 15th birthday (October 1, 2002 – March 31, 2003) when they become eligible for social assistance in their own right. We only consider payments occurring while the parent was actually in primary care of the youth. As there is some ambiguity about whether payments to youths aged 15 – 17 are best thought of as payments to the young person or his or her family, we adopt a conservative approach and construct measures of the social assistance youths receive between their 18th birthdays and the end of our data window (January 2, 2014) when they are 25 - 26 years old.

Using our administrative data, we construct indicator variables separately for youths and parents for the receipt of: i) each specific social assistance payment; and ii) any social assistance irrespective of type. It is important to note that our indicators for specific social assistance payments are not mutually exclusive as young people and their parents may receive different benefits at different points in time. We add depth to the analysis by differentiating between two types of Disability Support Pension (DSP) payments: i) those for which one of the underlying conditions is poor mental health (DSP-M); and ii) those based only on physical conditions (DSP-P). In addition to these indicator variables, we also sum payments over time to retrieve the total benefits received (in dollars).[13] Summary statistics are provided in Table 2.

Table 2 Here

We find that approximately half of parents receive some form of social assistance between the youth's 8th and 15th birthdays. The average parent on social assistance receives about $45,000 in total during the youth's childhood and adolescence, spending three and a half years on social assistance. Fully 44.5 percent of young people receive some form of social assistance between the time they turn 18 and January 2014 (age 25 – 26). On average, young people on social assistance receive about $34,000 and spend just over two years and four months on social assistance over this period. Parents are most likely to receive parenting payments (PPP and PPS), while youth are most likely to receive

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[13] All dollar amounts are reported in 2013 constant Australian dollars (AUD).

unemployment payments in the form of YAJ and NA. Conditional on receiving payments, DSP ranks among the most intensive form of social assistance in terms of both total dollars received as well as benefit duration for both parents and young people.

EMPIRICAL APPROACH

Conceptual Framework

Drawing policy conclusions from patterns in the receipt of social assistance requires a firm understanding of what is being measured; or more accurately, that we clearly understand the counter-factual. A positive intergenerational correlation in welfare dependence does not imply that poor children would have been better off had their parents not received social assistance. It is not only that correlation does not imply causation; though that is certainly true. The difficulty is that intergenerational correlations typically compare the outcomes of children who do and do not grow up in welfare-reliant households with no (or only partial) controls for the underlying disadvantage that led to the need for welfare in the first place. This implies that estimates of social assistance typically confound the beneficial effects of additional financial resources with the harmful effects of (uncontrolled) socioeconomic disadvantage.

It is not surprising, therefore, that – even after accounting for total family income – welfare benefits during childhood are associated with lower adult earnings, while family income from earnings or assets is associated with higher adult earnings (e.g., Hill and Duncan 1987; Mayer 1997; Corak and Heisz 1998). Although an income source, social assistance is also linked to broader experiences of disadvantage (e.g., parental disability, single-headed households) in ways that market income is not. Once children in welfare-reliant households are compared to equally disadvantaged children whose families did not receive welfare, there is little evidence that parental social assistance has a detrimental effect on children (Levine and Zimmerman 2005). Indeed, there is evidence of beneficial effects. Hoynes et al. (2016), for example, find that access to food stamps in childhood results in a significant

reduction in metabolic syndrome (a set of conditions including obesity, high blood pressure, heart disease, and diabetes) and, for women, an increase in economic security.

We will be unable to identify the effect of childhood poverty separately from the family circumstances (e.g., unemployment, family breakdown, parental disability, etc.) that may have produced it. Consequently, we will consider various social assistance payments to be markers of specific types of disadvantage rather than income streams, allowing us to shed light on the intergenerational persistence in different family circumstances.[14]

Empirical Strategy

Our empirical strategy is to compare a series of generational correlations across social programs to identify the following: i) the parental social assistance payments most likely to result in higher rates (greater intensity) of social assistance receipt among adult children; ii) the extent to which the intensity of parental social assistance drives youth outcomes; and iii) the specific pathways through which parental and youth social assistance are linked. This allows us to infer the mechanisms underpinning intergenerational disadvantage and the extent to which there is equality of opportunity.

Variation across payment types in the degree of generational mobility is particularly useful in understanding the mechanisms underlying intergenerational disadvantage. Australian social assistance payments fall into three main categories: i) health-related benefits (DSP, CP); ii) parenting benefits (PPP, PPS); and iii) unemployment benefits (NA, YAJ). A high correlation in parents' and children's health-related benefits, for example, indicates that poor health is important in linking socioeconomic disadvantage across generations. In contrast, a high intergenerational correlation in unemployment or parenting benefits (which respond to people's job search and fertility decisions) points to the role of labor market outcomes and family structure in decreasing intergenerational mobility.

Variation in generational mobility across payment types is also useful in drawing inferences about equality of opportunity. First, parental social assistance contributes to the "circumstances" that shape the life chances of young people. Smaller generational correlations for some payments relative to

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[14] See also Weitoft et al. (2008) who make a similar distinction between markers of disadvantage and income streams.

others point to circumstances in which youths may find it easier to overcome childhood disadvantage with increased effort. Second, social assistance payments differ in the extent to which they reflect personal choice versus circumstances. Disability benefits are largely driven by people's underlying health conditions (circumstances), while unemployment benefits are more closely linked to people's decisions about education, training, prior experience, job search, etc. (personal choice). Parenting payments reflect partnering and fertility behavior which can be viewed as capturing both circumstances and personal choice. It is important to note that we are not arguing that circumstances (e.g., macroeconomic conditions) play no role in driving unemployment benefits. Nor are we claiming that there is no capacity for personal choice (e.g., smoking behavior) to affect health-related benefits.[15] We are, however, of the view that personal choice and circumstances are not equally important drivers of health-, parenting- and unemployment-related disadvantage. To the extent that this is true, comparing intergenerational correlations across payment types also sheds light on the relative importance of circumstances versus personal choice in understanding intergenerational disadvantage.[16]

Lastly, we use the eligibility rules for certain social assistance programs to draw inferences about young people's life course trajectories; unemployed youths receive YAJ only until the age of 22, qualifying for NA afterwards. Any disparity in the generational correlations between YAJ and NA thus point to a differential effect of family social assistance on outcomes in late adolescence (18 to 22) versus early adulthood (23 to 26).

Youth Social Assistance and the Nature of Parental Benefits

We begin by focusing on two related questions. Which parental benefits are associated with the highest rate of social assistance receipt among their adult children? Are these the same benefits that are associated with the greatest intensity of youth social assistance? To answer these questions, we estimate the generational correlation in social assistance receipt for parents and their adult children using two

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[15] Mental health may be the result of individual effort in, say, avoiding substance abuse and addiction (Jusot et al. 2013). Still, mental disorders are medical conditions often thought to affect the ability to be responsible for one's decisions.

[16] Jusot et al. (2013) adopt a similar reasoning when using variance decomposition methods to isolate the relative contributions of effort and circumstances to health inequality.

alternative models. First, we model the likelihood that young people receive any social assistance. Specifically,

$$\Pr(ASSISTANCE_i^y = 1) = \beta_j BENEFIT_{ij}^p + \gamma_j' X_i + \varepsilon_{ij}, \tag{1}$$

where i indexes youth-parent pairs, p denotes parents, y denotes youths and $ASSISTANCE_i^y$ is an indicator that equals one if the youth received any social assistance payments between the ages of 18 and 26; and 0 otherwise. Moreover, $BENEFIT_{ij}^p$ is an indicator that equals one if the parent ever received any social assistance of type j before the youth turned 15; and zero otherwise. The vector X_i denotes a parsimonious set of controls including a constant, indicators of gender and Aboriginal status for both youth and parents, and indicators of parents' age at birth to control for life-cycle effects. Finally, ε_{ij} is an independently-distributed error and all other terms are parameters to be estimated.

Equation (1) is estimated separately for each payment type j (including any social assistance receipt) using a linear probability model. The results are reported in the form of conditional predicted probabilities; that is, the probability that the youth received any social assistance given their parent did and did not receive benefit j (see Table 3). These predicted probabilities are obtained by estimating Equation (1) and averaging its fitted values evaluated at $BENEFIT_{ij}^p = 1$ and $BENEFIT_{ij}^p = 0$, respectively. The difference in these predicted probabilities equals $\widehat{\beta}_J$; smaller differences imply lower intergenerational correlations. We refer to these differences as "generational correlations" in social assistance receipt.[17]

Second, we repeat the analysis focusing on the total dollar amount youths receive in social assistance ($TOTAL_i^y$). Specifically,

$$TOTAL_i^y = \bar{\beta}_j BENEFIT_{ij}^p + \bar{\gamma}_j' X_i + \bar{\varepsilon}_{ij}. \tag{2}$$

We use our estimates to construct the predicted level of social assistance received by young people whose parents did and did not receive payment j in Table 4. Analogous to the model in Equation (1),

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[17] Following Page (2004) it is possible to use $\widehat{\beta}_J$ to retrieve intergenerational correlation coefficients that account for the disparity in the distribution of social assistance in parents' and children's generations. For ease of interpretation, however, we report the results in the form of conditional predicted probabilities. We report the underlying regression results in tables A.3 to A.5 in the Appendix.

the coefficient $\widehat{\bar{\beta}_J}$ is the difference in the predicted level of social assistance for these two groups of young people. Equation (1) allows us to analyze the relationship between parental benefits and the incidence of social assistance among young people, while Equation (2) allows us to investigate how the intensity of youth social assistance varies with the type of benefits parents received.

Youth Social Assistance and the Amount of Parental Benefits

To what extent is young people's reliance on social assistance linked to the amount of social assistance their parents received? This question can be addressed by decomposing our generational correlations into two components: i) an extensive margin (i.e., whether parents receive any social assistance); and ii) an intensive margin (i.e., how much social assistance parents received). This results in the following extension of the estimation models given in Equations (1) and (2):

$$\Pr(ASSISTANCE_i^y = 1) = \beta_j^E BENEFIT_{ij}^p + \beta_j^I(BENEFIT_{ij}^p * TOTAL_{ij}^p) + \tilde{\gamma}_j' X_i + \tilde{\varepsilon}_{ij} \quad (3a)$$
$$TOTAL_i^y = \bar{\beta}_j^E BENEFIT_{ij}^p + \bar{\beta}_j^I(BENEFIT_{ij}^p * TOTAL_{ij}^p) + \tilde{\bar{\gamma}}_j' X_i + \tilde{\bar{\varepsilon}}_{ij}, \quad (3b)$$

where $TOTAL_{ij}^p$ is a measure of the total amount of assistance received by the youth's parent for benefit type j. In the above model, the effects of a one-unit change in the amount of benefit j that parents receive on the incidence and intensity of youths' social assistance are given by $\widehat{\beta_j^I}$ and $\widehat{\bar{\beta}_j^I}$, respectively. Correspondingly, $\widehat{\beta_j^E}$ and $\widehat{\bar{\beta}_j^E}$ capture the changes in youth outcomes that are associated with parents receiving a very small amount (essentially zero) of benefit j.

The Pathways Linking Parental and Youth Social Assistance

Which are the most important pathways linking parental and youth social assistance? We answer this question by estimating the effect of parents' receipt of specific payments on the type of social assistance youths receive. Specifically, we construct an indicator $BENEFIT_{ik}^y$ that takes the value one if the youth receives payment k; and zero otherwise. We then estimate the following equation:

$$BENEFIT_{ik}^y = \check{\beta}_{kj}BENEFIT_{ij}^p + \check{\gamma}_{kj}' X_i + \check{\varepsilon}_{ikj}. \tag{4}$$

As before, for each of these regressions we report the predicted probability of youths receiving benefit k if their parents did and did not receive benefit j (Table 5). The difference between these conditional probabilities identifies $\widehat{\beta}_{kj}$, the cross-payment generational correlation in social assistance.[18]

RESULTS

Youth Social Assistance and the Nature of Parental Benefits

We begin by considering the way that youths' receipt of any social assistance – regardless of its form – between the ages of 18 and 26 varies with the type of benefits (if any) their families received while they were growing up. Table 3 shows the predicted incidence (in percentages) of youths receiving any social assistance given that their parents did and did not receive specific types of social assistance while they were growing up. Our preferred estimates account for differences in demographic characteristics (Columns 4 and 5), though in most cases they are very similar to our unconditional estimates (Columns 1 and 2). These estimates allow us to compare the ratio in social assistance receipt between youths whose parents received a specific benefit and youths whose parents did not receive the same payment (Columns 3 and 6).

Table 3 Here

There is an intergenerational correlation in social assistance. Young people have a 58.0 percent chance of receiving social assistance between the ages of 18 and 26 if their parents received any social assistance while they were growing up (Column 5). Given that the baseline probability of social assistance receipt is 31.8 percent for young people with no family history of social assistance (Column 4), this estimate implies that young people's likelihood of receiving social assistance is nearly twice (1.8 times) as high if their parents received social assistance than if they did not. In comparison, Page (2004 p. 231) estimates that U.S. women are 2.8 times as likely to receive welfare if their mothers also received welfare, while Stenberg (2000, Table 1, p. 231) estimates that in Sweden the likelihood of

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[18] All our parameter estimates are very precisely estimated. To minimize the notational burden on the tables, we only provide measures of our estimates' uncertainty in the Appendix.

adults receiving social assistance is approximately 2.5 times higher if their families received social assistance while they were growing up.

The extent to which social assistance is linked across generations depends on the nature of those benefits, however. The relationship is particularly strong in the case of single-parent payments (PPS), disability payments (DSP), and carer payments (CP): The likelihood of youths receiving social assistance is 1.6 times larger if their parents received any of these three payments than if they did not. In contrast, partnered-parent payments and unemployment payments are associated with rates of social assistance receipt among young people that are only 1.3 – 1.4 times higher.

It is important to note that these within-payment generational correlations ignore the influence of cross-payment correlations in parents' and youths' social assistance receipt. Some parents who did not receive single-parent payments (PPS), for example, did receive other forms of social assistance. We can shed light on how much this matters by considering the outcomes of young people whose parents never received any social assistance. Less than one third (31.8 percent) of youths without any family history of social assistance receive social assistance benefits themselves between the ages of 18 and 26. The rate of social assistance for young people growing up on PPS is nearly twice (1.9 times) as high – much higher than the 1.6 ratio that results when the comparison is to youths whose families did not receive PPS. Similar patterns arise when considering other social assistance types.

We turn now to consider whether there is any evidence that the intensity of youth social assistance varies with the type of benefits their families received before they turned 15. To this end, we replicate the above analysis focusing instead on the total amount of social assistance that young people received between the ages of 18 and 26. Results are presented as predicted total dollar amounts given that parents did and did not receive social assistance (see Table 4).

Table 4 Here

Young people with no family history of social assistance receive on average $9,190 (Column 4) in social assistance payments between the ages of 18 and 26. In contrast, social assistance payments during these ages average more than $20,000 (Column 5) for those young people whose parents also

received social assistance at some point before they turned 15. This more than two-fold gap in payments indicates that young people are not only more likely to need social assistance if their parents have a history of receiving social benefits; they also need more intensive support. This is particularly true in families receiving disability payments (DSP) or single-parent payments (PPS). Young people growing up with parents who received disability mental health payments (DSP-M), for example, receive 2.4 times the amount of social assistance as their peers growing up in families not receiving them, and four times the social assistance received by youths with no family history of social assistance at all. In contrast, unemployment (NA) and partnered-parent (PPP) benefits are less strongly linked to the intensity of youths' social benefits. Youths receive 1.5 (1.7) times as much assistance if their parents received partnered-parent (unemployment) benefits than if they did not.

Youth Social Assistance and the Amount of Parental Benefits

Thus far, we have distinguished parental social assistance only by an indicator of whether a parent received a particular benefit at all. We now turn to investigating whether the generational correlation in social assistance is related to the amount of social assistance that parents receive. To address this issue, we re-estimate our model adding a control for the amount (in dollars) of social assistance received by parents (see Equations 3a and 3b). This effectively allows us to decompose the estimated effect of parental social assistance reported in Tables 3 and 4 into its *extensive* and *intensive* margins. The former captures the effect of parents receiving an infinitesimally small amount of benefit *j,* while the latter reflects the influence of the total dollar amount of benefit *j* received. To facilitate interpretation, we present the key results graphically; the incidence of youth social assistance is decomposed in Figure 1, while the intensity of youth social assistance is decomposed in Figure 2.[19] In both cases, the blue bars reproduce outcomes for those young people whose parents' never received benefit *j* (see Column 4 of Tables 3 and 4). The extensive margin is shown in purple, while the intensive margin is shown in pink. If parental social assistance was random – and therefore unrelated to family circumstances – we would expect the extensive margin of social assistance to have no effect on youth outcomes at all. Disparity in

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[19] Complete estimation results are available in tables A.3 to A.5 in the Appendix.

the two reflects the effect of unaccounted-for differences between families that do and do not access the social safety net. Finally, the sum of the extensive and intensive margins in Figure 1 (Figure 2) equals the overall effect of parents' social assistance on the incidence of youth's social assistance in Column 5 of Tables 3 (intensity; Table 4).

We find that the chances that young people will require social assistance are more closely related to whether their parents received any social assistance at all than to the amount. Recall that the probability of youths receiving any type of social assistance is 31.8 percent if their parents did not receive social assistance and 58.0 percent if they did (see Table 3). Fully 44.0 percentage points of this 58.0 percent is explained by the incidence of parental social assistance (purple bar); in effect, a small amount of parental social assistance is associated with a substantial increase in the incidence of social assistance for young people. Only 14.0 percentage points are attributable to the intensity of social assistance parents receive (pink bar). This pattern continues to hold across social assistance types (see Figure 1). Indeed, the intensity of disability mental health payments (DSP-M) is statistically unrelated to the probability that young people receive social assistance. Thus, irrespective of the nature of parental benefits, the presence of any social assistance income in the childhood household is more important than the amount in understanding the chances that young adults receive social assistance.

Figure 1 Here

In general, the intensity of parental social assistance matters more when we turn our focus to the amount of social assistance young people receive between the ages of 18 and 26 (see Figure 2). Approximately one third of the overall effect of parental disability payments (DSP) – in particular physical disability (DSP-P) – and single-parent payments (PPS) on the amount of social assistance that young people receive is due to the intensive margin of parental social assistance. This amounts to $7,809 – $11,519 in social assistance for these payments. In contrast, the amount of social assistance that youths receive is largely unrelated to the intensive margin of disability mental health (DSP-M), carer (CP), partnered-parent (PPP), and unemployment (NA) payments. Overall, we find that the amount of social assistance a parent received explains almost half of the amount the youth receives.

Figure 2 Here

The Pathways Linking Parental and Youth Social Assistance

Thus far, our focus has been on patterns in the incidence and intensity of youths' receipt of social assistance overall. We now turn to investigating the generational correlations within and across specific social assistance benefits in order to identify the potential channels through which disadvantage is being passed from one generation to the next.

Information on the intergenerational link in specific forms of social assistance is reported in Table 5. The predicted probability that a youth receives a (column) benefit given their parent did not receive a specific (row) benefit can be found in the top panel. The corresponding predicted probabilities given families did receive specific benefits are shown in the bottom panel. Diagonal cells contain information about within-benefit correlations; off-diagonal cells capture correlations across benefit types. The first column and row correspond to the receipt of any social assistance, irrespective of its form, while subsequent rows and columns relate to specific payments.[20] In addition to the benefits considered previously, we differentiate early unemployment payments (YAJ, under the age of 22) from regular unemployment payments (NA, aged 22 and older). We focus our discussion on cell-by-cell comparisons across the top and bottom panels which shed light on the extent to which social assistance is linked across generations. If young people's social assistance were unrelated to that of their parents, we would expect the predicted probabilities in the top and bottom panel of Table 5 to be the same; that is, their ratio would be one. Higher ratios indicate greater intergenerational correlation.

Table 5 Here

Let us first consider the intergenerational relationship in disability payments (DSP). Young people are 2.8 times as likely to receive disability support payments if their parents also received disability support payments (8.8 percent, row 2, column 2, bottom panel) than if they did not (3.1 percent, row 2, column 2, top panel). This correlation stems from an increased incidence of both physical

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[20] All results control for demographic characteristics. Results in Column 1 of the top (bottom) panel are identical to those in Column 3 (4) of Table 3.

(3.0 times) and mental health-related (2.5 times) disability associated with their parents' receipt of the same benefits. Dahl et al. (2014) and Dahl and Gielen (2016) also provide evidence of an intergenerational relationship in the take up of disability benefits in Norway and the Netherlands. Moreover, the consequences of parental disability – particularly when related to mental health issues – is linked not just to higher rates of youth disability, but also a greater need for a range of social assistance payments. Young people, for example, are nearly six times more likely to have received carer payment (CP) if their parents received disability mental health (DSP-M) payments (6.7 percent) than if they did not (1.1 percent). They are fully 12 times more likely to have received a carer payment (CP) than those young people whose parents received no social assistance at all. Overall, parental disability is associated with rates of parenting payments (both single-parent (PPS) and partnered-parent (PPP)) and unemployment benefits (both early unemployment (YAJ) and regular unemployment (NA)) that are 1.4 – 1.9 times larger when families not receiving those social assistance types are the benchmark. These ratios become even larger when we compare these outcomes with those of young people in families with no history of any social assistance. Interestingly, the intergenerational relationship between parental disability (DSP) and youth unemployment (NA) is as strong as the intergenerational relationship between parental and youth unemployment.

Unlike the United States, Australia directs social assistance towards low-income families with young children irrespective of whether they are headed by single parents or couples. We find evidence that parenting benefits are linked across generations, particularly in single-parent families. Specifically, young people are 1.7 times more likely to receive partnered-parent payments (PPP) if their parents also received them. In contrast, their chances of receiving single-parent payments are 2.2 times greater (11.1 vs. 5.1 percent) when their families also receive single-parent payments. This is consistent with U.S. evidence that children of separated parents are twice as likely to become single parents themselves (McLanahan and Sandefur 1994) and that welfare benefits for single mothers are correlated across

generations (Hartley et al. 2017).[21] Unlike the case for disability payments, the intergenerational consequences of parents' receipt of PPP is largely confined to youths' increased chances of receiving parenting payments (either PPP or PPS). The incidence of disability (DSP) and unemployment (NA) payments is only 1.3 times higher if young people's parents received PPP than if they did not. In contrast, the disadvantage associated with growing up in a family receiving single parent benefits appears more pervasive and broad-based; young people are twice as likely to receive mental health related disability payments (DSP-M), and 1.5 (NA) − 2.3 (YAJ) as likely to receive unemployment benefits if their parents received single-parent payments (PPS) than if they did not.

Young people are more likely to receive social assistance in the form of unemployment benefits between the ages of 18 and 26 if their parents also received unemployment benefits. The intergenerational relationship in unemployment benefits is stronger at younger rather than older ages. Specifically, young people are 1.6 (1.3) times more likely to receive unemployment benefits before (after) age 22 if their parents received unemployment benefits while they were growing up. These estimates of the intergenerational correlation in unemployment are broadly similar to those found for men in Canada and Sweden (Corak et al. 2004 p. 255). Moreover, the generational correlation in unemployment benefits is similar in magnitude to that between parental unemployment and young people's receipt of parenting (1.5 times) and carer payments (1.8 times). In contrast, young people are only somewhat more likely (1.2 times) to receive disability payments if their parents received unemployment-related social assistance.

POLICY CONCLUSIONS

Growing up in a family on social assistance is a marker for compromised long-term development (Weitoft et al. 2008). Our results highlight that there are large intergenerational correlations across a

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[21] Research also shows that family dissolution in childhood increases the chances of divorce and fertility patterns (including non-marital and early childbirth) are often reproduced across generations (Wolfinger 2000; Barber 2001; Li and Wu 2008; Högnäs and Carlson 2012; Diekmann and Schmidheiny 2013). Both are linked to single parenthood.

range of social assistance programs and thus provide compelling evidence that social and economic disadvantage is being passed from parents to their children. We are led to a number of conclusions.

Despite Australia's universal health care system, parental disability, especially when related to mental illness or substance abuse, appears to play a substantial role in limiting young adults' life chances. The issue is not only that young people's chances of needing disability support are much greater when their parents receive disability support – raising the possibility that disability itself may be linked across generations – but also that any childhood disadvantage stemming from parental disability is strongly linked to a broad spectrum of adult disadvantage. In particular, the six-fold increase in caring responsibilities for those youth whose parents received disability mental health payments (DSP-M), suggests that young adults may now be caring for their disabled parents. Parental disability also appears to be associated with diminished labor market opportunities as evidenced by a heightened need for unemployment benefits. In fact, the intergenerational link between parents' disability and youths' unemployment is as strong as that between parents' and youths' unemployment, suggesting that disability may undermine parents' ability to invest in their children's human capital.

Family structure also matters for intergenerational disadvantage. Young adults are much more likely to experience social and economic disadvantage if they grow up in single- rather than couple-headed families receiving parenting benefits. As single-parent (PPS) and partnered-parent (PPP) payments both provide financial assistance to low-income families raising young children, any disparity in disadvantage associated with growing up on one type of parenting payment rather than the other are likely to reflect the consequences of living with one rather than two parents. These results are consistent with the voluminous literature documenting the negative consequences of growing up in a single-parent family (see McLanahan and Sandefur 1994 and McLanahan 1997 for reviews).

Other forms of disadvantage, in particular those stemming from parents' poor labor market outcomes, seem to be easier for young people to overcome. Young people are only somewhat more likely to experience social and economic disadvantage if they grow up in families receiving unemployment (NA) or partnered-parent (PPP) payments than if their families received no social

assistance at all. Moreover, parental disadvantage is more strongly related to youth unemployment between the ages of 18 and 22 than at older ages suggesting that, at least with respect to unemployment, the relative labor market outcomes of disadvantaged youth improve as they mature. Perhaps unemployment (or underemployment) imposes fewer constraints than disability does on parents' ability to invest in their children. Alternatively, activity testing parenting and unemployment benefits may help prevent the transmission of disadvantage from parents to children.

In general, it is also the case that long-term exposure to social assistance as a child does not have the compounding effects on youth disadvantage that we might expect. Young people are only somewhat more likely to require social assistance – or require more intensive assistance – as adults if their parents received benefits over an extensive rather than a trivially short period of time. The fact that what matters is not how much social assistance families receive, but rather that they receive any at all, argues against the existence of a widespread welfare culture in which values are shaped and disadvantage becomes increasingly entrenched. Moreover, the financial resources provided through Australia's myriad of social assistance programs appear to be largely successful in preventing children experiencing long-term disadvantage from falling even further behind. Given this, there is little to suggest that a large-scale redesign of the social assistance system is warranted.

At the same time, the substantial cross-program correlation in the benefits that parents and young adults receive highlights the fact that parental disadvantage can have broad ranging consequences. It is not simply the case that unemployment begets unemployment or that disability begets disability. Studies with a narrow focus on the correlation in a single benefit are likely to understate the extent of intergenerational disadvantage.

It is also apparent that the playing field is not level for all children. Young adults' fortunes are closely linked to those of the families into which they are born. Moreover, there is a clear relationship between the extent to which parental disadvantage is transferred to children, on the one hand, and the relative importance of circumstances rather than personal choice in driving that disadvantage, on the other. Intergenerational disadvantage is most evident in the case of health-related parental disadvantage

(largely attributable to circumstances) and least evident when parents experience unemployment-related disadvantage (more likely the result of personal choice). Thus, disparities in young people's outcomes are not simply the result of their – or their parents' – differential efforts; unequal opportunities also play a critical role. Greater policy effort must be devoted to leveling the playing field for children growing up in particularly vulnerable families.

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Tables

Table 1: Social Assistance Eligibility Conditions

Payment	Eligibility	Age eligibility	Activity tested
Disability Support Pension	Permanent diagnosed disability	16 to pension age	No
	Attended program support and cannot work for >15h/week for 2 years		
Carer Payment	In constant daily care for a person with severe disability/illness OR who is frail aged	none	No
	Care in private home for ≥6 months and spend no more than 25h/week away from caring		No
Parenting Payment Single	Principal carer of ≥1 child who is ≤8years old	none	Yes
Parenting Payment Partnered	Principal carer of ≥1 child who is <6years old	none	Yes
Newstart Allowance	Unemployed, looking for work, and willing to work	22 to pension age	Yes
Youth Allowance Jobseeker	Looking for full time work or doing approved activities	16 to 22	Yes

Source: Income Support Payment Description, Australian Department of Human Services.

Table 2: Average Social Assistance Receipt by Social Assistance Payment

	Ever received:	If received:	
		in dollars	in weeks
Payments to Parents (youth between 8-15 years old)			
Social Assistance	48.6%	$45,034	191
Disability Support Payments	2.2%	$45,255	182
DSP Physical	1.4%	$48,522	197
DSP Mental	0.6%	$43,461	170
Carer Payment	1.2%	$20,492	92
Parenting Payment Partnered	27.0%	$23,087	120
Parenting Payment Single	28.1%	$49,390	189
Newstart Allowance	4.4%	$11,742	49
Youth Allowance Jobseeker	0.0%	.	.
Payments to Youth (youth between 18-26 years old)			
Social Assistance	44.5%	$34,376	123
Disability Support Payments	3.2%	$101,384	294
DSP Physical	1.9%	$109,247	327
DSP Mental	1.3%	$90,961	248
Carer Payment	1.2%	$40,202	102
Parenting Payment Partnered	4.6%	$16,487	80
Parenting Payment Single	6.7%	$59,870	180
Newstart Allowance	29.6%	$17,044	64
Youth Allowance Jobseeker	25.1%	$6,855	38

TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth).

Table 3: Incidence of Youth Social Assistance

	Predicted probabilities of social assistance incidence among youth given…					
	no parental receipt	parental receipt	Ratio	no parental receipt	parental receipt	Ratio
	(1)	(2)	(3)	(4)	(5)	(6)
Social Assistance	30.2%	59.6%	2.0	31.8%	58.0%	1.8
Disability Support Pension	43.9%	71.8%	1.6	44.0%	68.3%	1.6
DSP-Physical	44.1%	72.9%	1.7	44.2%	69.1%	1.6
DSP-Mental	44.4%	72.3%	1.6	44.4%	69.1%	1.6
Carer Payment	44.2%	72.0%	1.6	44.2%	68.6%	1.6
Parenting Payment Partnered	39.5%	58.2%	1.5	40.3%	56.0%	1.4
Parenting Payment Single	36.8%	64.4%	1.8	37.8%	61.8%	1.6
Newstart Allowance	43.5%	66.8%	1.5	43.9%	59.1%	1.3
Demographics					✓	

TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth). Conditional predicted probabilities from OLS regressions, separately for each row parental payment. Underlying estimates reported in Table A.3 (Columns 1 and 2) in the Appendix.

Table 4: Intensity of Youth Social Assistance

	Predicted dollar amounts of social assistance among youth given…					
	no parental receipt	parental receipt	Ratio	no parental receipt	parental receipt	Ratio
	(1)	(2)	(3)	(4)	(5)	(6)
Social Assistance	$7,481	$23,579	3.2	$9,190	$21,774	2.4
Disability Support Pension	$14,816	$37,027	2.5	$14,875	$34,461	2.3
DSP-Physical	$14,993	$37,169	2.5	$15,033	$34,392	2.3
DSP-Mental	$15,156	$39,153	2.6	$15,172	$36,794	2.4
Carer Payment	$15,055	$35,656	2.4	$15,095	$32,505	2.2
Parenting Payment Partnered	$12,772	$22,189	1.7	$13,508	$20,196	1.5
Parenting Payment Single	$10,311	$28,090	2.7	$11,381	$25,356	2.2
Newstart Allowance	$14,563	$31,488	2.2	$14,873	$24,797	1.7
Demographics					✓	

TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth). Conditional predicted probabilities from OLS regressions, separately for each row parental payment. Underlying estimates reported in Table A.4 (Columns 1 and 2) in the Appendix.

Table 5: Cross Payment Predicted Probabilities of Youth Incidence by Parental Receipt

Probability of incidence among youth (column payment): predicted probability conditional on parental receipt (row payment) equal to 0								
	SA	DSP	DSP-P	DSP-M	CP	PPP	PPS	NA	YAJ
SA	31.8%	2.2%	1.3%	0.8%	0.5%	3.0%	4.4%	22.9%	13.0%
DSP	44.0%	3.1%	1.8%	1.3%	1.1%	4.5%	6.6%	29.4%	24.6%
DSP-P	44.2%	3.2%	1.9%	1.3%	1.1%	4.6%	6.7%	29.4%	24.8%
DSP-M	44.4%	3.2%	1.9%	1.3%	1.1%	4.6%	6.7%	29.5%	25.0%
CP	44.2%	3.2%	1.8%	1.3%	1.1%	4.6%	6.7%	29.5%	24.9%
PPP	40.3%	3.0%	1.8%	1.2%	1.0%	3.9%	6.0%	27.3%	21.3%
PPS	37.8%	2.6%	1.6%	1.0%	0.8%	3.8%	5.1%	26.0%	18.3%
NA	43.9%	3.2%	1.9%	1.3%	1.1%	4.5%	6.6%	29.2%	24.5%

Probability of incidence among youth (column payment): predicted probability conditional on parental receipt (row payment) equal to 1								
	SA	DSP	DSP-P	DSP-M	CP	PPP	PPS	NA	YAJ
SA	58.0%	4.3%	2.5%	1.8%	1.8%	6.3%	9.2%	36.7%	38.0%
DSP	68.3%	8.8%	5.6%	3.0%	5.5%	9.1%	11.8%	39.3%	46.9%
DSP-P	69.1%	8.8%	5.5%	3.0%	5.5%	9.9%	12.6%	39.3%	47.6%
DSP-M	69.1%	9.7%	6.3%	3.3%	6.7%	8.2%	10.5%	40.5%	47.4%
CP	68.6%	9.5%	6.8%	2.5%	3.9%	7.7%	11.0%	39.0%	44.8%
PPP	56.0%	3.9%	2.3%	1.5%	1.6%	6.6%	8.7%	35.7%	35.6%
PPS	61.8%	4.8%	2.7%	2.0%	2.1%	6.8%	11.1%	38.9%	42.6%
NA	59.1%	4.0%	2.2%	1.8%	2.0%	7.0%	10.4%	39.0%	39.9%

TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth). Each cell indicates the predicted probability of youth receiving a particular payment (column) conditional on parents either receiving (top panel) or not receiving (bottom panel) another particular payment (row). Basic demographic characteristics are accounted for. Abbreviations: Social Assistance (SA), Disability Support Pension (DSP), DSP-Physical (DSP-P), DSP-Mental (DSP-M), Carer Payment (CP), Parenting Payment Partnered (PPP), Parenting Payment Single (PPS), Newstart Allowance (NA), Youth Allowance Jobseeker (YAJ). Underlying estimates reported in Table A.5 in the Appendix.

Figures

Figure 1: Incidence of Youth Social Assistance and the Amount of Parental Benefits
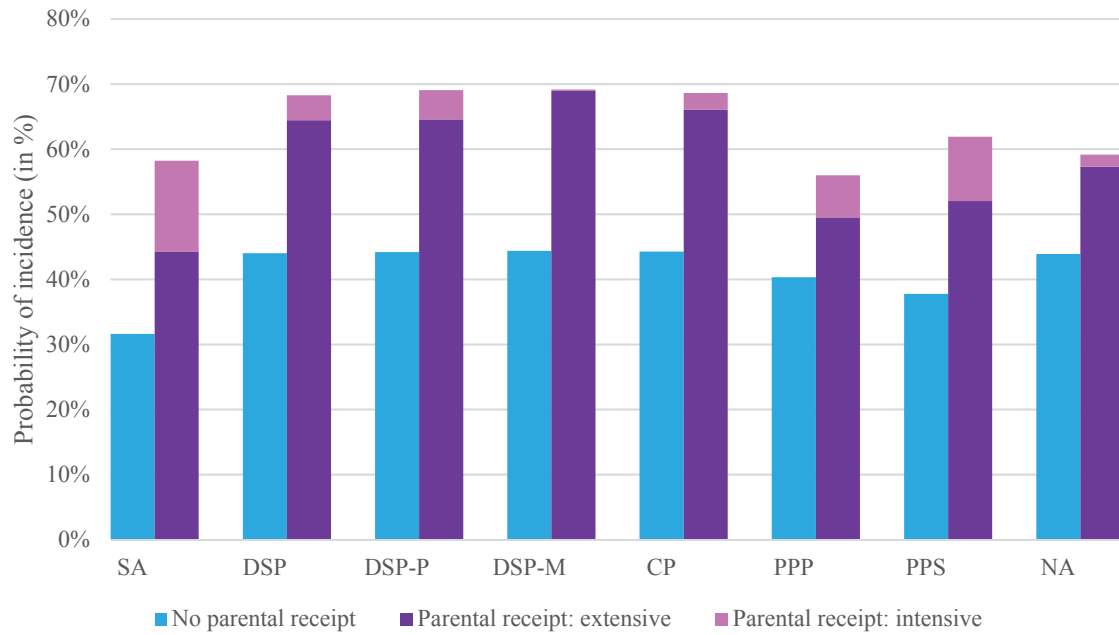
TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth). Conditional predicted probabilities from OLS regressions, separately for each parental payment as covariate. The extensive margin is computed as the predicted probability conditional on parental receipt but evaluated at zero-dollar receipt of the parents; the intensive margin is the estimated increase in probability for every additional dollar in parental receipt multiplied by the average amount among recipient parents. Underlying estimates reported in Table A.3 (Columns 3 and 4) in the Appendix.
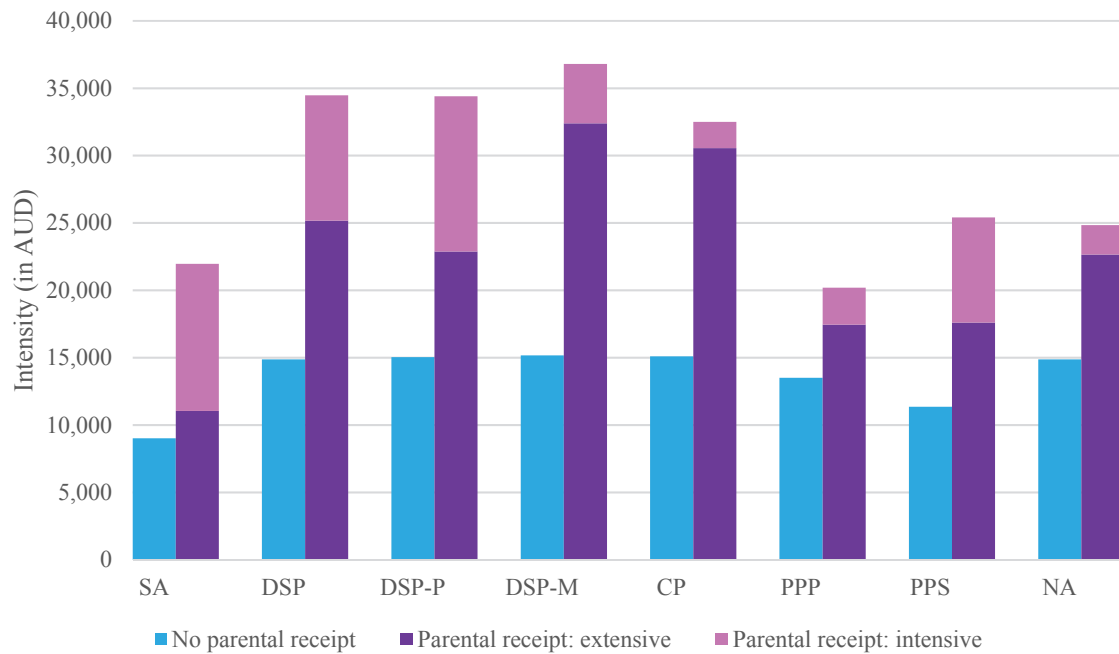
Figure 2: Intensity of Youth Social Assistance and the Amount of Parental Benefits

TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth). Conditional predicted dollar amounts from OLS regressions, separately for each parental payment as covariate. The extensive margin is computed as the predicted dollar amount conditional on parental receipt but evaluated at zero-dollar receipt of the parents; the intensive margin is the estimated increase in dollars for every additional dollar in parental receipt multiplied by the average amount among recipient parents. Underlying estimates reported in Table A.4 (Columns 3 and 4) in the Appendix.

Appendix

Table A.1: Median Amounts, Modal Family Structure, and Numbers of Payments by Social
Assistance Program

	Median amount	Family structure		Number of payments
		Adults	Children	
Disability Support Payments	$589.66	1	0	8,632,913
DSP-Physical	$574.11	1	0	5,539,568
DSP-Mental	$626.74	1	0	2,985,347
Carer Payment	$577.24	2	0	1,958,448
Parenting Payment Partnered	$446.01	2	2	4,772,534
Parenting Payment Single	$566.81	1	2	10,743,092
Newstart Allowance	$495.76	1	0	8,653,805
Youth Allowance Jobseeker	$269.47	1	0	1,455,311

TDS2-E, entire dataset, years 1996 to 2014. Median amount is per fortnightly payment and is not including
zeroes. Family structure retrieved from annual information on the modal recipient.

Table A.2: Mean Demographic Characteristics

	Mean	Std. Dev.
Youth		
Female	0.488	0.500
Aboriginal	0.043	0.202
Parents		
Female	0.923	0.266
Aboriginal	0.035	0.183
Age at birth	27.555	5.484

TDS2-E, analysis sample. 124,285 parent-youth pair
observations.

Table A.3: Underlying Estimates for the Incidence of Youth Social Assistance (Table 3), and the Incidence of Youth Social Assistance and the Amount of Parental Benefits (Figure 1)

| | Extensive | | Extensive and intensive | |
| | Receipt | Receipt | Receipt | Dollar |
	(1)	(2)	(3)	(4)
Social Assistance	0.294	0.261	0.126	0.031
	(0.003)	(0.003)	(0.004)	(0.001)
Disability Support Pension	0.279	0.243	0.204	0.009
	(0.009)	(0.009)	(0.015)	(0.003)
DSP-Physical	0.287	0.249	0.204	0.009
	(0.011)	(0.011)	(0.019)	(0.003)
DSP-Mental	0.279	0.248	0.245	0.000
	(0.016)	(0.016)	(0.027)	(0.005)
Carer Payment	0.278	0.244	0.218	0.013
	(0.012)	(0.011)	(0.017)	(0.006)
Parenting Payment Partnered	0.186	0.157	0.092	0.028
	(0.003)	(0.003)	(0.004)	(0.001)
Parenting Payment Single	0.276	0.240	0.143	0.020
	(0.003)	(0.003)	(0.005)	(0.001)
Newstart Allowance	0.233	0.152	0.134	0.016
	(0.007)	(0.007)	(0.008)	(0.004)
Demographics		✓		✓

Outcome variable: Incidence dummy for youth social assistance (regressed on parental payment)

TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth). Each cell in columns (1) and (2) contains a coefficient from a separate OLS regression of the youth Social Assistance incidence dummy on the parental row payment incidence dummy. Columns (3) and (4) contain OLS coefficients from separate OLS regressions by row of the youth Social Assistance incidence dummy on the parental row payment incidence dummy (column 3) and the parental total amount received in row payment in $10,000 (column 4). Standard errors in parentheses.

Table A.4: Underlying Estimates for the Intensity of Youth Social Assistance (Table 4), and the Incidence of Youth Social Assistance and the Amount of Parental Benefits (Figure 2)

	Extensive		Extensive and intensive	
	Receipt	Receipt	Receipt	Dollar
	(1)	(2)	(3)	(4)
Social Assistance	1.610	1.258	0.203	0.242
	(0.018)	(0.018)	(0.023)	(0.005)
Disability Support Pension	2.221	1.959	1.030	0.206
	(0.093)	(0.092)	(0.145)	(0.028)
DSP-Physical	2.218	1.936	0.785	0.237
	(0.116)	(0.114)	(0.182)	(0.033)
DSP-Mental	2.400	2.162	1.722	0.101
	(0.178)	(0.174)	(0.296)	(0.057)
Carer Payment	2.060	1.741	1.546	0.095
	(0.121)	(0.117)	(0.163)	(0.058)
Parenting Payment Partnered	0.942	0.669	0.394	0.119
	(0.023)	(0.022)	(0.029)	(0.009)
Parenting Payment Single	1.778	1.397	0.624	0.158
	(0.024)	(0.024)	(0.036)	(0.006)
Newstart Allowance	1.692	0.992	0.778	0.186
	(0.060)	(0.059)	(0.074)	(0.040)
Demographics		✓		✓

Outcome variable: Total dollar amount (in $10,000) of youth social assistance (regressed on parental payment)

TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth). Each cell in columns (1) and (2) contains a coefficient from a separate OLS regression of the youth total dollar amount in Social Assistance in $10,000 on the parental row payment dummy. Columns (3) and (4) contain OLS coefficients from separate OLS regressions by row of the youth total dollar amount in Social Assistance in $10,000 on the parental row payment dummy (column 3) and the parental total amount received in row payment in $10,000 (column 4). Standard errors in parentheses.

Table A.5: Underlying estimates for the Cross payment predicted probabilities of youth incidence by parental receipt (Table 5)

	SA	DSP	DSP-P	DSP-M	CP	PPP	PPS	NA	YAJ
	Outcome: incidence among youth (column payment), displayed: regression coefficients of particular parental receipt (row payment)								
SA	0.261	0.021	0.012	0.009	0.013	0.033	0.047	0.138	0.250
	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.002)
DSP	0.243	0.057	0.038	0.018	0.045	0.046	0.052	0.099	0.222
	(0.009)	(0.006)	(0.005)	(0.003)	(0.004)	(0.006)	(0.006)	(0.010)	(0.010)
DSP-P	0.249	0.056	0.037	0.017	0.044	0.053	0.059	0.098	0.228
	(0.011)	(0.007)	(0.006)	(0.004)	(0.006)	(0.007)	(0.008)	(0.012)	(0.012)
DSP-M	0.248	0.065	0.044	0.020	0.055	0.036	0.038	0.110	0.224
	(0.016)	(0.011)	(0.009)	(0.006)	(0.009)	(0.010)	(0.011)	(0.018)	(0.018)
CP	0.244	0.064	0.050	0.013	0.028	0.030	0.043	0.095	0.199
	(0.011)	(0.008)	(0.007)	(0.004)	(0.005)	(0.007)	(0.008)	(0.012)	(0.013)
PPP	0.157	0.009	0.005	0.003	0.006	0.027	0.026	0.084	0.143
	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)
PPS	0.240	0.022	0.012	0.010	0.013	0.030	0.060	0.129	0.243
	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)	(0.003)
NA	0.152	0.008	0.003	0.005	0.009	0.025	0.039	0.098	0.154
	(0.007)	(0.003)	(0.002)	(0.002)	(0.002)	(0.004)	(0.005)	(0.007)	(0.007)

TDS2, analysis sample. 124,285 parent-youth pair observations in 1996-2003 (payments to parents) and 2005-2014 (payments to youth). Each cell indicates a coefficient from a separate OLS estimation of the youth column payment dummy regressed on the parental row payment dummy. Standard errors in parentheses. Basic demographic characteristics are accounted for. Abbreviations: Social Assistance (SA), Disability Support Pension (DSP), DSP-Physical (DSP-P), DSP-Mental (DSP-M), Carer Payment (CP), Parenting Payment Partnered (PPP), Parenting Payment Single (PPS), Newstart Allowance (NA), Youth Allowance Jobseeker (YAJ).