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Submitted to:

IUSSP, XXV International Population Conference

Tours, France 18-23 July 2005

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Abstract

Using a nationally representative sample of about 90,000 currently married women aged 10-49 years taken from urban and rural areas of all provinces of Iran, the present study compares women who had entered their current place of residence within the five-year period preceding the survey with those who had lived there for a longer period or permanently on a number of reproductive behavior indicators (e.g., contraceptive use) and outcomes (e.g., fertility). The migrant group consisted of five subgroups with respect to their place of origin: those coming from an urban center outside the province; those coming from an urban center within the province; those coming from a village outside the province; those coming from a village within the province; and those coming from abroad.

Contrary to expectation all four sub-groups of internal migrants proved to have lower fertility rates (as measured by number of pregnancies, children ever born and living children) and to have higher rates of contraceptive prevalence than their non-migrant counterparts. These differences persisted after controlling for age, duration of marriage and level of education. The small group of migrants from abroad (N=360) were predominantly from Afghanistan and had significantly higher fertility and lower contraceptive prevalence rates than all migrant and non-migrant groups.

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Introduction

Migration is one of the major events affecting the lives of many people and its impact on various aspects of individual and social behavior has attracted much attention (UN, 1957; Week, 2000). The relationship between migration status and reproductive behaviors and outcomes has been of particular interest to demographers and health scientists. On the basis of the selectivity theory, it is usually assumed that migrants are more likely to use contraceptives and have lower fertility than the rest of their community of origin because of their higher degree of modernization and need for achievement. According to the integration theory, reproductive behavior and outcomes of migrants are likely to be more similar to those of their community of destination. Efforts to test these assumptions have been plagued by methodological problems and have often led to inconsistent findings (Manner, 2003; Ritchey, & Stokes, 1972; Sharma, 1992). Both of the main models (assimilation vs. selective migration) proposed for explaining the differences have received only partial support from the literature (e.g., Bacal, 1988; Bach, 1981; Bhatia, & Sabagh, 1980; Goldstein, White & Goldstein, 1996; Goldstein, Goldstein, & Limanonda, 1982; Grundy, 1986; Kouaouci, 1992; Lee, & Pol, 1993; and Liu, 1993).

This is not unexpected in view of the complex nature of the process of migration, diversity of its underlying causes and heterogeneity of populations grouped under the term “migrant”. With regard to internal migration, for example, one can expect people moving from rural areas to urban centers to have higher fertility and less likely to know and use contraceptives. Conversely, people migrating from large, more modernized urban centers to smaller towns or villages can be assumed to have more modern attitudes and behaviors, including reproductive behaviors. On the other hand, assuming that migrants are characterized by certain attitudes or characteristics that distinguish them from non- migrants, one can expect migrants to have more modern reproductive behaviors. Age, level of education, and other characteristics of migrants may also play a major role in determining their reproductive behavior and outcomes.

Aim of the study

The present study aims at investigating differences between migrants and non-migrants in terms of reproductive behavior and outcomes in Iran. By “*migrant*”, we mean people (more precisely, women) who have moved into their current place of residence (an urban area or a rural community) during the five-year period preceding the date of study (1996-2000). The term “*non-migrant*” is used to refer to individuals who were born in their current place of residence and/or had lived there for longer than five years. As the design of the study allowed for coverage of people who had arrived in their current place of residence (and not those who had left it), the subjects of the study might also be called *immigrants*.

The group of *migrants* (or *immigrants*) as defined above are usually classified into five subgroups with respect to their place of origin:

- A. Migrants from a city within their province of residence,
- B. Migrants from a village within their province of residence,
- C. Migrants from a city outside their province of residence,
- D. Migrants from a village outside the province of residence, and
- E. Migrants from outside of Iran (abroad). The last group may include Iranians as well as foreigners residing in Iran.

Thus, taking into account the nature of the current place of residence, ten subgroups of migrants and two sub-groups of non-migrants can be identified (See Table 1).

Table 1. Two-Fold Classification of Respondents with Regard to Current and Previous Place of Residence

Current Place of Residence	Previous Place of Residence					Abroad
	Same as the Current One	Within the Province		Outside the Province		
		City	Village	City	Village	
Urban	<i>Non-migrant</i>	<i>Migrant</i>	<i>Migrant</i>	<i>Migrant</i>	<i>Migrant</i>	<i>Migrant</i>
Rural	<i>Non-migrant</i>	<i>Migrant</i>	<i>Migrant</i>	<i>Migrant</i>	<i>Migrant</i>	<i>Migrant</i>

Logically, as well as on the basis of existing empirical data from Iran (Mehryar, 2001), one can assume that the urban and rural residents will be different regardless of their migration status. One can also assume that immigrants from rural areas to urban centers will show different patterns of reproductive behavior while in the case of people who have moved from one urban area to another no difference is predictable as the data does not allow for differentiation between urban areas in terms of either size or level of development/modernization. In the case of immigrants from abroad, too, no prediction is possible without further information on their nationality and country of origin. The majority of immigrants coming from outside Iran are, however, are known to be from neighboring countries. In the case of Iranian nationals returning from abroad too such immigrants are more likely to be from Persian Gulf area where a large group of Iranians are known to live and work. In the case of foreign immigrants, the likelihood of being from Afghanistan, Iraq and Pakistan is higher than other nationalities. The reproductive behaviors of these nations are known to be more conservative and traditional than those of Iranian citizens.

By *reproductive behavior* we mean the variety of behaviors that influence fertility. Major subgroups of reproductive behavior studied are:

- Age of marriage
- Contraceptive practice
- Number of pregnancies
- Number of children ever born
- Reproductive loss due to miscarriage/abortion and stillbirth
- Number of living children
- Contraceptive practice
- Type of contraceptives used.

Hypotheses tested

On the basis of the findings of existing research literature, the following hypotheses guided the analysis of the data:

1. Migrants from urban areas to both urban and rural areas will show more modern reproductive behaviors than non-migrants. This means, they will have

higher age at marriage and contraceptive prevalence but lower number of pregnancies, births, and stillbirths. They may also report a larger number of miscarriages to the extent that the latter includes induced abortion.

2. Migrants from rural areas to urban areas will show less modern reproductive behaviors (as described above) than the non-migrant urban population as a whole.
3. Migrants from a rural area to another rural area are also more likely to have more modern reproductive behaviors.
4. Migrants from abroad are more likely to have less modern reproductive behaviors than the non-migrant population of both urban and rural areas of Iran where they are currently living if they are from Afghanistan, Pakistan, Iraq or the Persian Gulf area.

Method and Materials

Data used in this study are taken from the DHS-type survey conducted by the Statistical Center of Iran (SCI) and the Ministry of Health and Medical Education (MOHME) in October 2000 (Mehryar, 2001; MOHME, 2003). Using a detailed questionnaire adopted from the standard instrument used by the DHS studies, the study covered a sample of 114,000 households taken from urban and rural areas of all 28 provinces of Iran as well as the Tehran Metropolitan Area (TMA). Using maps and sampling plans developed by the Statistical Center of Iran (SCI) and the Ministry of Health & Medical Education (MOHME), 2000 urban and 2000 rural households were selected in each of the 28 provinces. Tehran Metropolitan area (TMA) which is part of Tehran province but accounts for over 20% of the urban population of Iran was treated as an independent urban province and was represented by a sample of 2000 households.

Migration Status of the Population Surveyed

Of the 260,679 urban residents (56,674 households) covered by the survey, 10.4% (27,111 individuals) were *migrants*, that is had moved into their current area of residence during the 5-year period preceding the survey. The proportion of the

migrants varied from 6.3% (in E. Azerbaijan) to 19% (in Tehran province, excluding TMA). Provinces with a high proportion of immigrants into their urban areas include Sistan & Baluchestan (14.7%), Kohgiluyeh & Boyerahmad (14.3%), Mazandran (14.3%), Gilan (14.2%) Semnan (13.8%), Kerman (13.6%), West Azarbayjan (12.3%), Ghazvin (12.1%) and Yazd (11.9%). In contrast, urban areas of the following provinces reveal lower than average rates of migration: East Azarbayjan (6.3%), TMA (7.5%), Chaharmahal-Bakhtiari (8.1%), Lorestan (8.6%), Ardebil (8.7%), Khorasan (8.8%), Qom (9.2%), Kermanshah (9.3%), Zanjan (9.5%), Fars (9.6%), Bushehr (9.7%), and Kordestan (9.9%).

Table 2a. Share of Migrants of Urban Households, by Province and Origin.

Province	% Migrant Of Households	From an urban area in:		From a rural district in:		From Abroad	Not Specified
		Same province	Another province	Same province	Another province		
Iran	10.4	37.2	28.6	20.4	4.7	5.7	3.4
Markazi	11.8	14.6	42.5	28.5	7.4	5.4	1.6
Gilan	14.2	25.1	37.2	28.5	5.9	0.8	2.5
Mazandaran	14.3	38.9	25.7	30.2	1.9	0.4	2.8
E Azarbayjan	6.3	45.3	21.4	26.5	4.1	0	2.7
W Azarbayjan	12.3	33.6	19.9	36.9	2.4	1.3	5.9
Kermanshah	9.3	34.6	24.4	32.8	5.3	1.8	1.1
Khuzestan	11.1	63.2	18.5	13	1.8	1.2	2.4
Fars	9.6	40.2	24.3	25.3	1.8	4.9	3.6
Kerman	13.6	46.2	14.2	23.1	1.6	10.1	4.8
Khorasan	8.8	41.8	17.9	32.1	0.4	5.9	2
Esfahan	10.7	42.7	28.5	14.6	3.9	10.3	0
Sistan & Baluchestan	14.7	39.5	20	17.5	2.7	16.1	4.2
Kordestan	9.9	24	28.9	44	2.3	0.1	0.8
Hamedan	11.2	24.8	34.5	35.2	4.4	0.9	0.2
Chaharmahal & Bakhtiari	8.1	28.4	27.1	38	3.5	0.1	2.9
Lorestan	8.6	22.5	34.1	37.1	0.6	0.2	5.6
Ilam	10.2	39.8	25.6	33.5	0.6	0.2	0.3
Kohgiluyeh	14.3	14.9	31.6	46.6	4.9	0.8	1.2
Bushehr	9.7	24.9	39.6	27.3	2.3	3	2.8
Zanjan	9.5	14.1	43.4	36.4	4.8	0	1.2
Semnan	13.8	27.2	42.2	16	6.4	3.6	4.6
Yazd	11.9	44.4	24.6	19.9	2.4	4.8	3.8
Hormozgan	11.5	36.6	36.3	13.7	3.2	7.5	2.7
Tehran (excl. TMA)	19	49.9	24.4	8.2	8.8	5.8	2.8
Ardebil	8.7	37.5	15.2	43	1.7	0.1	2.5
Qom	9.2	5.2	51.6	11.1	21	10.4	0.6
Ghazvin	12.1	25.4	35.6	25.7	11.3	1.8	0.2
Golestasn	10.4	27.8	33.8	32.2	2.7	0.6	2.9
City of Tehran	7.5	34.3	37.2	2.7	7.8	10.9	7.1

In the case of rural residents covered by the survey (276,429 individuals living in 54,952 households), only 7.4% (20456, 27,111 individuals) had moved into

their current place of residence during the preceding five-year period. The share of migrants of the rural population varied between 25.1% (in Tehran province excluding TMA) to 2.2% (in E. Azarbayjan). Provinces with a larger than average proportion of migrants in their rural areas included the following: Tehran (25.1%), Kohgiluyeh & Boyerahmad (10.6%), Qom (9.7%), Mazandaran (9.5%), Semnan (9.2%), Esfahan (8.7%), Gilan (8.3%), Ghazvin (7.5%) and Kermanshah (7.0%). On the other extreme, the rural areas of following provinces had very low ratios of migrants: E. Azarbayjan (2.2%), Ardebil (3.2%), Chaharmahal-Bakhtiari (3.4%), Hamedan (3.5%), Zanjan (3.5%), Ilam (4.5%), W.Azarbayjan (4.6%), Golestan (4.9%), and Hormozgan (4.9%).

Table 2b. Share of Migrants of Rural Households, by Province and Origin

Province	% Migrant of Households	from urban district in:		from rural district in:		From Abroad	Not Specified
		Same province	Another province	Same province	Another province		
Iran	7.4	37.5	14.9	36	5.3	3.3	2.9
Markazi	6.8	28.8	31.3	17.2	9.1	10.7	2.8
Gilan	8.3	24.6	27.1	41.2	3.3	0	3.7
Mazandaran	9.5	38.6	14.2	41.4	5.6	0	0.2
E Azarbayjan	2.2	50.4	14.2	29.2	1.3	0	4.9
W Azarbayjan	4.6	37.9	10.1	39.6	7.5	0	4.9
Kermanshah	7	47	9.6	35.3	2.4	4	1.7
Khuzestan	5.8	41.8	8.2	36.9	4.9		4.9
Fars	5.4	44.3	11.1	35.7		2.6	4.3
Kerman	6.8	32	5.9	47.9	6.5	1.4	6.3
Khorasan	6.2	46.9	6.2	38.6	2.3	3.4	2.6
Esfahan	8.7	38.6	15.8	23.8	8.9	12.9	0
Sistan & Baluchestan	6.7	24.7	6.5	51.9	1.1	12.9	3
Kordestan	6.5	39.4	16.5	34.8	7	0.3	2.1
Hamedan	3.5	32.7	34.5	27.5	5	0	0.3
Chaharmahal & Bakhtiari	3.4	28.7	32.1	34.1	2	0.9	2.3
Lorestan	5.8	22.6	12.8	48.8	10.4	0	5.4
Ilam	4.5	36.2	20.2	36.5	6	0	1.1
Kohgiluyeh	10.6	19.5	6.7	65.2	5.1	0.6	2.9
Bushehr	5.9	42	13.5	35.3	6.3	1.1	1.7
Zanjan	3.5	35	23.4	32.9	6.2	0	2.4
Semnan	9.2	25.6	26.7	20.3	9.4	16	2
Yazd	6.5	42	20.1	31.3	4.6	0.4	1.6
Hormozgan	4.9	25.5	10.5	49.4	4.1	7.7	2.8
Tehran (Excluding TMA)	25.1	41	16.7	19.2	12.6	8.9	1.6
Ardebil	3.2	40.7	19.8	31.4	1.2	0	6.9
Qom	9.7	36.2	24	20	5.8	12.8	1.3
Ghazvin	7.5	39.9	25.2	26.1	8.1	0.7	0
Golestan	4.9	26.3	14	46.4	10.2	0.2	2.8

As discussed above, the migrant population is usually subdivided into five major groups in terms of their place of origin and current residence. The share of each of these five categories of the migrant population in the sample covered by the DHSI is given in Table 3.

From table 3 it would appear that the majority of migrants covered by the study are from within the province of current residence, that is the province where households have been interviewed. Cross-province migration accounts for one-third and one-fifth of migrants to urban and rural areas, respectively. On the other hand, two-thirds of migrants to urban areas and over half of migrants to rural areas (52.4%) are from urban areas. In contrast, only 25.1% of migrants to urban areas as compared with 41.3% of migrants to rural areas are from rural areas within (28.2%) or outside (5.0%) the province of current residence. These figures are not too different from those found by the general census held in 1996, according to which 14.5% (8.7 million) of the population had moved into their current place of residence during the ten-year period preceding the census. Just under two-thirds (63%) of these migrations had taken place within the same province. Of all migrants, almost two-thirds had come from an urban area, a figure that is not very far from the urbanization rate revealed by the 1996 census (61%).

Table 3. Distribution of Immigrant Households by Previous and Current Place of Residence

Current place of Residence	Previous Place of Residence						Abroad	Not Specified
	Within the Province			Outside the Province				
	Urban	Rural	Total	Urban	Rural	Total		
Urban (N=27,111)	37.2	20.4	57.6	28.6	4.7	33.3	5.7	3.4
Rural (N=20,456)	37.5	36.0	73.5	14.9	5.3	20.2	3.3	2.9

A small proportion (4.5%) of migrants have moved in from abroad. There is strong evidence that this group is mostly from Afghanistan. They account for more than 10% of immigrants to urban areas in the following provinces: Sistan & Baluchestan (16.1%), Tehran Metropolitan Area (10.9%), Qom (10.4%), Esfahan

(10.3%), and Kerman (10.1%). Although their share of migrants to rural areas (3.3%) is lower than that of urban areas (5.7%), they account for over 10% of migrants to rural areas in the following provinces: Semnan (16.0%), Esfahan (12.9%), Qom (12.8%), Sistan & Baluchestan (12.1%), and Markazi (10.7%). The place of origin of some 3% of migrants has not been specified. Their share varies from zero to 7.1% in urban areas and from zero to 6.9% in rural areas.

Migrant vs. Non-Migrant Women: Basic Characteristics

The migration status of married women aged 10-49 included in the survey is given in Table 4. From this table it would appear that of the 90,739 women interviewed 12,198 (13.44%) were identified as migrants. The migration status of about 874 (0.96%) of women was unknown and the rest (77,862 or 85.8%) were non-migrant, that is, they had not changed their place of residence during the preceding 5 years. Of the migrant women, two-thirds (66.99%) had moved their place of residence within the same province. They were almost equally divided between those who had moved from a rural area to an urban center or vice versa. Another 23% of migrant women (80.9% of cross-province migrants) had come from a city outside their current province of residence. Migrant women coming from a rural area outside their current province of residence accounted for 19.1% of cross-province migrant women, 5.4% of migrant women and only 0.7% of all women.

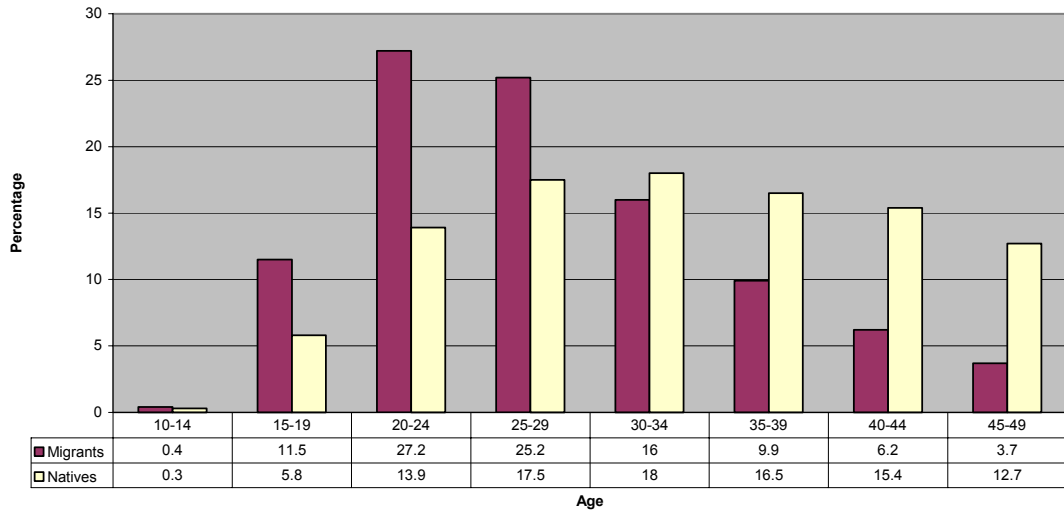
Table 4. Number and Distribution of Currently Married Women Aged 10-49 by Migration Status and Category

		Number	Percent of All Women	Cumulative Percent	Percent of Migrant Women
Migrant from:	A City in this Province	4,131	4.6	4.6	33.87
	A Village in this Province	4,040	4.5	9.1	33.12
	A City in Another Province	2,809	3.1	12.2	23.03
	A Village in Another Province	663	0.7	13	5.43
	Abroad	360	0.4	13.4	2.95
	Total	12,003	13.4		98.40
Missing (?)		874	0.96	14.36	
Non-Migrant:		77,862	85.8	100.00	
Total		90,739	100		

Age Structure

Table 5 gives the age distribution of migrant and non-migrant women. From this table it would appear that migrant women are younger than their non-migrant counterparts. While close to two-thirds (64.3%) of migrant women are aged below 30 years, only 37.5% of non-migrant women belong to this younger age group. Conversely, 9.9% of migrant women as compared with 27.1% of the non-migrant belong to age groups 40-49. The age structure of the group of women whose migration status is not known is closer to the non-migrant group (46.8% below 30 and 25.9% above 40 years).

Figure 1. Age Distribution of the Sample by Migration Status (DHSI, 2000)



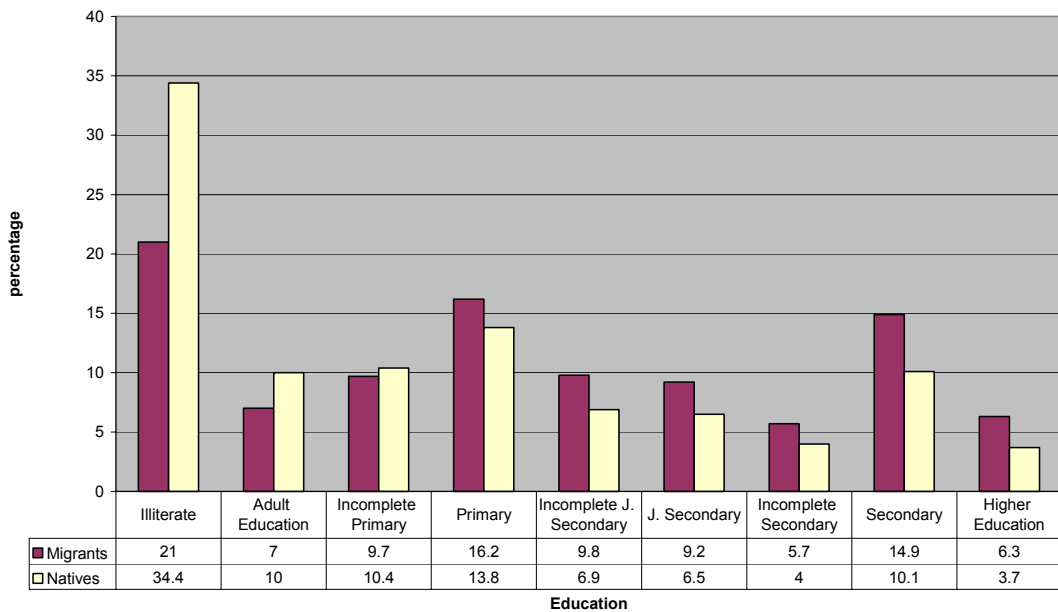
Level of Education

With regard to level of education (Table 6) too migrant women would seem to occupy a better position. Only 28.1% of the migrant women as compared with 44.5% of non-migrant women belong to the illiterate or semi-literate groups. In contrast, over one-fifth (21.2%) of migrant women as compared with 13.8% of the non-migrant have full secondary and higher levels of education. The level of education of women with unknown migration status is hard to compare as the level of education of most of them (86.6%) is not specified.

Level of Education by Category of Migration

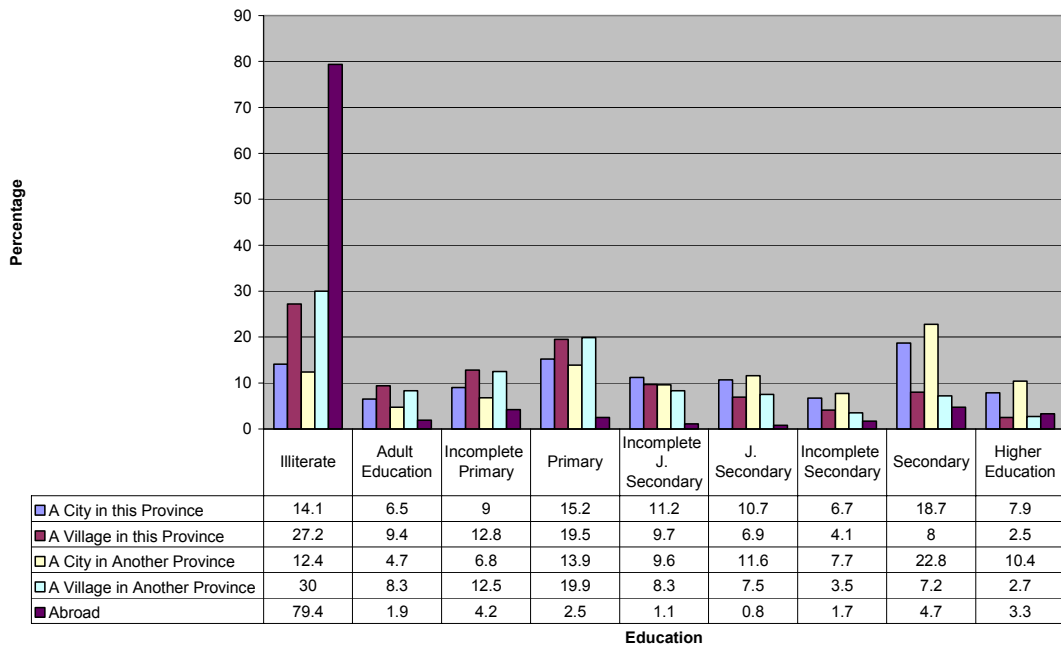
Educational attainment of migrant women by category of migration is given in Table 7. From this table it is clear that, as expected, migrant women coming from urban areas are better educated than those coming from rural areas. The illiteracy rate of migrant women from rural areas (28%) is over twice that of those coming from urban areas 13.2%). On the other extreme, migrant women from urban areas within (26.6%) or outside (33.2%) their current province of residence are far more likely to have completed secondary and tertiary education than those coming from rural areas within (10.5%) or outside the province (9.9%).

Figure 2. Level of education and Migrant and Non-Migrant Women (DHSI,2000)



The highest rate of illiteracy (79.4%) is noted in the case of migrants from abroad which confirms the earlier mentioned guess that they are predominantly from Afghanistan. It is also worth noting that, except for the latter group, migrant women regardless of whether they come from urban or rural backgrounds, show lower rates of illiteracy than the group of non-migrant women. It is also worth noting that illiteracy rates of all, urban and rural women aged 10-49 are 16.6, 42.8, and 25.9 percent respectively. Thus, migrant women regardless of their place of origin would seem to have a lower illiteracy rate than the population as a whole.

Figure 3. Level of education of Migrant Women by Category of Migration(DHSI,2000)

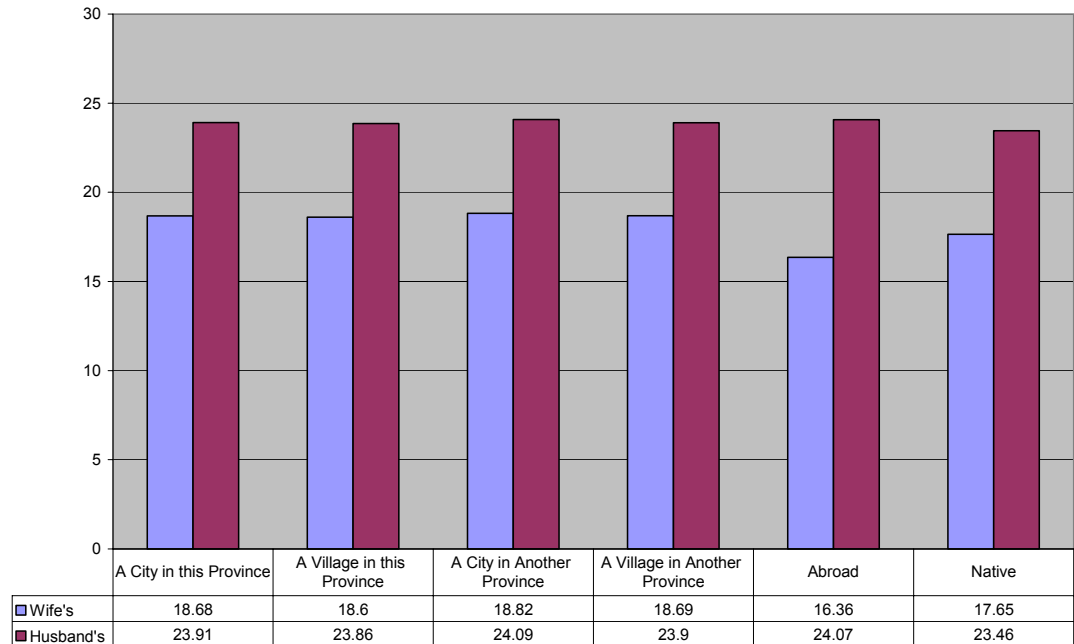


Differences in Reproductive Behavior and Outcomes

Age at First Marriage

Although migrant women as a group are younger than their non-migrant counterparts, they appear to have married at a later age (Table 8). The mean difference in age at marriage of migrant women, excluding those coming from abroad, is over one year (18.6 vs. 17.65 years). The small group of migrants from abroad has the lowest age at first marriage (16.36 years). The mean age at marriage of husbands (as reported by women) is about five years higher and varies little by the migration status or category of women.

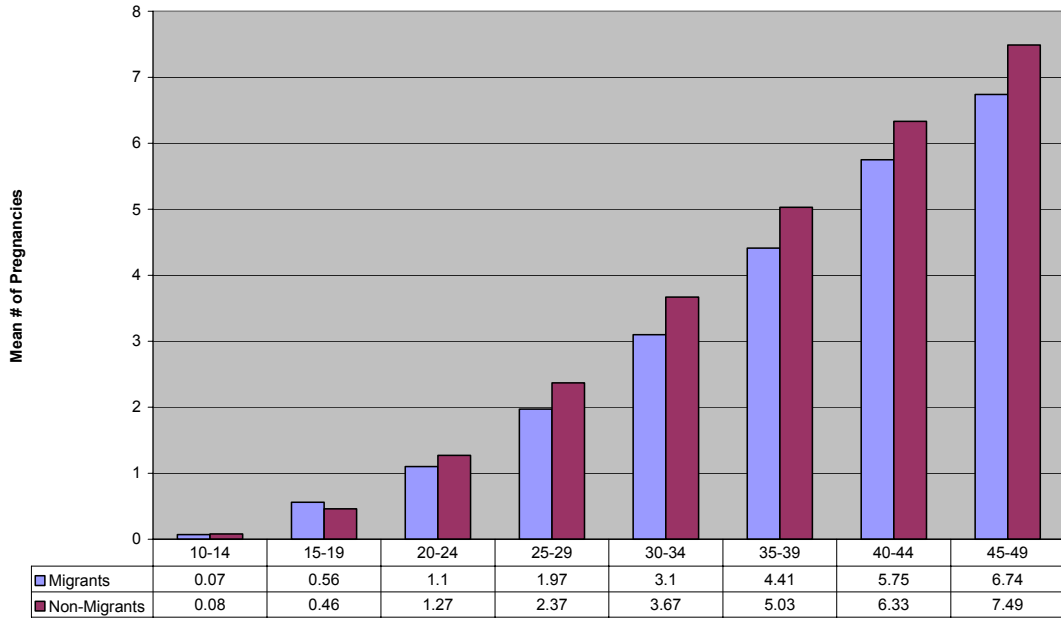
Figure 3. Mean Age at Marriage of Women and Husbands by Category of Migration



Pregnancy and Fertility

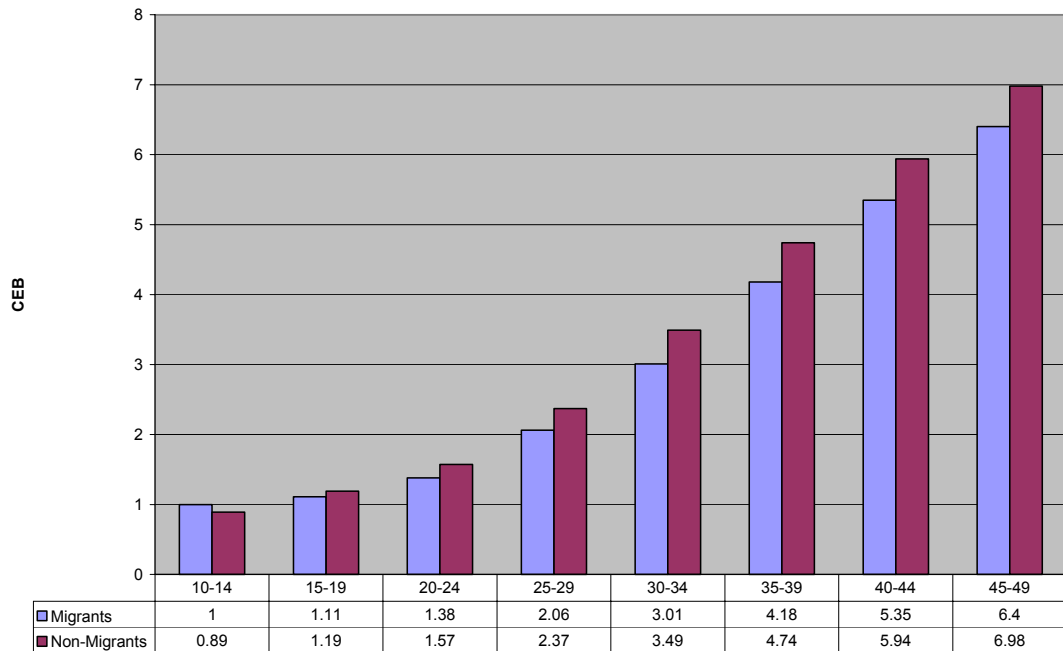
Migrant women as a group have considerably lower indices of fertility as measured by the mean number of pregnancies, children ever born and living children (Table 9). As a group, migrant women have experienced just over one-half (59%) the average number of pregnancies reported by non-migrant women (2.4 vs. 4.03). The mean number of children ever born by them (2.73) is also smaller than that of non-migrant women (4.16). So is their mean number of living children (2.53 vs. 3.79). The chance of ever born children being alive at the time of interview is also slightly higher for the migrant group (93%) than their non-migrant (91%) counterparts.

Figure 4. Mean Number of Pregnancies of Migrant and Non-Migrant Women by Age (DHSI,2000)



Because of the relative youth of the migrant group, one may be tempted to attribute these differences in fertility to age differences between the two groups. But, as indicated in Table 10, the migrant group show smaller indices of fertility at almost all age levels. In fact, the difference in favor of the non-migrant group becomes more marked after age 30.

Figure 5. Mean Number of Children Ever Born of Migrant and Non-Migrant Women by Age



As noted above, the migrant women as a group also have higher levels of education and it is plausible to explain the observed differences in terms of various fertility outcomes with reference to the higher level of education of the migrant group. A perusal of table 10 will, however, indicate that the migrant group has lower indices of fertility across all levels of education but one. The latter refers to the small number of women (N = 95, 11 migrant + 84 non-migrant) who have attended religious schools. The number is too small to justify any detailed explanation. It is worth noting that the survival ratio of children ever born has gone up systematically with mothers' level of education in both migrant and non-migrant groups.

Figure 6. Mean Number of Living Children by Age and Migration

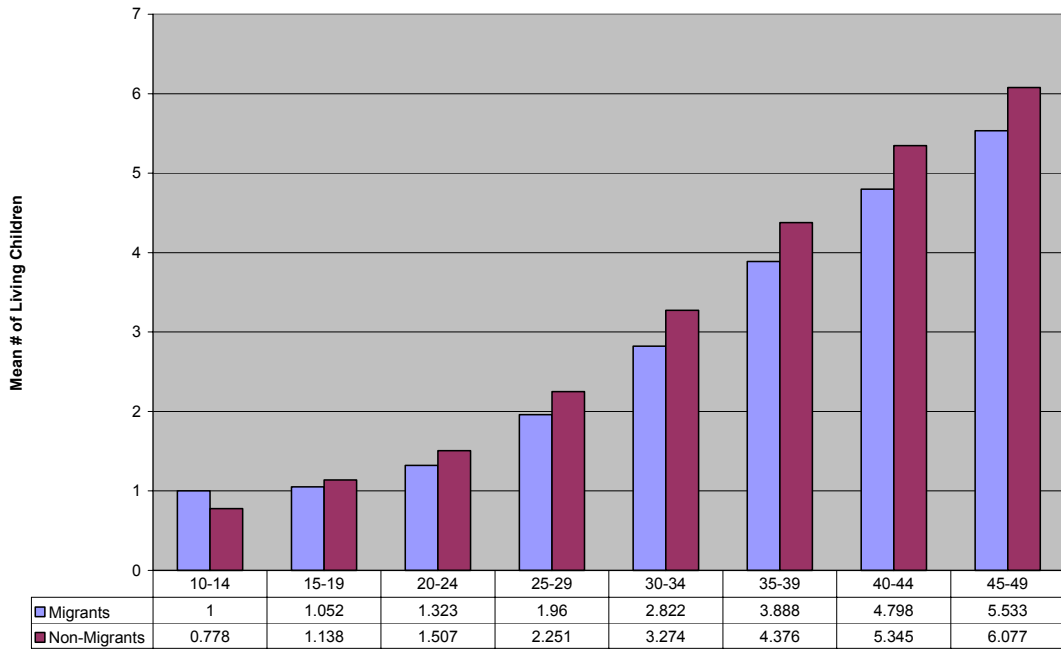


Figure 7. Child Survival Ratio by Age and Migration (DHSI-2000)

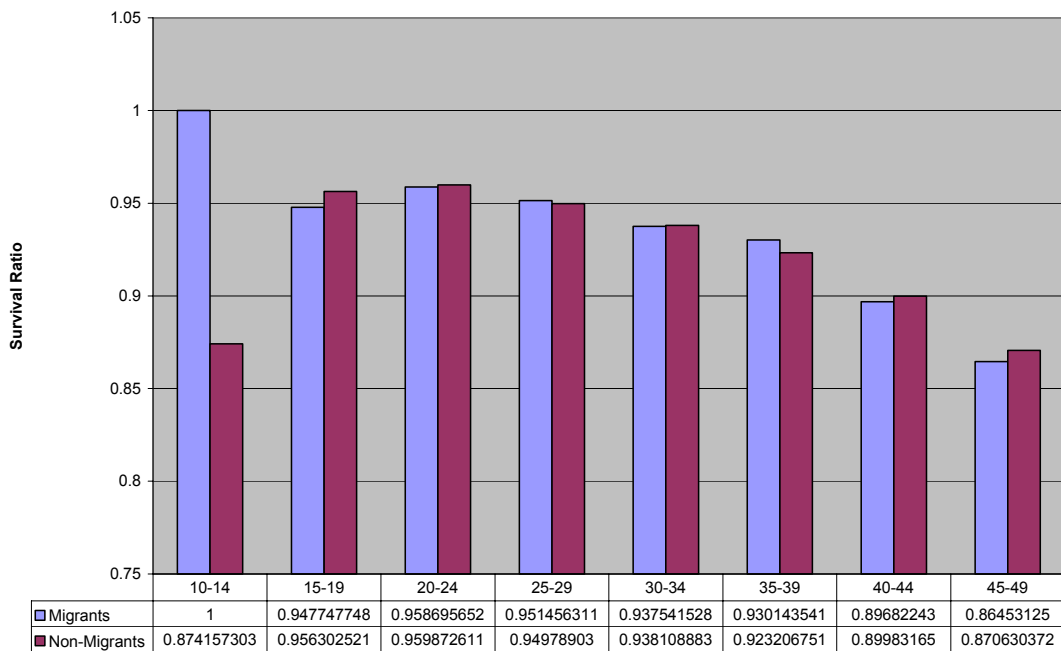


Figure 8. Mean Number of Pregnancies by Level of Education and Migration(DHSI,2000)

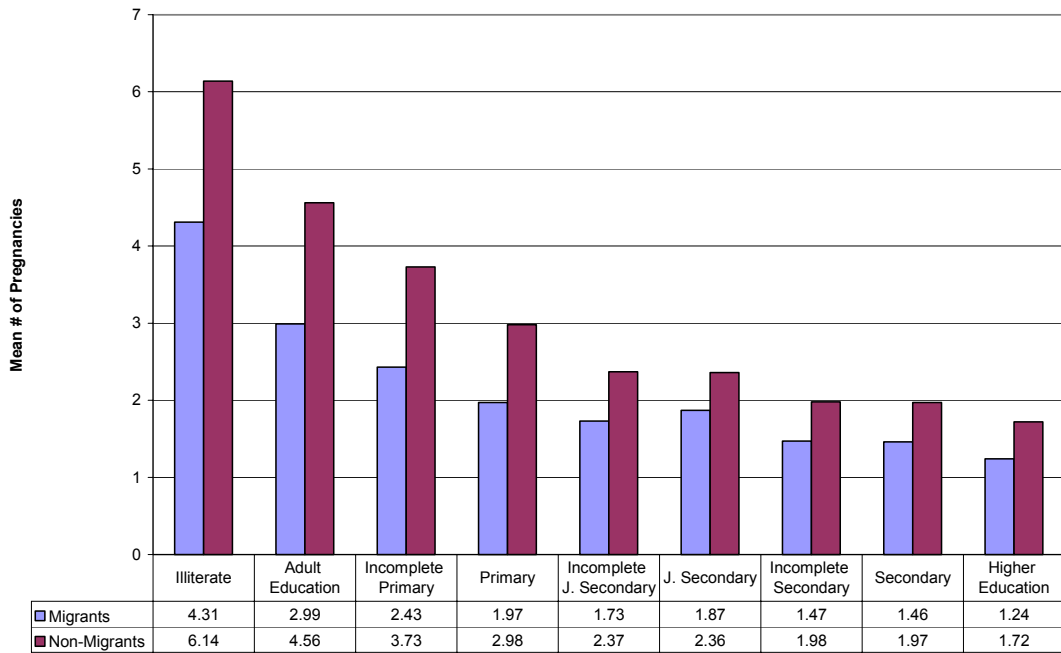


Figure 9. Mean CEB by Level of Education and Migration (DHSI,2000)

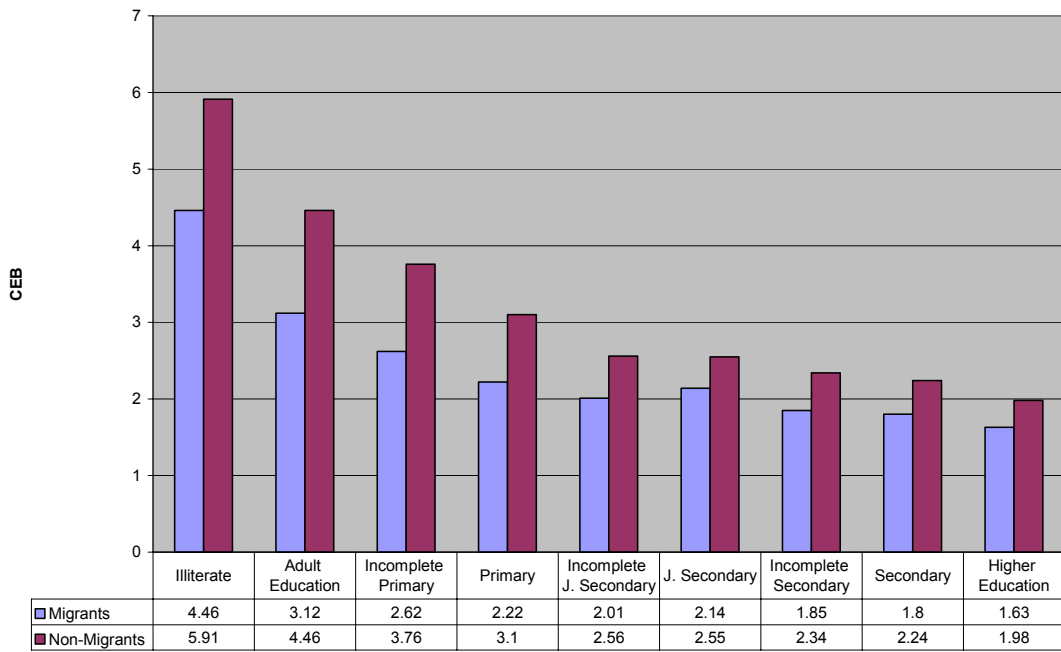


Figure 10. Mean Number of Living Children by Level of Education and Migration (DHSI,2000)

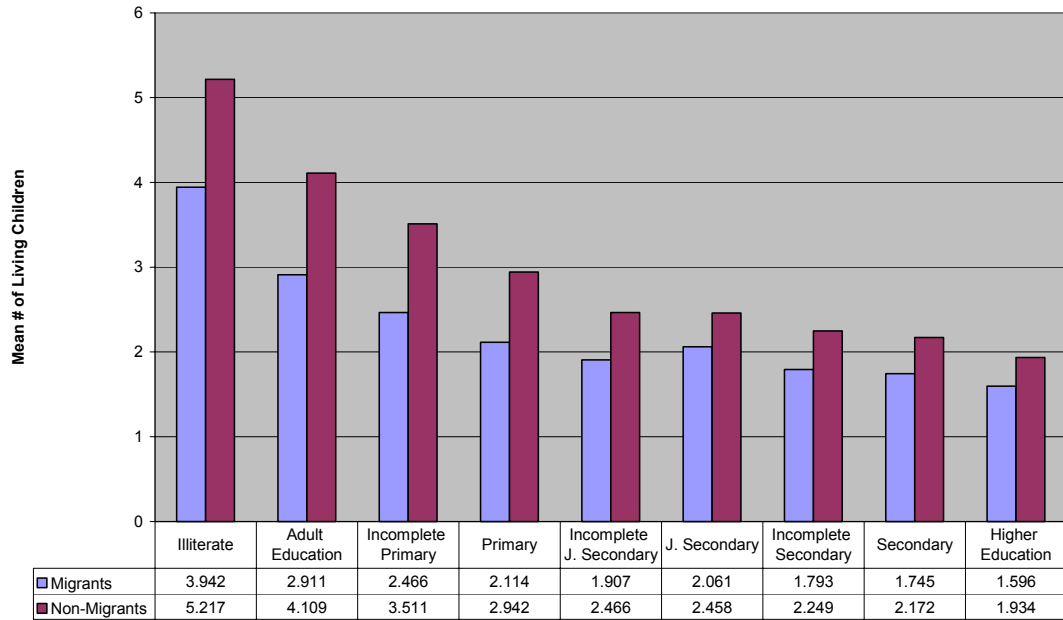
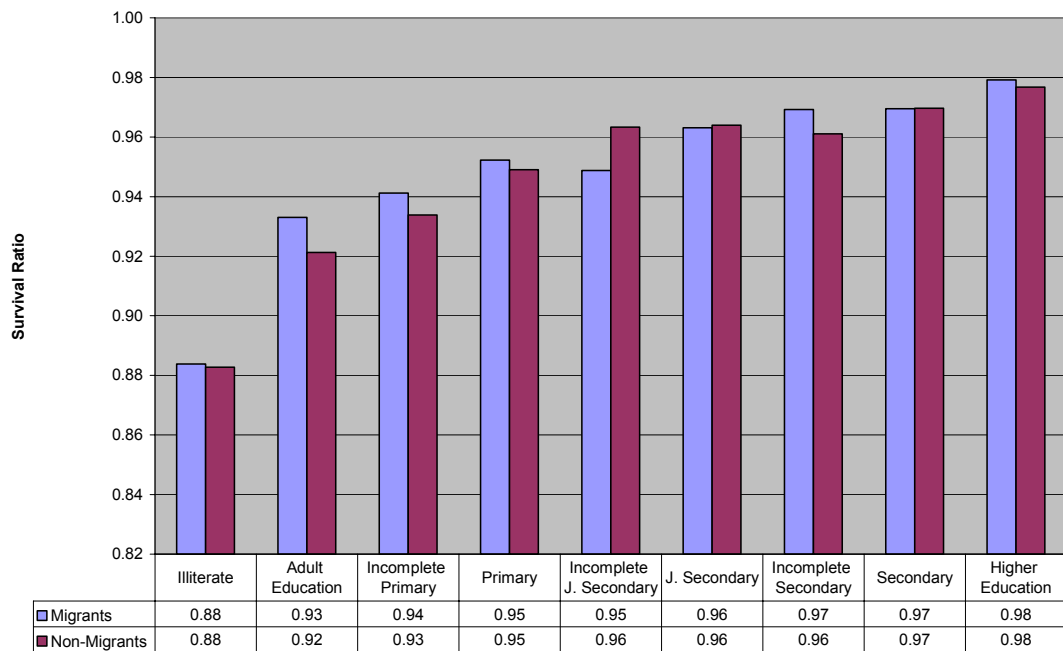


Figure 11. Survival Ratio by Level of Education and Migration



Contraceptive Practice

With regard to using modern methods of contraception, migrants would seem to have lower rates of contraceptive prevalence than non-migrants in both urban (51.4% vs. 55.9%) and rural areas (56.3% vs. 60.3%). The difference is observable across all provinces in rural areas and all but two provinces (E. Azarbayjan and Esfahan) in urban areas (Table 11).

This finding may seem inconsistent with the higher level of education and lower fertility rates of migrant women discussed above. It should, however, be noted that according to the DHS type survey used in this paper as well as other studies (Mehryar et al., 2001) rural women of Iran in general are more likely to use modern contraceptives than their better educated urban counterparts. This is also partly reflected in table 11 which shows higher rates of modern contraceptive use for non-migrant rural women than their urban counterparts in most provinces. To further explore the possible impact of migration status on contraceptive use, table 12 presents more detailed evidence on the contraceptive use rate and the combination of modern and traditional methods used by different categories of migrants in urban and rural areas.

Figure 12. Migration and Current Contraceptive Method Used (Urban)

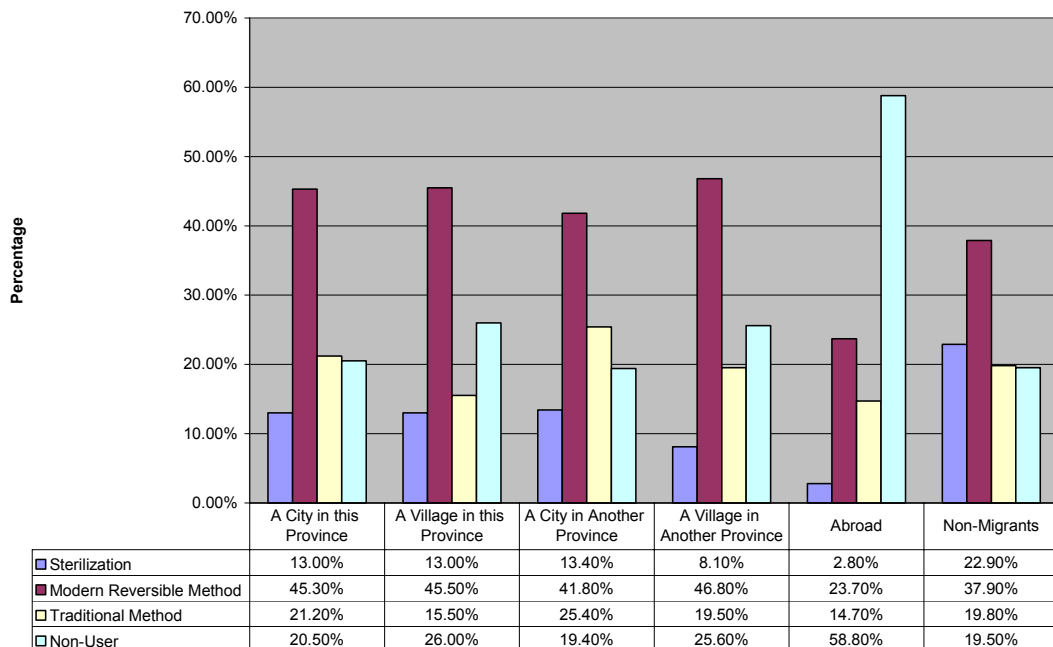
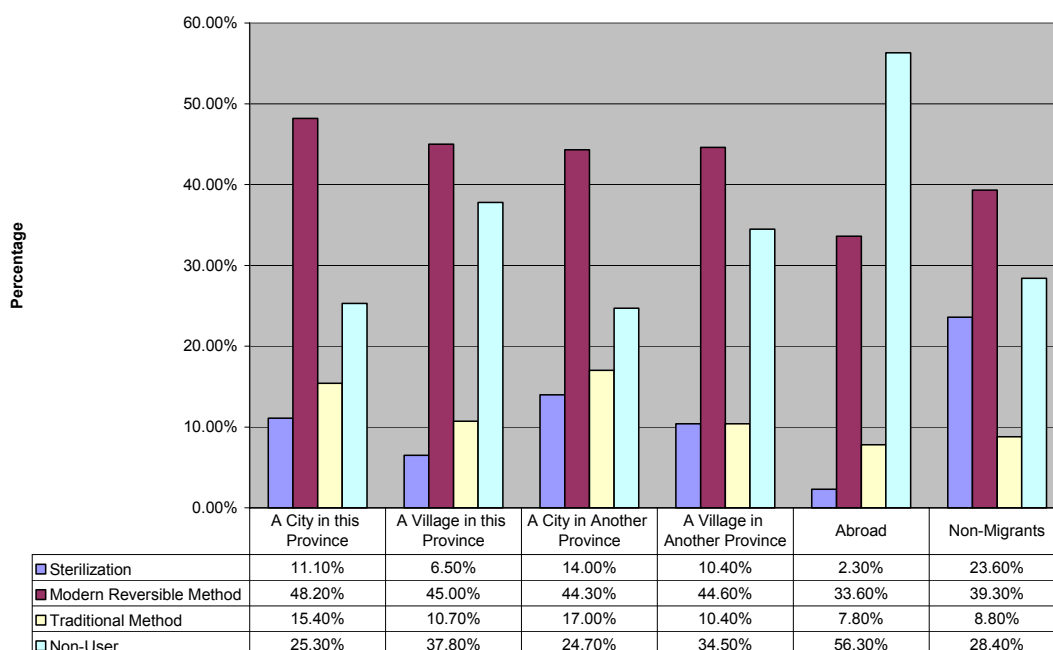


Figure13. Migration and Current Contraceptive Method Used (Rural)



From Table 12 it would appear that while rural women as a whole are slightly more likely than their urban counterparts to be sterilized (22.0% vs. 21.40%) or use a reversible modern method (40.0% vs. 38.7%), their overall contraceptive use rate is considerably lower than that of urban women (71.2% vs. 80%). This seemingly contradictory result is mainly due to the fact that a much larger proportion of urban women (19.9%) than the rural (9.3%) use traditional methods (mainly withdrawal) not promoted by the family planning program.

On the other hand, urban women who have migrated from a city within or outside the province have more or less the same rate (20.5 to 19.40%) of non-use as the non-migrant urban women (19.5%). In contrast, urban migrants from rural areas have a much higher rate of non-use (25.6-26%) as well as lower rates of using a traditional method. A similar pattern is seen in the case of migrant women in rural areas where those coming from urban backgrounds have much lower rates of non-use (25% vs. 36%) and higher rates of using traditional methods (16% vs. 10%) than those coming from rural areas. The lowest rate of contraceptive use belongs to

immigrants from abroad of whom over 50% are non-users in both urban (58.8%) and rural areas (56.3%).

Discussion & Conclusions

The data presented above confirms the findings of research conducted in other countries by showing consistent differences between socio-economic characteristics (Manner, 2003; Ritchey & Stokes, 1972; Sharma, 1992) and fertility behavior and outcomes (Bacal, 1988; Bach, 1981; Bhatia, & Sabagh, 1980; Goldstein, White, & Goldstein, 1996; Goldstein, Goldstein, & Limanonda, 1982; Grundy, 1986; Kouaouci, 1992; Lee, & Pol, 1993; and Liu, 1993) of migrant and non-migrant women in Iran. Migrants, that is women who had moved into their current place of residence during the preceding five-year period, were younger and better educated than their non-migrant counterparts. They also had lower fertility records as indicated by number of pregnancies, children ever born and living children. More important, the noted differences in fertility persisted even after controlling for age and level of education. In other words, migrants as a group had experienced fewer pregnancies, given birth to a smaller number of children and had fewer living children than non-migrant women with the same age and educational attainment.

As expected, there were also significant differences between migrants from urban and rural backgrounds in terms of both background characteristics and fertility indicators. Migrants from urban areas were better educated and had lower fertility rates than those coming from rural areas. Nevertheless, the difference in favor of migrant group persisted when migrants from urban and rural backgrounds were compared with their urban and rural counterparts. The highest fertility and lowest contraceptive use rates belonged to a small group of migrants who had moved in from outside Iran. The areas of concentration and very low levels of education of these migrants from abroad strongly suggest that they are from Afghanistan, a country which has exported one of the world's largest groups of refugees/illegal migrants to Iran since late 1970s.

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Appendix: Additional Tables

Table 5. Age distribution of Migrant and Non-Migrant Groups of Women

Age	Migrants		Non-Migrants		Unknown	
	Number	Percent	Number	Percent	Number	Percent
10-14	44	0.4	197	0.3	2	0.3
15-19	1398	11.5	4535	5.8	69	11
20-24	3322	27.2	10820	13.9	121	19.2
25-29	3068	25.2	13648	17.5	103	16.5
30-34	1952	16	13993	18	84	13.3
35-39	1203	9.9	12826	16.5	87	13.9
40-44	759	6.2	12005	15.4	78	12.5
45-49	452	3.7	9889	12.7	84	13.4
Total	12198	100	77913	100	626	100

Table 6. Level of Education of Migrant and Non-Migrant Women

Education	Migrant		Non-Migrant		Unknown	
	Number	Percent	Number	Percent	Number	Percent
Illiterate	2557	21.0	26770	34.4	24	3.5
Adult Education	850	7.0	7812	10.0	11	1.8
Religious Studies	11	0.1	84	0.1	9	1.4
Incomplete Primary	1187	9.7	8054	10.3	9	1.4
Primary	1970	16.2	10731	13.8	1	0.2
Incomplete J. Secondary	1189	9.7	5377	6.9	4	0.6
J. Secondary	1124	9.2	5081	6.5	14	2.2
Incomplete Secondary	700	5.7	3097	4	8	1.3
Secondary	1819	14.9	7856	10.1	6	1
Higher Education	770	6.3	2903	3.7	84	13.4
Missing	21	0.2	148	0.2	542	86.6
Total	12177	99.8	77913	100	626	100

Table 7. Level of Education of Migrant Women by Category of Migration

	Migrant Women from:				From Abroad	All Migrants	Non-Migrant
	Same Province		Another Province				
	City	Village	City	Village			
Illiterate	14.1	27.2	12.4	30.0	79.4	21.0	34.4
Adult Education	6.5	9.4	4.7	8.3	1.9	7.0	10.0
Religious Studies	0.0	0.1	0.1	0.1	0.3	0.1	0.1
Incomplete Primary	9.0	12.8	6.8	12.5	4.2	9.7	10.4
Primary	15.2	19.5	13.9	19.9	2.5	16.2	13.8
Incomplete J. Secondary	11.2	9.7	9.6	8.3	1.1	9.7	6.9
J. Secondary	10.7	6.9	11.6	7.5	0.8	9.2	6.5
Incomplete Secondary	6.7	4.1	7.7	3.5	1.7	5.7	4.0
Secondary	18.7	8	22.8	7.2	4.7	14.9	10.1
Higher Education	7.9	2.5	10.4	2.7	3.3	6.3	3.7
Total	100	100	100	100	100	100	100

Table 8. Age at First Marriage of Migrant and non-Migrant Women and their Husbands

Migration Category	Mean Age At Marriage	
	Wife	Husband
A City in this Province	18.68	23.91
A Village in this Province	18.6	23.86
A City in Another Province	18.82	24.09
A Village in Another Province	18.69	23.9
Abroad	16.36	24.07
Non-Migrant	17.65	23.46
Total	17.78	23.52

Table 9. Comparison of Migrant and Non-Migrant Women in Terms of Mean Number of Pregnancies, Children Ever Born, Living Children and Survival Ratio by Age

Age Groups	Migrants				Non-Migrants			
	Pregnancy	CEB	LC	SR	Pregnancy	CEB	LC	SR
10-14	0.07	1	1	1.00	0.08	0.89	0.78	0.87
15-19	0.56	1.11	1.052	0.95	0.46	1.19	1.14	0.96
20-24	1.1	1.38	1.323	0.96	1.27	1.57	1.51	0.96
25-29	1.97	2.06	1.96	0.95	2.37	2.37	2.25	0.95
30-34	3.1	3.01	2.822	0.94	3.67	3.49	3.27	0.94
35-39	4.41	4.18	3.888	0.93	5.03	4.74	4.38	0.92
40-44	5.75	5.35	4.798	0.90	6.33	5.94	5.35	0.90
45-49	6.74	6.4	5.533	0.86	7.49	6.98	6.08	0.87
<i>Total</i>	<i>2.4</i>	<i>2.73</i>	<i>2.529</i>	<i>0.93</i>	<i>4.03</i>	<i>4.16</i>	<i>3.79</i>	<i>0.91</i>

Table 10. Comparison of Migrant and Non-Migrant Women in Terms of Mean Number of Pregnancies, Children Ever Born, Living Children and Survival Ratio by Level of Education

Level of Education	Migrants				Non-Migrants			
	<i>Pregnancy</i>	<i>CEB</i>	<i>LC</i>	<i>SR</i>	<i>Pregnancy</i>	<i>CEB</i>	<i>LC</i>	<i>SR</i>
<i>Illiterate</i>	4.31	4.46	3.942	0.88	6.14	5.91	5.217	0.88
<i>Adult Education</i>	2.99	3.12	2.911	0.93	4.56	4.46	4.109	0.92
<i>Religious Studies</i>	2.55	3.86	3.286	0.85	3.26	3.53	3.271	0.93
<i>Incomplete Primary</i>	2.43	2.62	2.466	0.94	3.73	3.76	3.511	0.93
<i>Primary</i>	1.97	2.22	2.114	0.95	2.98	3.1	2.942	0.95
<i>Incomplete J. Secondary</i>	1.73	2.01	1.907	0.95	2.37	2.56	2.466	0.96
<i>J. Secondary</i>	1.87	2.14	2.061	0.96	2.36	2.55	2.458	0.96
<i>Incomplete Secondary</i>	1.47	1.85	1.793	0.97	1.98	2.34	2.249	0.96
<i>Secondary</i>	1.46	1.8	1.745	0.97	1.97	2.24	2.172	0.97
<i>Higher Education</i>	1.24	1.63	1.596	0.98	1.72	1.98	1.934	0.98
<i>Total</i>	<i>2.39</i>	<i>2.73</i>	<i>2.528</i>	<i>0.93</i>	<i>4.03</i>	<i>4.16</i>	<i>3.794</i>	<i>0.91</i>

**Table 11. Proportion of Married Women Aged 15-49 Using A Modern Method of Contraception
by Province, Migration Status and Urban-Rural Residence**

Province	<i>Migration (Last 5 Years)</i>			
	Urban		Rural	
	Migrant	Non-Migrant	Migrant	Non-Migrant
All Country	51.4	55.9	56.3	60.3
MARKAZI	48.5	56.4	52.7	62.2
GILAN	43.2	45.4	45.4	56.2
MAZANDARAN	43.1	50.9	49.8	57.7
AZARBAYJAN, E	57	54.5	50.8	65
AZARBAYJAN, W	56.2	62.2	52.9	65.1
KERMANSHAH	61.2	69.2	56.2	67.7
KHUZISTAN	55.6	62.4	42.4	53.5
FARS	58.3	59.5	53.6	60.9
KERMAN	46.6	53.3	36.7	53.5
KHORASAN	43.5	50.2	44.5	51.8
ESFAHAN	56.3	54.2	51.9	62.2
SISTAN & BAL.	39.7	49.4	25.7	27.6
KURDISTAN	62.2	69.9	57.7	73.5
HAMEDAN	56.2	62.2	55.5	67.3
CHAHARMAHAL	56.1	67.6	54.4	65.7
LORESTAN	53.9	64.6	49.1	66.6
ILAM	62.7	70.5	51.3	64.3
KOYGILUYEH	54.5	64.6	43.1	56.8
BUSHEHR	47.7	52.5	45.4	50.1
ZANJAN	61.9	64.3	48.0	64.7
SEMNAN	46.6	51.8	47.6	61.4
YAZD	51.5	53.2	58.5	59.3
HORMOZGAN	47.8	54.3	35.9	38.7
TEHRAN (Province)	51.6	58.8	51.4	61.8
ARDEBIL	63.4	66.5	53.7	67.8
QOM	40.9	45.6	48.7	51.6
GHAZVIN	50.9	56.8	56.5	61.5
GOLESTAN	49.9	55.4	45.5	63
TEHRAN CITY	48.8	53.1	na	na

Table 12. Contraceptive Use by Category of Migration

Area of residence	Place of Origin	Percent Using			Non-User	Total
		Sterilization	Modern Reversible Method	Traditional Method		
Urban	A City in this Province	13.00%	45.30%	21.20%	20.50%	100.00%
	A Village in this Province	13.00%	45.50%	15.50%	26.00%	100.00%
	A City in Another Province	13.40%	41.80%	25.40%	19.40%	100.00%
	A Village in Another Province	8.10%	46.80%	19.50%	25.60%	100.00%
	Abroad	2.80%	23.70%	14.70%	58.80%	100.00%
	<i>Non-Migrants</i>	22.90%	37.90%	19.80%	19.50%	100.00%
Total		21.40%	38.70%	19.90%	20.00%	100.00%
Rural	A City in this Province	11.10%	48.20%	15.40%	25.30%	100.00%
	A Village in this Province	6.50%	45.00%	10.70%	37.80%	100.00%
	A City in Another Province	14.00%	44.30%	17.00%	24.70%	100.00%
	A Village in Another Province	10.40%	44.60%	10.40%	34.50%	100.00%
	Abroad	2.30%	33.60%	7.80%	56.30%	100.00%
	<i>Non-Migrants</i>	23.60%	39.30%	8.80%	28.40%	100.00%
Total		22.00%	40.00%	9.30%	28.80%	100.00%

Table 13. Sex Composition of Heads of Migrant Households, DHSI 2000

Gender	Origin of Migration						Total	Number
	A city in Same Province	A Village in Same Province	A City in Another Province	A Village in Another Province	Abroad	Unknown		
Male	94.20%	93.60%	94.60%	95.10%	95.30%	93.80%	94.20%	10,426
Female	5.80%	6.40%	5.40%	4.90%	4.70%	6.20%	5.80%	644
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	11,070

Table 14. Age Structure of Heads of Migrant Households, DHSI2000

Age	Origin of Migration						Total	Number
	A city in Same Province	A Village in Same Province	A City in Another Province	A Village in Another Province	Abroad	Unknown		
10-14	0.00%		0.00%			0.50%	0.00%	4
15-19	0.90%	2.80%	1.90%	1.40%	1.90%	1.10%	1.70%	193
20-24	7.10%	9.10%	11.30%	16.20%	6.60%	8.10%	9.20%	1019
25-29	21.90%	24.50%	21.70%	28.30%	15.00%	21.60%	22.60%	2506
30-34	24.70%	22.00%	21.60%	17.80%	17.80%	15.40%	22.20%	2460
35-39	17.50%	13.30%	15.50%	11.00%	15.30%	13.20%	15.30%	1693
40-44	9.70%	9.50%	10.50%	8.30%	12.90%	10.20%	9.90%	1099
45-49	5.90%	5.10%	6.70%	4.90%	7.30%	7.80%	6.00%	659
50-54	3.80%	3.00%	2.90%	2.30%	7.00%	4.60%	3.40%	379
55-59	2.40%	2.00%	2.40%	2.30%	4.00%	5.10%	2.40%	267
60-64	2.20%	2.80%	1.90%	2.20%	5.20%	2.70%	2.40%	270
65-69	1.60%	2.50%	1.70%	2.70%	3.10%	3.50%	2.00%	224
70-74	1.40%	1.80%	0.60%	0.70%	1.40%	3.20%	1.30%	147
75-79	0.50%	1.00%	0.60%	0.40%	0.70%	2.20%	0.70%	81
80-84	0.10%	0.40%	0.20%	0.40%	0.90%	0.30%	0.20%	25
85-89	0.20%	0.10%	0.10%	0.20%			0.10%	14
90-94	0.10%	0.10%	0.00%	0.20%		0.30%	0.10%	9
OVR95	0.10%	0.00%	0.10%	0.20%	0.20%	0.30%	0.10%	12
UNEXP	0.00%	0.10%		0.50%	0.70%		0.10%	11
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	11072

Table 15. Level of Education of Migrant Heads of Household, DHSI2000

Level of Education	Origin of Migration						Total	Number
	A city in Same Province	A Village in Same Province	A City in Another Province	A Village in Another Province	Abroad	Unknown		
Illiterate	13.40%	24.50%	10.90%	26.70%	53.90%	21.50%	18.30%	2024
Incomplete Primary	9.40%	12.60%	7.90%	14.10%	15.50%	16.60%	10.60%	1170
Primary	12.70%	14.70%	9.70%	15.10%	4.20%	13.00%	12.30%	1355
Incomplete J. Secondary	9.20%	8.90%	6.90%	9.00%	2.80%	6.30%	8.20%	904
J. Secondary	12.50%	8.10%	11.40%	8.80%	2.80%	9.20%	10.40%	1145
Incomplete Secondary	6.00%	5.90%	6.40%	3.40%	4.50%	5.70%	5.90%	649
Secondary	16.30%	11.10%	16.60%	9.40%	7.80%	13.30%	14.20%	1567
Higher Education	18.00%	9.90%	27.00%	9.90%	4.50%	11.10%	17.00%	1877
Religious Studies	0.30%	0.80%	1.60%	0.50%	2.60%	0.50%	0.90%	98
Adult Education	2.20%	3.50%	1.60%	3.10%	1.40%	2.70%	2.50%	271
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	11060

Table 16. Economic Activity Status of Heads of Migrant Households, DHSI 2000

Labor Force Participation	Origin of Migration						Total	Number
	A city in Same Province	A Village in Same Province	A City in Another Province	A Village in Another Province	Abroad	Unknown		
Employed	84.90%	80.70%	80.50%	84.70%	85.70%	80.60%	82.50%	9129
Unemployed (Previously Employed)	5.40%	5.80%	4.90%	6.50%	6.60%	7.00%	5.50%	611
Unemployed (Never Employed)	0.70%	1.80%	0.50%	0.50%	1.40%	1.30%	1.00%	109
Student	2.50%	2.80%	7.80%	2.50%		4.00%	3.90%	435
Home Maker	1.60%	3.10%	1.50%	2.70%	2.80%	1.30%	2.10%	229
Own Income	4.00%	4.70%	4.10%	2.50%	2.10%	4.90%	4.10%	454
Other	0.80%	0.80%	0.50%	0.50%	1.20%	0.30%	0.70%	81
Missing	0.10%	0.30%	0.20%		0.20%	0.50%	0.20%	24
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	11072