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ABSTRACT

Parents' Economic Support of Young-Adult Children: Do Socioeconomic Circumstances Matter?

This paper assesses how the economic support provided by parents to young adults as they complete their education and enter the labor market is related to the family's socioeconomic circumstances. We address this issue using detailed survey data on intergenerational co-residence and financial transfers merged with nearly a decade of administrative data on the family's welfare receipt while the young person was growing up. We find that young people who experience socioeconomic disadvantage are more likely to be residentially and financially independent of their parents than are their peers growing up in more advantaged circumstances. This disparity is larger for financial transfers than for co-residence and increases as young people age. Moreover, there is a clear link between parental support and a young person's engagement in study and work which is generally stronger at age 20 than at age 18 and is often stronger for advantaged than for disadvantaged youths. We find no evidence, however, that a lack of parental support explains the socioeconomic gradient in either studying or employment.

JEL Classification: J12, J13, J22, J24

Keywords: co-residence, financial transfers, socioeconomic disadvantage, youth outcomes

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1 Introduction

A young person's life chances are shaped in large part by the investments in education, training and career development that he or she makes in early adulthood. These investments now take substantially longer than they once did and young people are increasingly turning to their families for help. Today, young adults are less likely to leave their parents' home at any given age, more likely to receive financial support when they do live apart, and more likely to return home as their circumstances change (e.g. Hartley, 1993; Schneider, 1999; Marks, 2007).

There is mounting evidence that parental support in the form of co-residence or financial transfers can play an important role in ensuring that young people make a successful transition into adult roles. The option of living with one's parents allows young people to consume, save and invest even in the face of credit constraints (e.g. Cox, 1990; Folgi, 2000; Ermisch, 2003a) and to insure themselves against bad labor market outcomes (e.g. McElroy, 1985; Card and Lemieux, 1997; Kaplan, 2010) or relationship breakdowns (e.g. Hamon, 1995). Similarly, parents' financial assistance in meeting the costs of education and training is linked to their adult children enjoying higher living standards primarily as a result of improved labor market opportunities (e.g. Semyonov and Lewin-Epstein, 2001).

Unfortunately, not all young people will have access to the parental support they want and/or need. Some families lack the necessary resources, while others may simply be unwilling to continue supporting children after they reach adulthood. Parents in most countries are legally obligated to house, feed, cloth, and educate their children until they reach adulthood; however, there is much less consensus about what should happen afterwards. Parents' own views about their financial obligations to their adult offspring are related to the family's structure, for example, with parents in intact families reporting more obligation than single parents or parents in stepfamilies (e.g. Aquilino, 2005). As a result, families can vary substantially in the level and type of support they provide to their adult children and the circumstances in which they provide it (e.g. Semyonov and Lewin-Epstein, 2001). This lack of consensus may result in young people having

unrealistic expectations about the support they can count on. Goldscheider et al. (2001), for example, find that the proportion of mothers' willing to give support is less than the proportion of young adults expecting parental support.

Our goal is to extend the current literature by investigating the link between young adults' family circumstances and the support they receive from their parents as they make investments in education and work. We are particularly interested in the following questions. First, does social and economic disadvantage reduce the support parents provide to their young-adult children? Second, is a young person's propensity to be studying or employed related to the parental support he or she is receiving? Third, do disparities in parental support explain the link between socioeconomic disadvantage and young people's outcomes? In addressing these questions, we focus explicitly on the economic support provided through direct financial transfers as well as through intergenerational co-residence. We take advantage of data from the Youth in Focus (YIF) Project which interviewed young adults at age 18 and again at age 20. Among other things, YIF respondents provided detailed information about their living arrangements, the financial support they receive from their parents and their family background (e.g. parents' educational attainment, occupation, employment history). These survey data are then merged to nearly a decade of administrative data on the family's welfare receipt while the young person was growing up. A family's welfare experience is about more than the narrow receipt of public assistance per se, but also reflects the broader family circumstances, i.e. unemployment, poverty, family breakdown, single parenthood, etc., which led the family to require social assistance in the first place. Thus, the YIF data are unique in allowing us to link a broad summary measure of social and economic disadvantage in childhood to the support families are providing to young people and to assess whether young people's participation in higher education and the labor market is linked to that support.

We find that young people who experience socioeconomic disadvantage are more likely to be residentially and financially independent of their parents than are their peers growing up in more advantaged circumstances. This disparity is larger for financial transfers than for co-residence and increases as young people age. Moreover, there is a clear link

between parental support and a young person's engagement in study and work which is generally stronger at age 20 than at age 18 and is often stronger for advantaged than for disadvantaged youths. We find no evidence, however, that a lack of parental support explains the socioeconomic gradient in either studying or employment.

This paper is organized as follows. Section 2 presents an overview of our empirical strategy. The details of the YIF data, our estimation sample, and key variables are provided in Section 3. Section 4 discusses our main results, while detailed results can be found in a short technical appendix. Our conclusions and suggested directions for future research are discussed in Section 5.

2 The Empirical Strategy

2.1 Theoretical Background

Over the past 20 years or so, parents' support of their adult children, either through joint living arrangements or through financial transfers, has begun to receive explicit attention in the international literature.[1] Economists have been instrumental in developing theoretical models of the family's decision-making process surrounding alternative forms of support. In particular, researchers often adopt a noncooperative game theoretic framework when modelling the interaction between parents and their adolescent children (e.g. McElroy, 1985; Weinberg, 2001; Kooreman, 2004; Hao et al., 2008; Lundberg et al., 2007). Unlike the cooperative approach taken in understanding bargaining between spouses, adolescents are better seen as economic agents with independent preferences and the power to influence family outcomes (e.g. Lundberg et al., 2007).

In this context, co-residence can be seen as a form of inter-familial transfer similar to other inter vivos transfers.[2] Thus, the decision to co-reside rests upon a comparison of the indirect utility when parents live with their adult children and when they do not.

[1] Generally, researchers have considered support in the form of financial transfers (e.g. Bernheim et al., 1985; Cox, 1987; Cox and Jakubson, 1995; Guiso and Jappelli, 2002) and co-residence (e.g. Wolf and Soldo, 1989; Ermisch and Di Salvo, 1997) separately. More recent research has also considered the effects of time transfers, particularly in the form of care for grandchildren, between mothers and their adult daughters (e.g. Dimova and Wolff, 2010).

[2] See Cobb-Clark (2008) for a review of the literature surrounding the co-residence decision.

Parents are usually assumed to have altruistic preferences, and the public-good nature of housing implies that co-residence is a less expensive way of transferring resources to children than providing financial transfers directly. At the same time, co-residence may involve additional costs resulting from a lack of privacy and independence (e.g. McElroy, 1985; Ermisch and Di Salvo, 1997; Ermisch, 1999, 2003b; Laferrère and Bessière, 2003; Le Blanc and Wolff, 2006; Laferrère, 2006).

Evidence suggests that parental support for young adults is often targeted. U.S. parents, for example, appear to use co-residence and financial transfers to subsidize their children's investments in education (e.g. Keane and Wolpin, 2010; Rosenzweig and Wolpin, 1993). Similarly Spanish parents use co-residence as a means of helping their children who are either studying or do not have a job (e.g.Martínez-Granado and Ruiz-Castillo, 2002). The targeted nature of parental support is consistent with parents having paternalistic rather than altruistic preferences (e.g. Pollak, 1988). In other words, parents may care about their children's characteristics (i.e. educational attainment) or behavior (i.e. employment status) rather than their utility or wellbeing per se.

2.2 Empirical Model

We estimate the relationship between parental support and youths' activities using the following model. Let S denote the type of support parents provide to the youth, and let A denote the youth's educational and employment activity. We assume that S and A are discrete random variables, with $S \in \{s_1, \ldots, s_{K_s}\}$ categories of support and $A \in \{a_1, \ldots, a_{K_a}\}$ categories of activities. As explained below we distinguish between families who experienced no, moderate, or extensive socioeconomic disadvantage while the youth was growing up. Let G denote the family's socioeconomic circumstances, with $G \in \{g_1, g_2, g_3\}$. Finally, X represents a vector of other family background characteristics, lowercase letters denote particular values of random variables, and Greek letters denote unknown parameter vectors.

We assume that parental support S conforms to a multinomial logit model,

$$\Pr(S = s|G = g, X = x) = \frac{\exp(\alpha_s + x'\beta_s + \tilde{g}'\mu_s)}{\sum_{j=1}^{K_s} \exp(\alpha_j + x'\beta_j + \tilde{g}'\mu_j)}, \tag{1}$$

where $\tilde{G}$ is a vector of zeros and a single one indicating the category of socioeconomic circumstances. That is, if $G = g_j$ for $1 \leq j \leq 3$ then the jth element of $\tilde{G}$ is 1 and all other elements are 0. We also assume a multinomial logit model for the activity A,

$$\Pr(A = a|S = s, G = g, X = x) = \frac{\exp(\gamma_a + x'\delta_a + \tilde{g}'\pi_a + \zeta'_{ag}\tilde{s})}{\sum_{j=1}^{K_a} \exp(\gamma_j + x'\delta_j + \tilde{g}'\pi_j + \zeta'_{jg}\tilde{s})}, \tag{2}$$

where $\tilde{S}$ is a vector of zeros and a single one indicating the observed support category for the family. That is, if $S = s_j$ for $1 \leq j \leq K_s$ then the jth element of $\tilde{S}$ is 1 and all other elements are 0. Note that the coefficients ζ_{ag} on the support variable are specific not only to the activity, but also to the family's socioeconomic circumstances. That is, the support variable is interacted with the degree of socioeconomic disadvantage the family experienced while the youth was growing up.

2.3 Interpretation Issues

The above empirical model allows us to estimate the causal effect of parental support on young people's educational and employment activities only if parents "dictate" a support category without any regard to the youth's chosen activity. In this case, the support that parents provide is exogenous to the youth's decision to study and/or work and the resulting estimates can be given a causal interpretation. Oettinger (2005), for example, implicitly relies on the exogeneity of parents' financial support for U.S. college students to generate instrumental variables estimates of the negative effect of students' in-school employment on their grade point average.

At the same time, assuming that parents' support of their young-adult children is independent of what those children do is rather heroic. Economic theory provides a number of reasons to believe that S and A will be jointly determined. This implies that, in general, it is not possible to give a causal interpretation to the estimated effect of

parental support on young people's educational and labor market investments. Instead, the estimation equation traces out an "equilibrium" relationship across families between support and activities. This relationship may arise through a process of bargaining within each family, for example, in which outcomes differ across families due to heterogeneity in parents' and youths' earnings ability (and hence income levels), in youths' preferences for and ability to study, in parents' and youth' preferences for consumption versus leisure, in the way family members care about each other's happiness, etc.

Empirical researchers interested in the effect of parents' financial transfers on their adolescent (as opposed to young adult) children's labor supply have attempted to deal with these issues by using simultaneous equation models (e.g. Wolff, 2006; Dustmann et al., 2009) or fixed-effects two-stage least squares estimation (e.g. Gong, 2009).[3] Importantly, Dustmann et al. (2009) explicitly allow for the possibility that teenagers' behavior influences parents' decisions about the transfers they make. The authors are unable to reject a simple model in which parents determine transfers without taking teenagers' utility into account against a more complex model in which parents are altruistic and teenagers' labor supply affects their parents' transfers. Thus, the estimated equilibrium relationship may be quite close to the causal relationship — at least in simple settings where the focus on adolescents implies that all young people are co-residing and engaged in secondary-school education so that only financial transfers and employment are of concern.

Matters become much more complicated when the potential tradeoffs between alternative forms of parental support and young adults' (as opposed to adolescents') activities are considered. Researchers attempting to disentangle the effects of parental support on young adults' human capital investments more generally usually focus on only a subset of these relationships. Identification is typically achieved through either theoretical restrictions (e.g. on preferences or the type of bargaining game between parents and young people) which limit the degree of endogeneity and simultaneity or through ad hoc empirical exclusion restrictions (e.g. Kalenkoski, 2008; Rosenzweig and Wolpin, 1993; Keane and Wolpin, 2010; Kalenkoski and Pabilonia, 2010; Martínez-Granado and Ruiz-Castillo,

[3]Pabilonia (2001) ignores the potential endogeneity of parental transfers and simply estimates the association between adolescents' hours of work the allowance they receive from their parents.

2002).

Given the wide range of factors we consider, we are reluctant to rely on such restrictions to achieve identification. It is also very difficult, unfortunately, to sign the "simultaneity bias" present in a simple regression estimate of the ζ_{ag}s. Consequently, we focus instead on analyzing the observed relationships between socioeconomic disadvantage, parental support, and young people's educational and labor market investments. We avoid interpreting our estimates as causal effects. Nonetheless, our estimates are important in understanding the link between socioeconomic disadvantage and parental support. In particular, our analysis illustrates the extent to which differences in the educational and employment outcomes of young people growing up in socioeconomic disadvantage can be explained by disparities in the parental support they receive. Understanding the pathway through which disadvantage influences outcomes is a necessary first step in formulating policy initiatives to assist disadvantaged young people in successfully completing their education and entering the labor market.

3 Data: The Youth in Focus Survey

The data used in this research come from the Youth in Focus (YIF) Project.[4] The YIF data are unique in combining survey data for a birth cohort of young Australians and their mothers with historical administrative data on the public benefits families received while young people were growing up. Coverage of the administrative data begins when young people were approximately three years of age, while the survey data provide detailed information about youths' and mothers' current situation and activities as well as retrospective information on events which occurred during youths' childhoods.[5] In this section, we discuss the data construction and analysis sample in more detail and introduce a measure of the family's history of socioeconomic disadvantage.

[4]For more information about the project and data see http://youthinfocus.anu.edu.au and Breunig et al. (2009).

[5]Data from mothers are not used in this analysis.

3.1 Data Construction and Estimation Sample

The YIF Project uses Centrelink administrative records to identify all young people born in the six-month period between October 1, 1987 and March 31, 1988 who ever had contact (directly or indirectly) with the Australian public-benefits system between January, 1991 and March, 2005 (inclusive). These administrative records contain high-quality, fortnightly information on the incidence of payments for all Australians who received a wide range of government benefits. The range of benefits include welfare payments to the unemployed, the disabled, and low-income parents etc. as well as payments which the Australian government does not consider to be "welfare" such as the Family Tax Benefit and the Child Care Benefit.[6] Although young people can appear in the administrative data if they have received public benefits 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 welfare at some point in this period, however, approximately 40 percent of families did not. These families appear in the administrative data only because they received either Family Tax Benefits, Child Care Benefits or one of the precursors of these programs. The generosity of the Australian public-benefits system implies that nearly all of the young people in our birth cohort appear in the administrative data at some point during the period.[7]

The administrative data were used to stratify youths into one of six groups depending on the timing and the intensity of the family's welfare receipt. A stratified random sample of youths was then selected from the administrative data for interview in 2006. Data from phone interviews with the youths as well as a self-completion questionnaire were then linked to the administrative data.[8] Youths were re-interviewed again in Wave 2

[6]Note that the Child Care Benefit is not means tested and that only families in the top 20 percent of the income distribution are ineligible for the Family Tax Benefit. 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.

[7]Comparing the YIF youth sample with Australian Census data suggests that the administrative data capture about 98 percent of the youths born in the period (Breunig et al., 2009).

[8]Following best practice (see Groves et al., 2004), approach letters, incentive payments, repeated callbacks, and CATI were all used to maximize response rates. The response rate for youths was 37.2 percent and more than 96 percent of young people completing the survey consented to having this information linked to their families' administrative public-benefits records. Although response rates differed somewhat across strata, these differences stem primarily from differences in contact rates rather than refusal rates (Breunig et al., 2009).

in 2008.

The achieved number of interviews was 4079 in Wave 1 and 2362 in Wave 2. For simplicity, we will refer to the youths as 18-year-olds in Wave 1 and as 20-year-olds in Wave 2.[9] In constructing our estimation samples, we necessarily drop a number of observations due to item nonresponse. We also drop anyone who is attending secondary school at the time of the interview.

3.2 Socioeconomic Disadvantage

Our summary measure of the family's socioeconomic disadvantage is derived from the family's history of welfare receipt. Specifically, we identify three groups of young people as follows: those from families with no history of welfare receipt while the youth was growing up, those from families receiving welfare in less than six years, and those from families that received welfare for six or more years. For simplicity, we refer to these youths as having experienced no disadvantage ("No"), moderate disadvantage ("Mod") and extensive disadvantage ("Ext"), respectively. As explained in the Introduction, the receipt of welfare payments reflects not only (temporary or persistent) poverty, but also broader social circumstances such as unemployment, family breakdown, single parenthood, disability etc.

Table 1 describes the relationship between the degree of socioeconomic disadvantage that families have experienced and the support that they are currently providing to their young-adult children.[10] We are particularly interested in both the financial transfers young people receive from their parents as well as support that comes in the form of co-residence.[11] Our results suggest that there is a clear link between socioeconomic disadvantage and family support for young adults. Higher levels of socioeconomic disadvantage

[9] At the time of their Wave 1 interviews 92 percent of youths were 18 years of age, while 4 percent had turned 19 and the remaining 4 percent had unknown ages. At the time of the Wave 2 interview, 76 percent of youths were aged 20 and 21 percent were aged 21 with 3 percent having unknown ages.

[10] The YIF survey asks youths to report about financial transfers received from their parents and "anyone else". For simplicity we refer to these amounts as parental support. Youths are also asked if they are expected to pay back any of this money. We consider the entire amount a loan if they answer yes to this question.

[11] Some young people live with relatives or other (older) adults. We determine whether they "co-reside" or "live independently" based on whether they consider any of the adults in their household a "parental figure" and on whether they consider themselves to be living independently or not.

are associated with an increased tendency for young people to be living independently and receiving no financial support from their families at age 18. Fully 15.6 percent of those young people growing up in extensive disadvantage receive no parental support at all, for example, which is true of only 2.3 percent of their peers experiencing no socioeconomic disadvantage. Overall, those growing up in extensive disadvantage are almost twice as likely as those experiencing no disadvantage (26.1 versus 14.1 percent) to be living independently of their parents at age 18, and just under half (46.4 percent) of disadvantaged 18-year-olds receive no financial transfers from their parents at all. Transfer amounts for those who receive them are lower, and the likelihood that (some of) the transfer is a loan instead of a gift is higher, the more disadvantaged families are.

[Insert Table 1 about here]

Not surprisingly, there a clear progression towards increased independence between the ages of 18 and 20. Irrespective of their socioeconomic background, young adults are increasingly likely to be living independently and supporting themselves. Still, the relative effects of family circumstances continue to be apparent. Growing up in a family with a long history of welfare receipt is associated with a high probability (26.0 percent) of receiving neither financial nor co-residential support from one's parents at age 20. Almost two-thirds of disadvantaged 20-year-olds receive no financial support from their parents, and more than one in three is living independently. In comparison, the majority (55.7 percent) of young people growing up in families with no history of welfare receipt are receiving financial transfers from their parents at age 20, and almost three in four continue to live at home.

Table 2 shows that young adults' engagement in education and employment is closely linked to their family circumstances. Those young people experiencing extensive disadvantage have high rates of disengagement with nearly one in five (17.5 percent) being neither employed nor engaged in study at age 18. In contrast, this is true of only 4.5 percent of 18-year-olds experiencing no socioeconomic disadvantage. These differences are largely driven by the high enrollment rates (70.0 percent) of young people in relatively

advantaged families relative to those in disadvantaged families (48.2 percent). In contrast, the employment rates of 18-year-olds varies much less by family circumstances.

[Insert Table 2 about here]

By age 20, the disparity in enrollment rates has narrowed somewhat suggesting that disadvantaged young people may be delaying rather than abandoning further study. Still, it remains the case that there is a persistent relationship between family circumstances and the engagement of young people in either education or employment.

4 Results

Our goal is twofold. First, we would like to know whether or not socioeconomic disadvantage limits the financial and co-residential support that parents provide to their young-adult children. Second, we would like to understand whether differences in the likelihood that young people growing up in disadvantage are studying or employed could be the result of disparities in the parental support they receive. We address these issues by estimating multinomial logit models of (i) the parental support that young people receive and (ii) conditional on that support, young people's participation in education and the labor market. We will focus our discussion on the links between family background, co-residential and financial support, and youths' engagement in employment and education. Full estimation results are presented in the appendix tables.

4.1 Socioeconomic Disadvantage and Parental Support

Does the co-residential and financial support that young people receive from their parents depend on their socioeconomic backgrounds? We answer this question by estimating a multinomial logit model of the six possible combinations of co-residential support (i.e. yes or no) and financial transfer receipt (i.e. none, gifts, or loans). To facilitate interpretation, we present and discuss estimated probability distributions for each category of socioeconomic circumstances evaluated at the overall (weighted) sample mean of other covariates. These distributions correspond to the expected outcomes for a young person

with "average" characteristics. The marginal effect of being in alternative categories of socioeconomic circumstances can be derived by taking differences in the results between the rows within each panel. This effectively provides an answer to the following thought experiment: How would the "average" young person's likelihood of receiving parental support change if he had grown up in one set of family circumstances rather than another? The top panel of Table 3 presents results for 18 year-olds just completing secondary school (i.e. Wave 1), while the bottom panel of the table presents results for Wave 2 when young people are 20 years of age.

[Insert Table 3 about here]

Young adults are more likely to be fully independent and receive no parental support the more disadvantaged their families are. In particular, the typical 18 year-old has an 8.0 percent probability of living independently and receiving no financial support from his parents if his family received extensive welfare benefits. Moderate (as opposed to extensive) welfare receipt reduces this probability by 2.4 percentage points (to 5.6 percent), while the absence of any welfare receipt is associated with a 5.3 percentage point reduction (to 2.7 percent) in the probability of being fully independent of one's parents.

Financial transfers, either in the form of gifts or loans, are more closely linked to families' socioeconomic disadvantage than is co-residence. More precisely, the socioeconomic gradient is much steeper for financial transfers than it is for co-residence. An 18 year-old has a probability of co-residing (whether or not he receives transfers), for example, which ranges from 85.9 percent if his family has no welfare history to 82.8 if his family received extensive welfare assistance. In contrast, the probability of receiving transfers (irrespective of co-residence status) ranges much more widely from 75.7 percent (no welfare receipt) to 61.4 percent (extensive welfare receipt).

It is interesting to note that although the receipt of financial transfers varies sharply with socioeconomic circumstances, the form of those transfers (i.e. gifts or loans) does not. Eighteen year-olds living independently and receiving financial transfers from their parents are between 2.3 and 2.7 times as likely to receive a gift as a loan irrespective

of their family's welfare history. The ratio of gifts to loans is somewhat lower for those young people living at home, but does not vary much with socioeconomic disadvantage and remains constant as young people age. Thus, socioeconomic disadvantage is associated with young people being less likely to receive financial assistance from their parents, but conditional on receiving financial help, disadvantaged youth are as likely as their more advantaged peers to receive a gift rather than a loan.

That socioeconomic disadvantage constrains the receipt of financial transfers more than co-residence is consistent with the nonrival (public) nature of housing and the rival (private) nature of financial transfers. Parents wishing to support their young-adult children will typically find it less expensive to do so through co-residence than through direct financial transfers. Kaplan (2010) argues that the option to move in and out of the parental home is a particularly valuable insurance mechanism for youths from poor families precisely because their families would struggle to provide financial assistance in the event they need help. Our results suggest, however, that the option to co-reside may also be more limited for disadvantaged youths.

The receipt of parental support as young people enter their early 20s continues to be closely linked to their families' socioeconomic circumstances while they were growing up. The absolute disparities associated with socioeconomic disadvantage are, in many cases, even larger at age 20 than at age 18, though the proportional differences are often smaller. For example, receiving extensive as opposed to no welfare assistance while young is associated with a 7.7 percentage point increase in the probability that the typical 20 year-old receives no parental support in comparison to a 5.3 percentage point increase at age 18.

Not surprisingly, young people are more likely to live independently of their parents at age 20 than they were at age 18 irrespective of their families' socioeconomic circumstances. Young people leave home earlier, however, if their families were supported by the welfare system while they were growing up. Specifically, the probability that a 20 year-old is living with his parents is 68.4 percent if his family received extensive welfare assistance — down from 82.8 percent at age 18. This represents a 14.4 percentage point decrease in

the likelihood of intergenerational co-residence. In contrast, the chances of living at home is 11.5 percentage points lower (85.9 versus 74.4 percent) at age 20 than at age 18 if the family has never been on the welfare rolls. These trends imply that the socioeconomic gradient in co-residence is steeper at age 20 than at age 18.

Similarly, receiving financial support is also more closely tied to one's family circumstances at age 20 than at age 18. About half (49.2 percent) of 20 year-olds in families with no welfare history receive money from their parents. This is true, however, of just over one third (38.4 percent) of 20 year-olds in families with extensive welfare experience.[12] The steepening of the socioeconomic gradient between waves is consistent with parental support becoming more "optional", and therefore, resource constraints becoming more binding, as young people age. At the same time, Aquilino (2005) finds that parents believe they have more obligation to help their adult children out of financial difficulty than is true for their co-residing adolescent children. Thus, it may be a lack or resources, rather than a lack of willingness, which leads disadvantaged families to provide less financial support relative to more advantaged families as youths become older.

Taken together, our results demonstrate that there is a negative relationship between a family's welfare history and the support parents provide to young-adult children as they complete their education and enter the labor market. Young people growing up in disadvantage are substantially more likely to be residentially and financially independent of their parents than are their peers growing up in more advantaged circumstances. This is consistent with Semyonov and Lewin-Epstein (2001) who also find that parental assistance to young-adult children is also more common among Israeli families from higher socioeconomic origins.

4.2 Youths' Engagement in Education and Employment

Is young people's participation in education and employment related to the parental support that they receive? Does this relationship vary by the family's socioeconomic circumstances? We address these questions by estimating a multinomial logit model of

[12]This differential is proportionately greater than that among 18 year-olds. At age 20, the socioeconomic gradient in financial transfers continues to be steeper than that in co-residence.

the probability that young people are engaged in: (i) study and full-time work; (ii) study and part-time work; (iii) study and no work; (iv) no study and full-time work; (v) no study and part-time work; and (vi) neither study nor work.

We condition our estimates on the parental support that young people receive as well as a number of other control variables. Likelihood-ratio tests indicated that separately identifying financial loans from no financial support does not improve the overall fit of the model.[13] For simplicity, therefore, we differentiate only between the receipt (or not) of financial gifts and whether or not youth are co-residing in the estimation results presented in this section.

As explained in Section 2.3, we fully recognize that parental support and youth outcomes are likely to be jointly determined. Accordingly, we do not interpret the estimated effects of parental support on youth activities as causal, although we do speculate on what causal mechanisms are likely to be driving the observed associations. In Section 4.2.1, we discuss the relationship between parental support, youth outcomes and socioeconomic circumstances. In Section 4.2.2, we focus on the socioeconomic gradient in youth outcomes.

4.2.1 How does parental support matter?

To what extent are the outcomes of young people related to the residential and financial support they are able to garner from their parents? Is a relative lack of parental support associated with a lower propensity to be engaged in education or employment? To address these questions, we begin by calculating estimated probability distributions evaluated at the overall sample mean. We then use these probability distributions to make three broad comparisons. First, we compare the outcomes of youths who do and do not receive gifts taking into account whether they co-reside. Second, we compare the outcomes of co-residing and independent youths taking into account whether they receive financial gifts. Finally, we compare the outcomes of youths who receive both residential support and

[13] A range of specification tests are shown in Appendix Table A3. The full model of youth outcomes includes six categories of parental support. Combining loans and gifts is clearly rejected for all groups except those in Wave 2 who live independently. Combining loans and receiving no financial support is not rejected for any group, either individually or jointly across co-residence status.

financial gifts (i.e. full support) with those who receive neither. In order to focus our discussion, we concentrate on the youths' overall study and employment rates.

At Age 18: The first two left-hand side panels of Table 4 show that receiving financial gifts from one's parents is associated with 18 year-olds studying more and working less whether or not they are living with their parents.[14] This pattern is nearly identical for all young people though the difference is often larger for youths living apart from their parents. Socioeconomic disadvantage is typically associated with greater disparity in the study rates of those who do and do not receive gifts, but with smaller differences in full-time and nonemployment rates. For example, extensively disadvantaged 18 year-olds receiving gifts have study rates that are 10.1 percentage points higher if they live at home and 16.9 percentage points higher if they do not, relative to similarly disadvantaged youths who do not receive financial gifts. Financial gifts are associated with much less disparity in study rates of advantaged youths. The disparity in employment rates linked to financial gifts is largest for youths growing up in families with no welfare history. In particular, advantaged youths living independently are much less likely to be working full-time (22.1 percentage points) and much more likely to be not employed (18.5 percentage points) if they receive financial gifts than if they do not. In contrast, the employment rates of extensively disadvantaged youth vary much less by whether they are receiving financial gifts from their parents. Thus, financial gifts are relatively more important in understanding which extensively disadvantaged 18 year-olds are studying and which advantaged 18 year-olds are working. One possibility is that young adults from advantaged families use gifts to support their studies while youths from disadvantaged families use gifts to support them while not working. Or conversely, disadvantaged parents target financial gifts towards their children who are studying, while advantaged parents target financial gifts towards their children who are not working.

[Insert Table 4 about here]

The third and fourth panels in the left-hand side of Table 4 show that co-residence,

[14]The single exception is the group who live independently and whose families received extensive welfare; they have a lower probability of not working if they receive gifts.

unlike financial gifts, is associated with lower rather than higher rates of studying.[15] The size of the gap does not depend much on family circumstances and is slightly larger for youths who receive financial gifts. For example, the study rate for 18 year-olds experiencing extensive disadvantage and receiving gifts is 14.7 percentage points lower if they live with their parents than if they do not; if they are not receiving gifts their study rate is 7.9 percentage points lower when co-residing. The disparity in the study rates of advantaged youths are very similar. This relationship is consistent with a story in which parental support in the form of co-residence discourages young people from studying. Alternatively, these results suggest that young people who leave home by age 18 may be doing so in order to continue their studies.

The link between co-residence and employment rates is weaker and more complex than that between co-residence and study. Living with one's parents is associated with an increase in part-time employment, and a corresponding fall in both full-time work and nonemployment, among both advantaged youths and youths experiencing moderate disadvantage. For example, advantaged 18 year-olds who do not receive gifts are 9.6 percentage points more likely to be employed part-time if they co-reside than if they live independently; if they do receive gifts they are 13.2 percentage points more likely to work part time. In contrast, the patterns for 18 year-olds experiencing extensive disadvantage differ between those who do and do not receive gifts. Specifically, living with ones parents is associated with a modest increase in nonemployment rates, at the expense of lower rates of part-time work, for those who receive gifts, while co-residence for those who do not receive gifts is associated with a large shift from not working to full-time employment.

Overall, receiving full parental support (i.e. both co-residing and receiving financial gifts) versus receiving no parental support is associated with a 6.0 percentage point fall in the chances that 18 year-olds from families with no welfare history are studying. On the other hand, full parental support is associated with an increased study rate of between 2.2 (extensive) and 14.8 (moderate) percentage points for disadvantaged youths. One possible interpretation is that advantaged parents appear to be targeting their support

[15]The single exception is that 18 year-olds experiencing moderate socioeconomic disadvantage who do not receive financial gifts are more likely to be studying if they co-reside rather than live independently.

towards their 18 year-old children who are not studying, while parents with any welfare history provide relatively more support to their 18 year-olds who are studying.

At the same time, receiving both residential support and financial gifts is associated with lower full-time and nonemployment rates for almost all 18 year-olds.[16] The link between full parental support and employment outcomes is especially strong for advantaged youths, however. In particular, full-time employment rates are 23.6 percentage points lower and nonemployment rates are 6.7 percentage points higher among advantaged 18 year-olds who both co-reside and receive gifts. In contrast, the employment rates of 18 year-olds experiencing extensive socioeconomic disadvantage depend much less on whether they are receiving full or no parental support. Thus, the labor supply decisions of advantaged young people may be relatively more responsive to whether or not they receive support from their parents. Alternatively, advantaged parents may reduce their economic support for adult children with full-time employment.

At Age 20: The relationship between parental support and youth's engagement in education and employment is somewhat different at age 20 than at age 18. Twenty year-olds who receive financial gifts from their parents are more likely to be studying, less likely to be employed full-time, and more likely to be not employed whether or not they live with their parents. The same is true at age 18. However, these relationships are generally much stronger among 20 year-olds than among 18 year-olds.[17] For example, advantaged 20 year-olds who co-reside are 10.0 percentage points more likely to be studying if they receive financial gifts than if they do not. At age 18, this differential is only 2.9 percentage points.

At age 18, co-residence is almost universally associated with a large decline in study rates, suggesting perhaps that those young people who leave home before age 18 disproportionately do so in order to begin their studies elsewhere. However, in many cases 20 year-olds are as likely to be studying whether or not they continue living with their

[16]The exceptions are that young people whose families received extensive welfare have a higher probability of working full time and young people whose families never received welfare have a higher probability of not working, if they receive full support.

[17]Note that while some of the differences across categories of socioeconomic circumstances in Table 4 are individually statistically significant, they are not jointly significant (see Table A3).

parents. Specifically, co-residing and independent 20 year-olds have study rates that are virtually identical if they are from an advantaged family and receive gifts or if they are from moderately or extensively disadvantaged families and do not receive gifts. On the other hand, co-residence is associated with study rates that are lower (6.8–7.0 percentage points) among 20-year olds with a welfare history who do receive financial gifts, but higher (7.4 percentage points) for youths with no welfare history who do not receive financial gifts. Regarding work, co-residence is associated with higher part-time employment rates, generally with both lower full-time rates and lower nonemployment rates.

On balance, the disparity in the study and employment outcomes of youths who receive full versus no parental support is much larger at age 20 than it is at age 18. Perhaps parental support is more heavily targeted towards those 20 year-olds who are either studying, working part time, or not working at all. Moreover, it is interesting to note that these changes in support patterns are particularly important for understanding the study and employment outcomes of advantaged 20 year-olds who have no family history of welfare receipt. For example, full support is associated with a 17.4 percentage point increase in the likelihood that 20 year-olds with no welfare history are studying. In comparison, at age 18, full support was associated with a 6.0 percentage point reduction in study rates for these young people. Similarly, the reduction in full-time employment rates associated with full parental support among advantaged youths is 23.6 percentage points at age 18 and 30.6 percentage points at age 20. One possible explanation is that parents in advantaged families have moved from supporting 18 year-old nonstudents to supporting 20 year-old students and to increasingly targeting resources to young people who are not in full-time work. To a lesser degree, disadvantaged parents may also target resources to 20 year-old students who are not working full time.

Discussion: Taken together, our results point to a clear link between parental support and a young person's engagement in study and work which is generally stronger at age 20 than at age 18 and is often stronger for advantaged than for disadvantaged youths. It is possible that the increasingly discretionary nature of educational investments and parental support, particularly co-residential support, as young people age may underlie

the former result. On the other hand, the latter result may indicate that wealthier parents have the resources necessary to target their more generous assistance toward helping young adults to make investments in education. This is consistent with previous research which demonstrates that parents use both co-residential and financial assistance to support their children's human capital investments (e.g. Rosenzweig and Wolpin, 1993; Keane and Wolpin, 2010; Martínez-Granado and Ruiz-Castillo, 2002).

4.2.2 Can Parental Support Explain the Socioeconomic Gradient in Outcomes?

These patterns raise interesting questions about what drives the differences in the educational and employment outcomes of youths who do and do not grow up in families receiving public assistance. Specifically, disadvantaged families provide less residential and financial support to their young adult children than do other families (see Table 3). To what extent do disparities in parental support explain the link between young people's outcomes and the socioeconomic disadvantage they have experienced?

We address this question by comparing the socioeconomic gradient in outcomes across a series of counter-factual outcome distributions. Specifically, we calculate average outcomes evaluated at (a) individual covariates; (b) the socioeconomic group mean of covariates; (c) the socioeconomic group mean of parental support and the overall mean of all other covariates; and (d) the overall mean of all covariates. All means are weighted. The first case corresponds to the unconditional mean outcomes given in Table 2, while the last case corresponds to the conditional results summarized in Table 4.[18] The two intermediate counterfactual distributions are helpful in identifying the extent to which conditioning on certain covariates, in particular different levels of parental support, alters the socioeconomic gradient in expected outcomes. To illustrate, we graphically depict the results for aggregate study and employment rates in Figure 1. The full set of results is presented in Appendix Table A5.

The socioeconomic gradient in 18 year-olds' propensity to be studying is shown in the

[18]There are minor differences relative to Table 2 due to dropping observations with missing values for covariates.

top-left panel of Figure 1. The differential in the rate of study among advantaged and extensively disadvantaged youths is fully 20.7 percentage points when we evaluate outcomes using individuals-specific covariates (specification a) and 23.5 percentage points when we evaluate using the socioeconomic group mean of covariates (specification b). This differential is reduced by half, however, when outcomes are evaluated using the overall mean of all covariates except parental support (specification c). Thus, approximately half of the socioeconomic gradient in studying at age 18 can be explained by the variation across family circumstances (i.e. welfare histories) in youths' characteristics other than the support they receive from parents (e.g. immigrant status, parental education, etc.). Removing the effects of differential parental support across socioeconomic groups by evaluating the rate of study at the overall mean of all covariates, including parental support, does little to change this finding. Thus, it does not appear that it is the link between socioeconomic disadvantage and parental support which underlies the relationship between disadvantage and studying at age 18.

[Insert Figure 1 about here]

The top-right panel of Figure 1 shows that the socioeconomic gradient in study rates between advantaged and extensively disadvantaged youths is somewhat flatter at age 20 than at age 18 if we evaluate outcomes at either individual-specific covariates (specification a) or at the socioeconomic group mean of covariates (specification b). The socioeconomic gradient flattens further and becomes essentially zero as we evaluate study rates using overall means for any covariates other than parental support (specification c) and then for all covariates including parental support (specification d). In effect, the socioeconomic gradient in studying can be completely explained by differences in the characteristics of those 20 year-olds growing up in different family circumstances.

The socioeconomic gradient in the employment rates of 18 year-olds is shown in the bottom-left panel of Figure 1. Unlike studying, the differential probability that advantaged and extensively disadvantaged 18 year-olds are employed is not explained by their characteristics. The socioeconomic gradient in employment is virtually identical whether we evaluate outcomes at individual-specific covariates (specification a) or at sample-mean

covariates (specification d). Instead, the differential in employment rates stems either from differences in the labor supply behavior of 18 year-olds in different family circumstances with otherwise similar characteristics or from differences in the hiring behavior of employers.

In contrast, the bottom-right panel of Figure 1 shows that the socioeconomic gradient in the employment rates of 20 year-olds is flatter (10.1 versus 17.3 percentage points) and more closely linked to disparity in the characteristics of young people than was the case at age 18. Specifically, the socioeconomic gradient is much the same whether we evaluate expected employment outcomes at either individual-specific covariates (specification a) or the socioeconomic group mean of covariates (specification b), but falls substantially when we remove the effect of differences in covariates other than parental support (specification c). Accounting for the disparities in parental support has little additional effect on the socioeconomic gradient in employment rates (specification d).

Taken together, these results provide no evidence that a lack of parental support explains the socioeconomic gradient in either studying or employment among young people. In most cases, the socioeconomic gradient is substantially reduced, or effectively eliminated, once differences in characteristics other than parental support are accounted for. The exception is the socioeconomic gradient in employment at age 18 which is driven by the differential propensity of advantaged and disadvantaged young people with the same characteristics to be employed.[19]

5 Concluding Remarks

Parents' economic support can be important in insuring young people against economic downturns (or relationship breakdowns), reducing any negative effects of credit constraints, and generally expanding the resources available to them as they complete their education and enter the labor market. Family circumstances, however, may dictate both

[19] As mentioned earlier, the specification tests in Table A3 show that the coefficients representing socioeconomic circumstances are not jointly statistically significant in the model for study and employment outcomes at age 20. The results discussed in this section concern a different metric, namely predicted outcomes, and confirms that socioeconomic circumstances play a limited role.

the ability and the willingness of parents to continue supporting their children after they reach adulthood. Our results provide evidence that young people who experience socioeconomic disadvantage while growing up receive less co-residential and financial support from their parents than do their more advantaged peers. Moreover, there is a clear link between a young person's engagement in study and work and the parental support that he or she receives. Fortunately, however, we find no evidence the socioeconomic gradient in studying and employment stems from this lack of parental support.

These result are useful in highlighting the relationship between a family's socioeconomic circumstances and the economic support that parents provide to their young-adult children. At the same time, they leave a number of issues unresolved. First, our analysis has focused on the receipt, rather than the amount, of economic support that young people receive. This focus on the extensive support margin is sensible given the relatively small variation in the amount of financial support in our data and the inherent difficulty in placing a dollar value on co-residential support. It is less than ideal, however, given the evidence that the nature of the parental home influences young people's propensity to move out (e.g. Laferrère and Bessière, 2003). It would also be useful to know more about the extent to which young people's outcomes depend on the degree and type of support they receive.

Second, we can only speculate about the extent to which the socioeconomic gradient we observe in parental support stems from disparity in families' ability, rather than in their willingness, to provide economic support. In particular, the previous literature clearly demonstrates that co-residential and financial support is tied to family income and wealth (see Schoeni, 1997, for a review) suggesting that resource constraints must matter. At the same time, Aquilino (2005) finds that parents' financial resources (i.e. income, savings, nonmortgage debts) are not significantly related to their perceived financial obligations to their young-adult children. Nontraditional (i.e. step- and blended) families believe they need to provide less support to their young-adult children even after controlling for their differential resources. Thus, it is unclear whether the issue is resource constraints or differential preferences.

Finally, it would be useful to know more about the dynamics of parents' economic support and the role of public policy. Why do co-residence and financial transfers become more important for understanding outcomes as young people, and particularly advantaged young people, age? Does this indicate that families with resources may be increasingly directing their support to young people making investments in education or with limited ability to support themselves (see e.g. Card and Lemieux, 1997; Keane and Wolpin, 2010; Rosenzweig and Wolpin, 1993; Martínez-Granado and Ruiz-Castillo, 2002). To what extent are disadvantaged youths' able to seek out alternative forms of support?

Addressing these issues is an important next step in understanding the role of the family in supporting young people's investments in education and work.

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Table 1: Co-residence and Financial Assistance by Socioeconomic Circumstances

	No	Mod	Ext	Total
Wave 1 (age 18)				
Co-residence and financial assistance (percent distribution by column)				
Independent, no financial assistance	2.3	7.0	15.6	7.5
Co-residing, no financial assistance	19.3	26.6	30.8	24.8
Independent and receiving gift	8.6	7.5	6.6	7.7
Independent and receiving loan	3.2	4.1	3.9	3.7
Co-residing and receiving gift	41.7	34.8	29.5	36.2
Co-residing and receiving loan	24.7	20.0	13.6	20.2
Amount received excluding zeros (dollars)				
Median	2300	1500	1000	1700
90th percentile	12000	10000	6208	10000
Wave 2 (age 20)				
Co-residence and financial assistance (percent distribution by column)				
Independent, no financial assistance	11.0	17.1	26.0	17.0
Co-residing, no financial assistance	33.3	38.6	38.6	36.4
Independent and receiving gift	10.9	10.2	7.1	9.6
Independent and receiving loan	4.0	4.0	4.2	4.1
Co-residing and receiving gift	29.6	20.2	16.2	23.0
Co-residing and receiving loan	11.2	9.9	7.9	9.9
Amount received excluding zeros (dollars)				
Median	2500	1500	1153	2000
90th percentile	12104	10000	8000	10000

No, Mod, Ext: no, moderate, and extensive socioeconomic disadvantage. Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have nonmissing values for parental support and youth outcomes. Weighted estimates; weights not adjusted for sample restrictions.

Table 2: Educational and Employment Outcomes by Socioeconomic Circumstances

	No	Mod	Ext	Total
Wave 1 (age 18)				
Educational and employment outcomes (percent distribution by column)				
Study, full-time work	18.0	20.3	14.8	17.8
Study, part-time work	40.9	27.7	17.8	30.4
Study, no work	11.1	13.2	15.6	13.0
No study, full-time work	13.4	16.8	18.3	15.8
No study, part-time work	12.1	13.9	16.0	13.7
No study, no work	4.5	8.1	17.5	9.2
Wave 2 (age 20)				
Educational and employment outcomes (percent distribution by column)				
Study, full-time work	16.3	17.5	15.0	16.3
Study, part-time work	41.0	28.7	24.1	32.5
Study, no work	11.1	10.5	14.6	11.9
No study, full-time work	18.1	25.3	23.0	21.7
No study, part-time work	9.1	11.2	11.2	10.3
No study, no work	4.4	6.8	12.1	7.3

No, Mod, Ext: no, moderate, and extensive socioeconomic disadvantage. Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have nonmissing values for parental support and youth outcomes. Weighted estimates; weights not adjusted for sample restrictions. Part-time work includes respondents with unknown hours.

Table 3: Predicted Parental Support

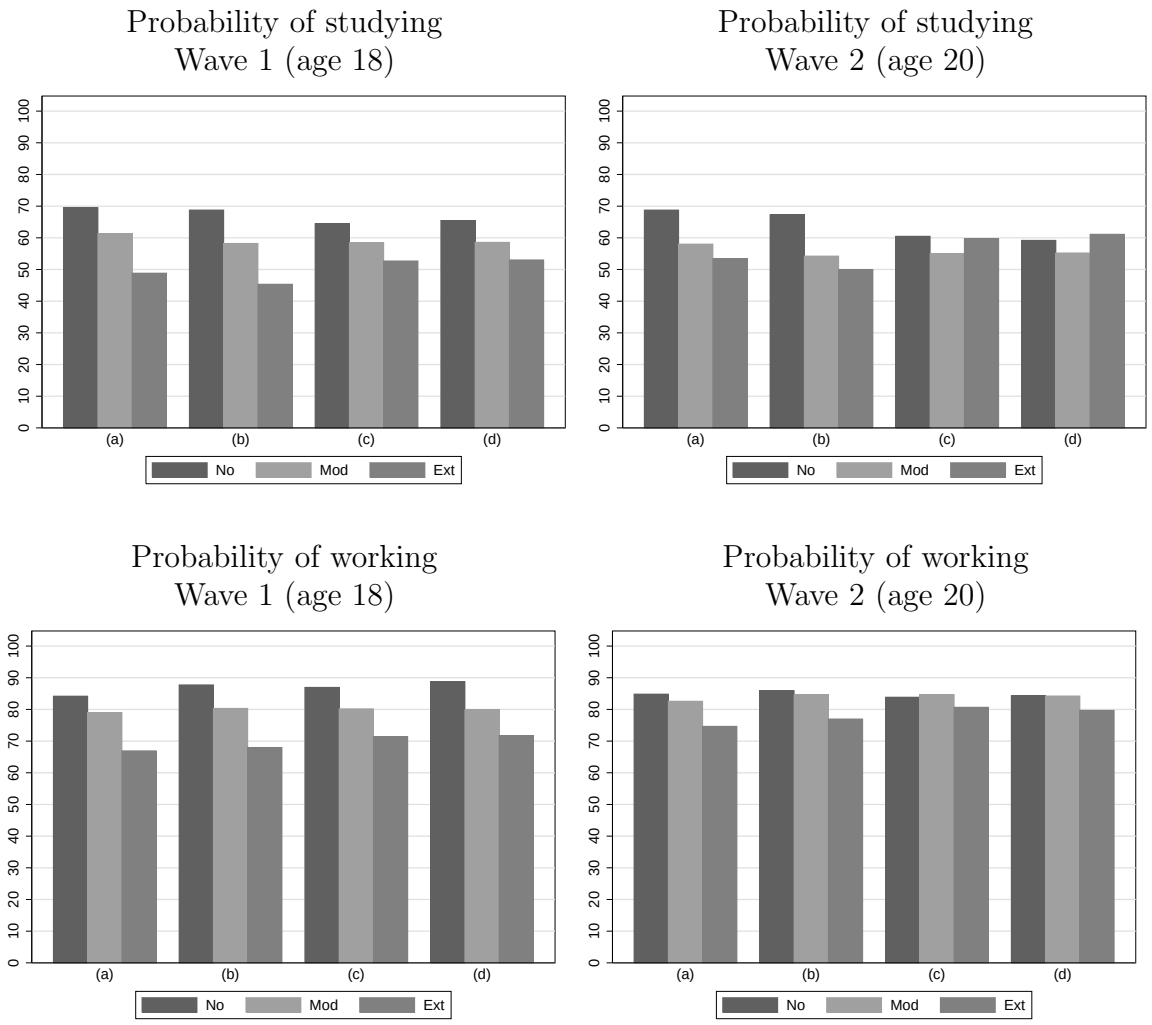
	Independent			Co-residing			Total	Total
	Gift	Loan	Nil	Gift	Loan	Nil	Cores	Ftrfr
				Wave 1 (age 18)				
No disadv	8.3	3.1	2.7	39.2	25.1	21.6	85.9	75.7
	1.2	*0.6*	*0.6*	*1.7*	*1.6*	*1.7*	*1.5*	*1.7*
Mod disadv	7.0	3.0	5.6	35.3	21.6	27.5	84.4	66.9
	0.8	*0.5*	*0.7*	*1.3*	*1.2*	*1.3*	*1.1*	*1.3*
Ext disadv	6.7	2.5	8.0	35.0	17.2	30.5	82.8	61.4
	1.0	*0.5*	*1.3*	*2.0*	*1.4*	*1.5*	*1.7*	*1.7*
				Wave 2 (age 20)				
No disadv	9.5	3.6	12.5	24.9	11.2	38.4	74.4	49.2
	1.3	*0.9*	*1.6*	*2.2*	*1.8*	*2.4*	*2.2*	*2.2*
Mod disadv	9.6	3.5	15.8	19.8	9.6	41.8	71.2	42.4
	1.2	*0.6*	*1.4*	*1.7*	*1.5*	*1.8*	*1.6*	*1.9*
Ext disadv	8.1	3.3	20.2	19.4	7.6	41.4	68.4	38.4
	1.2	*0.8*	*2.2*	*2.0*	*1.6*	*2.5*	*2.5*	*2.4*

Gift, loan, nil: receiving financial assistance in the form of gifts or loans, or not receiving financial assistance from parents; Cores: co-residing; Ftrfr: receiving financial transfers; No, Mod, Ext disadv: no, moderate and extensive socioeconomic disadvantage. Standard errors in italics (nonparametric bootstrap with fixed evaluation points). Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have nonmissing values for parental support, youth outcomes and all covariates. Predictions based on multinomial logit models with six categories of parental support evaluated at overall weighted sample means, see Tables A1 and A2.

Table 4: Comparisons of Predicted Educational and Employment Outcomes

	Wave 1 (age 18)				Wave 2 (age 20)			
	Stdy	FtW	PtW	NoW	Stdy	FtW	PtW	NoW
The effect of receiving financial gifts (gift versus no gift) if co-residing								
No disadv	3.0	−16.8	7.2	9.6	10.0	−20.3	5.2	15.1
	4.0	*4.0*	*3.8*	*3.1*	*5.4*	*5.0*	*5.3*	*4.6*
Mod disadv	5.9	−14.3	4.4	10.0	11.6	−18.2	2.9	15.3
	3.5	*3.2*	*2.9*	*2.7*	*5.0*	*5.1*	*4.9*	*3.9*
Ext disadv	10.1	−15.8	6.1	9.7	14.1	−20.4	7.7	12.7
	3.9	*3.7*	*3.9*	*3.3*	*6.6*	*5.6*	*6.3*	*5.3*
The effect of receiving financial gifts (gift versus no gift) if independent								
No disadv	6.4	−22.1	3.6	18.5	18.1	−22.6	15.2	7.4
	8.8	*9.3*	*8.5*	*8.1*	*8.7*	*9.2*	*8.2*	*7.5*
Mod disadv	23.9	−12.4	4.4	7.9	18.0	−22.8	7.0	15.8
	6.0	*7.8*	*6.5*	*6.6*	*7.2*	*6.7*	*5.8*	*6.4*
Ext disadv	16.9	−2.8	11.6	−8.7	21.7	−10.2	−7.4	17.6
	6.7	*6.4*	*7.2*	*6.2*	*6.9*	*8.3*	*7.3*	*6.5*
The effect of co-residence (co-residing versus independent) if receiving gift								
No disadv	−12.5	−1.4	13.2	−11.8	−0.7	−8.0	9.7	−1.8
	5.9	*5.7*	*6.3*	*6.3*	*7.2*	*8.3*	*7.7*	*7.5*
Mod disadv	−9.1	−2.3	16.5	−14.2	−7.0	1.1	7.5	−8.6
	5.8	*5.9*	*5.0*	*5.3*	*7.2*	*6.8*	*6.1*	*6.9*
Ext disadv	−14.7	1.5	−7.4	5.9	−6.8	−7.3	14.7	−7.5
	5.8	*6.2*	*6.9*	*5.9*	*8.1*	*7.3*	*7.4*	*8.3*
The effect of co-residence (co-residing versus independent) if not receiving gift								
No disadv	−9.0	−6.8	9.6	−2.9	7.4	−10.3	19.8	−9.5
	7.3	*7.9*	*8.1*	*6.4*	*6.6*	*6.9*	*5.9*	*5.2*
Mod disadv	9.0	−0.3	16.6	−16.2	−0.6	−3.6	11.7	−8.1
	4.2	*5.3*	*4.3*	*4.3*	*5.4*	*5.2*	*4.6*	*3.3*
Ext disadv	−7.9	14.5	−2.0	−12.5	0.7	2.9	−0.4	−2.5
	4.1	*3.3*	*4.3*	*3.4*	*5.2*	*5.3*	*5.3*	*3.6*
The effect of full parental support versus no support								
No disadv	−6.0	−23.6	16.8	6.7	17.4	−30.6	25.0	5.6
	7.3	*8.0*	*7.7*	*6.4*	*7.3*	*7.3*	*6.1*	*6.3*
Mod disadv	14.8	−14.7	20.9	−6.3	11.0	−21.7	14.6	7.2
	4.1	*5.6*	*4.6*	*4.9*	*5.7*	*6.2*	*5.8*	*5.0*
Ext disadv	2.2	−1.3	4.2	−2.8	14.9	−17.4	7.3	10.1
	5.2	*3.6*	*4.5*	*4.5*	*7.1*	*5.8*	*6.9*	*5.3*

Stdy: Studying (whether working or not); FtW, PtW, NoW: full-time, part-time, and no work (whether studying or not); No, Mod, Ext disadv: no, moderate and extensive socioeconomic disadvantage. Standard errors in italics (nonparametric bootstrap with fixed evaluation points). Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have non-missing values for parental support, youth outcomes and all covariates. Part-time work includes respondents with unknown hours. Predictions based on multinomial logit models with six categories of educational and employment outcomes (all combinations of studying and full-time/part-time/no work) evaluated at overall weighted sample means, see Tables A1 and A4.



No, Mod, Ext: no, moderate, and extensive socioeconomic disadvantage; (a), (b), (c), (d): predictions evaluated at (a) observed covariates, (b) socioeconomic group means of all covariates, (c) socioeconomic group means of parental support and overall means of other covariates, (d) overall means of all covariates. Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have nonmissing values for parental support, youth outcomes and all covariates. Part-time work includes respondents with unknown hours. Predictions based on multinomial logit models with six categories of educational and employment outcomes (all combinations of studying and full-time/part-time/no work) evaluated at weighted sample means, see Table A5.

Figure 1: Predicted Educational and Employment Outcomes

Table A1: Covariate Means and Sample Sizes

	Wave 1 (age 18)				Wave 2 (age 20)			
	All	No	Mod	Ext	All	No	Mod	Ext
Socioeconomic circumstances								
No disadv	0.422	1.000	0.000	0.000	0.418	1.000	0.000	0.000
Mod disadv	0.308	0.000	1.000	0.000	0.316	0.000	1.000	0.000
Ext disadv	0.270	0.000	0.000	1.000	0.267	0.000	0.000	1.000
Parental support								
Cores, gift	0.365	0.418	0.349	0.299	0.229	0.292	0.201	0.163
Cores, no gift	0.450	0.440	0.470	0.442	0.463	0.446	0.488	0.460
Indpt, no gift	0.108	0.055	0.107	0.192	0.211	0.151	0.211	0.305
Indpt, gift	0.078	0.088	0.074	0.067	0.097	0.111	0.100	0.072
Age (months minus 220)								
Mean	5.052	5.079	5.018	5.050	30.27	30.22	30.27	30.33
Highest level of school completed								
Not Year 12	0.256	0.153	0.260	0.412	0.180	0.109	0.185	0.287
Year 12	0.744	0.847	0.740	0.588	0.820	0.891	0.815	0.713
Home state								
NSW+ACT	0.324	0.332	0.314	0.323	0.323	0.342	0.301	0.320
VIC	0.250	0.259	0.266	0.218	0.268	0.265	0.300	0.236
QLD	0.213	0.188	0.225	0.240	0.204	0.196	0.209	0.211
SA	0.079	0.084	0.066	0.086	0.075	0.074	0.068	0.083
WA+NT	0.110	0.118	0.104	0.103	0.099	0.101	0.096	0.100
TAS	0.024	0.019	0.025	0.029	0.031	0.022	0.026	0.050
Health status fair or poor								
No	0.918	0.937	0.917	0.888	0.925	0.928	0.927	0.917
Yes	0.082	0.063	0.083	0.112	0.075	0.072	0.073	0.083
Health limits amount of work								
No	0.934	0.948	0.931	0.916	0.930	0.950	0.931	0.897
Yes	0.066	0.052	0.069	0.084	0.070	0.050	0.069	0.103
Sex								
Female	0.492	0.491	0.496	0.488	0.489	0.484	0.492	0.495
Male	0.508	0.509	0.504	0.512	0.511	0.516	0.508	0.505
Birth year								
1987	0.518	0.524	0.517	0.511	0.489	0.498	0.484	0.482
1988	0.482	0.476	0.483	0.489	0.511	0.502	0.516	0.518

Continued next page.

Table A1 continued

	Wave 1 (age 18)				Wave 2 (age 20)			
	All	No	Mod	Ext	All	No	Mod	Ext
Mother born overseas								
No	0.734	0.763	0.715	0.711	0.738	0.769	0.719	0.714
Yes	0.266	0.237	0.285	0.289	0.262	0.231	0.281	0.286
Father born overseas								
No	0.710	0.728	0.697	0.697	0.701	0.722	0.690	0.681
Yes	0.290	0.272	0.303	0.303	0.299	0.278	0.310	0.319
Ever lived with stepparent								
No	0.847	0.957	0.827	0.698	0.861	0.961	0.830	0.741
Yes	0.153	0.043	0.173	0.302	0.139	0.039	0.170	0.259
Ever lived with single parent								
No	0.699	0.905	0.690	0.387	0.710	0.901	0.713	0.406
Yes	0.301	0.095	0.310	0.613	0.290	0.099	0.287	0.594
Ever lived with grandparents, foster parents etc.								
No	0.911	0.966	0.910	0.826	0.918	0.965	0.912	0.851
Yes	0.089	0.034	0.090	0.174	0.082	0.035	0.088	0.149
Mother completed Year 12 (age 14)								
No	0.522	0.405	0.558	0.662	0.496	0.368	0.546	0.636
Yes	0.478	0.595	0.442	0.338	0.504	0.632	0.454	0.364
Mother's education (age 14) missing								
No	0.919	0.948	0.916	0.880	0.930	0.957	0.927	0.891
Yes	0.081	0.052	0.084	0.120	0.070	0.043	0.073	0.109
Mother employed (age 14)								
No	0.314	0.215	0.304	0.482	0.320	0.214	0.316	0.490
Yes	0.686	0.785	0.696	0.518	0.680	0.786	0.684	0.510
Mother's employment (age 14) missing								
No	0.969	0.985	0.969	0.945	0.973	0.987	0.976	0.947
Yes	0.031	0.015	0.031	0.055	0.027	0.013	0.024	0.053
Mother's occupational status (age 14)								
Mean ANU4 scale	0.378	0.449	0.373	0.273	0.394	0.474	0.386	0.279
Mother's occupation (age 14): other								
No	0.986	0.983	0.989	0.988				
Yes	0.014	0.017	0.011	0.012				
Mother's occupation (age 14): none or missing (wave 2 including other)								
No	0.938	0.951	0.938	0.918	0.820	0.886	0.833	0.702
Yes	0.062	0.049	0.062	0.082	0.180	0.114	0.167	0.298

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Table A1 continued

	Wave 1 (age 18)				Wave 2 (age 20)			
	All	No	Mod	Ext	All	No	Mod	Ext
Father completed Year 12 (age 14)								
No	0.580	0.442	0.608	0.764	0.546	0.406	0.583	0.722
Yes	0.420	0.558	0.392	0.236	0.454	0.594	0.417	0.278
Father's education (age 14) missing								
No	0.853	0.949	0.872	0.682	0.871	0.956	0.882	0.723
Yes	0.147	0.051	0.128	0.318	0.129	0.044	0.118	0.277
Father employed (age 14)								
No	0.182	0.041	0.139	0.452	0.170	0.033	0.124	0.441
Yes	0.818	0.959	0.861	0.548	0.830	0.967	0.876	0.559
Father's employment (age 14) missing								
No	0.896	0.981	0.925	0.729	0.904	0.982	0.928	0.755
Yes	0.104	0.019	0.075	0.271	0.096	0.018	0.072	0.245
Father's occupational status (age 14)								
Mean ANU4 scale	0.381	0.486	0.360	0.242	0.404	0.514	0.379	0.262
Father's occupation (age 14): other or missing								
No	0.835	0.931	0.857	0.659	0.853	0.948	0.864	0.689
Yes	0.165	0.069	0.143	0.341	0.147	0.052	0.136	0.311
Number of observations								
Total	4079	1027	1580	1472	2362	692	913	757
Descript sample	3527	898	1341	1288	2263	661	875	727
Regressn sample	3342	871	1282	1189	2150	641	840	669

All: full estimation sample; No, Mod, Ext (disadv): no, moderate, and extensive socioeconomic disadvantage; Descript sample: respondents who are not in school and have nonmissing values for parental support and youth outcomes (see Tables 1 and 2); Regressn sample: respondents who are not in school and have nonmissing values for parental support, youth outcomes and all covariates (used for regression analysis). Source: Youth in Focus Survey data. Covariate (weighted) means for regression sample; weights not adjusted for sample restrictions.

Table A2: Estimation Results for Models of Parental Support

	Wave 1 (age 18)					Wave 2 (age 20)				
	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil
Socioeconomic circumstances (base: no disadv)										
Mod disadv	−0.057	0.077	0.842	−0.041	0.345	0.241	0.188	0.468	0.076	0.316
	0.183	*0.271*	*0.276*	*0.126*	*0.127*	*0.209*	*0.299*	*0.198*	*0.210*	*0.148*
Ext disadv	−0.104	−0.084	1.210	−0.261	0.457	0.092	0.168	0.733	−0.136	0.326
	0.224	*0.316*	*0.291*	*0.159*	*0.148*	*0.278*	*0.384*	*0.237*	*0.276*	*0.190*
Age										
Months minus 220	−0.064	−0.180	0.142	0.029	0.049	0.078	0.227	0.204	0.029	0.027
	0.064	*0.089*	*0.063*	*0.045*	*0.041*	*0.053*	*0.071*	*0.045*	*0.054*	*0.037*
Highest level of school completed (base: less than Year 12)										
Year 12	−0.195	−0.708	−1.344	−0.737	−0.774	0.096	−1.155	−0.825	−0.716	−0.542
	0.191	*0.227*	*0.162*	*0.130*	*0.118*	*0.294*	*0.306*	*0.212*	*0.256*	*0.194*
Home state (base: NSW+ACT)										
VIC	−0.015	−0.871	−0.289	−0.018	−0.251	0.071	−0.566	−0.235	0.186	−0.057
	0.194	*0.325*	*0.203*	*0.131*	*0.126*	*0.224*	*0.332*	*0.199*	*0.221*	*0.153*
QLD	0.567	0.563	0.531	0.262	0.410	0.605	0.284	0.608	0.186	0.328
	0.197	*0.248*	*0.193*	*0.145*	*0.131*	*0.248*	*0.334*	*0.213*	*0.268*	*0.181*
SA	0.420	−0.034	0.436	−0.093	−0.016	0.008	−0.284	0.053	0.173	−0.319
	0.266	*0.397*	*0.260*	*0.211*	*0.191*	*0.347*	*0.469*	*0.286*	*0.329*	*0.243*
WA+NT	0.095	0.417	−0.009	0.187	0.302	−0.088	0.098	0.122	0.353	0.069
	0.268	*0.317*	*0.276*	*0.180*	*0.163*	*0.340*	*0.424*	*0.272*	*0.300*	*0.217*
TAS	0.766	0.691	0.450	0.187	−0.096	0.547	0.729	0.948	−0.813	−0.054
	0.413	*0.510*	*0.403*	*0.352*	*0.341*	*0.511*	*0.604*	*0.416*	*0.798*	*0.416*

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Table A2 continued

	Wave 1 (age 18)					Wave 2 (age 20)				
	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil
Health status fair or poor (base: excellent, very good, or good)										
Yes	−0.164	0.749	0.666	0.591	0.129	0.442	0.145	0.144	0.014	−0.349
	0.300	*0.293*	*0.226*	*0.188*	*0.189*	*0.318*	*0.427*	*0.280*	*0.340*	*0.248*
Health limits amount of work (base: no)										
Yes	0.401	0.496	0.589	0.200	0.137	−0.718	0.180	−0.221	−0.007	−0.040
	0.280	*0.332*	*0.245*	*0.213*	*0.202*	*0.403*	*0.433*	*0.296*	*0.350*	*0.243*
Sex (base: female)										
Male	−0.376	0.032	−0.276	0.313	0.391	0.050	−0.272	0.196	0.274	0.460
	0.150	*0.199*	*0.150*	*0.103*	*0.096*	*0.178*	*0.253*	*0.153*	*0.178*	*0.124*
Birth year (base: 1987)										
1988	−0.483	−0.764	0.082	−0.079	0.017	0.239	0.331	0.560	−0.012	−0.015
	0.238	*0.331*	*0.236*	*0.168*	*0.155*	*0.236*	*0.321*	*0.201*	*0.237*	*0.165*
Mother born overseas (base: no)										
Yes	−0.539	−0.394	−0.446	−0.352	−0.393	−0.565	−0.384	−0.604	−0.262	−0.298
	0.195	*0.263*	*0.197*	*0.134*	*0.123*	*0.238*	*0.335*	*0.201*	*0.226*	*0.154*
Father born overseas (base: no)										
Yes	−0.400	−0.783	−0.654	−0.369	−0.327	−0.708	−0.911	−0.758	−0.398	−0.309
	0.187	*0.273*	*0.197*	*0.131*	*0.120*	*0.229*	*0.338*	*0.193*	*0.216*	*0.148*
Ever lived with stepparent (base: no)										
Yes	0.096	0.297	0.432	−0.175	−0.040	0.282	0.420	0.400	−0.036	0.326
	0.214	*0.258*	*0.184*	*0.171*	*0.146*	*0.305*	*0.396*	*0.250*	*0.320*	*0.231*

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Table A2 continued

	Wave 1 (age 18)					Wave 2 (age 20)				
	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil
Ever lived with single parent (base: no)										
Yes	0.192	0.404	0.069	−0.128	0.052	0.514	−0.056	0.442	0.745	0.186
	0.198	*0.257*	*0.187*	*0.147*	*0.130*	*0.253*	*0.357*	*0.213*	*0.251*	*0.185*
Ever lived with grandparents, foster parents etc. (base: no)										
Yes	1.230	1.079	0.688	0.230	0.112	0.858	0.873	0.431	−0.403	−0.087
	0.220	*0.270*	*0.207*	*0.203*	*0.183*	*0.308*	*0.382*	*0.271*	*0.397*	*0.254*
Mother completed Year 12 (age 14) (base: no)										
Yes	0.162	0.455	−0.167	0.050	0.002	−0.145	0.101	−0.060	0.109	−0.191
	0.163	*0.234*	*0.173*	*0.116*	*0.108*	*0.203*	*0.275*	*0.173*	*0.202*	*0.141*
Mother's education (age 14) missing (base: no)										
Yes	−0.009	1.132	0.627	−0.002	0.200	−0.539	−0.884	−0.094	−0.113	−0.266
	0.324	*0.333*	*0.246*	*0.228*	*0.201*	*0.444*	*0.591*	*0.315*	*0.422*	*0.280*
Mother employed (age 14) (base: no)										
Yes	0.178	0.266	−0.109	0.015	−0.148	0.214	0.523	−0.156	−0.060	−0.175
	0.180	*0.255*	*0.171*	*0.125*	*0.113*	*0.236*	*0.337*	*0.190*	*0.225*	*0.155*
Mother's employment (age 14) missing (base: no)										
Yes	0.016	−0.209	−0.566	−0.424	−0.626	0.581	1.246	0.442	−0.301	0.101
	0.460	*0.523*	*0.387*	*0.346*	*0.294*	*0.645*	*0.723*	*0.486*	*0.733*	*0.445*
Mother's occupational status (age 14) (base: no)										
ANU4 scale	−0.125	0.519	−0.165	0.079	−0.381	−0.110	−0.472	−0.140	−0.179	−0.561
	0.310	*0.424*	*0.329*	*0.220*	*0.209*	*0.419*	*0.605*	*0.377*	*0.417*	*0.299*

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Table A2 continued

	Wave 1 (age 18)					Wave 2 (age 20)				
	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil
Mother's occupation (age 14): other (base: no)										
Yes	−1.129	0.396	−0.709	0.982	−0.097					
	1.061	*0.829*	*0.822*	*0.409*	*0.467*					
Mother's occupation (age 14): none or missing (wave 2 including other) (base: no)										
Yes	−0.172	0.489	−0.015	0.083	−0.089	−0.363	−0.101	−0.112	−0.426	−0.406
	0.348	*0.432*	*0.298*	*0.229*	*0.203*	*0.348*	*0.450*	*0.270*	*0.335*	*0.223*
Father completed Year 12 (age 14) (base: no)										
Yes	−0.085	0.000	−0.185	−0.193	−0.172	0.055	−0.172	−0.366	−0.550	−0.114
	0.172	*0.239*	*0.191*	*0.122*	*0.114*	*0.208*	*0.286*	*0.182*	*0.208*	*0.146*
Father's education (age 14) missing (base: no)										
Yes	0.106	−0.170	0.360	0.427	−0.042	−0.253	−0.400	−0.128	−0.408	−0.050
	0.317	*0.417*	*0.269*	*0.226*	*0.216*	*0.452*	*0.581*	*0.332*	*0.423*	*0.291*
Father employed (age 14) (base: no)										
Yes	0.708	−0.481	−0.193	0.538	0.207	−0.458	−0.021	−0.086	−0.093	−0.053
	0.324	*0.296*	*0.225*	*0.213*	*0.171*	*0.348*	*0.473*	*0.289*	*0.364*	*0.253*
Father's employment (age 14) missing (base: no)										
Yes	0.436	−0.687	−0.404	−0.129	0.042	−1.296	−1.293	−0.852	−0.962	−0.909
	0.472	*0.520*	*0.362*	*0.340*	*0.288*	*0.617*	*0.776*	*0.456*	*0.609*	*0.402*
Father's occupational status (age 14)										
ANU4 scale	−0.130	−0.342	−0.832	−0.600	−0.848	0.442	−0.919	−1.265	−0.525	−0.807
	0.380	*0.542*	*0.446*	*0.272*	*0.260*	*0.426*	*0.648*	*0.398*	*0.441*	*0.306*

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Table A2 continued

	Wave 1 (age 18)					Wave 2 (age 20)				
	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil	Indpt Gift	Indpt Loan	Indpt Nil	Cores Loan	Cores Nil
Father's occupation (age 14): other or missing (base: no)										
Yes	0.085	0.452	−0.113	−0.122	−0.160	0.513	0.941	0.121	0.031	0.357
	0.328	*0.392*	*0.300*	*0.233*	*0.206*	*0.438*	*0.505*	*0.348*	*0.441*	*0.298*
Constant										
	−1.470	−0.913	−1.560	−0.283	0.143	−3.240	−7.223	−5.484	−0.497	0.905
	0.605	*0.773*	*0.595*	*0.419*	*0.378*	*1.790*	*2.426*	*1.508*	*1.809*	*1.253*

Indpt: not co-residing with parents; Cores: co-residing; Gift, loan, nil: receiving financial assistance in the form of gifts or loans, or not receiving financial assistance from parents; No, Mod, Ext disadv: no, moderate, and extensive socioeconomic disadvantage. Standard errors in italics (nonparametric bootstrap with fixed evaluation points). Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have nonmissing values for parental support, youth outcomes and all covariates. Estimates for multinomial logit models with parameters for co-residing and receiving gifts normalized to 0.

Table A3: Specification Tests for Models of Educational and Employment Outcomes

	Wave 1 (Age 18)		Wave 2 (Age 20)	
	DF	P	DF	P
Dropping variables (across all six outcomes)				
Dropping socioeconomic circumstances	58	0.0	60	80.1
Dropping parental support	73	0.0	75	0.0
Parameter restrictions (across all six outcomes)				
Cores+Gift=Cores+Loan	15	0.0	15	0.0
Cores+Loan=Cores+Nil	15	21.8	15	52.8
Indpt+Gift=Indpt+Loan	15	0.0	15	38.4
Indpt+Loan=Indpt+Nil	14	45.7	15	54.8
Cores+Loan=Cores+Nil and Indpt+Loan=Indpt+Nil	29	28.7	30	58.7
Cores+Gift=Cores+Loan and Cores+Loan=Cores+Nil	30	0.0	30	0.0
Indpt+Gift=Indpt+Loan and Indpt+Loan=Indpt+Nil	29	0.0	30	0.3

DF: degrees of freedom; P: p-value of likelihood ratio tests in percent; Cores: co-residing; Indpt: not co-residing with parents; Gift, loan, nil: receiving financial assistance in the form of gifts or loans, or not receiving financial assistance from parents. Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have nonmissing values for parental support, youth outcomes, and all covariates. The general multinomial logit models have six categories of educational and employment outcomes (all combinations of studying and full-time/part-time/no work) and among the covariates six categories of parental support (all combinations of coresiding/independent and receiving a gift/loan/nil).

Table A4: Estimation Results for Models of Educational and Employment Outcomes

	Wave 1 (age 18)					Wave 2 (age 20)				
	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW
Socioeconomic circumstances × parental support (base: extensive disadvantage, cores=1, gift=1)										
No disadv	−0.563	−0.869	−0.420	−0.611	−1.044	0.255	−0.252	−0.031	0.093	0.248
	0.304	*0.246*	*0.283*	*0.266*	*0.356*	*0.538*	*0.357*	*0.429*	*0.503*	*0.608*
Mod disadv	−0.041	−0.578	−0.300	−0.378	−0.723	0.535	−0.205	0.410	0.051	0.620
	0.266	*0.219*	*0.263*	*0.242*	*0.297*	*0.525*	*0.347*	*0.398*	*0.506*	*0.553*
Cores=1, gift=0	0.747	−0.277	0.839	0.332	0.339	1.334	−0.533	0.812	0.783	0.564
	0.262	*0.243*	*0.251*	*0.244*	*0.263*	*0.465*	*0.337*	*0.355*	*0.433*	*0.493*
Cores=0, gift=0	−0.155	0.142	0.298	−0.087	0.171	1.172	−0.426	0.777	0.749	0.728
	0.365	*0.310*	*0.328*	*0.322*	*0.327*	*0.502*	*0.395*	*0.389*	*0.468*	*0.512*
Cores=0, gift=1	−0.398	−0.451	−0.637	−0.894	−1.290	1.264	0.575	−0.006	−0.157	0.506
	0.447	*0.376*	*0.439*	*0.425*	*0.499*	*0.642*	*0.482*	*0.605*	*0.758*	*0.702*
N, Cores=1, gift=0	0.289	−0.750	−0.480	−0.185	−0.014	−0.338	−0.444	−0.096	−0.283	−0.759
	0.362	*0.389*	*0.347*	*0.342*	*0.447*	*0.583*	*0.491*	*0.481*	*0.562*	*0.712*
N, Cores=0, gift=0	1.642	0.254	0.361	0.258	−15.000	0.552	1.003	0.952	0.090	0.127
	0.595	*0.615*	*0.595*	*0.652*	*0.000*	*0.675*	*0.598*	*0.570*	*0.689*	*0.791*
N, Cores=0, gift=1	1.107	1.165	0.282	0.435	1.609	−1.019	−0.099	0.580	−0.059	−1.518
	0.608	*0.507*	*0.657*	*0.641*	*0.782*	*0.830*	*0.613*	*0.755*	*0.970*	*1.296*
M, Cores=1, gift=0	−0.110	−0.311	−0.296	−0.088	−0.310	−0.276	−0.322	−0.134	0.252	−0.740
	0.333	*0.330*	*0.329*	*0.317*	*0.388*	*0.571*	*0.472*	*0.452*	*0.562*	*0.638*
M, Cores=0, gift=0	1.159	0.798	1.215	0.771	1.242	−0.064	0.679	0.293	−0.146	−0.589
	0.526	*0.479*	*0.484*	*0.499*	*0.517*	*0.634*	*0.532*	*0.508*	*0.645*	*0.688*
M, Cores=0, gift=1	1.024	1.293	0.679	0.497	1.892	−1.271	0.134	0.160	−0.163	−1.079
	0.578	*0.489*	*0.613*	*0.607*	*0.668*	*0.819*	*0.604*	*0.730*	*0.981*	*0.959*

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Table A4 continued

	Wave 1 (age 18)					Wave 2 (age 20)				
	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW
Age										
Months minus 220	0.024	0.057	0.036	0.092	−0.030	0.136	0.065	0.179	0.172	0.283
	0.052	*0.053*	*0.052*	*0.052*	*0.062*	*0.045*	*0.048*	*0.041*	*0.050*	*0.059*
Highest level of school completed (base: less than Year 12)										
Year 12	−1.942	−0.532	−1.847	−1.308	−2.135	−1.625	−0.823	−2.019	−1.771	−2.561
	0.169	*0.199*	*0.169*	*0.177*	*0.187*	*0.260*	*0.308*	*0.245*	*0.273*	*0.280*
Home state (base: NSW+ACT)										
VIC	−0.260	−0.322	−0.304	−0.073	−0.539	−0.214	−0.114	−0.076	−0.245	−0.296
	0.156	*0.153*	*0.163*	*0.156*	*0.188*	*0.188*	*0.196*	*0.176*	*0.209*	*0.263*
QLD	0.178	−0.115	0.559	0.368	−0.000	0.134	−0.105	0.446	0.211	0.140
	0.165	*0.172*	*0.161*	*0.165*	*0.192*	*0.205*	*0.233*	*0.191*	*0.226*	*0.275*
SA	−0.157	−0.107	−0.112	0.105	−0.356	−0.209	0.316	0.168	−0.373	−0.082
	0.240	*0.230*	*0.244*	*0.232*	*0.275*	*0.309*	*0.287*	*0.270*	*0.361*	*0.390*
WA+NT	0.230	−0.462	0.531	−0.113	−0.503	0.184	−0.422	0.591	0.083	−0.021
	0.201	*0.225*	*0.195*	*0.222*	*0.269*	*0.267*	*0.322*	*0.236*	*0.295*	*0.371*
TAS	0.935	0.323	0.835	0.736	0.089	−0.552	0.340	−0.126	−0.332	0.218
	0.419	*0.452*	*0.421*	*0.423*	*0.496*	*0.476*	*0.412*	*0.401*	*0.494*	*0.484*
Health status fair or poor (base: excellent, very good, or good)										
Yes	0.176	0.638	0.041	0.380	0.280	0.293	0.078	0.378	−0.080	0.437
	0.238	*0.224*	*0.238*	*0.225*	*0.244*	*0.301*	*0.302*	*0.269*	*0.340*	*0.338*
Health limits amount of work (base: no)										
Yes	−0.555	0.655	−0.377	0.055	1.102	−0.052	0.759	−0.107	0.501	1.074
	0.297	*0.232*	*0.282*	*0.259*	*0.239*	*0.331*	*0.297*	*0.304*	*0.324*	*0.330*

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Table A4 continued

	Wave 1 (age 18)					Wave 2 (age 20)				
	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW
Sex (base: female)										
Male	1.303	0.467	0.782	0.152	0.396	1.420	0.692	0.820	0.257	0.417
	0.123	*0.125*	*0.121*	*0.124*	*0.147*	*0.153*	*0.159*	*0.138*	*0.169*	*0.204*
Birth year (base: 1987)										
1988	0.281	0.409	0.247	0.567	−0.053	0.328	0.332	0.366	0.496	0.738
	0.195	*0.197*	*0.193*	*0.196*	*0.234*	*0.197*	*0.211*	*0.180*	*0.219*	*0.263*
Mother born overseas (base: no)										
Yes	−0.469	0.271	−0.280	−0.362	−0.152	−0.653	0.278	−0.324	−0.376	−0.390
	0.161	*0.150*	*0.156*	*0.159*	*0.185*	*0.207*	*0.195*	*0.178*	*0.216*	*0.270*
Father born overseas (base: no)										
Yes	−0.146	0.307	−0.240	−0.111	−0.091	−0.468	0.073	−0.286	−0.233	−0.250
	0.153	*0.149*	*0.153*	*0.153*	*0.183*	*0.192*	*0.193*	*0.171*	*0.206*	*0.255*
Ever lived with stepparent (base: no)										
Yes	0.394	0.361	0.448	0.432	0.388	−0.186	0.030	−0.525	−0.228	0.187
	0.191	*0.201*	*0.187*	*0.189*	*0.205*	*0.251*	*0.268*	*0.227*	*0.268*	*0.284*
Ever lived with single parent (base: no)										
Yes	−0.099	−0.532	−0.242	−0.220	−0.130	−0.013	−0.210	0.460	0.174	0.036
	0.165	*0.175*	*0.165*	*0.167*	*0.188*	*0.216*	*0.229*	*0.191*	*0.231*	*0.269*
Ever lived with grandparents, foster parents etc. (base: no)										
Yes	0.055	0.211	0.407	0.567	0.841	0.262	0.242	0.108	0.400	1.002
	0.242	*0.236*	*0.224*	*0.224*	*0.230*	*0.298*	*0.295*	*0.271*	*0.302*	*0.299*

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Table A4 continued

	Wave 1 (age 18)					Wave 2 (age 20)				
	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW
Mother completed Year 12 (age 14) (base: no)										
Yes	−0.025	0.074	−0.017	−0.004	−0.058	−0.280	−0.318	−0.261	−0.006	−0.130
	0.135	*0.138*	*0.135*	*0.136*	*0.165*	*0.167*	*0.181*	*0.152*	*0.185*	*0.230*
Mother's education (age 14) missing (base: no)										
Yes	0.136	0.241	0.131	0.022	0.159	0.474	0.376	0.224	0.476	0.622
	0.255	*0.269*	*0.251*	*0.261*	*0.275*	*0.353*	*0.365*	*0.331*	*0.372*	*0.391*
Mother employed (age 14) (base: no)										
Yes	−0.032	−0.088	0.042	0.285	−0.377	−0.145	−0.382	−0.082	−0.256	−0.311
	0.144	*0.144*	*0.144*	*0.149*	*0.167*	*0.188*	*0.196*	*0.173*	*0.203*	*0.244*
Mother's employment (age 14) missing (base: no)										
Yes	0.219	−0.302	0.374	0.819	0.209	−0.212	−0.132	−0.046	−0.341	−0.348
	0.399	*0.444*	*0.390*	*0.386*	*0.421*	*0.528*	*0.502*	*0.468*	*0.575*	*0.585*
Mother's occupational status (age 14)										
ANU4 scale	−0.531	−0.482	−0.321	−0.812	−0.425	−0.858	−0.075	−0.913	−0.856	−0.463
	0.256	*0.260*	*0.257*	*0.265*	*0.313*	*0.361*	*0.387*	*0.336*	*0.408*	*0.508*
Mother's occupation (age 14): other (base: no)										
Yes	−1.259	−0.666	0.009	−0.618	−0.366					
	0.641	*0.608*	*0.482*	*0.532*	*0.642*					
Mother's occupation (age 14): none or missing (wave 2 including other) (base: no)										
Yes	−0.681	−0.220	−0.266	−0.079	−0.195	−0.686	0.235	−0.255	−0.474	−0.375
	0.279	*0.258*	*0.263*	*0.253*	*0.283*	*0.278*	*0.281*	*0.247*	*0.295*	*0.350*

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Table A4 continued

	Wave 1 (age 18)					Wave 2 (age 20)				
	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW	Stdy FtW	Stdy NoW	NoSt FtW	NoSt PtW	NoSt NoW
Father completed Year 12 (age 14) (base: no)										
Yes	−0.339	−0.223	0.019	−0.259	−0.358	−0.138	0.008	−0.312	−0.115	−0.261
	0.140	*0.146*	*0.140*	*0.144*	*0.181*	*0.171*	*0.191*	*0.158*	*0.194*	*0.243*
Father's education (age 14) missing (base: no)										
Yes	−0.316	0.156	0.034	−0.056	0.219	0.311	0.843	0.190	0.721	0.581
	0.275	*0.271*	*0.261*	*0.265*	*0.285*	*0.369*	*0.367*	*0.330*	*0.367*	*0.408*
Father employed (age 14) (base: no)										
Yes	0.336	0.192	0.248	0.113	−0.246	−0.267	−0.222	−0.304	−0.173	−0.602
	0.235	*0.227*	*0.226*	*0.226*	*0.231*	*0.292*	*0.303*	*0.263*	*0.319*	*0.336*
Father's employment (age 14) missing (base: no)										
Yes	−0.138	0.279	0.008	−0.273	−0.700	−0.621	0.176	−0.373	−0.861	−1.058
	0.393	*0.372*	*0.372*	*0.369*	*0.387*	*0.496*	*0.485*	*0.436*	*0.505*	*0.558*
Father's occupational status (age 14)										
ANU4 scale	−0.562	−0.122	−0.869	0.083	0.046	−1.121	−0.505	−1.378	−0.633	−1.282
	0.317	*0.320*	*0.319*	*0.319*	*0.406*	*0.378*	*0.394*	*0.352*	*0.424*	*0.550*
Father's occupation (age 14): other or missing (base: no)										
Yes	0.379	0.341	−0.014	0.701	0.748	−0.472	−0.669	−0.781	−0.107	−0.381
	0.266	*0.271*	*0.267*	*0.261*	*0.300*	*0.329*	*0.372*	*0.304*	*0.355*	*0.419*
Constant										
	0.321	−0.300	0.409	−0.129	1.594	−3.514	−1.669	−3.759	−4.435	−7.389
	0.495	*0.493*	*0.490*	*0.489*	*0.549*	*1.522*	*1.580*	*1.373*	*1.670*	*1.988*

Stdy: Studying; NoSt: Not studying; FtW, PtW, NoW: full-time, part-time, and no work; No, Mod, Ext disadv: no, moderate, and extensive socioeconomic disadvantage. Standard errors in italics (nonparametric bootstrap with fixed evaluation points). Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have nonmissing values for parental support, youth outcomes and all covariates. Part-time work includes respondents with unknown hours. Estimates for multinomial logit models with parameters for studying and working part time normalized to 0.

Table A5: Predicted Educational and Employment Outcomes

	Wave 1 (age 18)				Wave 2 (age 20)			
	Stdy	FtW	PtW	NoW	Stdy	FtW	PtW	NoW
At observed covariates (a)								
No disadv	69.5	31.7	52.5	15.8	68.8	34.9	49.9	15.2
	1.5	*1.5*	*1.7*	*1.4*	*1.9*	*1.9*	*2.1*	*1.4*
Mod disadv	61.3	37.1	41.9	21.0	58.0	42.8	39.8	17.4
	1.3	*1.4*	*1.4*	*1.0*	*1.6*	*2.1*	*1.9*	*1.3*
Ext disadv	48.8	33.8	33.1	33.1	53.5	39.0	35.7	25.3
	1.4	*1.4*	*1.2*	*1.3*	*1.8*	*1.7*	*1.7*	*1.6*
At socioeconomic group means of all covariates (b)								
No disadv	68.8	30.9	56.8	12.3	67.3	34.2	51.7	14.1
	1.9	*1.9*	*2.1*	*1.3*	*2.6*	*2.8*	*3.0*	*2.0*
Mod disadv	58.2	38.3	42.0	19.7	54.2	46.3	38.3	15.4
	1.6	*1.6*	*1.6*	*1.1*	*2.2*	*2.7*	*2.5*	*1.4*
Ext disadv	45.3	35.0	33.0	32.0	50.0	42.5	34.5	23.0
	2.0	*1.6*	*1.5*	*1.7*	*2.6*	*2.4*	*2.5*	*1.9*
At socioeconomic group means of parental support, overall means of other covars (c)								
No disadv	64.4	35.4	51.6	13.0	60.5	39.3	44.6	16.1
	2.3	*2.1*	*2.2*	*1.4*	*2.9*	*3.1*	*3.2*	*2.5*
Mod disadv	58.4	37.6	42.6	19.8	54.9	45.4	39.2	15.4
	1.7	*1.6*	*1.6*	*1.1*	*2.3*	*2.7*	*2.6*	*1.5*
Ext disadv	52.7	32.7	38.7	28.6	59.7	37.5	43.1	19.3
	2.0	*2.0*	*1.9*	*1.9*	*2.7*	*2.3*	*2.7*	*2.0*
At overall means of parental support, socioeconomic group means of other covars								
No disadv	69.5	32.6	56.4	11.0	66.0	36.4	49.8	13.8
	1.9	*2.0*	*2.2*	*1.3*	*2.6*	*2.9*	*3.0*	*1.9*
Mod disadv	58.4	38.0	42.0	20.0	54.5	45.8	38.4	15.8
	1.6	*1.6*	*1.6*	*1.1*	*2.2*	*2.7*	*2.6*	*1.5*
Ext disadv	45.7	35.0	33.3	31.6	51.5	41.1	34.8	24.1
	2.1	*1.7*	*1.5*	*1.7*	*2.9*	*2.7*	*2.7*	*2.1*
At overall means of all covariates (d)								
No disadv	65.5	37.3	51.4	11.3	59.2	41.5	42.8	15.7
	2.3	*2.2*	*2.3*	*1.4*	*2.9*	*3.0*	*3.2*	*2.4*
Mod disadv	58.6	37.3	42.6	20.1	55.2	45.0	39.3	15.8
	1.7	*1.6*	*1.6*	*1.2*	*2.3*	*2.7*	*2.6*	*1.5*
Ext disadv	53.0	32.7	39.0	28.3	61.1	36.1	43.6	20.3
	2.1	*2.0*	*1.9*	*2.0*	*2.9*	*2.4*	*2.8*	*2.1*

Stdy: Studying (whether working or not); FtW, PtW, NoW: full-time, part-time, and no work (whether studying or not); No, Mod, Ext disadv: no, moderate, and extensive socioeconomic disadvantage; covars: covariates. Standard errors in italics (nonparametric bootstrap with fixed evaluation points). Source: Youth in Focus Survey data. Sample restricted to respondents who are not in school and have nonmissing values for parental support, youth outcomes and all covariates. Part-time work includes respondents with unknown hours. Predictions based on multinomial logit models with six categories of educational and employment outcomes (all combinations of studying and full-time/part-time/no work) evaluated at weighted sample means, see Tables A1 and A4.