HOUSEHOLD DIVERSITY AND DYNAMICS OF RECENT IMMIGRANTS IN AUSTRALIA

Siew-Ean Khoo,[†] Australian Demographic and Social Research Institute,
The Australian National University

The family and friends that immigrants live with are important sources of assistance and support, especially in the period immediately following migration. The paper uses data from the Longitudinal Survey of Immigrants to Australia to examine the living arrangements of recent immigrants, the transitions in household structure they experience during the first few years of settlement and whether the changes in living arrangements are related to other changes that immigrants experience during the early settlement period such as changes in marital and employment status. Multivariate logistic regression models are used to examine the relation between immigrants' characteristics and their experience of changes in living arrangements. Many live in extended family households soon after arrival, but set up their own households when they are more settled. Changes in immigrants' household structure and living arrangements during the first few years of settlement are usually related to age, visa category of migration and change in marital status.

Keywords: immigrant households, household structure, household dynamics, immigrants, Australia, immigrant families

This paper examines the diversity of household structures and change among recently arrived immigrants in Australia. Knowledge about immigrant household structures and their dynamics can be helpful in understanding the settlement process that immigrants face in their new country of residence. The family and friends that immigrants live with can be important sources of assistance and support, especially in the years immediately following migration, and immigrants' household structure is an important indicator of their immediate kin and social support network. Immigrants' living arrangements are also related to their demographic characteristics, cultural norms and social and economic circumstances (McDonald 1989, 1991; Khoo *et al.* 1994). Therefore changes in any of these factors, which can occur during the course of settlement and integration, can result in changes in immigrants' household structure. Whether these changes tend toward convergence with or divergence from patterns prevailing in the receiving country, and how they may differ by immigrants' characteristics, can offer an important perspective of the settlement process of new immigrants.

[†] Address for correspondence: Siew-Ean Khoo, Australian Demographic and Social Research Institute, Building No.9, The Australian National University, Acton ACT 0200, Australia. Email: Siewean.Khoo@anu.edu.au.

Australia is one of very few countries, the others being Canada, New Zealand and the United States of America, with a longstanding and relatively large-scale settler migration program that has contributed significantly to population growth. The 2006 Census showed that 22 per cent of Australia's population were foreign-born: most of them were either naturalized citizens or had rights to permanent residence (ABS 2007). A large body of research on immigrant settlement and integration, focusing on economic integration and employment outcomes, language skills, family formation patterns, health, and housing outcomes, has been advanced by the availability of longitudinal data from the series of Longitudinal Surveys of Immigrants to Australia (LSIA) (e.g. VandenHeuvel and Wooden 1999, 2000; Richardson et al. 2004; Chiswick and Miller 2006a; Cobb-Clark and Khoo 2006). However, less is known about immigrants' household structure and living arrangements and how they change over the course of settlement. Even though household data were collected in the LSIA, they have not been analysed to examine immigrants' household structure and changes and how they may be related to other changes occurring during the first few years following migration.

This paper uses the household data collected in the LSIA for two immigrant cohorts to examine the household size, structure, and dynamics of recently arrived immigrants in Australia. It aims to determine if immigrant households differ in their size, structure and dynamics by immigrants' demographic characteristics such as age, marital status and country of origin, and by their migration category. It also examines which immigrants are more likely to experience a change in their household size and composition during the first two years of settlement, the nature of the transitions that occur and whether they are related to other changes in the immigrants' lives, such as a change in marital status or employment situation. The implications of the findings for the welfare of new migrants in terms of family support and relationships are discussed in the conclusion.

Previous studies of immigrant households and living arrangements

Previous studies of immigrant households in Australia have been based mainly on census data (McDonald 1989, 1991; Khoo *et al.* 1994). These usually provide information about household size and living arrangements by country of birth and suggest that there is diversity in household structures by country of origin. The proportions of immigrants from Western European countries such as the United Kingdom, Netherlands and Germany who live in couple family, one-parent family and non-family households are similar to those for the Australian-born population. However, immigrants from Southern European and Mediterranean countries such as Greece, Turkey and Lebanon, and Asian countries such as Vietnam, were more likely to live in extended or multifamily households and less likely to live in non-family households than the Australian-born population (Khoo *et al.* 1994). There were indications of a relatively high proportion of young married couples living with their parents among immigrants from Southern European countries and Lebanon (McDonald 1989). Immigrants from Southern European or Mediterranean countries were also more likely to live in couple family households and less likely to live in single-parent households than other immigrants and the Australian-born population (McDonald 1989, 1991; Khoo *et al.* 1994). The diversity in household structure may be related to different social and cultural norms, demographic characteristics and circumstances of migration, but the question was not explored statistically in the studies.

Immigrant households also tend to have more people than non-immigrant households, but they also vary by country of origin (Khoo *et al.* 1994). The household size of immigrants from Southern European-Mediterranean and Asian countries tends to be larger than average. The 1991 Australian census showed that more than 35 per cent of family households with a reference person born in Lebanon and more than 20 per cent of family households with a reference person born in Indochina had six or more people compared with just five per cent of family households where the reference person was born in Australia (Khoo *et al.* 1994). This was largely related to the higher proportion of households with two or more families and other relatives among these immigrant households.

Studies of the living arrangements of immigrants in other settler migration countries have shown some similar patterns. A study of immigrant children in the United States has found that they are more likely to live with married parents than with single parents compared with native-born children of native-born parents (Brandon 2002), while a study of the living arrangements of elderly foreign-born women in Canada shows that those who migrate at age 65 or later to reunite with family members are much more likely to live with family and less likely to live alone than those who migrated when they were young adults (Boyd 1991). Both studies also show diversity in living arrangements by country of origin and ethnicity. In the US study, children of Asian origin were the least likely to be living in single-parent families when compared with Mexican, other Hispanic, Black and White children (Brandon 2002). In the Canadian study, women from Southern European, Asian, Caribbean and Latin American countries were more likely to be living with kin than those from Western or Eastern European countries (Boyd 1991).

These studies indicate that immigrant households are characterized by a higher prevalence of married-couple families than single parent families and a higher level of co-residence of married adult children with their parents. They also point to household diversity by immigrants'origin, whether measured as country of birth or ethnicity, with migrants of Southern European, Mediterranean and Asian ethnicities more likely to show co-residence of multigenerational families and lower prevalence of single-parent households compared with the native-born population.

Researchers studying the extended-family living arrangements of ethnic or immigrant groups in the United States have sought to explain whether the greater prevalence of extended-family households in some of these communities is due to economic need or cultural preference (e.g. Angel and Tienda 1982; Vega 1990; Blank and Torrecilha 1998; Kamo 2000). The studies have shown that both these factors can have a role in the tendency for extended-family living arrangements. A recent study of the living arrangements of Mexican immigrants in the United States has also found that the migration process accentuates the pattern of extended-family household formation, with recent immigrants more likely to live in extended-family households than non-migrants in the United States and in Mexico (Van Hook and Glick 2007).

The study by Van Hook and Glick (2007) uses panel data to examine the stability of extended family and non-kin living arrangements among recent Mexican immigrants in the United States. The researchers examined two types of household instability: changes in household composition with and without transition from living with extended family to a nuclear-family household structure; they found that while transition to a nuclear-family household tends to increase with duration of residence, turnover in household composition declines. The authors suggest that family forma-

tion and dissolution may have implications for household stability (Van Hook and Glick 2007).

Research questions and hypotheses

Based on the studies reviewed above, this paper aims to address the following research questions. Do the living arrangements and household structure of recent immigrants in Australia differ by their demographic characteristics such as country of origin, age and marital status and by migration category? Does living with extended-family members reflect economic circumstances or cultural preference? The paper also tests the hypotheses that recently arrived immigrants are more likely to live with extended-family members and that there is a decline in this living arrangement as immigrants become more settled and move to form their own households. Since previous studies have also suggested that family formation and dissolution, and economic factors, may have implications for immigrants' household stability, the paper also examines whether transitions in immigrants' living arrangements during the earlier years of settlement are related to changes in their marital status and employment status.

Data and methods of analysis

Data

The study uses data from the first and second Longitudinal Surveys of Immigrants to Australia (LSIA) commissioned by the Australian government's Department of Immigration and Multicultural Affairs, now renamed the Department of Immigration and Citizenship. The availability of longitudinal data allows for a study of immigrant household dynamics that is not possible with previous studies using cross-sectional data.

The first LSIA was conducted between the years 1994 and 1999. A total of 5192 primary applicants for immigrant visas[1] who arrived in Australia between September 1993 and August 1995 were first interviewed within 3–6 months after arrival. A primary applicant or primary migrant is the person who made the application to migrate and whose characteristics are assessed in the visa grant. A second interview was conducted one year later and a third interview two years after the second interview. The attrition rate between the first and second interviews was 14 per cent and that between the second and third interview was 16 per cent. A second cohort of 3124 primary migrants who arrived during 1999–2000 was also interviewed during 3–6 months after arrival and then followed up for a second intereview one year later. There was no third interview for the second cohort. Data were available for the first three-and-a-half years of settlement for the first cohort but only the first 18 months for the second cohort.

The LSIA samples were representative of all primary migrants aged 15 years[2] and over who arrived during the sampling period. The sampling was random but stratified by country or region of origin and visa category. Sampling weights have been derived and are applied in the data analysis so that frequency distributions and results shown in the paper are representative of the two migrant cohorts (Cobb-Clark 2006; DIC 2008).

Methods

Household data that are collected in the survey and used to describe the household structure of each primary migrant are the age, sex and marital status of each person in the migrant's household and the person's relationship to the primary migrant. The survey data set includes derived variables on whether the primary migrant's spouse is living in the household, the number of primary migrant's dependent children resident in the household and the number of other adult relatives and non-relatives living in the household. These variables are used to derive the following eight types of households.

Family households

1 Couple only: primary migrant and spouse only
2 Couple + children: primary migrant, spouse and their children only
3 Couple + other relatives: primary migrant, spouse and other relatives
4 Couple + children + other relatives: primary migrant, spouse, their children and other relatives
5 One parent + children: primary migrant and his/her children (no spouse present; other relatives and/or non-relatives may be present)
6 Primary migrant + other adult relatives: no spouse or children of primary migrant in the household

Group household

7 Primary migrant + non-relatives only

Lone-person household

8 Primary migrant only

In this paper I refer to the first two types of households as nuclear-family households as they contain only the couple (with or without children) without other relatives. I refer to the third and fourth types as extended-family households since the couple have other relatives living with them, or are living with other relatives, who could be their parents or other extended family members. The fifth type is a one-parent family household. Because of the small number of immigrants who are single parents, I have not differentiated the nuclear-family households (those of only the sole parent and children) from the extended-family households (those with other relatives present). The sixth type is a single adult living with relatives in a family household. While children may be present in such a household, the primary migrant's household status is that of a single adult without children living with relatives. The situation may be that of a young adult living with his parents, an older parent living with adult children, or an unmarried aunt living with relatives. Group and lone-person households are non-family households.

Household size is also a derived variable on the LSIA data file and is the numerical count of the number of persons usually resident in the household at the time of each interview. It includes the primary migrant.

Information on the household structure and household size of each primary migrant is available at three points in time for immigrants in the first LSIA cohort and two points in time for immigrants in the second cohort. This allows for analysis of transitions over a one-year period between the first and second-wave interviews for

both cohorts of migrants and over a two-year period between the second and third-wave interviews for the first cohort only. The following transitions are examined.

1 From extended-family households (couple, (their children) and other adult relatives present) to nuclear-family households (couple, (their children) no other adult relatives present).
2 From non-family households to family households.

Preliminary data analysis shows that these transitions are the most often observed patterns. The first transition examines the formation of an independent nuclear family household after an initial period of living with other relatives in an extended family household. The second transition captures the movement from a non-family household to a family household. Most of this movement is likely to be related to partnering and involves the transition to a couple-family household, but a small number may transition to single-adult-and-family households.

Covariates

In this study, immigrants' household structure and dynamics are examined by their age, sex and marital status as we would expect differences by these demographic and life-cycle characteristics, and by birthplace since previous studies have indicated household diversity by country of origin. Birthplace has been grouped into seven regions: Europe, Middle East and North Africa, Southeast Asia, Northeast Asia, South Asia, Americas[3] and Other (which includes sub-Saharan Africa and Oceania) because of relatively small numbers by specific country of birth.

Immigrants' household structure is also likely to be influenced by type of migration, and visa category of migration is included as an independent variable in the analysis. The five major visa categories are Preferential Family; Concessional Family / Skilled Australian-linked; Business or Employer Nominated; Independent Skilled; and Humanitarian. Most primary migrants in the Preferential Family visa category are spouses or fiancés / fiancées sponsored for family reunion or marriage migration by Australian residents. A few are parents, children or other dependent family members of the sponsor. Primary migrants in the Concessional Family category are extended family members such as adult siblings and other non-dependent relatives of Australian residents. Immigrants in this visa category have to meet the points test for skilled migration based on their qualifications and English language proficiency but receive additional points for having relatives in Australia. Business immigrants have to undertake to make a certain level of financial investment in a business enterprise in Australia as a condition of their migration. Independent Skilled immigrants have to achieve a certain number of points in the points test based on their age, occupation and English language ability. Humanitarian immigrants include refugees as well as other immigrants who are being resettled on broader humanitarian grounds. All immigrants in the Preferential and Concessional Family categories therefore have family members already in Australia and are migrating to reunite with them. Because of Australia's long history of settler migration, a significant percentage of immigrants in the other visa categories also have family members in Australia. LSIA data for the 1993–95 migration cohort showed that 69 per cent of Humanitarian immigrants, 29 per cent of Independent skilled immigrants and 16 per cent of Business/Employer Nominated immigrants were staying with relatives when they first arrived (Vanden-Heuvel and Wooden 1999).

Models

Multinomial logistic regression models are used to examine the probability of immigrants living in nuclear-family, extended-family or non-family households at six months and 18 months after migration as a function of their demographic characteristics and visa category, since the dependent variable has three categories. Where the dependent variable is dichotomous, as in the likelihood of transition from one type of household to another, multivariate binary logistic regression models are used. The models take the form of

$$\Pr(y_i = j) = \frac{\exp(X_i \beta_j)}{1 + \sum_j^J \exp(X_i \beta_j)}$$

where y_i is the observed outcome for the *i*th individual, j is the number of outcome categories, X_i is a vector of the covariates and β_j are parameters to be estimated.

The unit of analysis is the primary migrant. Dependants of the primary migrant such as the spouse and dependent children can migrate as secondary or accompanying migrants under the same visa. They are not included in this analysis although information about them is collected in the survey and is used to construct the primary migrants' household structure and calculate household size.

Results

Immigrants' characteristics and living arrangements

Table 1 shows the demographic characteristics, visa category and employment status of primary migrants in the two LSIA cohorts. While just over half of both cohorts were male, the two cohorts differed significantly from each other in the other characteristics. The LSIA2 cohort was more concentrated in the age group 25–44 and had fewer widowed immigrants than the LSIA1 cohort. It also had a higher proportion of immigrants from Africa, Northeast Asia and South Asia and a lower proportion from Europe and Southeast Asia than the LSIA1 cohort. These differences in birthplace composition reflect the changes in the major source countries of immigration to Australia in the 1990s decade (DIMA 2001). There were also differences by visa category that reflect changes in migration policy during that time (Chiswick and Miller 2006b; DIMA 2001). The LSIA2 cohort had a higher proportion of Independent Skilled and Business/Employer Nominated immigrants and a lower proportion of Preferential and Humanitarian immigrants. Since 1996, there has been greater emphasis on skilled migration and a relative reduction in the Preferential Family[4] and Humanitarian visa categories (DIMA 2001). As a result, the LSIA2 cohort has a higher percentage in employment than the LSIA1 cohort soon after arrival.

Primary migrants' household structure at 3–6 months after arrival is also shown in Table 1. Almost all immigrants (90 per cent) in both cohorts were living in family households soon after arrival. Half were living with their spouse in nuclear-family households. One-quarter were living with their spouse in extended family households that included other relatives. About half of unpartnered immigrants were living with family members, the proportion being higher in Cohort 1 which had a higher proportion of widowed immigrants. Less than four per cent of all primary migrants lived alone.

Table 1 Characteristics of primary migrants in LSIA1 and LSIA2

Characteristics	LSIA1 (%)	LSIA2 (%)
Age at arrival*		
<25	17.5	13.1
25–34	46.9	49.8
35–44	20.0	23.2
45+	15.7	13.9
Sex		
Male	52.3	52.0
Female	47.7	48.0
Birthplace*		
Europe	32.6	27.7
Middle East	9.8	10.4
Southeast Asia	21.7	18.1
Northeast Asia	13.7	16.2
South Asia	9.6	11.4
Americas	5.4	4.7
Africa, Oceania	7.2	11.5
Visa category*		
Preferential family	57.5	52.0
Concessional family	7.8	10.2
Business/ENS	3.4	5.6
Independent skilled	17.1	24.6
Humanitarian	14.1	7.4
Marital status at Wave 1 interview*		
Never married	21.3	21.4
Married	71.2	74.1
Divorced/separated	3.6	2.7
Widowed	4.0	1.8
Employment status at Wave 1 interview*		
Employed	35.3	51.1
Not employed	64.7	48.9
Household composition at Wave 1 interview*		
Couple only	26.1	27.1
Couple and children only	22.1	28.1
Couple, others	18.0	16.3
Couple, children, others	7.8	8.1
Single in family household	13.7	9.2
One-parent family	2.3	1.8
Group household	6.5	5.6
Lone person	3.5	3.8
N	5,192	3,124
Weighted N	74,990	32,415

* $p < 0.05$ in chi-square test comparing LSIA1 and LSIA2 on that characteristic.

Sources: LSIA1 and LSIA2.

Table 2 shows the household structure of both immigrant cohorts by their demographic characteristics and visa category. The majority of primary migrants under age 25 lived with their spouse in couple-family households because many primary migrants in this age group were spouses sponsored for marriage migration under the Preferential Family visa category. More than 60 per cent were married but had no children and 35 per cent lived with their spouse in an extended-family household. Unpartnered immigrants in this age group were mostly living with relatives rather than alone or in group households. The majority of immigrants aged 25–44 were living with their spouse in nuclear-family households. However, the majority of immigrants aged 45 and over lived in extended-family households. As with younger immigrants, older unpartnered immigrants mostly lived with relatives rather than alone.

Male and female primary migrants had different household structures at arrival. A greater percentage of female than male primary migrants were living with partners without children because many were spouses migrating in the Preferential family visa category. Women were also more likely than men to live as a single parent. A greater percentage of men than women lived alone or in group households.

Never married, divorced or separated immigrants living in couple-family households were likely to be in unmarried cohabiting relationships. Widowed immigrants were mostly living with relatives, with less than 10 per cent living alone.

Differences in household composition by birthplace are likely to be related to cultural norms in living arrangements. Immigrants from the Middle East and Southeast Asia had the highest proportions living in extended-family households and the lowest proportions living in non-family households. In contrast, immigrants from Europe and the Americas had the lowest proportions living in extended-family households and the highest proportions living in nuclear and non-family households. These patterns of living arrangements appeared consistent with the findings of studies reviewed earlier.

Differences by visa category are also significant. The high percentage of Preferential Family immigrants living with their spouse and no children reflects the dominance of spouse and marriage migration in this visa category. The relatively high proportion of unpartnered Concessional Family immigrants living with relatives also reflects their status as extended family members who had been sponsored for migration. The majority of Skilled and Business immigrants lived in nuclear family households, although one-third of all Independent skilled primary migrants were living in non-family households in the months after arrival. Humanitarian immigrants showed considerable diversity in household structure soon after arrival, but many had relatives already in Australia who were able to provide on-arrival accommodation. Over 40 per cent were living in extended family households and one-quarter were single adults living with family members. Only 12 per cent were in non-family households. The percentage of single parents was much higher than in other visa categories, which indicates the higher incidence of separation from or loss of spouse among Humanitarian immigrants.

Table 3 presents the results of multinomial logistic regression analysis on new immigrants' likelihood of living in extended-family or non-family households compared with nuclear-family households at six and 18 months after arrival in Australia. Even after controlling for demographic characteristics and employment status, there were still significant differences in the propensity to live in extended-family house-

Table 2 Household composition at 3–6 months after arrival, by primary migrants' characteristics (%)[a]

	Couple only	Couple, children	Couple, others	Couple, children, others
Age at arrival				
<25	27.5	4.9	35.5	4.2
25–34	32.5	21.0	14.8	6.2
35–44	16.2	49.9	7.1	11.6
45+	20.3	17.6	21.4	11.8
Sex				
Male	20.8	29.5	15.2	10.1
Female	32.5	17.8	20.0	5.5
Marital status at wave1				
Never married	13.9	1.2	6.4	0
Married	31.8	32.3	22.2	10.8
Divorced/separated	15.4	7.8	5.0	3.3
Widowed	0.4	0	0.7	0
Birthplace				
Europe	31.7	25.7	11.6	6.6
Middle East	24.4	20.1	24.7	9.1
Southeast Asia	21.9	18.0	24.4	11.4
Northeast Asia	23.2	20.9	21.8	5.9
South Asia	22.7	30.7	13.2	7.3
Americas	42.6	22.0	13.8	7.7
Africa, Oceania	20.7	34.7	13.9	6.8
Visa category				
Preferential family	37.3	15.3	26.9	7.5
Concessional family	11.4	33.7	6.1	14.9
Business/ENS	12.5	53.8	2.7	11.1
Independent skilled	18.8	33.8	5.5	3.0
Humanitarian	4.0	30.7	6.6	11.3
Employment status at wave 1				
Employed	31.4	24.4	14.1	5.2
Not employed	23.1	23.6	19.8	8.6
Total	26.4	23.9	17.5	7.9

a Differences in household composition are significant at $p < 0.01$ in chi-square test for each characteristic.

Table 2 ***(continued)***

	One parent	Single living with a family	Group	Lone person
Age at arrival				
<25	0.4	22.7	3.6	1.2
25–34	1.5	9.2	10.5	4.4
35–44	4.4	5.3	2.5	3.0
45+	2.8	20.9	0.9	4.3
Sex				
Male	0.5	11.3	8.4	4.2
Female	3.9	13.5	3.8	2.9
Marital status at wave1				
Never married	0.9	39.7	25.3	12.0
Married	0.8	0.9	0.8	0.5
Divorced/separated	22.1	27.7	7.4	11.3
Widowed	18.9	69.8	0.9	9.3
Birthplace				
Europe	1.8	10.7	7.0	5.0
Middle East	2.2	12.0	5.6	2.0
Southeast Asia	3.4	15.0	4.0	1.9
Northeast Asia	1.5	14.8	7.8	4.1
South Asia	1.2	13.1	8.6	3.3
Americas	0.5	4.6	4.8	4.0
Africa, Oceania	3.3	12.2	4.9	3.7
Visa category				
Preferential family	0.9	10.5	0.7	0.9
Concessional family	2.0	24.6	3.8	3.5
Business/ENS	3.3	2.0	4.9	9.7
Independent skilled	0.4	6.5	22.1	10.0
Humanitarian	10.0	25.2	8.4	3.8
Employment status at wave 1				
Employed	0.8	7.7	9.4	5.5
Not employed	3.0	15.5	4.1	2.3
Total	2.1	12.4	6.2	3.6

Sources: Combined data from LSIA1 and LSIA2.

Table 3 Odds ratios from multinomial logistic regressions of the living arrangements of recent immigrants at 6 and 18 months after migration

	Extended family vs nuclear family		Non-family vs nuclear family	
Characteristics	at 6 months	at 18 months	at 6 months	at 18 months
Age at arrival				
<25	1.268*	0.808	0.408**	0.483**
25–34	0.545**	0.406**	0.862	0.759
35–44	0.423**	0.377**	0.562**	0.574**
45+ (ref.)	1.000	1.000	1.000	1.000
Sex				
Male	1.706**	1.591**	1.667**	1.370**
Female (ref.)	1.000	1.000	1.000	1.000
Marital status				
Married	6.198**	4.628**	0.029**	0.050**
Not married (ref.)	1.000	1.000	1.000	1.000
Birthplace				
Europe	0.918	0.735*	0.936	1.017
Middle East	1.503**	1.227	1.420	1.004
Southeast Asia	2.018**	2.076**	1.014	0.866
Northeast Asia	1.764**	2.595**	1.249	0.911
South Asia	1.065	1.144	1.088	1.190
Americas	0.878	0.648*	1.186	1.754*
Africa, Oceania (ref.)	1.000	1.000	1.000	1.000
Visa category				
Preferential family	1.732**	1.124	0.236**	0.417**
Concessional family	1.276	0.577**	0.546**	1.014
Business/ENS	0.414**	0.379**	3.672**	1.945**
Independent skilled	0.560**	0.401**	4.499**	2.618**
Humanitarian (ref.)	1.000	1.000	1.000	1.000
Employment status				
Employed	1.016	0.860*	1.142	1.307*
Not employed (ref.)	1.000	1.000	1.000	1.000
Cohort				
Cohort 1	0.979	1.053	1.328*	1.527**
Cohort 2 (ref.)	1.000	1.000	1.000	1.000
Likelihood chi-square	3773.6	2535.7	3773.6	2535.7
df	34	34	34	34
P	<0.001	<0.001	<0.001	<0.001
Number of migrants	8,315	7,117	8,315	7,117

* $p < 0.05$, ** $p < 0.01$.

holds versus nuclear-family households by birthplace at both six and 18 months after migration. Immigrants from Southeast and Northeast Asia were significantly more likely to live in extended-family households than immigrants from other regions. Immigrants from the Middle East were significantly more likely to live in extended-family households soon after arrival, but this likelihood was slightly reduced one year later, as some immigrants formed their own nuclear-family households. There was no significant difference in living arrangements at six months after arrival by whether the immigrant was employed or not after controlling for birthplace. This indicates that living in extended-family households was more a function of cultural preference or obligation than of economic circumstance.

The logistic regression results also show significant differences by visa category in the propensity to live in extended-family households even after controlling for immigrants' demographic characteristics. Preferential family immigrants were the most likely to live in extended-family households soon after arrival, but this likelihood was reduced at 18 months after arrival as shown in the odds ratio becoming not significant. Business, Employer Nominated and Independent skilled immigrants were significantly less likely to live in extended-family households.

The regression results show no differences by birthplace in the propensity to live in non-family households at six months after arrival. At 18 months after arrival, immigrants from the Americas were significant more likely than other immigrants to live in non-family households. However, differences by visa category were significant. As expected, Preferential Family immigrants, all of whom were sponsored by family members, were much less likely than other immigrants to live in non-family households. Skilled and business immigrants were the most likely to live in non-family households.

While there was no difference in the two migration cohorts in the propensity to live in extended-family households, immigrants in Cohort 1 were more likely than those in Cohort 2 to live in non-family households even after taking into account differences in their characteristics and visa category. The regressions also confirmed, as expected, that married immigrants were more likely to live in extended-family households and less likely to live in non-family households than not married immigrants. While it was not surprising that males were more likely than females to live alone or in group households, the finding that they were also more likely than females to live in extended versus nuclear-family households was more difficult to explain.

Migrants' characteristics and household size

Household diversity is also examined in terms of household size. Immigrants' households ranged from one to 15 people at 3–6 months after arrival, one to 19 one year later and one to 16 two years afterwards. Differences in household size were observed by age, marital status, birthplace and visa category, but not between the two cohorts (Table 4). Immigrants aged below 25 or above 45 were more likely to live in larger households, as were married or widowed immigrants. These patterns are consistent with the earlier observation that many of these immigrants were living in extended-family households. Immigrants from the Middle East and Southeast Asia also lived in larger households than other immigrants while immigrants from Europe and the Americas were more likely than others to live in one or two-person households. Average household size was largest for Humanitarian immigrants, with about 20 per cent of primary migrants living in households of six or more people at

Table 4 Household size at 3–6 months after arrival by characteristics of primary migrant

Characteristics	Number of persons 1–2 %	3–5 %	6+ %	Mean	Adjusted mean
Age at arrival[a]					
<25	32.5	45.9	21.6	4.0	4.0
25–34	43.3	46.7	10.0	3.3	3.4
35–44	21.6	65.7	12.8	3.8	3.8
45+	28.2	54.4	17.3	4.0	4.0
Sex[a]					
Male	30.6	55.3	14.1	3.7	4.0
Female	39.1	47.8	13.0	3.5	3.6
Marital status at wave1[a]					
Never married	42.4	48.9	8.7	3.2	3.6
Married	33.0	52.0	15.1	3.7	4.0
Divorced/separated	37.7	49.0	13.2	3.5	3.8
Widowed	20.3	66.3	13.4	3.9	3.9
Birthplace[a]					
Europe	41.9	51.7	6.4	3.2	3.4
Middle East	31.3	42.3	26.4	4.4	4.4
Southeast Asia	27.1	49.7	23.2	4.1	4.3
Northeast Asia	31.9	57.0	11.1	3.5	3.8
South Asia	31.8	57.4	10.8	3.6	3.8
Americas	50.1	43.3	6.6	3.0	3.3
Africa, Oceania	30.2	57.3	12.5	3.7	3.8
Visa category[a]					
Preferential family	39.4	45.3	15.3	3.6	3.6
Concessional family	20.4	63.7	15.9	4.0	4.2
Business/ENS	25.6	62.8	11.6	3.7	3.7
Independent skilled	40.4	55.1	4.5	3.0	3.4
Humanitarian	17.1	63.7	19.2	4.2	4.2
Cohort					
Cohort 1	34.4	51.2	14.4	3.6	3.8
Cohort 2	35.6	53.0	11.5	3.5	3.8
Total	34.7	51.7	13.6	3.6	3.8

a The difference in household size distribution for this characteristic was significant at $p < 0.01$.
Sources : LSIA1 and LSIA2.

3–6 months after arrival, indicating large family units or a greater propensity to live in shared accommodation.

Since immigrants' age, sex, marital status, birthplace and visa category may be related to one another, multivariate analysis was carried out to adjust for the effect of these relationships on household size[5]. The adjusted mean household sizes associated with these immigrant characteristics are also shown in Table 4. They were not very different from the unadjusted means and the differences in household size by age, sex, marital status, birthplace and visa category remained statistically significant.

Changes in household composition

Longitudinal analysis shows that 29 per cent of all primary migrants experienced a change in household structure during the one-year period beween the first and second interviews, and 31 per cent did so during the two-year period between the second and third interviews. A comparison of the household composition of the first cohort shows that 48 per cent had experienced a change in living arrangements during the first three-and-a-half-years of settlement. Table 5 shows that the most likely change during the first year of settlement is for immigrants living as couple families with others (extended-family households) soon after arrival to move into their own households. More than one-third of all immigrants in couple families with others at 3–6 months after arrival became nuclear-family households one year later. Similarly, about half of immigrants in couple families with children and others were living without the 'others' one year later. Immigrants in nuclear-family households were the most likely to experience no change. Less than one per cent of all couple families became one-parent families while about 10 per cent of one-parent families and 10 per cent of primary migrants living alone became couple families either through family reunion migration or partnering. About 20 per cent of primary migrants living alone or in group households soon after arrival had moved into family households, either with a spouse or other relatives, one year later. Less than five per cent of primary migrants living in family households moved to group households or living alone one year later. Transitions between the second and third interviews (available from data for cohort 1 only) were similar to those observed between the first and second interviews (results not shown).

The lower panel of Table 5 based on data from the first LSIA cohort only shows the changes in household composition over a period of more than three years after arrival and confirms the trend towards more independent living with duration of residence. Up to half of immigrants living in extended-family households at the first interview were no longer living with extended-family members by the time of the third interview, and a significant minority of immigrants who lived in group households soon after arrival were living alone.

Table 6 shows the results of multivariate binary logistic regression models examining the probability of immigrants experiencing the two main transition patterns in living arrangements according to their demographic characteristics, migration category and changes in marital status and employment status. Two regression models were fitted for each transition. The first model examines each transition according to immigrants' characteristics; the second model includes changes in marital status and employment status to examine the relation between these changes and the change in household structure.

Table 5 Changes in household composition during the first few years of settlement

	Couple only %	Couple, children %	Couple, others %	Couple children, others %	One parent %	Single living with a family %	Group %	Lone person %
				Household composition at Wave 2				
Household composition at Wave 1 (both cohorts)								
Couple only	72.8	18.3	4.3	1.4	0.1	0.6	0.8	1.7
Couple and children only	0.5	92.9	0.9	3.9	0.7	0.2	0.3	0.5
Couple, others	26.3	9.8	50.4	11.6	0.0	0.4	1.1	0.5
Couple, children, others	1.7	45.5	5.8	41.8	3.7	0.8	0.0	0.7
One-parent family	0.0	6.3	0.0	2.7	82.8	5.8	0.8	1.6
Single in family household	4.0	0.6	3.8	1.2	1.7	74.6	4.8	9.5
Group household	7.9	1.4	1.9	0.2	0.2	4.4	65.2	18.9
Lone person	10.7	1.8	0.9	0.4	0.1	6.4	15.2	64.4
Total	25.7	33.2	11.3	6.9	2.4	9.8	5.4	5.2
				Household composition at Wave 3				
Household composition at Wave 1 (cohort 1 only)								
Couple only	50.1	36.7	3.7	2.1	0.3	1.4	1.8	3.9
Couple and children only	1.0	81.1	2.7	9.3	2.5	0.2	1.4	1.9
Couple, others	19.6	23.6	28.4	19.1	0.7	4.9	1.7	2.2
Couple, children, others	3.4	50.4	8.9	28.2	3.7	4.0	0.0	1.5
One-parent family	0.0	19.3	0.0	4.2	64.9	9.3	1.3	0.9
Single in family household	6.6	5.5	4.0	2.5	2.3	57.0	5.4	16.8
Group household	17.6	9.5	4.1	3.9	1.2	5.4	37.8	20.6
Lone person	16.9	4.4	0.9	0.3	1.6	5.8	15.6	54.5
Total	19.9	38.8	8.3	9.1	3.0	9.6	4.4	7.0

Sources: LSIA1 and LSIA2.

Table 6 Odds ratios from logistic regression of changes in immigrants' household composition[a]

Characteristics	Model 1a	Model 1b	Model 2a	Model 2b
Age at arrival				
<25	3.992**	3.969**	9.860**	6.392**
25–34	4.590**	4.260**	4.690*	2.739
35–44	3.182**	2.894**	4.241*	1.888
45+ (ref.)	1.000	1.000	1.000	1.000
Sex				
Male	1.085	–	1.322	–
Female (ref.)	1.000	–	1.000	–
Birthplace				
Europe	1.546	1.563	0.838	0.618
Middle East	1.000	1.068	1.192	1.025
Southeast Asia	0.558*	0.572*	1.020	0.550
Northeast Asia	0.369**	0.375**	1.887	1.188
South Asia	0.717	0.700	1.386	0.735
Americas	1.763	1.953*	0.761	0.554
Africa, Oceania (ref.)	1.000	1.000	1.000	1.000
Visa category				
Preferential family	0.948	0.891	2.827*	1.170
Concessional family	3.361**	3.029**	0.745	0.961
Business/ENS	1.149	0.966	1.387	1.567
Independent skilled	2.184**	2.418**	0.879	1.127
Humanitarian (ref.)	1.000	1.000	1.000	1.000
Change in marital status				
Married no change	–	4.115**	–	6.868**
Married to not married	–	4.303**	–	–
Not married to married	–	3.943**	–	13.961**
Not married no change (ref.)	–	1.000	–	1.000
Change in employment status				
Employed no change	–	1.238	–	2.397*
Not employed no change	–	0.845	–	2.700*
Employed to not employed	–	0.713	–	1.763
Not employed to employed (ref.)	–	1.000	–	1.000
Likelihood chi-square	220.5	243.0	32.6	120.2
df	14	19	14	18
P	0.001	0.001	0.003	0.001
Number of migrants	1,559	1,559	724	715

* $p < 0.05$, ** $p < 0.01$.

a Model 1 models a change from an extended-family household to a nuclear-family household; Model 2 models a change from living in a group or lone-person household to a family household.

The regression models on the transition from extended to nuclear-family households (Models 1a and 1b) show that younger immigrants, those from Europe and America, and those in the Concessional or Independent skilled migration categories were more likely, and immigrants from Southeast and Northeast Asia less likely, than other immigrants to make this transition during the early years of settlement. A change in marital status was also significantly associated with making this transition. However, there was no significant association with changes in employment status. Moving from non-employment to employment does not affect the propensity of recent immigrants to move from extended to nuclear-family households. These results support earlier findings that suggest that for immigrants to live in extended-family households is more a matter of cultural preference than economic circumstance.

Immigrants who moved from non-family households to family households were more likely to be under age 25 or were married or had married during the interim period (Models 2a and 2b). Married immigrants living in non-family households soon after arrival may have been waiting for their family members to join them later, forming family households. Immigrants whose employment status did not change were also more likely to make this transition. There was no significant difference by sex, region of origin and visa category in the transition from non-family to family households.

Similar patterns were observed in the transitions during the period between the second and third interviews which were conducted for the first cohort only (results not shown but available from the author).

Changes in household size

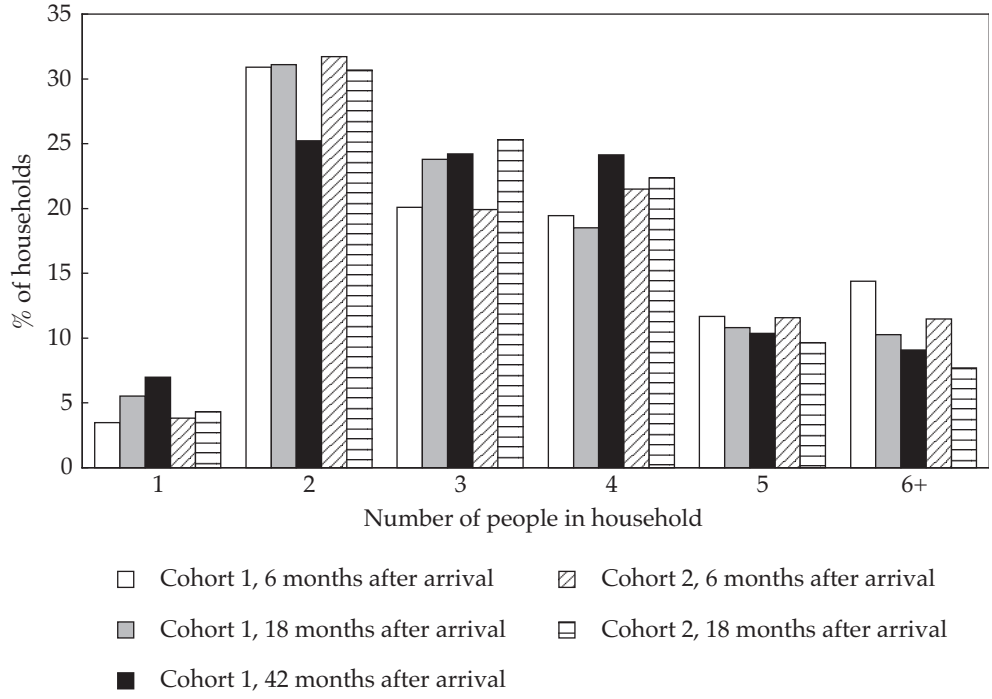
There was a slight reduction in immigrants' average household size during the first year after arrival as they moved into their own households after living with extended family members on arrival. The proportion of one-person households increased while that of households with six or more people decreased with duration of residence (Figure 1).

Multinomial logistic regression analyses were conducted to examine which immigrants were more likely to experience an increase or decrease in household size during the one-year period between the first and second wave interviews (Table 7). Younger immigrants and immigrants from the Middle East or Southeast Asia were more likely than older immigrants to experience a change in household size during the first year of settlement than other immigrants. Changing status from married to single and leaving employment were also likely to be associated with a change in household size. Immigrants in the first cohort were also more likely than the second cohort to experience a change in household size. Stability in household size was more likely for older immigrants, those from Europe and those in the Business/Employer Nominated visa category.

Discussion and conclusion

This paper is the first to examine the household diversity and dynamics of immigrants in Australia. This is because of the recent availability of longitudinal data for recent immigrants documenting their experiences during the first few years of settlement. This has made it possible to examine the living arrangements of newly

Figure 1 Primary migrants' household size during the early years of settlement



arrived immigrants in Australia and how they vary by demographic characteristics and migration category, the changes in household structure that new immigrants are likely to experience over the first few years of settlement, and their relation to other changes in the immigrants' life such as a change in marital or employment status.

The findings confirm those of other studies showing that there is diversity in immigrants' living arrangements by region of origin. Immigrants from Middle East and Asia are more likely to reside in larger and extended-family households and less likely to be living alone than others. For some immigrants, living in extended-family households on arrival is a temporary situation. There is a trend toward independent living with increased duration of residence, as expected, as immigrants become more settled. The longitudinal data show that up to half of immigrants living in extended-family households at six months after arrival were living in nuclear family households one year later. Immigrants from Europe and the Americas are more likely to do this while immigrants from Asian countries are less likely to make this transition. This suggests that while co-residence with extended family members for some migrants may be brought on by the migration process, as suggested in the study of Mexican migrants by Van Hook and Glick (2007), it appears to be culturally supported for other, especially non-European, immigrants.

Changes in immigrants' household structure and household size during the first few years of settlement are also related to age, visa category of migration and change in marital status. Younger immigrants are more likely to experience change in their living arrangements while immigrants who are not married have more stability in their living arrangements. Skilled immigrants who live with extended-family mem-

Table 7 Odds ratios from multinomial logistic regressions of changes in household size between the first and second interviews[a]

Characteristics	Increase versus no change	Decrease versus no change
Age at arrival		
<25	2.340**	1.599**
25-34	2.289**	1.295*
35-44	1.222	0.819
45+	1.000	1.000
Sex		
Male	0.992	1.330**
Female	1.000	1.000
Birthplace		
Europe	0.714*	0.961
Middle East	1.823**	1.785**
Southeast Asia	1.635**	1.686**
Northeast Asia	1.717**	0.992
South Asia	1.688**	1.073
Americas	1.191	1.040
Africa, Oceania	1.000	1.000
Visa category		
Preferential family	0.910	0.942
Concessional family	0.734	1.383*
Business/ENS	1.006	0.453*
Independent skilled	1.013	0.941
Humanitarian	1.000	1.000
Change in marital status		
Married no change	1.201*	0.636**
Married to not married	3.299**	6.493**
Not married to married	1.196	1.502**
Not married no change	1.000	1.000
Change in employment status		
Employed no change	0.650**	0.895
Not employed to employed	0.532**	0.990
Employed to not employed	2.032**	1.523*
Not employed no changed	1.000	1.000
Cohort		
Cohort 1	1.196*	1.370**
Cohort 2	1.000	1.000
Likelihood chi-square	774.461	
df	42	
P	<.001	
Number of migrants	7,117	

* $p < 0.05$, ** $p < 0.01$.

bers on arrival are more likely to set up their own family households one year later than Humanitarian immigrants who would continue to rely on family support. Previous analysis of LSIA data has shown that skilled immigrants have much better labour market outcomes than Humanitarian immigrants because, unlike Humanitarian immigrants, skilled immigrants have to meet selection criteria for immigration that are related to their employment prospects (VandenHeuvel and Wooden 1999, 2000; Richardson *et al.* 2004).

The analysis in this paper is illustrative of the scope of longitudinal data in examining life course transitions in immigrants' settlement experiences. It also highlights some limitations in the LSIA dataset. Because it is a longitudinal survey of recent immigrants only, the examination of household dynamics is limited to the first few years of settlement. Also, no comparative statistical analysis with native-born Australians is possible.

Notwithstanding these limitations, the LSIA dataset provides important information about the experiences of immigrants during their first few years of settlement in Australia. The paper shows that immigrants face an unsettled period in relation to their living arrangements following migration. However, most of the changes take place within a family household context, indicating the significance of family support and family relationships in the household dynamics of many new immigrants.

Notes

1 The sample excludes migrants who are New Zealand citizens, who can migrate to Australia without a visa under the Trans-Tasman Travel Agreement. The Agreement allows for visa-free movement between Australia and New Zealand for citizens of the two countries.
2 Primary migrants can include children, for example, children who migrate later to reunite with refugee parents who had arrived earlier and sought and been granted asylum.
3 North and South America are grouped together because the number of migrants from there is small relative to other regions.
4 Particularly in the migration of parents, hence the reduction in the percentage widowed in LSIA2.
5 The multivariate analysis was carried using the GLM procedure in SAS with age, marital status, birthplace and visa category as categorical variables and household size as a numeric variable in a main effects model.

References

Angel, R. and M. Tienda. 1982. Determinants of extended household structure: cultural pattern or economic need? *American Journal of Sociology* 87(6): 1360–1383.

Australian Bureau of Statistics (ABS). 2007. Basic Community Profile, Australia. *2006 Census Community Profile Series.* Cat. No. 2001.0. Canberra.

Blank, S. and R.S. Torrecilha. 1998. Understanding the living arrangements of Latino immigrants : a life course approach. *International Migration Review* 32(3): 3–19.

Boyd, M. 1991. Immigration and living arrangements: elderly women in Canada. *International Migration Review* 25(1): 4–27.

Brandon, P.D. 2002. The living arrangements of children in immigrant families in the United States. *International Migration Review* 36(2): 416–436.

Chiswick, B.R. and P.W. Miller. 2006a. Language skills and immigrant adjustment: the role of immigration policy. Pp. 121–148 in D. Cobb-Clark and S.-E. Khoo (eds), *Public Policy and Immigrant Settlement.* Cheltenham: Edward Elgar.

Chiswick, B.R. and P.W. Miller 2006b. Immigration to Australia during the 1990s: institutional and labour market influences. Pp. 3– 24 in D. Cobb-Clark and S.-E. Khoo (eds), *Public Policy and Immigrant Settlement.* Cheltenham: Edward Elgar.

Cobb-Clark, D. 2006. Technical appendix: Longitudinal Survey of Immigrants to Australia. Pp. 213–218 in D. Cobb-Clark and S.-E. Khoo (eds), *Public Policy and Immigrant Settlement.* Cheltenham: Edward Elgar.

Cobb-Clark, D. and S.-E. Khoo (eds). 2006. *Public Policy and Immigrant Settlement.* Cheltenham: Edward Elgar.

Department of Immigration and Citizenship (DIC). 2008. *The Longitudinal Survey of Immigrants to Australia*. Canberra. Available at <http://www.immi.gov.au/media/research/lsia/index.htm>

Department of Immigration and Multicultural Affairs (DIMA). 2001. *Immigration: Federation to Century's End, 1901–2000.* Canberra.

Department of Immigration and Multicultural Affairs (DIMA). 2007. *Population Flows: Immigration Aspects.* Canberra.

Kamo, Y. 2000. Racial and ethnic differences in extended family households. *Sociological Perspectives* 43: 211–229.

Khoo, S.-E., S. Cook and J. Young. 1994. *Immigrant Families: A Statistical Profile.* Statistical Report No. 12. Canberra: Bureau of Immigration and Population Research.

McDonald, P. 1989. Ethnic family structure. *Family Matters* 23: 38–45.

McDonald, P. 1991. Migrant family structure. Pp. 102–121 in Kate Funder (ed.), *Images of Australian Families: Approaches and Perceptions*. Melbourne: Longman Cheshire.

Richardson, S., S. Stack, L. Lester, J. Healy, D. Ilsley and J. Horrocks. 2004. *The Changing Labour Force Experience of New Migrants*. Canberra: Department of Immigration and Multicultural and Indigenous Affairs.

VandenHeuvel, A. and M. Wooden. 1999. *New Settlers Have Their Say: How Immigrants Fare over the Early Years of Settlement.* Canberra: Department of Immigration and Multicultural Affairs.

VandenHeuvel, A. and M. Wooden. 2000. Immigrants' labour market experiences in the early settlement years. *Australian Bulletin of Labour* 26(1): 56–69.

Van Hook, J. and J.E. Glick. 2007. Immigration and living arrangements: moving beyond economic need versus acculturation. *Demography* 44 (2): 225–249.

Vega, W.A. 1990. Hispanic families in the 1980s: a decade of research. *Journal of Marriage and the Family* 52: 1015–1024.