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Research Article

Living alone in South and Southeast Asia:
An analysis of census data

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Abstract

BACKGROUND
Living alone (in a one-person household) has reached very high levels in some parts of the world. Across Asia the phenomenon is common in parts of East Asia, but has rarely been examined in South or Southeast Asia.

OBJECTIVE
The authors seek to establish from the evidence of censuses the main contours of living alone in South and Southeast Asia, and in doing so address issues of definition and measurement, particularly issues arising due to differences in the census handling of the 'group quarters' type of household.

METHODS
The paper examines 10 national censuses in the IPUMS archive of census micro-files. The data are explored for age profiles of living alone by sex, classified by urban versus rural residence and marital status.

RESULTS
The censuses reveal a combination of underlying commonalities among the countries and dates as well as distinct national features. There are distinct age profiles for males and females, and profiles typical of urban and rural sectors across countries. Living alone in group quarters is most common among young adults. Tabulation by marital status shows considerable variation among single young adults and elderly widowed or divorced/separated persons. It is also found that the proportions of the population not living with core family who are living alone vary widely by age and sex and across countries and years.

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CONCLUSIONS
Studies of living alone with national censuses must take note of whether conventional households and group quarters are included and how these are defined. Group quarters residence makes up a significant proportion of living alone among the young.

1. Introduction

> *"It is difficult for one person to handle all household tasks and cultivation. A person living alone must either rely heavily on aid from neighboring kinsman and friends […] or resort to hired labor and sharecropping."* (Ebihara 1971, paraphrasing Cambodian villagers)

> *"… the larger the family you have, the more trouble you get. I have more fun living alone."* (Janlekha 1956, quoting a Thai villager)

"Living alone", the one-person household, has become common in Western societies (Klinenberg 2012; Jamieson and Sampson 2013) and seems to be on the rise in other regions as well. At present the Asian region has the lowest average levels globally; still, there are signs that one-person households have been occurring more frequently in recent years (Yeung and Cheung 2015). This paper examines that phenomenon across South and Southeast Asia based on the national censuses. Our data source is IPUMS (Integrated Public Use Micro-Data Series) International, an online data archive which currently includes micro-files for 37 South and Southeast Asian national censuses spanning 10 countries. The earliest is for 1970 and the latest for 2011. We aim to document patterns and changes in the societies covered as well as important differences between those societies, but much of our attention is on issues of measurement and the concepts underlying those measurements.

Before we proceed to results, some definitional, measurement, and general analytic issues must be briefly considered. These issues center on the rather nebulous boundaries around what might be meant by the phrase "living alone". It is important to distinguish the one-person households examined here from the "living alone" experience more generally. Virtually all the available macro-scale information on living alone is based on questions about "living arrangements" and describes "one-person" in the context of other kinds of household. This is the only information we have on one-person households. We must recognize that the phrase "living alone" for many purposes might be constrained to include, among those living as one person, only those whose kin are not in touch with them regularly, and perhaps those whose neighbors are not in contact with them regularly either.

The available large-scale data on living arrangements is from repeated synchronic measurement and not longitudinal information. Therefore we do not have information on lifetime living alone or living alone during specific stages of life, or on ranges of ages for actual groups of people. What we can do with cross-section census information is put together composite 'synthetic' views, age patterns of cross-section prevalences of living alone, but these age profiles must not be interpreted as the experience of actual cohorts. They are not. Time-series of such cross sections often show changes over time, but only the changes from one synthetic set of age groups to the same age groups (not the same persons) at a different time. This kind of presentation can suggest only indirectly the changes occurring in real cohorts across real periods of time. Shortly we will show that for many countries rates of living alone are relatively high at the youth/young adult ages and again at the older ages, and particularly at the oldest old ages. But there are no data to suggest that one experience is associated in any manner with the other. Are those who lived alone during their youth the same people who much later in life tended to live alone in old age? This kind of question we cannot answer.

One of the important limitations of analysis of this topic is that we know nothing of the individual's social world outside his or her household. That is, to interpret the estimated actual prevalence of living alone we should know what the actual alternative living arrangements might have been. It is one thing to live alone when there are actually four or five adult offspring somewhere about, and another to live alone when family size has declined drastically, or marriage has been foreshortened by separation or divorce and, for one of these reasons, there has only been one offspring or none. We are interested in long-term as well as immediate reasons for the recent rise in living alone. One of these historical sources of variation is lifetime singlehood. This has been rising in recent years throughout Asia (Jones 2005) and could be a growing source of both youth living alone and elderly living alone. We touch on this in our penultimate section.

Large scale, household-based surveys, and certainly national censuses, should be excellent sources for basic information about the living alone phenomenon, since both forms of data collection are founded on the definition, mapping, and interrogation of households, and then the interviewing of categories of persons within the household (e.g., the household head). The percentage of persons living alone by this definition is ubiquitous as a byproduct of household surveys and national censuses, but interpretation of this simple statistic is analytically fraught. There are important points of ambiguity. Moreover, coverage by country and year is uneven, as we will see, as is coverage of dwelling unit or household type. An historical series of information has considerable analytic value. Changes in the proportion living alone are underway throughout the region and are likely to reflect strongly both period and cohort (historical and lifetime) influences, as well as the impermanent but important translation effects found during periods of transition. In the time frame of prime interest across Asia (the last two or three human generations) the most prominent influences include

fertility and mortality transitions and very substantial economic transformations, all varying in timing and tempo among the countries. Sorting out these influences requires large-scale survey and/or census data for a set of populations, and for as long a time series as possible for each.

Comparative analysis of household data seeks to represent the great worldwide diversity of living units and living arrangements. Thematic foci in this scientific literature have included household size, complexity, headship, the household cycle, home-leaving, and, recently, the one-person household (Burch 1967, 1970, 1980; Hammel and Laslett 1974). These topics are often taken up with reference to a particular age group or stage of life ("among young moderns", "of Thailand's elderly") and generally focus on particular national settings. There are only a few compilations that throw light on cross-country differences. Even less common are efforts to reconstruct household patterns historically, using censuses and other sources (Laslett 1969; Laslett and Wall 1972; Wall 1981, 1989) to produce a sweeping statistical picture of household structures across historical Europe from the 18th century onward (Wall 1989). In our final section we will refer to Wall's results on one-person or "solitary" households in comparison with the patterns reported here.

The exposition proceeds as follows. The next section looks at issues of measurement and especially problems related to definitions of group quarters. Then we turn to results for two main categories of household (conventional households and group quarters). These results are initially in the form of age profiles. For each population we examine the age range 15 and over for each of the sexes, and we take into account rural versus urban residence whenever possible. We consider the prevalence of one-person households, and we explore census-based distinctions among types of household – both conventional households and several kinds of group quarters. We aim to broaden the discussion somewhat, by looking at the additional measure of the prevalence of living separate from other kin as an aspect of "living alone". Then within that grid we introduce marital status, the additional social characteristic most likely to directly influence living arrangements. We point to common patterns, but the considerable differences between countries and even sometimes across years within countries are striking. A final section provides an overview of patterns based on derived ratios that highlight important differences.

2. Methods and measures

The household serves as the foundation of all census-taking exercises. Methods in the field have been shaped and standardized by national census bureaus and to a considerable degree a unified approach has emerged as codified by the United Nations Population Division (United Nations 1967, 2007). This has made it possible, with

difficulties and exceptions we will consider later, for the IPUMS data archiving project to offer census datasets that have been recoded and 'harmonized' into a set of largely comparable variables and categories. Our analysis is based on extracts from the 37 South and Southeast Asian censuses currently available from IPUMS. We have extracted files of harmonized variables, since our interest is fundamentally comparative. Table 1 summarizes these datasets.

Table 1: Countries and datasets included in the analysis

Country	Dataset (Census/Survey)	No. of Datasets	Group quarters identified?
Bangladesh	1991, 2001, 2011	3	Yes
Cambodia	1998, 2008	2	Yes
India	1983*, 1987*, 1993*, 1999*, 2004*	5	No
Indonesia	1971, 1976*, 1980, 1985*, 1990, 1995*, 2000, 2005*, 2010	9	Yes (censuses only)
Malaysia	1970, 1980, 1991, 2000	4	Yes
Nepal	2000	1	No
Pakistan	1973, 1981, 1998	3	No
Philippines	1990, 1995, 2000	3	Yes (1995 only)
Thailand	1970, 1980, 1990, 2000	4	Yes
Vietnam	1989, 1999, 2009	3	Yes (1989 only)

Note: * household sample survey data

The individual-level data files provide a number of household-level characteristics such as households by size – including one-person households – and thus provide a simple and direct measure of living alone. We have developed additional household-level variables as detailed in the Appendix, "More on methods and measures". Briefly, for each country we have developed two kinds of data file: a person-level file with personal and linked household-level characteristics; and a household-level file. There are nearly 160 million sample cases in the full corpus of data we have processed. These files are sometimes quite large even for individual countries, so it has not been feasible to merge all of these into one international, comparative file. Instead we have created from each dataset a small file of aggregated characteristics obtained for each population subgroup in a cross-classification of country and census year (37), residence (urban/rural), sex (male/female), and age (in single years). These small files were then easily merged into one file containing all the aggregated datasets. This aggregated file is the basis for all the charts presented here. Further country-wise analysis was carried out as needed, using the individual-level files.

2.1 Defining "living alone" in the IPUMS data

All the censuses center on households, but one concern must be highlighted, since it bears directly on our measures and especially on our measure of one-person households and "living alone"." This relates to the boundaries between households generally, and in particular to the implementation of the distinction between (conventional) households and "Group Quarters". Anyone familiar with factory or college dormitories will realize that group quarters take many forms: there are also prisons, monasteries, and military barracks, among others. The lines separating these living arrangements and distinguishing one census household from another can be very thin. We have a particular concern about the distinction between (conventional) households and group quarters, and the definition of living arrangements and of separate households within a group quarters residential structure. Thus, a group quarters that is home to eight young men might be defined in a census as one large household, or perhaps as eight one-person households, with significant potential consequences for a study of living alone. We will suggest later that these delimitations vary across census organizations/ countries, and even across census years within countries.

Additional difficulty for comparative analysis arises because the complete corpus of IPUMS "census" files includes many "inter-censal surveys" and other national surveys which are more like household surveys than censuses in at least one crucial aspect: by design they cover only conventional households and do not include group quarters. Many of these surveys may actually include some or all types of group quarters, but classify them as conventional households. This is an important element of variation in survey design that needs to be documented and taken into account much more carefully than we have managed here. Additionally, even when group quarters are recorded, there are variations with regard to the information about those group quarters that was coded by the census bureaus, and therefore by IPUMS.

Across the 37 countries and years, only three provide complete information for all the group quarters categories of interest (Philippines 1995 and Thailand 1970 and 2000). This includes "institutions" and "Other Group Quarters". For an additional 17 censuses there is both household and group quarter information, though the group quarters categories are a subset of the complete IPUMS classification. For the remaining 17 censuses there is household information but none distinguishing group quarters. Only the Pakistan 1981 census contains no usable information on households. Thus, when we limit our attention to levels of living alone in households and in group quarters, but ignore the absence of additional detail within those categories, we can draw upon data for 21 censuses out of the 37. About half of the excluded data is from the survey-type datasets for four years in Indonesia and five years in India. We use this set of 21 censuses in some of our analysis. It is important to keep in mind that in doing so we are assuming that despite the variation in the classification of group quarters, every classification includes all actual group quarters defined, although sometimes they

are not identified as such. We have already noted that there are bound to be variations across these datasets in how consistently and how completely group quarters have been defined and measured in practice.

Something of the international variability in group quarters results, and the variability that can be found across censuses within a country, is suggested by Figures 1 and 2, which show certain characteristics of group quarters in 21 of our datasets where this information is available. The rural and urban sectors (cf. Figures 1 and 2) are similar and can be discussed together. The average size of a group quarters residence ranges widely, from 3 through 13 persons (excluding the exceptionally high levels for Vietnam 1989). There is also a wide range in the proportion of group quarters residents who are living alone (that is, living in a group quarters residence of one person). For many of the countries there are small and largely consistent shifts in these levels across the available censuses. But there are also cases (illustrated by Indonesia) of dramatic and implausible shifts up and down over time. These may be due to a combination of definitional changes and changes in field procedures (mapping, listing, etc.), but changes over time in the composition of group quarters might also be genuine and reflect a combination of institutional and compositional factors such as housing regulations, the labor market, housing policies of private employers, and military living arrangements, as well as whether military personnel are actually counted in the census.

By comparing these two figures it can also be seen that urban and rural levels of the proportion of persons living in group quarters are generally similar for each country and census year. But there are exceptions, particularly in certain years for Indonesia and Thailand. For Indonesia the proportions of both rural and urban group-quarters residents who are living alone rose dramatically between 1980 and 2010, so that by 2010 virtually all group-quarters residents were living alone. But this generalization is belied by the 1971 census, in which the rural percentage of group-quarters residents living alone was very high. For Thailand we might claim that rural levels have been low and urban levels much higher, both with inter-censal changes but no consistent trend over time. We have not managed to unravel these patterns. Perhaps this could be accomplished by looking at other census information about these groups (identifying clusters of military or religious occupations, for example).

Overall, we believe it is best to advise great caution in interpreting these group-quarters statistics, which may in many instances combine the effects of marked changes in census procedures, shifting military policies and dispositions, changes in employer policies and the legal framework surrounding those, and a changing degree of inclusiveness of census counts. International comparisons and even indications of change over time within some of the countries may not be valid. We present group-quarters indicators in this paper, but urge caution nevertheless.
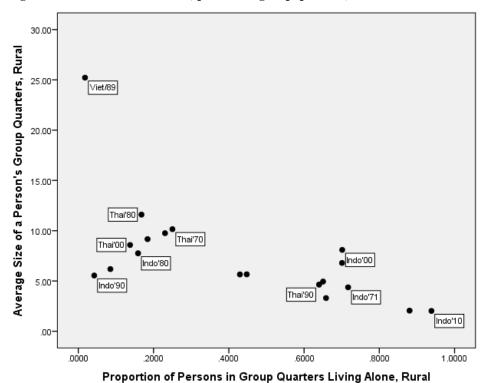
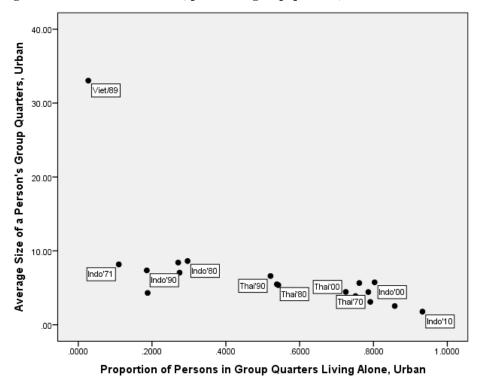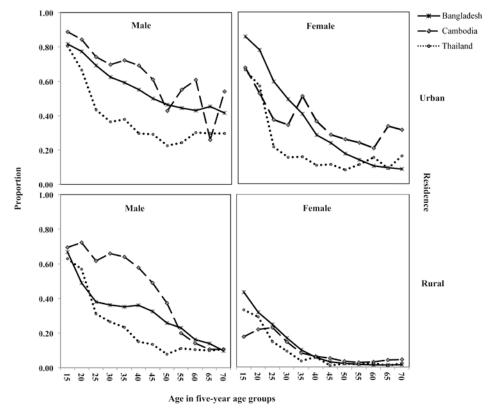**Figure 1:   Selected indicators, persons in group quarters, rural**

Figure 2:   Selected indicators, persons in group quarters, urban

We have dwelt upon the coverage and definitions of group quarters because in many of the countries we are studying, and more so for particular age-sex categories, a significant proportion of the population living alone is living outside conventional households in group quarters of one kind or another. Figure 3 shows for three of our countries that the group-quarters share of all who live alone is often very high, especially at the younger ages.

Figure 3: **Proportion of all persons living alone who are in group quarters, by age, sex, and residence: Available countries, circa 2000**

2.2 Classification and indicators of living alone

Distilling all of this, the categories of living alone available to us from the censuses are:

- ◆ Persons living alone in "conventional households" (i.e., in one-person conventional households)
- ◆ Persons living alone in group quarters, which may be:
  - o "institutions" (e.g., prisons, monasteries, welfare institutions)
  - o other kinds of group quarters
  - o group quarters "reclassified from households"

The term 'household', as used in census reports and in IPUMS, generally includes both conventional households and group-quarters households. We maintain this broader usage here. "Households" refers to all categories combined, while "conventional households" is the term we use to refer to non-group-quarter households.

2.3 Other concepts, other measures

Beyond these efforts to identify one-person households with the IPUMS categories, we have considered how we might employ the census data to stretch the notion of living alone somewhat. Just as *Bowling Alone* (Putnam 2001) is not really about bowling, living alone as a societal formation often is not entirely about who you live with. It would be valuable to consider forms of 'alone-ness' when there are others in the household, and also the possibility of being socially embedded even while living as a one-person household. But subtleties such as this are well beyond what censuses can deliver. As a gesture in this direction we have constructed several variables drawn from the IPUMS coding schemes that suggest an individual's degree of 'separateness', meaning, narrowly, various kinds of physical separation from others with regard to living arrangements. The censuses and the IPUMS harmonized codes give us a few ways of approaching this. Using the household-level information on household membership we have defined the following additional categories of living alone:

♦ Living with one or more other persons, but with no one from the core kin group (defined as biological children, grandchildren, parents, grandparents, siblings, and spouses)
♦ Living with one or more other persons, but with no one who is any sort of relative.

And at the household level we have defined:

♦ Households with every member unrelated to anyone else in that household.

To the degree that these codes and recodes can be considered meaningful (cf. Appendix), we aim in our analysis to examine the living-alone individual in the context of the larger number who are not living alone but nevertheless are physically detached from family – whether core family as defined here or a more general set of kin. These alternative sets of the 'physically separate' (for want of a better term) are also found to vary systematically in relative numbers across ages, genders, residences (urban versus rural) and the like.

We are especially concerned about the meaning of the great diversity of group-quarters living situations for living alone. These will include, across these South and Southeast Asian settings, men tightly bonded in spiritual quest although living in separate cubicles, men in prisons who are locked in individual cells for much of the time, and also elderly, widowed women in villages who are alone in a residence yet surrounded by a lifetime of friends.

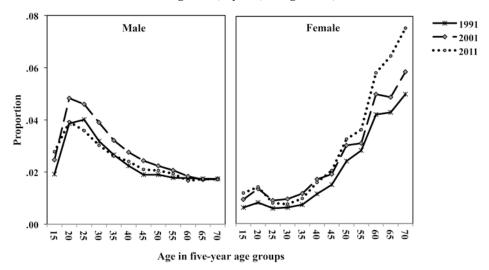# 3. Age profiles of living alone

3.1 One-person households

South and Southeast Asian levels are relatively low compared to the outstanding national patterns for Europe and those for East Asia discussed elsewhere in this issue, but they are high enough to be interesting in particular age groups for each of the sexes. There are typical age-sex patterns, as well as distinct national departures from those common patterns. Also, it matters whether we are interested in households as conventionally defined, or in group quarters as the censuses define them. In the following summary we first look at persons in all kinds of household, and then disaggregate by focusing on the group-quarters component. These prove to be rather different.

The regional profile across age groups and by sex can be summarized best by referring to a common pattern, and then to variations around that pattern. The shared pattern is illustrated by Bangladesh, for which we have three censuses spanning 20 years, ending in 2011 (Figure 4). In each of these cross-sections the prevalence of living alone rises dramatically with older age for females, but declines with older ages for males. In the young adult ages the female level is negligible while the male level rises abruptly until the late twenties, before falling. Comparison across the three censuses indicates that the male peak in the early years has fallen, while the female level in old age has risen.

Ten countries provide this information, but we will focus on the nine that have an urban-rural classification. In order to compare this set of countries efficiently we have created multiple-country displays involving only the census year nearest 2000 for each country. An example is Figure 5, showing the proportion in one-person households (conventional and group-quarters households combined). It is apparent here that the Bangladesh levels are mid-range, and all countries show patterns roughly comparable to Bangladesh. However, certain differences bear mentioning. Thailand's levels are somewhat elevated in both sectors for males and in the urban sector for females. With regard to males, we can suggest investigation of the role of the military, or monkhood, or both, in these patterns. The pattern of elevated levels in old age for Bangladeshi
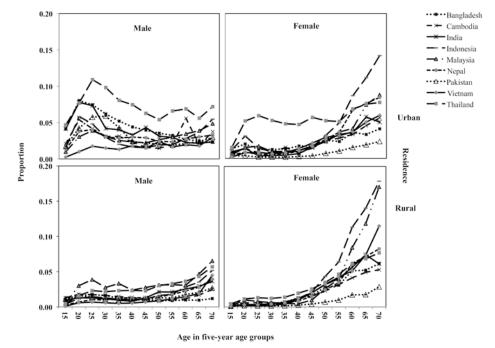
females is exceeded among females in Indonesia, Malaysia, and Vietnam, while Pakistani females have relatively low levels.

Figure 4: **Age profiles of persons in conventional and group-quarters households living alone, by sex, Bangladesh, 1991–2011**

Overall, this combination of a common underlying pattern, specific magnitudes, and a few distinct departures offers a clear indication of how living alone is the outcome of complex processes, driven by different kinds of forces in youth compared to old age, and rather differently for each of the sexes.

Figure 5:   **Age profile of persons in conventional and group-quarters households living alone, by sex and residence, countries of South and Southeast Asia, circa 2000**

The peak among young adults suggests to us labor market conditions in urban areas favoring employment (and especially employment away from home) for the young over the middle aged, and for males over females. The high levels in old age seem to reflect the underlying demography of kin survival, especially of spouses. We surmise that the distinctly high levels for women in several countries reflect combinations of extension of life to old age with large age differences between spouses (especially Bangladesh). Later in this paper we will examine marital status differences in living alone. Malaysia seems to depart sharply from this overview, but there the patterns probably reflect the significant overseas, migrant elderly male population still alive at the time of the 1970 census.

We cannot fully interpret two aspects of these patterns. One is the varying magnitudes of the youth peaks of living alone and their gender differences. In Bangladesh the youth peak is seen exclusively among males, which is broadly consistent with what we know of labor markets for young people in Bangladesh. The same is true of Cambodia, the Philippines, and Thailand. The youth peak among

Malaysian females (mainly in the 1980 census) is surprising to us, as is the absence of a youth peak among females in the Philippines. It is known that Filipinas make up much of the urban-ward migration stream in that country, but apparently this is not associated with living alone. In Thailand, where women are also prominent among urban migrants, there is a peak in young females living alone, although this is at a very low level and for only one of the census years.

Since patterns for conventional households mirror very closely those for all households, we turn directly now to the patterns for living alone in group quarters.
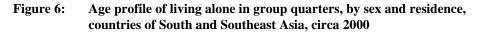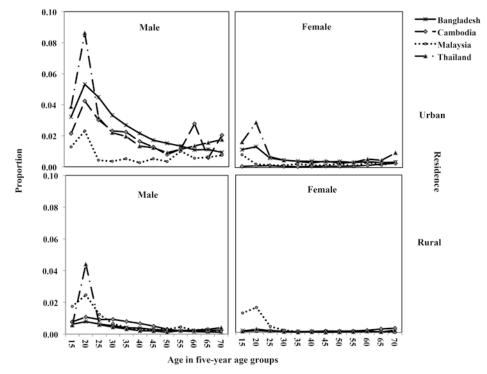
3.2 Living alone in group quarters

The patterns just reviewed combine those in conventional households and those in group quarters. For four of the countries (Bangladesh, Cambodia, Malaysia, Thailand) we are able to distinguish the two types of dwelling unit.[3] A multiple-country display is in Figure 6. Wherever group quarters are distinguished from conventional households, the prevalence of group quarters is relatively high in the young adult ages (though rare in absolute terms) and steadily declines toward the older ages. Levels are greatest in urban sectors, and especially for males.

Given the diversity in group-quarters patterns of living alone, and the measurement uncertainties expressed earlier, we provide two somewhat different country examples. Bangladesh (cf. Figure 7) presents a clear and consistent age and sex pattern across its three censuses, though there is no apparent trend across the censuses. The remaining four countries (Cambodia, Malaysia, Philippines, Thailand) with this information provide patterns that are diverse and probably affected by data error and particularly by inconsistent handling of the "group quarters" category across censuses. As an example, Thailand is shown in Figure 8.

In Thailand levels of living alone are very low in group quarters, except for the levels seen for 1970 and 1990 for males and 1990 for females. These depart from general patterns. We suspect that there were definitional or other changes, though census officials do not report this (personal communications with National Statistical Office staff). We also wonder if in 1970 and 1990 military personnel in barracks were handled differently than in other years. The patterns for Malaysia (not shown) are quite different, though the levels are extremely low. Here also there may have been changes in procedure between censuses, but we have not been able to explore this possibility.

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[3] For India and Indonesia this information is not available (note our comments earlier regarding data sources), nor for Nepal, Pakistan, and Vietnam, although these are true censuses. For the Philippines only the 1995 census shows group quarters.
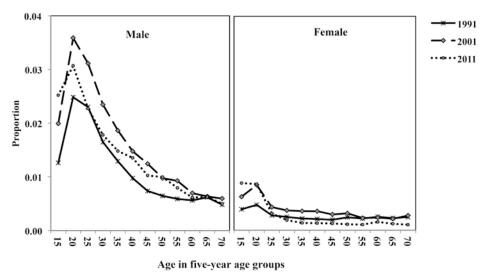
Figure 6: **Age profile of living alone in group quarters, by sex and residence, countries of South and Southeast Asia, circa 2000**
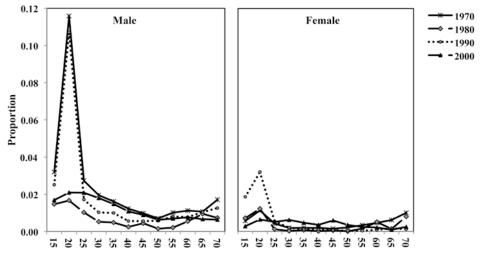
Figure 7: **Age profile of living alone in group quarters, by sex, Bangladesh 1991–2011**

Figure 8: **Age profile of living alone in group quarters, by sex, Thailand 1970–2000**

3.3 Other definitions of "physically separate"

In Figures 9 through 12 we show an alternative way of measuring the prevalence of people living in weak residential connection with their relatives, core or more distant. In the IPUMS recoded data "core" family are defined as any parent (or substitute), grandparent, child, grandchild, sibling, or spouse (see Appendix). Based on this we have defined the following:

♦ "Persons living with others, but no core family": these persons are not living alone, but are not living with any core family member (as just defined).
♦ "Persons living with others, all unrelated": these are persons who are not living alone, but are not related to anyone in their household.

There is considerable variation in the "not alone, but no core family" measure across age ranges, among countries, and even sometimes across dates within a country. Bangladesh illustrates the common underlying pattern, consisting of (a) very low levels among youth (but not zero) and higher for males (approaching 10%); (b) rising to high levels (up to 30%) at older ages for females. This pattern among elderly females would seem to reflect at least in part mortality differentials in spousal survivorship, given the large age gap in Bangladesh between spouses (cf. Figure 9). We cannot explain why this pattern had disappeared by 2011; it is perhaps another instance in which changes in census definitions or procedures may be implicated. The other countries illustrate the same basic pattern, albeit with variations (cf. Figure 10 for the nine countries that provide the necessary information).

Levels are relatively low among rural males, but reach near 20% in some cases (Malaysia and Bangladesh). For some of the countries the urban levels exceed 20% (reaching 40% for Bangladesh) at the young adult ages. There is much more living away from core family among females both urban and rural; much of this is concentrated in the older ages and probably reflects the death of spouses, leaving the widowed with in-laws.

A different perspective is offered by comparing two magnitudes: the relative importance of living alone versus living with one or more others but apart from core family. Six of the countries provide this information for a census near 2000. Two of these (India and Thailand) stand out for having levels of living alone that exceed levels of living with others but away from core family. This is illustrated by the India pattern in Figure 11. In the other four countries (Bangladesh, Indonesia, Malaysia, Vietnam) living with non-core others is much more common than living alone. Figure 12 illustrates this with the pattern for Vietnam. In Vietnam the away-from-core-family levels at the youngest ages in the urban sector are strikingly high, reaching 25% for both males and females. Results of this kind are intriguing and suggest directions for further research.
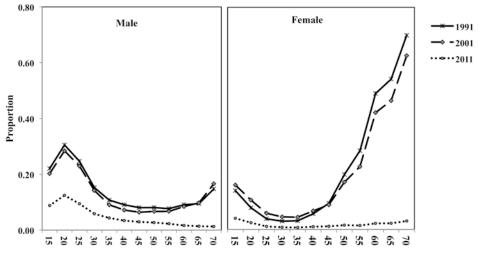
Figure 9: **Age profile of living with others but no core family, by sex, Bangladesh 1991–2011**

Figure 10: **Age profile of living with others but no core family, by sex and residence, countries of South and Southeast Asia, circa 2000**

Figure 11:   **Age profile of persons living alone in conventional and group-quarters households and with others but no core family, by sex and residence, India 2001**
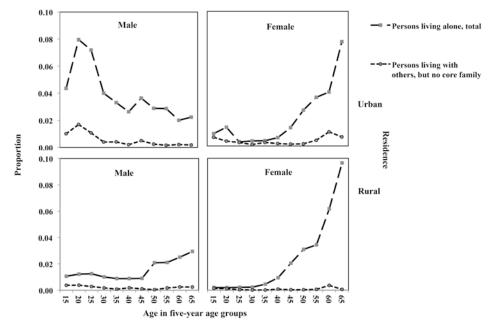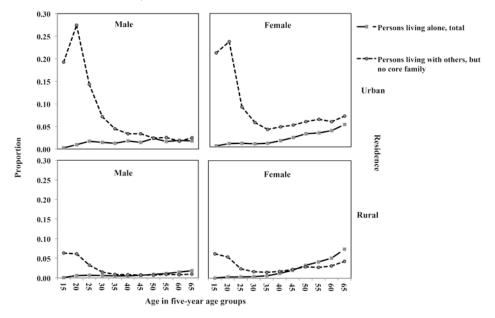
Figure 12: **Age profile of persons living alone in conventional and group-quarters households and with others but no core family, by sex, and residence, Vietnam 1999**
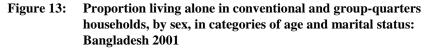

In the exposition thus far we have only examined age-sex profiles separately for the urban and rural sectors. The examination of the census information describing available social categories is an important next step, but beyond what can be presented here. However, we do want to illustrate that with an abbreviated presentation of levels of living alone across what is arguably the most important of the social dimensions influencing living alone: marital status.

4. Focus on the marital connection

Marriage is the fundamental force that creates and sustains households and provides a supply of kin to live with. In the censuses we are able to distinguish the currently married – who not surprisingly are found to live alone only rarely – from the single, the separated/divorced, and the widowed. The single (never married) are the majority in any population for the first twenty or so years of life, but then become a minority in the middle and older ages. Non-marriage, though rising, is still relatively rare in all South and Southeast Asian societies. Less than 10% of elderly persons, and usually well under

10%, are single. The last two marital statuses, separated/divorced and widowed, are rare at the younger ages, and even at older ages are outnumbered by the currently married until the very oldest ages, especially among females. Scarcity of the separated/divorced and widowed in most ages, and of the single at older ages, means that we cannot employ the presentation strategy used heretofore – showing detailed age profiles for each sex. In the following presentation we have instead calculated the proportion in conventional and group-quarters households living alone for each sex and for broad age groups, 15–29, 30–64, and 65 plus, and we have dropped the residence classification. The overall pattern, illustrated by Bangladesh in 2001 in Figure 13, is similar across the other countries and dates.

The main patterns common across countries include the rarity of living alone among the currently married (nowhere is this prevalence greater than 3%), the low levels of living alone among older single females compared with older single males, and the high levels of living alone among the separated/divorced of both sexes. But country variations relative to this are sizeable, as shown in Table 2.
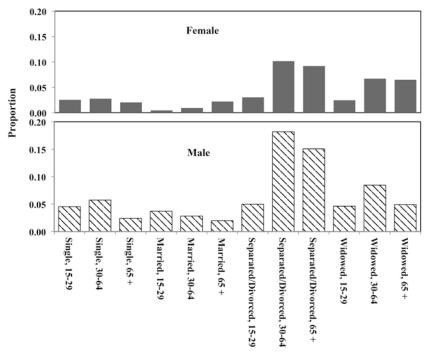
Figure 13: **Proportion living alone in conventional and group-quarters households, by sex, in categories of age and marital status: Bangladesh 2001**

Table 2: **Proportions in conventional and group-quarters households living alone, in selected categories of marital status and broad age group, males and females: Countries of South and Southeast Asia, around 2000**

Country and Year	All		Single 15–29		Single 65+		Separated/ Divorced 65+		Widowed 65+	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Bangladesh 2001	0.03	0.02	0.03	0.01	0.02	0.01	0.16	0.12	0.05	0.09
Cambodia 1998	0.02	0.02	0.02	0.01	0.08	0.08	0.10	0.08	0.05	0.07
India 1999	0.04	0.03	0.03	0.01	0.15	0.02	0.13	0.18	0.11	0.09
Indonesia 2000	0.01	0.04	0.01	0.00	0.01	0.00	0.33	0.28	0.20	0.22
Malaysia 2000	0.03	0.03	0.03	0.01	0.32	0.22	0.39	0.26	0.21	0.17
Nepal 2001	0.02	0.02	0.02	0.01	0.22	0.17	0.24	0.22	0.11	0.11
Pakistan 1998	0.02	0.01	0.02	0.00	0.06	0.01	0.07	0.04	0.09	0.04
Philippines 2000	0.01	0.02	0.01	0.00	0.23	0.16	0.28	0.15	0.17	0.13
Thailand 2000	0.05	0.05	0.04	0.03	0.29	0.16	0.35	0.15	0.17	0.11
Vietnam 1999	0.01	0.03	0.01	0.00	0.23	0.27	0.30	0.23	0.14	0.14

The proportions of single young people (ages 15–29) living alone are low, but in the other three categories there are very large variations. For the elderly and single, for example, the levels range from well under 6% (Bangladesh, Indonesia, Pakistan, India females) to over 20% in Malaysia, Nepal (males), the Philippines (males), Thailand (males), and Vietnam (females). Follow-up research must examine the characteristics of these groups. Also notable are the contrasting levels for the separated/divorced and the widowed elderly. There are both country differences and gender differences that further research can perhaps help us interpret. Especially interesting are the higher levels for the separated/divorced than for the widowed and the especially high levels for males.

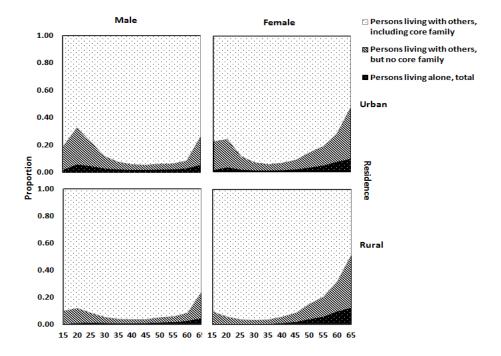# 5. Comparing relative prevalence

When we considered our indicators of living alone as a set – combining conventional households and group quarters – and of living physically separate from kin (with no core family; with no kin) we have seen that everywhere a very large majority live with one or more members of their core family. This is true at all ages for each sex, in all countries. It is important to think of living alone in the context of those huge majorities still living with core kin. The point is illustrated graphically in Figures 14 and 15, describing the distribution of living arrangements in Indonesia and Bangladesh. These countries illustrate the dominance of those living with others including core family.
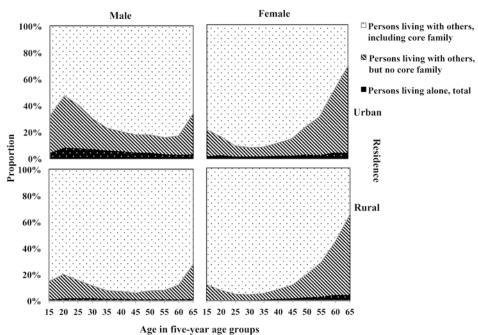
They also illustrate the underlying variation in these magnitudes, which we will turn to shortly.
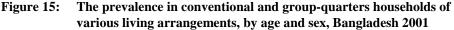
Our interest in the living-alone phenomenon in South and Southeast Asia clearly cannot derive from its overall dominant place in these societies, but rather from its importance in specific social sectors, and from the patterns of selection into living alone for what this may reveal about social organization and social change. One of the recurring themes of this analysis is that even where there are broadly similar patterns, we see considerable heterogeneity. This is shown clearly by introducing a new indicator, constructed as the ratio of two of the magnitudes we have been just discussing:

Living alone (all categories) **/** *total living away from any core family.*

Figure 14: **The prevalence in conventional and group-quarters households of various living arrangements, by age and sex, Indonesia 2000**

Figure 15: **The prevalence in conventional and group-quarters households of various living arrangements, by age and sex, Bangladesh 2001**
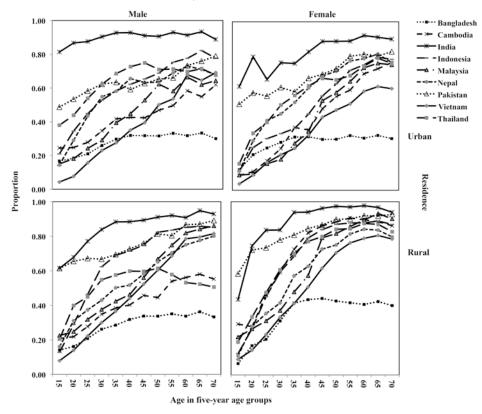

This ratio removes from consideration the majority who are living with core family by defining a denominator which is all those living away from core family – summing our "no core family" and our living alone measures. In Figure 16 we present this ratio by age group, across countries (males and females have been combined here). This arrangement of the data allows us to see more clearly than with the more straightforward indicators that variation in living alone is not tightly linked with the proportion living separately, for whatever reasons, from their core families. Two points are immediately apparent. First, among all those not with core family the share of the living alone component is quite variable among countries circa 2000. Across the age groups, countries, and sexes in Figure 16, the share covers the whole range, from negligible to over 80%. Second, this share generally rises with age for each sex and for each country. This is true even when the share at a young age is already relatively high (e.g., Cambodia and India).

The striking degree of variability among countries calls for explanation. In some countries most of those who are not living with their core family are living alone, while in other countries, living alone is not the option taken, even when separated from core

family. It is evident even from this brief exercise that there is considerable variation in the living-alone phenomenon yet to be explored.

Figure 16: **Ratios of living alone (conventional and group-quarters households combined) to all living separately, by age and sex, countries of South and Southeast Asia, circa 2000**

6. Recapitulation

Our analysis above reveals underlying commonalities in patterns of living alone among the selected countries of South and Southeast Asia. There are distinct age profiles for males and females, and profiles typical of urban and rural sectors across countries. Living alone in group quarters is most common among young adults. There is considerable variation among single young adults and elderly widowed or

divorced/separated persons. It is also found that the proportions of the population not living with core family who are living alone vary widely by age and sex and across countries and years.

The broad patterns we have documented here are not dissimilar to those described for European countries in the 18th century or so (Wall 1989). The age profiles in Wall's Table 3 and Figures 1 through 4 are recognizable in our data, as are the overall levels, which are quite low in both 18th century Europe and contemporary South and Southeast Asia. But here we must resist the temptation to see similar regimes governing living alone. In fact, with European celibacy as high as it was at that time, and European mortality as high as it was circa 1700, the similar overall levels of living alone may well reflect somewhat higher levels among the single, the separated/divorced, and the widowed across much of Asia recently. This is certainly suggested by the levels of living alone among the divorced/separated and widowed categories reported above.

The analytic approach in this paper has been, essentially, progressive disaggregation of total national populations, first by age groups and sex, then by residence, then by marital status. Our descriptive approach relies on having exceedingly large samples for a number of countries. However, all but the largest of the IPUMS samples are exhausted by the elaboration of categories we have reported here. The reason for this should be highlighted. It will stand as one of the defining features of research into living alone in South and Southeast Asia that investigators are interested in a fairly rare outcome, experienced mostly by small minorities of the populations as a whole. Only among women in their old age do the numbers living alone grow very large. Most household survey samples, even when group quarters are included, will not provide sufficient cases of those living alone. The censuses do provide this, and some further elaboration is possible with the largest census files, for example, distinguishing the well educated from the poorly educated, or in certain countries by consideration of language groups. Certain very specific population sub-groups should be explored further wherever large samples can support it. For example, among those no longer married there are systematic differentials in living alone that should be examined. Further studies should examine why the separated or divorced in Table 2 are much more likely to live alone than the widowed, and why this is particularly true among males.

Some methodological challenges may be discussed here. First, there is the challenge of defining the concept of living alone. If conventional households are taken as the unit of study the definition is straightforward and there is no complication, since a housing unit with a solitary member falls into this category. This is also well documented in all national censuses. But since living alone (or 'alone-ness', for lack of another term), often includes living with others who are not in any way related as core kin or close relatives in a "non-family household" of some sort, then the investigator has to deal with the difficulty of definition and measurement. Studies on living alone could result in quite different outcomes, depending on whether the underlying concept

includes only conventional households or group quarters as well. Second, a challenge also arises from availability of census data and the procedures used in handling individuals in "non-family households" – notably institutions or some sort of large collective household. As observed in our analysis above, there is considerable variation across the countries of South and Southeast Asia: variation even exists among censuses of the same countries for different dates. These variations in the census data make it difficult for cross-country comparison as well as comparison across census dates of the same countries. Third, it is obvious that census data provide only a limited number of variables at the individual level, which in turn limits analysis

With all these cautions, however, it seems reasonable to expect at least three important lines of investigation into living alone by a range of social scientists. One is further disaggregation of large datasets such as the censuses. Another is the exploration of national or even sub-national survey data, permitting deeper consideration of what living alone means to various kinds of solitaries, as a matter of both personal viewpoint and individual life histories. The third is a broad range of in-depth investigations of individuals and very small and very specialized samples to accomplish the same result. These should be seen as complimentary efforts, with large-scale data analysis making a well defined but limited contribution.

As reported above, levels of living alone in the countries of South and Southeast Asia are not at all high compared with East Asia and the West, yet they are high enough for policy consideration. The most common pattern emerging from our analysis is rising levels of living alone among persons of younger ages, much lower levels in the middle age range, growing to very large levels among the elderly. In this context social and economic programs must take into account the different social forces and personal preferences that lead to 'alone-ness' among these persons. Programs aiming to benefit young males and females pursuing opportunities for education and employment in an urban setting must differ fundamentally from those aiming to support the widowed/divorced/separated elderly women who live alone in rural areas. For example, young adults who live alone, i.e., away from their core family, may be more vulnerable to risk behaviors such as unsafe sex and substance abuse. In such circumstances social programs providing information and education that will help protect them from risk behaviors may be desirable. On the other hand, for the elderly, programs aiming to strengthen support and care, not only by surrounding kin and relatives but also by the community at large, will be appropriate, since elderly care is becoming an important issue in many newly ageing societies of South and Southeast Asia.

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Appendix: More on methods and measures

Processing the IPUMS data files

Starting with the IPUMS files of harmonized variables, we defined the variables of interest and then created files for countries/years (37 censuses across 10 countries), then a file for all 37 datasets, containing aggregated results in the form of group variables (e.g., proportions) for groups of individuals defined by residence, sex, and age. These files are very small and readily combined into a dataset with all of the 37 countries and dates. The same pass through the data produced two additional files for each country: a household-level file (households as cases) with only household-level information; and an individual-level file to which household-level information was added. Nearly all graphs have been produced from the aggregated file of 37 datasets.

We used the "harmonized" versions of the IPUMS variables. These incorporate a coding of variables that allows comparison across data sets, and therefore from which all information unique to a dataset have been omitted.

Our figures present an age dimension on the horizontal axis shown in five-year age groups. This reflects a problem faced in our international comparative presentation – the census sample sizes vary widely among the countries and censuses. We experimented with more detailed and less detailed age breakdowns before settling on the conventional five-year grouping. This choice means that there are some countries with very large samples (e.g., Indonesia 2000, 2010) for which more detailed analysis could have been conducted.

Notes on defining living alone

In IPUMS, PERSONS is the number of persons in the household including the respondent. This encompasses all persons and therefore both those in households and those in "group quarters". The latter is classified by group quarters (GQ) to include those in "institutions" (code 21) and those in "other group quarters" (code 22), the definition of which is unclear.

HHTYPE includes households of one person (code 1) and also those in group quarters (code 11). There is also an "unclassified" category (code 99), which is mostly households that cannot be classified but also includes any "one-person unit formed by splitting large households". This seems to suggest that some relatively small number of single person households was created out of units involving multiple persons but in a manner that did not seem to be akin to a household arrangement (see next section).

When very recently we added the newly available Bangladesh files (1991, 2001, 2011), we found that a few of the variables we were using were not available among the

harmonized variables. In order to add the Bangladesh files conveniently to our comparative files, we added codes for those variables assigning "98" for "no information". This was done for HEADLOC, BIRTHYR, CHBORN, CHSURV, HOMECHD, AWAYCHD, CLASSWK, and CLASSWKD. Note that our age codes are in any case based on AGE and BIRTHYRR calculated from that. Also, CLASSWK actually does exist in the Bangladesh data files and we do not know why this is not included as a harmonized variable. None of these problematic variables for Bangladesh are used in our analysis except for BIRTHYRR, which we work around with a calculated substitute.

The large group-quarters problem

The field identification, coding, and computational handling of Group Quarters have been identified as a continuing source of concern. A particular uncertainty arises over IPUMS procedures for handling households of 30 or more persons. According to IPUMS documentation, including an IPUMS International Working Paper (Cleveland, Davern, and Ruggles 2011), all very large households, "usually" 30 persons or more, were reclassified into a one-person household for each of those persons. We have not determined if this was always done. The IPUMS staff (correspondence with Joe Turner) notes that these created one-person households are identified as a category of HHTYPE. The numbers treated in this manner are small, but are of concern given our topic.