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Is Leaving Home a Hardship?

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Abstract

Nest-leaving—the transition of young adults from their parents' homes to other living arrangements—is a major life-course milestone. Although the causes of nest-leaving have been extensively researched, only a few studies have examined the changes in young adults' own assessments of their well-being that immediately precede and follow these transitions. This study uses the Household, Income and Labour Dynamics in Australia (HILDA) survey to document the trajectories of financial hardships, food consumption, and other well-being outcomes among Australians who left their parents' homes between the ages of 18 and 25 years. The study estimates multivariate fixed-effects models that compare outcomes before and after nest-leaving transitions to mitigate the effects of confounding characteristics. Men and women report increased financial hardships in the years that they leave home and in the first few years that follow. In particular, men and women both report more frequently going without meals and needing to ask friends and family for financial help. Women additionally report more frequently missing utility and housing payments.

1. Introduction

The road to adulthood has many milestones. In modern societies, these include completing schooling, initiating a career, moving to a new household apart from parents, and possibly forming a family. Besides incorporating many specific attainments, Hogan and Astone (1986) have pointed out that the road to adulthood is age-graded; that the road can vary depending on culture, cohort, and circumstances; and that the milestones are inter-related, involve elements of intentionality, and are consequential. This paper investigates the circumstances that precede and follow one milestone—young adults moving from their parents' homes into residences of their own, or nest-leaving.

Nest-leaving has been studied extensively, though much of this research examines nest-leaving as an outcome.[1] Studies have also considered the consequences associated with unusual and non-standard transitions, such as running away from home (e.g., Tucker et al. 2011, Young et al. 1983), leaving foster care (see the reviews by Collins 2001 and Stein 2006), early parenthood (see the reviews by Hoffman 1998 and Smock and Greenland 2010), and leaving home late (Billari and Tabellini 2011). However, only a few studies have directly examined the possible consequences associated with normative nest-leaving.

Differences in well-being associated with co-residence and non-co-residence are central to rational-choice explanations of nest-leaving. Theoretical economic models by Ermisch (1999), Manacorda and Moretti (2006), McElroy (1985), Rosenzweig and Wolpin (1993) and others rely on comparisons of well-being, as represented by utility functions, inside and outside the parental home. Direct preferences regarding either co-residence or independent living enter the utility functions in several models, but incomes and implied consumption opportunities in each situation enter as well. Empirical research has

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[1] The relevant studies literally run from A-Z; examples include Avery et al. (1992), Cobb-Clark and Ribar (2012), Ermisch (1999), Flatau et al. (2007), Giannelli and Monfardini (2003), Goldscheider et al. (1993), Rosenzweig and Wolpin (1993, 1994), Whittington and Peters (1996), and Zorlu and Mulder (2011).

incorporated some elements of decision-makers' economic opportunity sets, such as house prices (Ermisch 1999), tuition costs (Rosenzweig and Wolpin 1993), public assistance generosity (Rosenzweig and Wolpin 1994), or labor market conditions, but has less frequently investigated young adults' assessments of their well-being.

This study uses 2001-2009 data from the Household, Income and Labour Dynamics in Australia (HILDA) survey, an annual longitudinal survey of youths and adults from more than 7,000 households, to document the year-by-year trajectories of financial hardships, food consumption, and other well-being outcomes among Australians who left their parents' homes between the ages of 18 and 25 years. The study estimates multivariate fixed-effects models that compare outcomes before and after nest-leaving transitions for the same individuals to mitigate the effects of confounding characteristics.

The HILDA is especially well-suited for this analysis because it treats all household members who are 15 years of age and older as adults for interview purposes, gathers detailed economic and well-being information from all the adults in a household, and continues to gather the same indicators on a yearly basis, even after people move out of their original households.

The Australian context is also interesting. Typical nest-leaving ages fall between the early extremes of the northern European countries and the late extremes of the southern European countries. Flatau et al. (2007) document that median home-leaving ages were stable at about 19 years for women and 20 years for men for Australians born between 1952 until 1976. However, ages have risen with more recent birth cohorts. Australia also provides modest means-tested support through the Youth Allowance program, starting as early as age 16. Over the period that I study, youths who were 16 or 17 years old and living at home could receive a maximum of just over $5,000; co-resident young adults, including students, who were 18 years old or older could receive a maximum of approximately $6,000, and young

adults who were living on their own could receive a maximum of approximately $9,200 (Ryan 2013b). Although some Australians travel to pursue tertiary education, co-residence with parents is also common among college students. Cobb-Clark (2008) provides a thorough overview of nest-leaving in Australia.

Besides utilizing the rich data from the HILDA survey and examining hardships that accompany nest-leaving in Australia, my study makes several other contributions. First, it carefully relates young adults' reports of hardships to the timing of their nest leaving, distinguishing among several specific years before and after the transition. This allows me to examine whether hardships appear in the year immediately preceding a transition (and possibly prompt the transition) and whether hardships diminish the longer a young adult lives apart. Second, my empirical analyses include longitudinal fixed effects models to mitigate possible biases associated with unobserved heterogeneity. Finally, I extend the empirical analyses to include nutritional outcomes and global measures of financial well-being and satisfaction. These analyses can help to corroborate the reports of hardships. They also provide indirect information on whether any observed hardships might be balanced by positive aspects of independent living.

2. Previous Studies of Outcomes Following Nest-Leaving

There are many reasons why leaving home could contribute to hardships for young people. Co-residence can be a valuable in-kind transfer. Co-resident youth get the services of a home, often at a below-market rent or with no rent whatsoever. The simple change from paying little or nothing for housing to paying the full market cost would reduce the income available for other consumption and reduce well-being. If the price of a good (especially a large consumption item like housing) goes up, economists generally expect indirect utility to go down.

Reduced-rent and a place to stay are not the only benefits of co-residence. Parents often supply food, pay for utilities, and provide other goods beyond what a landlord would provide. Many of the goods in parents' homes are also public—television viewing, entertainment systems, internet services, heat and air conditioning can all be shared. Again, a young adult transitioning to a separate residence would have to pay for or forego these items, reducing well-being.

Why leave then? One possibility is that the departure is involuntary because the youth is kicked out or the parents' home is lost. Another possibility is that a change in opportunities from a job or schooling offer leads to a spatial mismatch. Housing needs could change if, for instance, the young adult found a romantic partner who could not be accommodated in the parental home. Young adults could also value privacy and independence. Moves for any of these voluntary reasons would be utility-enhancing on net; nevertheless, they could still entail trade-offs in the form of reduced consumption and increased financial hardships.

A few empirical studies have examined the economic and well-being circumstances of nest-leavers.[2] Card and Lemieux (2000) analysed repeated cross-section data of the incomes, wages, activities, and living standards of U.S. and Canadian youth. They found that young adults living apart from their parents where over-represented in poverty. Young adults living independently had higher wages and own incomes than young adults living with their parents, but those resources did not make up for the loss of parents' incomes.

In a study that focused on own rather than household resources, Haveman and Knight (1999) found that young men in the U.S. were more likely to have own above-poverty incomes if they lived apart from their parents either alone or in a couple. U.S. women were also more likely to have own above-poverty incomes if they lived alone but less likely to have such incomes if they lived in a couple arrangement.

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[2] Studies have also investigated other outcomes, such as educational attainment (White and Lacy 1997).

Aassve et al. (2007) examined annual longitudinal data for 13 European countries and found that poverty and deprivation were generally higher for young adults in the year immediately after they left home than in the year before or for other young adults who remained at home. The associations were especially large for Scandinavian countries, which had the earliest average home-leaving ages, and for transitions into single-person arrangements than for couple arrangements. Parisi (2008) focused on four southern European countries and found that leaving home to enter couple living arrangements increased young people's risks of also entering poverty in Portugal and Spain but not in Italy and Greece.

Another longitudinal study by Halleröd and Westberg (2006) compared individual income and deprivation trajectories for Swedes who were initially interviewed at ages 19-25 years and subsequently re-interviewed at eight-year intervals. Young adults who were living apart from their parents in the first interview reported higher individual incomes but also higher levels of deprivation than their stay-at-home peers. Individual incomes for the nest-leavers grew over the course of the panel at approximately the same rates as those for the stayers, but deprivations for the leavers converged towards those of the stayers.

Billari and Tabellini (2011) asked a related question—whether the timing of home-leaving affects economic status. They analysed a survey of Italian men aged 33-38 years and found that later home leaving lowered men's subsequent incomes, indicating that there may be consequences from remaining with parents too long. Billari and Tabellini (2011) and Manacorda and Morretti (2006) also examined young adults' reported life satisfaction across countries and found that this was generally not correlated with nest-leaving.

Of particular relevance to this study, Ryan (2013a) used 2001-2008 data from the HILDA to investigate how Australians' reports of financial stresses, financial satisfaction, sense of prosperity, and life satisfaction changed with different life course events, including co-residing with parents. He found that co-residing adults reported feeling more prosperous,

experiencing fewer stresses, but also feeling less overall satisfaction than adults in other living arrangements.

This review of previous research points to several important gaps. First, except for the studies by Aassve et al. (2007) and Parisi (2008), studies have not carefully linked well-being outcomes to the timing of nest-leaving. Instead, nest-leavers have simply been compared with other young adults. Second, the two studies that have considered timing have only examined outcomes that immediately precede and follow the nest-leaving transition. This can lead to misleading results if either of these years is unusual—for instance, if deteriorating circumstances prompt nest-leaving or if the first year apart is exceptionally stressful. Third, although several of the studies have relied on longitudinal data, none of them has used those data to implement fixed effects models that can mitigate possible biases from omitted and unobservable characteristics that might be associated with nest-leaving and well-being. My study, which uses the annual data from the HILDA survey to estimate fixed effects models of outcomes for several years around young adults' nest-leaving transitions addresses these gaps.

3. **Analysis Data from the Household, Income, and Labour Dynamics in Australia Survey**

The data for this analysis are drawn from the 2001-2009 waves of the HILDA survey, an on-going annual national longitudinal survey that began with interviews of 13,969 "adult" members (people 15 years and older) from 7,682 Australian households living in private dwellings in 2001 (Summerfield et al. 2012). The HILDA survey has followed members of the original households even when they move out or break off from those households. Each wave includes an in-person or phone interview about the entire household, in-person or phone interviews with each adult member, and written self-completion questionnaires for the adult members. The interviews and questionnaires ask about demographic, economic, well-being,

and other characteristics. Retention has been high—of the adults who were initially interviewed in 2001, 9,245 were re-interviewed in 2009 and more than half had participated in every wave up to that point. Summerfield et al. (2012) provide a more complete description of the survey.

Several features of the HILDA survey make it ideal for the present study. First, the survey initiates interviews with household members when they turn 15 years of age, meaning that the sampling frame includes youths prior to the time that most are "at risk" of leaving their parents' homes. Second, each wave includes detailed household roster, relationship, and residential change information that allow me to construct year-by-year histories of youths' living arrangements, including their nest-leaving transitions. Third, young adults continue to be subjects after they move out on their own; thus, their experiences in their new living arrangements can be examined. Fourth, the youths and young adults are individual interview subjects and asked similar questions in each of their living arrangements. The other adult members of their households are also asked the same questions. Because of this, comparable measures of financial hardships and other relevant characteristics can be formed that describe the youth and his/her circumstances in both the parental household and in any new arrangement. These measures, in turn, facilitate longitudinal fixed-effects analyses of outcomes. Fifth, the survey records many of these measures each year, which allows me to construct trajectories of outcomes relative to year in which nest-leaving occurs. Finally, the large sample size and long panel length provide numerous transitions to examine, even though the study population is constrained to a relatively narrow age range. The sample size also allows me to disaggregate the analyses by gender and to distinguish among several types of nest-leaving destinations (e.g., transitions into living arrangements with romantic partners).

I investigate the circumstances of young Australians for the years before and up to five years following their first "normative" transitions from their parents' homes. The

analysis population consists of young people who were "at risk" of making an initial transition from their parents' homes into an adult-only living arrangement between the ages of 18 and 25 and young adults from this group who were in the first five years of their first adult-only living-apart spell. I form the analysis dataset by first drawing annual records for original and continuing sample members (people eligible for following) from the 2001-2009 waves of the HILDA survey who were 30 years of age or younger.[3] To keep the focus on "normative" transitions, I drop annual records for people who were living with relatives other than their parents, step-parents or legal guardians; records when people become parents either before or after leaving their parents' homes; and records for youths who leave home prior to age 18. I also drop records for young adults who are initially living apart from their parents, records once children return to their parents' homes, and records once a continuous spell of initial co-residence ends and the duration of any first spell of living-apart can no longer be reliably determined. Further, the analysis only considers nest-leaving transitions that occur between the ages of 18 and 25 years. For young adults who are observed to leave home within that window, the analysis includes all of the available records prior to and up to five years following the transition. For young adults who are observed to leave home after age 25, the analysis includes all of the available records up to age 23. For youths' whose initial co-residence spells are right-censored before age 25, the analysis includes all of the available records except for the last. These last two selection procedures mean that home-leaving for these youths occurred at least two years after the last analysis record.

In most of the analyses that follow, observations are organized relative to the observed or inferred home-leaving date. Records that describe youths two or more years prior

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[3] The analysis data were extracted using the Add-On package PanelWhiz v4.0 (Oct 2012) for Stata, which was written by Dr. John P. Haisken-DeNew (john@panelwhiz.eu). The PanelWhiz generated .do files to retrieve the HILDA data and the .do files to analyse the data are available upon request. Haisken-DeNew and Hahn (2010) describe PanelWhiz in detail and Hahn and Haisken-DeNew (2013) discuss its application to Australian data sets.

to an observed nest-leaving transition and records from the right-censored initial co-residence spells are grouped into a single category. Other records that describe youths immediately before or any time after a nest-leaving transition are grouped by specific year: one year before, year of, one year after, two years after, etc. Distinguishing between observations that immediately precede a nest-leaving transition and observations from earlier years, helps me to examine whether deteriorations or improvements in economic circumstances and well-being might contribute to nest-leaving outcomes. For example, Cobb-Clark and Ribar (2012) found that youths' reports of financial stresses were associated with earlier nest-leaving. Distinguishing between observations at different durations after the nest-leaving transition helps me to determine whether and how long changes in well-being last.

The HILDA survey used a probability-based sampling design in its first wave. The survey also had differential response rates in that wave and has experienced differential attrition rates. The HILDA includes sampling weights to make cross-section and some types of longitudinal analyses representative of the initial survey universe. However, the construction of this study's analysis data set (e.g., the use of an unbalanced panel) does not conform to these standard schemes. Also, the omission of certain types of observations and nest-leaving patterns leads to additional selection. Because of these issues and because I focus mostly on multivariate, fixed-effects results (Solon et al. 2013), my empirical analyses do not use sampling weights.

4. Demographic Characteristics, Activities, and Economic Resources

I begin the empirical analysis by documenting the demographic characteristics, activities, and economic resources of young Australians in the years leading up to and following their initial nest-leaving transitions. This descriptive analysis helps to establish the context for Australians' nest-leaving behaviour. Statistics for the analysis are reported in Table 1, which lists averages of different characteristics conditional on the temporal distance

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between the observation for the young adult and his or her nest-leaving transition. Average characteristics for observations that preceded the transition by two or more years are reported in the first column. Averages for observations a year before the transition are reported in the second column; averages for the year of the transition are reported in the third column, and so on. The table is divided vertically with a top panel describing men and a bottom panel describing women.

[Table 1 about here].

The estimates from Table 1 indicate that the average age of nest-leaving observed in the analysis sample is 20.8 years for men and 20.5 years for women. Thus, despite omission of very early and late transitions and the use of unweighted data, the sample produces nest-leaving ages that are similar to those reported by Cobb-Clark (2008) and Flatau et al. (2007).

The estimates also indicate that very few young Australians who are living with their parents co-reside with romantic partners, though the incidence of couple co-residence increases slightly in the year before moving out. Just under one quarter of the nest-leaving transitions for men in the sample and just over one third of the transitions for women are into couple co-residence arrangements. The incidence of couple co-residence increases with the duration apart from parents, reaching 40.2 percent for men three years after moving out and 57.7 percent for women five years after moving out. In interpreting these figures, it is important to recall that the analysis sample drops observations for young people once they become parents, so the incidence of couple co-residence in the general population is likely higher.

The opposite age pattern appears for full-time school enrollment. In the sample, 58.9 percent of young men and 68.5 percent of young women are full-time students two or more years before leaving their parents' homes. The rates fall to 37.1 percent for men and 41.4 percent for women in the year before the transition and to 24.1 and 26.0 percent in the year of

the transition. The estimates confirm that only a modest number of initial transitions out of parental homes in Australia involve attending school. By way of comparison, Card and Lemieux (2000) reported that about 21 percent of young Americans aged 20-24 living apart from their parents in 1994 were attending school. The figures in Table 1 also indicate that full-time school enrollment continues to fall the longer that young adults live apart from their parents.

About two-thirds of the sample members who are living with their parents and who are at least two years away from a nest-leaving transition are employed. Employment rates increase 13 percentage points in the year before nest-leaving and increase another few percentage points in the year of transition. Work attachment strengthens further as young adults continue to live apart from their parents. Rates of economic inactivity, defined as being neither in school nor employed, are low in the sample (Card and Lemieux reported much higher rates in their samples of American and Canadian young adults). For men, the incidence of inactivity is highest just prior to nest-leaving at 10.1 percent, though this rate is not statistically distinguishable from the rate two or more years prior to the transition. For women, the incidence of inactivity peaks at 11.9 percent in the year of transition. Omitting parents from the sample likely reduces the measured rates of inactivity.

The next rows of Table 1 describe young adults' economic resources, starting with the annual disposable incomes of their households. The disposable income measures are taken directly from the public release version of the HILDA survey. They include all private sources of income and public transfer income for all household members and are adjusted for taxes (see Summerfield et al. 2012). For this analysis, the incomes have also been adjusted for inflation and expressed in 2009 Australian dollars, using the Consumer Price Index for all consumption groups weighted across eight capital cities. Consistent with expectations, household incomes are high when young adults co-reside with their parents and those

parents' incomes are part of the resource measure. Average household incomes plummet when young adults move out but recover steadily as they live apart. Five years after nest-leaving, young men's average disposable household incomes are two-thirds of their former "at home" incomes, while young women's average disposable household incomes are about 80 percent of their former "at home" incomes.

The next rows in the top and bottom panels of Table 1 list the trajectories of young adults' own disposable incomes (again using measures supplied with the HILDA data and adjusted for inflation). Average own incomes grow steadily over the years in the table. As with the results from other countries reported by Card and Lemieux (2000), Halleröd and Westberg (2006), and Haveman and Knight (1999), young Australians living apart from their parents have more economic resources of their own even as their households have fewer resources overall.

One feature of the economic and policy context for young Australians is the availability of means-tested income support through the Youth Allowance program. The next rows in the panels of Table 1 list averages of the annual amounts of transfer income received by or on behalf of the youths. For young men, the average amounts are modest, rising from just under $1,000 two or more years before leaving home to just under $2,000 immediately after leaving home. The incidence of public transfer receipt for young men (not shown in the table) is about one fifth two or more years before leaving home and about one third immediately after leaving home. For young women, the average public transfer amounts and incidence are somewhat higher.

The HILDA records private transfers from parents separately from youths' disposable incomes. The HILDA "windfall" income measure for individuals includes these transfers along with some other unusual sources of income, such as inheritances, bequests, and transfers from other family members. The next rows in the table list averages of the windfall

measure for individuals. As with the public transfer amounts, the averages for the windfall amounts are modest, reaching a little over $1,000 after youths leave home. Separate estimates (not shown in the table) reveal that transfers from parents account for most of the "windfall" amount.

The next rows in the panels list averages for the resource measure that will be used for the remainder of the paper. I start with the household disposable income amount but make two adjustments. First, I add the HILDA household windfall income amount. This is done mainly to account for parental transfers.[4] The household windfall measure differs slightly from the individual measure in that the household measure omits transfers from resident parents, so these are only included after youths leave home. Second, I use the Australian Bureau of Statistics (ABS) methodology to equivalize the income measure for household size and composition.[5]

The figures in the table indicate that equivalized household incomes are similar for youths two or more years before leaving home and youths in the year preceding a transition but fall by about a third in the year of nest-leaving. Average equivalized incomes remain low in the following year but recover to approximately their former levels two years after the transition. In subsequent years, average equivalized incomes surpass their former "at home" levels, with differences that are statistically significant four to five years after the transition.

Taken together, the estimates from Table 1 provide little evidence that young Australians, on average, are pushed out of the nest by poor economic conditions—at least as measured in the year immediately preceding their transitions. Instead the average trajectory is characterized by reduced school commitments, increased work attachment, higher personal economic resources, and steady household resources.

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[4] My findings are not sensitive to this adjustment. A re-analysis of the data using only the household disposable income amount produces similar results.
[5] The ABS applies weights of 1.0 for the first household adult, 0.5 for each additional adult, and 0.3 for each child under the age of 15.

On average, young adults do appear to suffer a drop in total and equivalized household incomes when they move out of their parents' homes. However, the estimates from Table 1 indicate that the drops in equivalized incomes are relatively brief. After two years apart, equivalized household incomes are similar to those in the households of origin, and after five years apart, they are about 20 percent higher. In the next section of the paper, I investigate whether reports of financial hardships accompany these changes.

5. Financial Hardships

Annual incomes may not fully capture people's well-being. Household needs differ with household size and composition as well as with other characteristics, such as the members' health and capabilities. Well-being also depends on the cost of goods and on the resources being devoted to consumption and savings. It can also depend on the time allocations of household members and on the distribution of resources among them. These considerations motivate me to follow the approach of Aassve et al. (2007), Halleröd and Westberg (2006), and Ryan (2013a) and investigate financial hardships.

The self-completed questionnaires for the first nine HILDA survey waves each asked adults about seven hardships that they might have experienced since the start of the calendar year "because of a shortage of money." These include whether the respondent (yes/no):

- "Could not pay electricity, gas or telephone bills on time;"

- "Could not pay the mortgage or rent on time;"

- "Pawned or sold something;"

- "Went without meals;"

- "Was unable to heat home;"

- "Asked for financial help from friends or family;" and

- "Asked for help from welfare/community organizations."

As with Cobb-Clark and Ribar (2012), I create dummy variables for affirmative responses and sum those variables to form an index of financial hardships. The index is the study's principal measure of economic hardships. In additional analyses, I also examine the incidence of each specific hardship. The analyses of reported hardships are necessarily limited to person-year observations for which a self-completed questionnaire was returned.

Table 2 lists estimation results for the summary hardship measure. The four columns on the left side of the table list estimates for young men, and the four columns on the right list estimates for women. The first columns for men and women list conditional means of the summary measure. As with Table 1, I estimate means for young adults relative to their nest-leaving year (the first eight rows of Table 2). I also estimate means for young adults who had not left their parents' homes but were living in couple relationships or were full-time students (the next two rows) and means for young adults who had left home and were in these circumstances (the last two rows). These last four categories are presented because youths attending school or living with a partner might have unique hardships or circumstances. For example, school attendance might constrain youths' earning ability; however, these youths might also receive more private transfers from parents. Young adults in couple living arrangements might have greater financial and housing needs but might also benefit from household specialization, economies of scale in household production, and increased capacity for risk-sharing (Becker 1981). Couple arrangements, especially marriages, might also affect health, well-being, and happiness (Waite and Gallagher 2000).

[Table 2 about here].

Estimates from Table 2 reveal that the average number of hardships reported by young adults who are living with their parents and who are at least two years away from moving out is very low (0.28 for both men and women). The count of reported hardships jumps markedly in the year before a nest-leaving transition and jumps again in the year a

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transition occurs. For men, the average number of hardships increases in the next year but decreases thereafter. For women, the average number of hardships continues to climb into the third year after moving out. The average number of hardships reported by women living apart from their parents is generally higher than the number reported by men. Young adults living in couples but also with their parents report more hardships than unattached young adults living with their parents. Young students living apart from their parents report more hardships than non-students.

The next columns of the two panels list coefficient estimates and standard errors from Ordinary Least Squares (OLS) regressions of the count of hardships reported by youth i in year t (h_{it}) on a matrix of indicators for the time preceding or following a nest-leaving transition (T_{it}, the reference category consists of youths who are two or more years away from moving out) and matrices of couple and student status before (B_{it}) and after (A_{it}) nest-leaving transitions. Let ε_{it} denote an error term. The regression model is

$$h_{it} \; = \; \beta_0 \; + \; \beta_T \, T_{it} \; + \; \beta_B \, B_{it} \; + \; \beta_A \, A_{it} \; + \; \varepsilon_{it} \tag{1}$$

where β_0 is an intercept and β_T, β_B, and β_A are matrices of coefficients.

For men, hardships reported in the year preceding a transition, the year of a transition, and one to three years following a transition are greater than and statistically distinguishable from those reported two or more years before a transition. Young men who are full-time students living with their parents report fewer hardships than young men who are not students. The other coefficient estimates for young men are not statistically distinguishable from zero.

For women, the coefficients for the year before a transition and for all the years following a transition are positive and statistically significant. Women living with romantic partners in their parents' homes report substantially more hardships than unattached women living with their parents, but the coefficient is imprecisely estimated. Women who are full-

time students living with their parents report slightly fewer hardships than non-students. Women living apart from their parents in couple arrangements report fewer hardships than women living alone.

The next columns in the left and right panels of Table 2 report coefficients and standard errors on the same variables from two-way (individual and year) fixed-effect models. Let μ_i be a time-invariant, person-specific unobserved term that affects the incidence of hardships and that also may be related to nest-leaving. Similarly, let δ_t be a year-specific unobserved term. I assume that the error term from my previous regression model can be decomposed $\varepsilon_{it} = \mu_i + \delta_t + e_{it}$ (where e_{it} is a transitory error) and that the model can be rewritten

$$h_{it} = \beta_T^* T_{it} + \beta_B^* B_{it} + \beta_A^* A_{it} + \mu_i + \delta_t + e_{it}. \tag{2}$$

The principal advantage of specification (2) is that the time-invariant term can account for a host of characteristics, including family and cultural background, initial schooling, personal attitudes and abilities, age when first observed, and sample strata that could confound the estimated relationship between reported hardships and nest-leaving. The year-specific term can account for country-wide economic conditions, policies, and norms that might also influence these outcomes. Fixed effects approaches are not a panacea—time-varying omitted variables could still lead to spurious associations. However, the methods can eliminate many potential confounders.

The regression results change substantially when controls for person and year fixed effects are included. For men, the coefficients on the times relative to nest-leaving become smaller or more negative, and only the coefficients on the nest-leaving year and the first year after remain statistically different from zero. For women, all the coefficients on times relative to nest-leaving become smaller, but all of the coefficients associated with living apart from parents remain positive and significant. For men and women, the coefficients on full-time

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student status prior to leaving home also become smaller in magnitude and lose their statistical significance. For women, the coefficient on full-time student status after leaving home becomes larger and statistically distinguishable from zero.

The final columns from the left and right columns of Table 2 report results from two-way fixed effects regressions that also include time-varying controls for equivalized real household income, the number of people in the household, and the young adult's employment status.[6] Each of the included measures represents a possible intermediating variable between living arrangements and hardships. Let X_{it} be a matrix that contains these variables. The regression model can be rewritten

$$h_{it} = \beta_{\text{T}}^{**} \, T_{it} + \beta_{\text{B}}^{**} \, B_{it} + \beta_{\text{A}}^{**} \, A_{it} + \beta_{\text{X}}^{**} \, X_{it} + \mu_i^{**} + \delta_t^{**} + e_{it}^{**}. \qquad (3)$$

The estimation results from the models with the time-varying controls are qualitatively similar to the results from the simpler fixed effects models. Several of the coefficients for men become slightly stronger, with the coefficients on the year immediately preceding the nest-leaving transition, two years after the transition, and full-time student status each becoming marginally significant. For women, the coefficients corresponding to four and five years after the nest-leaving transition become marginally insignificant. The other coefficients are little changed.

The results from Table 2 indicate that young adults report more financial hardships after they leave their parents' homes. For men, the increased hardships are temporary and disappear by the end of the study's observation window—five years after moving out. Women report larger increases in hardships after moving out than men; women also report more sustained hardships. Women who move into couple arrangements report fewer

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[6] The model uses a two-part linear spline in the log of equivalized household income with a knot at 10, which is near the log value for the half the median income in Australia. I use a spline because hardship experiences may be more sensitive to income changes at low income levels.

hardships than women living alone, while women who are full-time students after moving out report more hardships.

The summary hardship measure counts the incidence of seven items. Butterworth and Crosier (2005) showed that these items could be validly summed into a single index; however, it is still worthwhile to examine how nest-leaving is associated with particular problems.[7] Table 3 reports results for this analysis. The table lists coefficients and standard errors from two-way fixed-effect linear probability models with the same controls as regression model 3 (the final columns from the previous table). Results are organized into seven columns corresponding to the individual hardship items. Estimation results for men appear in the top panel, and results for women appear in the bottom panel.

[Table 3 about here].

For men, the principal hardships that accompany nest-leaving are needing to ask friends and family for financial help and going without meals. Men who move out of their parents' homes and into couple arrangements also report more missed utility payments but fewer skipped meals. Women living apart from their parents also report needing to ask friends and family for help and skipping meals. However, women nest-leavers also report more incidents of missing utility payments and missing mortgage and rent payments. For women, moving into a couple arrangement is associated with fewer incidents of asking friends and family for help, going without heat, and going without meals. Women nest-leavers who are full-time students report more incidents of missing utility payments and asking friends and family for help. In general, the results from Table 3 show that the earlier associations between living arrangements and strains for men and women are not artifacts of one particular type of hardship but rather involve multiple hardships.

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[7] Bray (2001) and Breunig and Cobb-Clark (2005) separated the items into "cashflow" and "hardship" problems. Butterworth and Crosier, however, found that a single latent factor adequately explained the responses.

6. Nutritional Outcomes

The preceding results indicate that young men and women living apart from their parents both report a higher incidence of going without meals. Food is a necessity, and meal-skipping may signal a relatively large drop in overall consumption. Missed meals also connote possible nutritional inadequacies and perhaps even hunger, each of which would constitute serious and concerning deprivations. However, Bhattacharya et al. (2004) have shown that reports of food hardships do not necessarily translate into nutritional deficiencies.[8] The 2007 and 2009 waves of the HILDA survey, which asked adults about their food consumption, allow me to investigate nutritional outcomes directly.

In particular, the person questionnaires in 2007 and 2009 asked adults about the number of days in a usual week that they ate vegetables and fruit and about the number of servings they had on the days they ate these items. In addition, the self-completion questionnaire in 2007 and 2009 asked adults how often they usually ate 12 types of foods. It also asked about the type milk that was usually consumed, the use of salt, and the amount of alcohol.

I use these data to form three nutritional indices. The first index was developed by Cobb-Clark et al. (2012) for the HILDA. They assigned one point each to: consuming fruit at least one day per week, consuming vegetables at least one day per week, consuming low-fat or skimmed milk, and consuming chips, French fries, and wedges less than once a month. The second measure is derived from the more comprehensive Dietary Guideline Index (DGI, McNaughton et al. 2008). The full DGI has 15 items which each can take values between 0 and 10. The HILDA asks information about nine of these items: consumption of fruits, vegetables, protein, starches and grains, milk, salt, sugary foods, alcohol, and extra foods. For

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[8] Bhattacharya et al. found that reports of food hardships (the U.S. food insecurity index) were not associated with nutrition adequacy for children, though associations did appear for adults.

each of these items, I match the possible responses to the scale as closely as possible and form an index that ranges from 0 to 90. Appendix A provides more information about the construction of the index. An issue with both of these indices is that they combine positive consumption amounts (e.g., eating fruits and vegetables) with avoidance measures (e.g., avoiding whole milk). To address this, I form a third measure that just contains the four positive consumption items from the DGI—the consumption of fruits, vegetables, proteins, and starches/grains—and that ranges from 0 to 40.

Because the food questions are only asked twice and two years apart, it is not practical to examine the association between nest-leaving timing and the eating indices in the same detail as my earlier analysis of hardships. Instead, I form dummy variables for nest-leaving that take on values of zero if the young adult has been continually co-residing with his or her parent up to that year and one if the young adult is in his or her first living-apart spell (observations are dropped if neither of these conditions is met). I further restrict the analysis to young adults who were co-residing with parents in 2007. My analysis is effectively a difference-in-difference estimator that compares changes in food consumption from 2007 to 2009 for young adults who moved out to changes in food consumption over the same periods for young adults who continued to co-reside with parents.

Let n_{it} be a measure of a nutritional outcome; let P_{it} be a vector that contains an indicator for living apart from parents and interactions of this indicator with couple and student status; let X_{it} be a vector of unobserved variables, and let m_i, d_t, and u_{it} be person-specific, year-specific, and transitory error terms. I estimate fixed effects models of the form

$$n_{it} = \gamma_P\, P_{it} + \gamma_X\, X_{it} + m_i + d_t + u_{it}. \tag{4}$$

Coefficient estimates and standard errors from specifications of this model for different dependent variables and run separately for men and women are reported in Table 4.

[Table 4 about here].

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The first column of Table 4 lists results from models for men (top panel) and women (bottom panel) that replicate the earlier analysis of going without meals but using the 2007-2009 data set and specification (4). As with the previous estimates, the coefficients in Table 4 indicate that men and women report that they are more likely to skip meals after they leave home. The coefficient on nest-leaving is statistically different from zero for men but falls short of being significant for women.

The next column lists results for the four-item eating index that Cobb-Clark et al. (2012) used. Men who move out of their parents' homes and are neither students nor in a couple arrangement are estimated to have lower nutritional intakes than men who continue to live with their parents. However, men's couple and student status after leaving home are both associated with better nutritional outcomes. Women who leave home are also estimated to have worse nutritional outcomes but the results are not statistically significant.

Results for the nine-item approximation of the DQI are listed in the third column. The results for men are similar to those from the previous column, but the coefficient on nest-leaving is insignificant. For women, none of the coefficient estimates is significant. Results for the sum of the four positive consumption items from the DQI follow in the fourth column. Once again, a negative coefficient for nest-leaving and positive coefficients for couple and student status after nest-leaving—all significant—are estimated for men. For women, the coefficient on couple status after moving out is significantly negative.

In addition to the food consumption questions, the HILDA also asked adults in 2007 and 2009 about the number of days that they usually ate breakfast. Results from a version of specification (4) that use breakfast days as the dependent variable are listed in the last column of Table 4. For men, none of the coefficients is statistically significant. Women who are students living with their parents report eating breakfast on fewer days than those who are not students. Nest-leaving, however, is not significantly associated with breakfast consumption.

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7. Satisfied?

The preceding analyses have been framed in terms of particular problems and outcomes. However, the HILDA also asks adults questions about their general well-being. The answers to these questions can provide insight into how respondents might interpret the other hardships. Following Manacorda and Moretti (2006), the answers may also tell us whether respondents see positive aspects, possibly from values associated with autonomy and independence, in their living situations.

One question prompts respondents, "given your current needs and financial responsibilities, would you say that you and your family are…" and asks them to provide an answer along a six-outcome scale that ranges from "very poor" to "prosperous." The advantage of this question is that it allows respondents to put their economic situation in the context of needs and responsibilities. The first column of Table 5 lists coefficient estimates and standard errors from two-way fixed effects models that are specified like equation (3) but that use the responses to this question (with higher numbers indicating a greater sense of prosperity). The results from Table 5 are very different for men and women. The coefficients on time relative to nest-leaving are all positive for men, though only the coefficient on the third year apart from parents is statistically significant. In contrast, women in the year before, year of, and year following nest-leaving report feeling poorer. Men who are living apart from parents as students or in a couple arrangement report feeling poorer. Women who are students—living with or apart from their parents—also report feeling poorer.

[Table 5 about here].

The HILDA survey also asks adults how satisfied they are several aspects of their lives, with possible responses that range from "completely dissatisfied" (=0) to "neither satisfied nor dissatisfied" (=5) to "completely satisfied." One aspect is the subjects' "financial situation," and the second column of Table 5 lists coefficient estimates from two-way fixed

effects models of the responses. Once again, young men living apart from their parents express more financial satisfaction than men living with their parents. Men who are full-time students living with their parents also express more financial satisfaction than non-students. The coefficients on time relative to nest-leaving are all insignificant for women. Women who are living with a romantic partner after leaving home express more financial satisfaction, while women who are full-time students after leaving express less financial satisfaction.

The next column of Table 5 lists results from models in which the dependent variable describes satisfaction with "the home in which you live." Men express more dissatisfaction with their home situations in the year before moving out, suggesting a motivation for leaving the nest. However, they express even more dissatisfaction with their home situations *after* moving out. Women also express more dissatisfaction with their home situations after moving out. They also express strong dissatisfaction if they are co-residing with parents but are also in a couple arrangement and if they are students living apart from parents.

The final column of Table 5 lists results from models of a general question, "all things considered, how satisfied are you with your life?" As with the home situation question, men express less life satisfaction in the year before leaving home. However, there are no statistically distinguishable differences in satisfaction for men in the years after leaving home. The coefficients all of the living arrangement variables for women are also insignificant.

8. Conclusion

Is leaving home a hardship? Young Australians' self-reports indicate that, on average, it is. In the year that they leave their parents' homes and for several years after, young Australians report more frequently going without meals because of a lack of money and needing to ask friends and family for financial help. In addition, young women report more frequently missing utility and housing payments—again because of a shortage of money.

Other evidence corroborates these reports. Although nest-leavers' average personal incomes are higher than those of young adults who continue to co-reside with their parents, nest-leavers' average total and equivalized incomes are substantially lower in the first few years after they move out. Public transfers (mostly in the form of the Youth Allowance program) and private transfers from parents provide some resources, but they do not erase the average household income differences between co-resident and non-co-resident youths. Young adults also express less satisfaction with their housing situations after leaving their parents' homes, and young men on their own appear to have worse nutritional outcomes.

There is also evidence of gender differences in the reports of hardships. Young women report bigger increases in hardships when they move out than men. Women also report increased hardships for more years after leaving home. Young women also express a greater sense of poverty than men. The reports by women and men also differ by the type of destination living arrangement, with couple arrangements ameliorating reported hardships among women but with full-time student status compounding them.

Comparability in these analyses is enhanced through the availability of repeated, longitudinal observations for the youths and through the estimation of fixed-effects regression models. For the youths who transition, reports of hardships and other outcomes before moving out are compared to reports for the same person after moving out. This technique nets out the influences of permanent characteristics of the youths, such as their family and cultural backgrounds, abilities, and attitudes, that might be related to their nest-leaving decisions and experiences of hardships. Caution is still warranted, however, in applying causal interpretations to the estimated associations because the techniques do not account for possible influences from time-varying unobserved characteristics.

My analysis has focused on "normative" nest-leaving—transitions from continuous "with parent" living arrangements that occur between the ages of 18 and 25 years, that do not

involve moves into other relatives' homes, and that do not involve the youths becoming parents themselves. This focus runs the risk of painting too rosy a picture of the nest-leaving process. And consistent with this focus, the young adults report no significant changes, on average, in their life satisfaction.

However, this focus serves important purposes. Methodologically, it further increases the comparability of the transitions being studied. While the evidence points to dissatisfaction (especially among men) with household and life satisfaction in the year prior to exit, there appears to be no change in the average household incomes and only modest changes in other circumstances just before nest-leaving. If anything, the evidence suggests increasing capabilities in the form of more employment, fewer schooling commitments, and higher own incomes at $t-1$.

Conceptually, we also learn from investigating and characterizing normative changes. Normative does not imply costless. In a short-run static perspective, rational nest-leaving could well involve hardships if these are balanced against personal and/or societal valuations of independence and autonomy. In a longer-run dynamic perspective, there could be initial costs associated with independent living that set the stage for later gains and more generally for the transition to successful adulthood. The focus on normative nest-leaving, which necessarily abstracts from some unusually "costly" transitions, casts a light on the value associated with autonomy. The reports of hardships indicate that autonomy does have a price.

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Table 1. Economic and demographic characteristics of young adults in the years before and after leaving home

	Year relative to leaving home							
	≤-2	-1	0	1	2	3	4	5
	Young men							
Age	18.3	19.8*	20.8*	21.9*	22.9*	24.0*	24.9*	25.8*
Couple relationship (%)	0.6	1.4	22.7*	29.9*	32.4*	40.2*	40.0*	40.0*
Full-time student (%)	58.9	37.1*	24.1*	17.8*	14.8*	10.2*	7.1*	6.7*
Employed (%)	62.6	76.9*	82.4*	87.8*	90.3*	92.1*	92.9*	93.3*
Inactive (%)	8.7	10.1	9.4	5.9	5.7	3.9*	4.7	3.3*
Household size	4.3	4.1*	1.5*	1.5*	1.6*	1.6*	1.5*	1.6*
Real HH disposable income ($000)	90.8	94.3	34.3*	40.3*	47.2*	53.3*	59.5*	63.7*
Real indiv. disposable income ($000)	9.5	16.6*	22.7*	27.9*	33.4*	37.1*	42.2*	42.8*
Real indiv. public trans. income ($000)	0.8	1.3*	1.4*	1.8*	1.6*	1.4	1.6	1.3
Real indiv. "windfall" income ($000)	0.5	0.5	1.1	1.4	0.8	0.9	0.9	0.3
Equiv. real HH disp. + WF inc. ($000)	38.7	40.1	27.0*	32.7*	37.3	41.6	47.3*	48.9*
Observations	3,517	415	415	254	176	127	85	60
	Young women							
Age	18.1	19.5*	20.5*	21.5*	22.4*	23.4*	24.2*	25.6*
Couple relationship (%)	0.4	2.9*	36.4*	41.7*	46.5*	49.6*	52.4*	57.7*
Full-time student (%)	68.5	41.4*	26.0*	26.1*	24.1*	21.3*	13.1*	1.9*
Employed (%)	66.2	79.0*	81.2*	84.4*	85.6*	87.4*	86.9*	96.2*
Inactive (%)	6.4	7.9	11.9*	9.4	7.0	7.1	9.5	3.8
Household size	4.3	4.0*	1.6*	1.6*	1.7*	1.7*	1.5*	1.7*
Real HH disposable income ($000)	94.4	88.6	36.1*	44.6*	50.8*	53.9*	56.8*	72.4*
Real indiv. disposable income ($000)	7.7	13.5*	19.5*	24.4*	27.7*	28.9*	33.4*	38.4*
Real indiv. public trans. income ($000)	0.9	1.4*	1.7*	2.0*	2.3*	2.2*	2.1*	1.4
Real indiv. "windfall" income ($000)	0.7	0.7	1.1	1.2	0.8	0.6	0.5	0.02*
Equiv. real HH disp. + WF inc. ($000)	41.2	41.5	27.2*	35.9	36.9*	39.0	42.8	51.0*
Observations	3,048	420	420	276	187	127	84	52

Notes: Unweighted estimates from the HILDA survey for youths who were "at risk" of leaving home for the first time between ages 18 and 25.

* Statistically different from mean in two or more years before home-leaving (first column) at 0.05 level.

Table 2. Means and regression coefficients for trajectories of financial hardships before and after leaving home

	Young men				Young women			
	Conditional Mean	Unadjusted OLS	Unadjusted FE	Adjusted FE	Conditional Mean	Unadjusted OLS	Unadjusted FE	Adjusted FE
Two or more years before leaving	0.28	.	.	.	0.28	.	.	.
One year before leaving	0.48	0.16*** (0.06)	0.08 (0.06)	0.10* (0.06)	0.46	0.14*** (0.05)	-0.004 (0.05)	0.001 (0.05)
Left home	0.77	0.33*** (0.10)	0.23** (0.09)	0.24** (0.10)	0.85	0.66*** (0.11)	0.46*** (0.09)	0.39*** (0.13)
One year after leaving	0.86	0.43*** (0.11)	0.36*** (0.10)	0.39*** (0.10)	0.86	0.70*** (0.13)	0.49*** (0.10)	0.43*** (0.14)
Two years after leaving	0.70	0.28** (0.13)	0.13 (0.11)	0.18* (0.11)	0.92	0.78*** (0.15)	0.49*** (0.13)	0.44*** (0.16)
Three years after leaving	0.65	0.23* (0.14)	0.11 (0.12)	0.17 (0.12)	0.95	0.83*** (0.16)	0.51*** (0.13)	0.45*** (0.16)
Four years after leaving	0.66	0.24 (0.16)	-0.01 (0.13)	0.07 (0.14)	0.94	0.83*** (0.20)	0.38** (0.18)	0.32 (0.20)
Five years after leaving	0.39	-0.03 (0.12)	-0.13 (0.14)	-0.04 (0.14)	0.75	0.68*** (0.23)	0.39** (0.19)	0.35 (0.21)
Couple before leaving	0.48	0.07 (0.21)	0.06 (0.20)	0.05 (0.20)	0.89	0.51 (0.34)	0.50 (0.37)	0.53 (0.38)
Full-time student before leaving	0.23	-0.17*** (0.04)	-0.06 (0.04)	-0.07* (0.04)	0.27	-0.08** (0.03)	-0.02 (0.04)	-0.03 (0.04)
Couple after leaving	0.72	0.03 (0.13)	0.12 (0.11)	0.14 (0.11)	0.64	-0.44*** (0.12)	-0.30*** (0.09)	-0.25** (0.10)
Full-time student after leaving	0.91	0.20 (0.13)	0.19 (0.12)	0.17 (0.12)	1.01	0.05 (0.13)	0.23** (0.10)	0.20* (0.11)

Notes: Unweighted estimates from the HILDA survey for 1,202 men (4,175 person-years) and 1,102 women (4,066 person-years) who were "at risk" of leaving home for the first time between ages 18 and 25. Observed controls include employment, household size, and a two-part spline in log equivalized real augmented disposable household income. Robust standard errors in parentheses.
* Significant at 0.05 level.   ** Significant at 0.05 level.   *** Significant at 0.01 level.
* Significant at 0.01 level.

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Table 3. Fixed effect regression coefficients for trajectories of specific hardships

	Missed utility payment	Asked friends, family for help	Missed mortgage, rent	Pawned or sold something	Went without heat	Went without meals	Asked local org. for help
				Young men			
1 year before leaving	0.01	0.06**	-0.01	0.01	0.002	0.02	0.01
	(0.02)	(0.03)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
Left home	-0.02	0.07*	0.02	0.03	0.03**	0.09***	0.02
	(0.03)	(0.04)	(0.02)	(0.03)	(0.01)	(0.03)	(0.02)
1 year after leaving	0.03	0.12***	0.07***	0.05	0.02	0.09***	0.01
	(0.03)	(0.05)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)
2 years after leaving	-0.003	0.06	0.03	0.01	0.001	0.06**	0.01
	(0.04)	(0.05)	(0.02)	(0.03)	(0.01)	(0.03)	(0.03)
3 years after leaving	0.02	0.05	0.01	0.02	0.001	0.08***	-0.02
	(0.04)	(0.06)	(0.03)	(0.03)	(0.01)	(0.03)	(0.02)
4 years after leaving	-0.01	-0.01	0.06	-0.01	-0.01	0.04	0.01
	(0.05)	(0.07)	(0.04)	(0.04)	(0.02)	(0.03)	(0.03)
5 years after leaving	-0.03	-0.002	0.01	-0.03	-0.02	0.05	-0.03
	(0.06)	(0.07)	(0.04)	(0.03)	(0.02)	(0.03)	(0.02)
Couple before leaving	-0.01	0.07	0.06	0.003	0.002	0.005	-0.07
	(0.07)	(0.13)	(0.06)	(0.01)	(0.00)	(0.01)	(0.05)
FT student bef. leaving	-0.002	-0.03**	-0.01	-0.01	0.0001	-0.01	-0.01
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Couple after leaving	0.08***	0.07*	0.03	0.02	-0.02	-0.06**	0.0003
	(0.03)	(0.04)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
FT student after leaving	0.04	0.13***	0.02	-0.01	-0.01	-0.01	-0.02
	(0.04)	(0.04)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
Observations	4,232	4,240	4,228	4,228	4,226	4,226	4,216
People	1,207	1,206	1,205	1,206	1,206	1,207	1,206
				Young women			
1 year before leaving	0.003	0.01	-0.02	-0.01	-0.001	0.005	-0.002
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Left home	0.10**	0.17***	0.06*	-0.004	0.01	0.04	-0.01
	(0.04)	(0.05)	(0.03)	(0.02)	(0.01)	(0.03)	(0.02)
1 year after leaving	0.10**	0.14**	0.09***	-0.003	0.03**	0.07**	-0.02
	(0.05)	(0.06)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)
2 years after leaving	0.12**	0.12**	0.08**	0.01	0.03	0.08**	-0.001
	(0.05)	(0.06)	(0.04)	(0.02)	(0.02)	(0.03)	(0.03)
3 years after leaving	0.22***	0.11*	0.07**	0.02	0.01	0.07*	-0.06**
	(0.06)	(0.06)	(0.04)	(0.02)	(0.02)	(0.04)	(0.03)
4 years after leaving	0.11*	0.11	0.06	0.04	0.03	0.01	-0.06*
	(0.07)	(0.08)	(0.05)	(0.04)	(0.03)	(0.04)	(0.03)
5 years after leaving	0.10	0.01	0.13**	0.02	0.02	0.07	-0.03
	(0.07)	(0.08)	(0.06)	(0.04)	(0.02)	(0.05)	(0.04)

Couple before leaving	0.10	0.03	0.05	0.20**	0.07	0.09	0.01
	(0.07)	(0.15)	(0.08)	(0.10)	(0.06)	(0.09)	(0.01)
FT student bef. leaving	-0.02	-0.02	0.001	0.0001	0.003	0.0003	-0.001
	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Couple after leaving	-0.02	-0.10***	-0.03	0.01	-0.03**	-0.07***	-0.01
	(0.04)	(0.04)	(0.03)	(0.02)	(0.01)	(0.02)	(0.02)
FT student after leaving	0.07*	0.12***	0.03	0.004	-0.02	0.02	-0.03
	(0.03)	(0.04)	(0.03)	(0.02)	(0.01)	(0.03)	(0.02)
Observations	4,104	4,105	4,096	4,096	4,095	4,092	4,092
People	1,104	1,103	1,103	1,102	1,103	1,103	1,102

Notes: Unweighted estimates from the HILDA survey for youths who left or were at risk of leaving home for the first time between ages 18 and 25. Regressions include controls for employment, household size, a two-part spline in log equivalized real augmented disposable household income, and person and year fixed effects. Robust standard errors in parentheses.
* Significant at 0.01 level.   ** Significant at 0.05 level.   *** Significant at 0.01 level.

Table 4. Fixed effects regression coefficients for eating outcomes

	Went without meals	Cobb-Clark et al. (2012) eating index	Approximate Diet Quality Index	Approximate DQI (positive outcomes)	Days ate breakfast
			Young men		
Full-time student before leaving	0.0004	-0.133	0.413	0.266	0.186
	(0.016)	(0.091)	(1.161)	(0.645)	(0.223)
Left home	0.131**	-0.498**	-3.346	-3.074*	-0.370
	(0.066)	(0.217)	(2.341)	(1.575)	(0.610)
Couple after leaving	-0.027	0.970***	7.779**	3.799*	0.589
	(0.083)	(0.297)	(3.660)	(1.997)	(1.031)
Full-time student after leaving	-0.003	0.994***	8.505***	5.522**	-0.312
	(0.088)	(0.312)	(3.002)	(2.221)	(0.969)
Observations / persons	696 / 348	722 / 361	672 / 336	686 / 343	732 / 366
			Young women		
Full-time student before leaving	0.032	-0.126	-1.685	-0.503	-0.430**
	(0.022)	(0.091)	(1.038)	(0.637)	(0.199)
Left home	0.075	-0.189	-1.428	2.446	-0.329
	(0.053)	(0.201)	(2.484)	(1.610)	(0.599)
Couple after leaving	-0.062	-0.136	0.698	-3.782**	0.341
	(0.053)	(0.199)	(2.615)	(1.745)	(0.614)
Full-time student after leaving	0.092	-0.025	0.751	2.560	0.296
	(0.088)	(0.253)	(2.905)	(2.387)	(0.834)
Observations / persons	724 / 362	748 / 374	698 / 349	708 / 354	752 / 376

Note: Unweighted estimates from the 2007 and 2009 panels of the HILDA survey for young adults who were 17-23 years old and at risk of leaving home for the first time in 2007. Regressions include controls for employment, household size, a two-part spline in log equivalized real augmented disposable household income, and person and year fixed effects. Robust standard errors in parentheses.
* Significant at 0.01 level.
* Significant at 0.05 level.   *** Significant at 0.01 level.

Table 5. Fixed effect regression coefficients for trajectories of satisfaction outcomes

	Prosperity given needs & finances	Satisfied with finance situation	Satisfied with home	Satisfied with life
		Young men		
One year before leaving	0.05 (0.04)	0.12 (0.12)	-0.23** (0.09)	-0.22*** (0.07)
Left home	0.09 (0.08)	0.51*** (0.20)	-0.40** (0.18)	-0.07 (0.12)
One year after leaving	0.14 (0.09)	0.38* (0.22)	-0.67*** (0.20)	-0.16 (0.13)
Two years after leaving	0.12 (0.09)	0.38* (0.23)	-0.54** (0.21)	-0.15 (0.13)
Three years after leaving	0.25** (0.11)	0.73*** (0.26)	-0.56** (0.24)	-0.18 (0.16)
Four years after leaving	0.13 (0.10)	0.82*** (0.25)	-0.49* (0.26)	-0.01 (0.17)
Five years after leaving	0.02 (0.12)	0.58** (0.27)	-0.66** (0.31)	0.03 (0.17)
Couple before leaving	-0.01 (0.15)	0.00 (0.34)	0.06 (0.47)	0.42* (0.25)
Full-time student before leaving	-0.02 (0.03)	0.16* (0.09)	0.12* (0.06)	0.03 (0.05)
Couple after leaving	-0.16** (0.07)	0.06 (0.16)	-0.13 (0.17)	-0.02 (0.09)
Full-time student after leaving	-0.21*** (0.08)	-0.28 (0.18)	-0.23 (0.17)	-0.02 (0.09)
Obs. / people	4,336 / 1,217	5,043 / 1,275	5,040 / 1,275	5,047 / 1,276
		Young women		
One year before leaving	-0.09** (0.04)	-0.10 (0.13)	-0.05 (0.09)	-0.07 (0.06)
Left home	-0.15* (0.08)	0.18 (0.23)	-0.32* (0.19)	0.03 (0.13)
One year after leaving	-0.20** (0.09)	-0.10 (0.23)	-0.34* (0.20)	-0.04 (0.14)
Two years after leaving	-0.14 (0.10)	0.10 (0.25)	-0.39* (0.20)	-0.14 (0.14)
Three years after leaving	-0.13 (0.11)	0.27 (0.29)	0.01 (0.22)	0.11 (0.15)
Four years after leaving	-0.16 (0.14)	0.38 (0.32)	-0.00 (0.28)	0.15 (0.16)
Five years after	-0.16	0.40	0.08	0.03

leaving	(0.14)	(0.33)	(0.31)	(0.18)
Couple before	-0.05	0.58	-0.74*	0.14
leaving	(0.18)	(0.37)	(0.40)	(0.24)
Full-time student				
before leaving	-0.06**	-0.11	-0.04	0.00
	(0.03)	(0.10)	(0.07)	(0.05)
Couple after	0.04	0.32*	0.07	0.09
leaving	(0.07)	(0.17)	(0.16)	(0.09)
Full-time student				
after leaving	-0.12*	-0.52***	-0.34**	-0.11
	(0.07)	(0.16)	(0.17)	(0.09)
Obs. / people	4,168 / 1,117	4,612 / 1,146	4,609 / 1,144	4,612 / 1,146

Note: Unweighted estimates from the HILDA survey for youths who were at risk of leaving home for the first time between ages 18 and 25. Regressions include controls for employment, household size, a two-part spline in log equivalized real augmented disposable household income, and person and year fixed effects. Robust standard errors in parentheses.
* Significant at 0.01 level.　　** Significant at 0.05 level.　　*** Significant at 0.01 level.

Appendix A. Approximation of the Dietary Guidelines Index using the HILDA Data

The DGI (McNaughton et al. 2008) has 15 items; information on nine of these items was gathered in the 2007 and 2009 panels of the HILDA.

Fruit. The HILDA asked paired questions about the number of days on which fruits were eaten and the number of servings on those days. I multiply the responses to form measures of the usual number of weekly servings and set the fruit component of the approximate DGI to 10 if two or more servings are eaten per day, 5 if one serving is eaten per day, and 0 if less fruit is eaten.

Vegetables. The HILDA asked similar paired questions about the consumption of vegetables, which I use to form a measure of weekly vegetable servings. It also asked about the usual consumption of legumes, with possible responses of never, less than once a month, 1-3 times per month, once per week, 2-4 times per week, 5-6 times per week, once per day, and two or more times per day. I convert the responses to weekly amounts using either the numbers or mid-points on the scale (e.g., 2-4 times per week = 3; 5-6 times per week = 5.5; etc.) and treat them as servings. The vegetable component of the approximate DGI is set to 10 if the sum of weekly vegetable and legume consumption is five or more. The component is decremented by two points for each fewer serving, reaching a value of zero if less than one serving is consumed.

Meat. The HILDA asked usual frequency of consumption questions (similar to the legume question) about red meat, poultry, and fish. I create the meat component of the index as a sliding scale that takes on a maximum value of 10 if the combined consumption is daily or higher.

Cereals. The HILDA asked usual frequency of consumption questions about breads, pastas/noodles, and breakfast cereal. I form sliding scales that take maximum values of 10 if men's daily consumption is six or higher or women's daily consumption is four or higher.

Type of milk. The HILDA asked about the type of milk that is usually consumed. The milk component of the index is set to 10 if low-fat, skim, or skinny milk is usually consumed and set to zero otherwise.

Salt. The HILDA asked "How often do you add salt to your food after it is cooked?" I set the salt component to 10 if the response is rarely/never and zero if salt consumption is higher.

Sugary foods. The HILDA asked a usual frequency of consumption question about confections and ice cream. I set this component to 10 if consumption is less frequent than daily and to zero otherwise.

Extra foods. The HILDA asked usual frequency of consumption questions about cakes/pastries, snacks, and fried potatoes. I set this component to 10 if combined daily consumption is less than three for men or 2.5 for women. The component is set to zero if these amounts are exceeded.

Alcohol. The HILDA asked about the number of days on which alcoholic drinks are consumed and about the number of drinks on the days that they are consumed. I combine these measures to form estimates of the average number of drinks consumed each day. The component is set to 10 if drinks per day is less than two for men or one for women. The component is set to zero if consumption is higher.

Omitted components. McNaughton et al. also include components for the variety of foods eaten, whole-grain consumption, dairy consumption, lean-meat consumption, beverage consumption, and saturated fat intake. However, the HILDA did not ask about these or did not ask in sufficient detail to approximate components.