

AGE REPORTING IN INDIAN CENSUS: An insight

Sayed Unisa¹, Laxmi Kant Dwivedi², R.S. Reshmi³, Kaushlendra Kumar⁴

Abstract

Census is a key source of socio-economic and demographic data and is useful for many purposes related to public welfare. Number of vital rates, which is derived from age data, is depending upon the reporting of age. Rate of age not stated is one of the important components to measure the quality of age reporting in the census. The present study tries to explore the levels, trends and differentials in age not stated in India and the major states over the period 1971-2001. It is observed that age not reporting has been increased during 1971-1991 in almost all the states. It shows the declining trend in the year 1991- 2001 but still the figure was high in the year 2001. It is observed that the age not stated in the rural areas has been reported to be better than that of the urban areas at the all-India level but in the northern parts the figure is in the expected direction. As expected, the reporting is seemed to be better among literates than that of illiterates. It may be observed that for census 2001, the quality of data appears to be better, when it is evaluated by the Whipple index but still a lot of scope is there for further improvement.

KEYWORDS: census, age not stated, levels, trends, differentials

Introduction

India is one of the few countries that has had an uninterrupted series of decennial censuses during the past hundred years. Census is valuable, authentic and key sources of socio-economic and demographic data and serves many purposes related to public welfare. Apart from this, since it provides the information at the lowest possible aggregation, that is, village level, it helps in the designing of different sample surveys like National Family Health Survey and Reproductive and Child Health: Rapid Household Survey etc. It provides the information of population by literacy and

¹Professor, Department of Mathematical Demography and Statistics, International Institute for Population Sciences, Mumbai-400088. email: unisa@iips.net

²Assistant Professor, School of Health System Studies, Tata Institute of Social Sciences, Mumbai-400088. email: laxmikdwivedi@rediffmail.com

³Lecturer, Department of Extra Mural Studies and Distance Education, International Institute for Population Sciences, Mumbai-400088. email: srreshmi@gmail.com

⁴Lecturer, Department of Extra Mural Studies and Distance Education, International Institute for Population Sciences, Mumbai-400088. email: kkd.iips@gmail.com

education, religion of the head of the household and composition of household by scheduled caste and scheduled tribe. It also make available of economic characteristics of population like household and community amenities (health facilities, post office, bank, schools etc.); housing condition, occupation and industrial classification of labour force.

The information on population by age groups provides in every census is helpful to study India's age structure. Data on births during the last one-year and children ever born and age-sex, marital status of the population assists to get estimates of vital rates. Number of vital rates, which is derived from age data, is depending upon the reporting of age. Even though, a question on age has been included in every one of the Indian censuses since 1881, not all of them have been able to fully utilize the age information gathered in the field. The age data shows many ups and downs from one segment to another. It may vary from one region to another region, male to female. The commonest types of errors in Indian census are omissions at the time of enumeration, digit, and age preferences in age reporting and ignorance of actual age. The ignorance of age, negligence in reckoning the precise age, deliberate misstatement and misunderstanding of the questions are responsible for misstatement of ages (Mukhopadhyay, 1983).

In census, there is usually head of the household who supplies majority of the information. It is assumed in the census that the head of the household knows the ages of the members of the household, which generally consist of his/her spouse, married and unmarried children, brothers and sisters and others relatives as also unrelated persons (Jain, 1980). But, in societies like India, where one's own age is not important, the ages of others may seem even less important (Ewbank, 1981). Therefore, there is a chance for not reporting the ages of some of the household members. The proportion of age not stated depends not only on the socio-economic characteristics of head of the household but other members of the household also. For instance, when the head of the household reports age of the household members, the chance of reporting the age of a working or a married member tends to be higher than that of a non-working or an unmarried member.

In view of the fact that the mind of an educated person is trained, and that he is likely to appreciate the importance of the census better, educational level of the informant may be likely to make a variation to the quality as well as reporting of the age data. In India, majority of the population is illiterate and therefore the age data from census suffer from a number of problems such as ignorance of age, negligence in reckoning the correct age, deliberate mis-statement, and mis-

understanding of the question (Ambanavar and Visaria, 1975). Also, among illiterates it is very difficult to get the exact age of the population because of the ignorance of the respondents. It may also be possible that a literate and educated person does not know the exact age of his family members. But, when an educated person estimates his or his family member's age, he will try to link it with some events in his life. Therefore, it is possible that the estimates made by him will be more near to the actual age as compared to the estimate made by an illiterate person. Also, a literate and educated person faces the necessity of remembering his age (Ambanavar and Visaria, 1975).

Several studies have been done on errors in age misreporting such as, digit preference and age preference, and smoothing of age data in census (Balasubramanian, 1974; Chandra, 1980; Ewbank, 1981; Jain, 1980; Prakasam, 1984, Zaki, P.K. & Zaki, A.J, 1983, Saxena *et.al*, 1986). Before using any data for analysis it is important to evaluate the data and identify the types of age reporting errors. Because age not stated is also likely to have negative effects on the performance of other estimation methods, an understanding of the levels and trends of age not stated in the Indian censuses is necessary.

Age distribution of population plays an important role in any demographic analysis. The demographic parameters e.g. fertility, mortality, marriage and migration rates derived from Census data are based on the age distribution of population. If major proportion of the population is not reported their ages then it will be very difficult to get the reliable estimates of the parameters, because we do not know that these proportions belong to which age group. Accurate age distribution of the population is also very important for the policy and programme point of views. Suppose major portion of the age not stated belongs to aged or youngest population then the proportion aged or youngest will be under estimated respectively. Therefore the proportion of the age stated is an important component of the Census data and needs to be investigated.

So far, no study has been done to understand the levels, trends and differentials of age not stated in Indian Census. The 2001 census data has been published recently. It is interesting to understand whether there is an improvement in 'age not stated' over the period 1971-2001 and whether the reporting of age not stated as shown by the census age data varies according to the socio-economic characteristics of the member. In this context, the present study tries to explore the levels, trends, and differentials in age not stated in India and the major states over the period 1971-2001.

Methods and Materials

To fulfill the objectives of this study, the data from census year 1971-2001 has been utilized. The overall rate of age not stated (per thousand) has been computed by literacy, marital status and religion-wise in the fifteen selected major states of India. Correlation analysis was also carried out in order to understand the relationship between proportion of age not stated and Whipple's index.

Results and Discussions

Table 1 provides information on the rate of age not stated per thousand populations by sex and residence in India and major states for the period 1971 to 2001. It can be seen from table that proportion of age not stated has been increased over time. The rate of age not stated was highest in the year 1991 and lowest in 1971. Same picture was found in both urban and rural areas. In India, the rate of age not stated during the period 1971-2001 was always highest among the males except in 1971 and was noticed highest in 1991, which was 6.22 (per thousand) among males and 4.93 (per thousand) among females. It followed the similar pattern in rural areas and the rate was highest in the year 1991 (5.98 among males and 4.44 among females). In urban areas also, the rate was always high among males throughout the period 1971-2001 and was highest in the year 1991 (7.37 among males and 6.63 among females). The rate of age not stated was found to be much higher for both the males and females in urban areas as compared to rural areas during the period 1971-2001, except for females in the year 1971.

The rate of age not stated was found to be increased in most of the states of India over the period 1971-1991. In the Census of 1991, the rate of age not stated was worsened in all the states of India except Haryana and again this proportion has been declined during the period 1991-2001 in most of the states. The possible reasons may be that in 2001 Census, the precise instructions were given to the interviewers to reduce the errors from their side and because of that there was an improvement in the age reporting. Also improvement in the level of education might have played a role in reshaping the reporting of age. But Ambanvar & Visaria, 1975 advocate that quality of age data in Indian Censuses since 1951 has deteriorated in spite of rapid growth of literacy and education.

Few other studies also tried to establish the relationship between increased literacy level and changes in data quality but no significant improvement in data quality is observed (Edmonston & Bairagi, 1981; Mukhopadhyay, 1983). Choudhary, 2006 argue that the levels of literacy in the population are increased but no associated positive changes are observed in the quality of age

reporting from 1961 to 1991. The quality of age reporting has improved to some extent only during the period 1991 to 2001. These differences in the quality of conducting censuses have been reflected into the quality of data collected. The detail instructions to probe the age given in 2001 census have resulted into betterment of the age data in comparison to other Censuses.

The proportion of age not stated was highest in the states West Bengal, Maharashtra, Bihar and Tamil Nadu in the year 1971, 1981, 1991 and 2001 respectively. During the year 1991-2001, there was a sharp increase in the proportion of age not stated in the states of Tamil Nadu, Rajasthan and Haryana. During the period 1971-2001, the highest rate of age not stated for both the males and females was found in the state of Bihar in the year 1991. In both urban and rural areas, the rate was found to be highest for Bihar in the year 1991 except for rural females and for rural females the rate was highest in Madhya Pradesh in the year 1991 during the same period. The pattern of rate of age not stated throughout the period 1971-2001, indicates that the highest was in 1991 followed by 2001 and lowest was in 1971 for both males and females and the pattern was similar in both rural and urban areas.

Table 2&3 reveal the rate of age not stated per thousand populations by sex, residence and literacy status in India and major states during the period 1971 to 2001. It is evident from the table that the rate of age not stated for both the illiterates and literates has been increased in all the states of India during the period 1971-2001. During this period, the value for both illiterate males and illiterate females was highest in state of Madhya Pradesh in the year 1991 (6.66 for males and 5.47 for females). It can be noted here that during the period 1991-2001, there is a considerable increase in the rate of age not stated for both illiterate males and illiterate females in all the states except for Madhya Pradesh. But, in Madhya Pradesh, there was a sharp decline in the rate of age not stated during the period 1991-2001. In most of the states, the rate of age not stated was high among male illiterates than female illiterates. In the case of literates, the rate of age not stated was found to be highest in the state of Bihar (23.86 for males and 36.24 for females in the year 1991). It can be seen from the table that during the period 1991-2001, there is a sharp decline in the rate of age not stated for both literate males and literate females in all the states except for Tamil Nadu and Haryana. This result was in reverse direction as compared to the trend among illiterates. It is surprising to see that the rate of age not stated was very high among literates in all most all the states as compared to illiterates, for instance, in India, the rate was almost 10 times highest for both literate males and

literate female than their illiterate counterparts in the year 1991. In the year 1971 and 1991, the rate of age not stated was more among rural literates than urban literates whereas during the year 1981 and 2001, the rate was lower among rural literates than their urban counterparts. Among illiterates, the rate was high for urban illiterates than their rural counterparts for all the years except in 1991 and for females in the year 1971. This difference was more significant in the year 2001. That is the rate of age not stated among urban illiterates was almost twice higher than that of their rural counterparts.

The rate of age not stated (per 1000 population), computed from 2001 census data by place of residence and marital status are present in Table 4. The analysis shows that the rate of age not stated was much higher among never married in all the states of India. Among never married in both rural and urban areas, the rate was highest in the state of Tamil Nadu. In rural areas, the rate of age not stated among never married males was always higher than never married females in all the states except Punjab, Haryana and Himachal Pradesh. Same picture has been emerged in the urban settings of all the states except Haryana. The rate was always higher for currently married males than currently married females except in the state of Kerala, Tamil Nadu and Rajasthan. Similar pattern can be seen among widowed except Uttar Pradesh. The result was similar in the urban areas of all the states except Kerala, Tamil Nadu and Gujarat. But, in the case of widowed in urban areas the value was always high among males. It is evident from the table that rates among never married males was always higher than currently married males for all the states in rural as well as urban areas and similar pattern may be observed among females except for Rajasthan. Among widowed males also, the rate of the age not stated was greater than the currently married males in all the states except Uttar Pradesh. This result is also true in the urban areas except Punjab, Haryana and Himachal Pradesh while in case of females it shows some different picture.

Table 5 presents the rate of age not stated (per 1000 population) by sex according to religion and place of residence in the year 2001. It is evident from the table that the rate of age not stated at the national level was slightly high among Hindus than Muslims whereas the rate was highest in the other category. If we look at the rate of age not stated at national level, it was more among males than females for Hindus (except Rajasthan), followed by Muslims (except Rajasthan and Himachal Pradesh) and others. The result was almost consistent in the rural areas except for Rajasthan, Punjab, Haryana and Himachal Pradesh, the result also holds good for the urban areas.

In rural areas, the rate of age not stated for both the sex was high among Muslims in the states of Karnataka, Kerala, Maharashtra, West Bengal, Orissa, Madhya Pradesh, Haryana and Himachal Pradesh while in the remaining states it was high among Hindus. In the urban areas of Andhra Pradesh, Kerala, Maharashtra, Gujarat, West Bengal, Madhya Pradesh, Punjab and Haryana, the rate of the age not stated was high among Muslim males and in addition to these states, Rajasthan, Bihar and Himachal Pradesh also showed more reporting of age not stated among Muslim females than Hindu females.

It is clear from Table 6 and 7 that age reporting errors do not seem to have reduced over the different censuses but in the year 2001, it has been cut down to some extent. Whipple's index measures the preference for reporting ages ending with 0 and 5 and it takes a value between 100 and 500. An index value less than 110 is regarded, as 'accurate' age reporting, that is, there is no preference for digits ending with 0 or 5. The age reporting is considered to be 'rough' if it varies between 125 and 175, and 'very rough' if it crosses 175, in which case there is heavy concentration in the reporting of ages 0 or 5. The reporting of ages in India can be considered to be 'very rough' even in 2001 and there has been no visible improvement in the quality of age reporting since 1951. But still, it is worth mentioning that for the first time in the year 2001, the index has decreased considerably in all the major states. The index takes the lowest value in the state of Kerala, among all the states. In 2001, it shows a value of 139 for literate males and 141 for literate females, which can be considered to be 'rough'. Overall, it seems that reporting of age in 2001 census may show improvement as compared to earlier censuses but much improvement is still required.

During the year 1991, the highest rate of age not stated was found in the states of Bihar, Madhya Pradesh and West Bengal whereas in the year 2001, the rate was highest in the states of Rajasthan, Tamil Nadu and Uttar Pradesh. Therefore, for better understanding of the reporting of age not stated in these states, the rate has been classified according to work status. The results are present in the Tables 8 and 9 for the year 1991 and 2001 respectively. In the year 1991, the rate of age not stated was found to be very high among non-workers followed by marginal workers in all the selected states. The pattern was similar in both the rural and urban areas. The rate of age not stated among non-workers was found to be highest in Bihar followed by Madhya Pradesh and West Bengal. Among non-workers in Bihar, the rate was almost twice higher for male non-workers than female non-workers. The rate was considerably higher for urban areas irrespective of the work status. But in

2001, there was only slight difference in the rate of age not stated according to work status among the selected states. There was no significant rural- urban variation in the rate of age not stated in the selected states according to work status except in the state of Tamil Nadu.

Correlation analysis was carried out in order to understand the relationship between proportion of age not stated and Whipple's index. The results show an insignificant positive correlation between Whipple's index and proportion of age not stated. The analysis indicates that when age not stated increases, the quality of data also deteriorates from 1981 to 2001. But for the year 1971, the picture was in reverse direction (table not shown).

Conclusions

Rate of age not stated is one of the important components to measure the quality of age reporting in the census. It is observed that age not reporting has been increased during 1971-91 in almost all the states. It shows the declining trend in the year 1991- 2001 but still the figure was high in the year 2001. It is observed that the age not stated in the rural areas has been reported to be better than that of the urban areas at the all-India level but in the northern parts the figure is in the expected direction. As expected, the reporting is seemed to be better among literates than that of illiterates. An interesting result emerging from the analysis is that the rate of age not stated was found to be much higher among never married in all the states of India. The results show that the rate of age not states was less among Muslims than Hindus and other category. It may be observed that for census 2001, the quality of data appears to be better, when it is evaluated by the Whipple index but still a lot of scope is there for further improvement.

REFERENCES

- Ambanavar, J.P. & P. Visaria. (1975) 'Influence of literacy and education on the quality of age returns', *Demography India*, vol. 4, no.1, pp.11-15.
- Balasubramanian, K. (1974) 'Type of age reporting errors in the census data of Indonesia', *Demography India*, vol.3, no.2, pp.287-305.
- Edmonston, B. & Bairagi, R. (1981) 'Errors in age reporting in Bengali populations'. *Rural Demography*, 1981;8(1):63-87.
- Office of the Registrar General and Census Commissioner (1971): 'Census of India 1971', Series 1, Part II-C, Social and Cultural Tables, Registrar General and Census Commissioner, New Delhi.
- Office of the Registrar General and Census Commissioner (1986): 'Census of India 1981', Series 1, Part IVA, Social and Cultural Tables, Registrar General and Census Commissioner, New Delhi.

- Office of the Registrar General and Census Commissioner (1998): 'Census of India 1991', Series 1, Part IVA C Series, Social and Cultural Tables, vol.2, Registrar General and Census Commissioner, New Delhi.
- Office of the Registrar General and Census Commissioner (CD, nd): 'Census of India 2001', Report and Series on Age, Series 1, Registrar General and Census Commissioner, New Delhi.
- Chandra, N.K. (1980) 'Adjustment of age data for India's census population', *Demography India*, vol. 9, nos. 1& 2, pp. 274-285.
- Choudhary, C.R. (2006) 'A Study of Quality of Single Year age Data in India', *Seminar Paper Submitted for the partial fulfillment for the Master of Population Studies*, International Institute for Population Sciences, Mumbai.
- Ewbank, D.C. (1981) *Age Misreporting and Age-Selective Under enumeration: Sources, Patterns and Consequences for Demographic Analysis*, Committee on Population and Demography, Report No.4, National Academy Press, Washington, D.C.
- Jain, S.P. (1980) 'Census Single Year Age Returns and Informant Bias', *Demography India*, vol. 9, nos.1&2, pp.286-296.
- Mukhopadhyay, B.K. (1983) 'Pattern of Change in Age Reporting during 1961-71, Indian Census Data', *Demography India*, vol. 12, nos.1, pp.131-144.
- Prakasam, C.P. (1984) 'On quality of age data for population count-1981, in Indian states', *Paper submitted to the Annual Conference of Indian Association for the Study of Population*, held at Indian Institute for Management, 24th December to 27th December, 1984, Bangalore.
- Saxena, P.C., Verma, K.R. & Sharma, K.A. (1986) 'Errors in Age Reporting in India, A Socio-cultural and Psychological Explanation', *Indian Journal of Social Work*, vol. 47, no.2, pp.127-135.
- Srinivasan, K. & V.D. Shastri. (2001) 'Errors in age reporting of children in the 2001 Census: A preliminary appraisal', *Presented in Symposium on Sex Ratio in India, 10-11 January, 2001*, International Institute for Population Sciences, Mumbai.
- Suong, Y. (1995) 'Quality of Age Data by Sex in Censuses of Some Selected Asian Countries', *Seminar Paper Submitted as a Part of Requirements for Diploma Course in Population Studies*, International Institute for Population Sciences, Mumbai.
- Zaki.P.K. & Zaki.A.J. (1983) 'A Comparative Study of Age Reporting in Pakistani Censuses and Surveys: 1951-1981', *Demography India*, vol. 12, no.1, pp.145-172.

TABLE 1

Rate of age not stated (per 1000 Population) by sex and residence in India and major states, 1971-2001.

State	1971		1981		1991		2001	
	Males	Females	Males	Females	Males	Females	Males	Females
All areas								
Andhra Pradesh	0.09	0.06	0.36	0.29	3.32	2.76	1.93	1.57
Karnataka	0.03	0.10	1.06	0.91	5.87	4.97	1.07	0.89
Kerala	0.05	0.04	0.09	0.10	2.25	2.59	0.91	0.76
Tamil Nadu	0.09	0.07	0.02	0.02	3.45	3.10	7.13	6.62
Maharashtra	0.16	0.14	1.43	1.36	4.19	3.73	1.30	1.13
Gujarat	0.10	0.07	0.21	0.13	5.38	4.76	1.01	0.84
West Bengal	1.21	1.79	0.37	0.28	6.29	5.40	1.51	1.27
Orissa	0.18	0.15	0.43	0.29	5.69	4.30	1.84	1.53
Uttar Pradesh	0.08	0.09	0.41	0.30	8.03	5.84	4.54	4.07
Madhya Pradesh	0.06	0.04	0.62	0.49	10.14	8.22	2.43	2.18
Rajasthan	0.07	0.10	0.75	0.60	3.78	2.36	5.00	5.18
Bihar	0.07	0.12	0.40	0.27	11.30	8.25	2.18	1.63
Punjab	0.50	0.02	1.05	0.96	5.16	4.53	4.03	3.65
Haryana	0.10	0.15	0.65	0.50	0.49	0.48	4.01	3.57
Himachal Pradesh	0.07	0.03	0.29	0.20	3.69	2.90	2.66	2.18
India	0.20	0.23	0.55	0.45	6.22	4.93	2.82	2.49
Rural								
Andhra Pradesh	0.05	0.04	0.35	0.28	2.75	2.15	1.58	1.27
Karnataka	0.12	0.08	0.95	0.79	5.44	4.34	1.06	0.88
Kerala	0.05	0.03	0.09	0.10	2.56	2.82	0.88	0.73
Tamil Nadu	0.09	0.08	0.02	0.01	3.67	3.19	4.85	4.47
Maharashtra	0.17	0.15	1.30	1.22	2.04	1.73	1.55	1.32
Gujarat	0.08	0.06	0.21	0.13	5.57	4.71	0.90	0.68
West Bengal	1.58	2.26	0.35	0.25	6.43	5.31	1.37	1.18
Orissa	0.16	0.13	0.37	0.24	5.56	4.01	1.80	1.49
Uttar Pradesh	0.09	0.10	0.33	0.22	7.54	5.08	4.57	4.15
Madhya Pradesh	0.05	0.02	0.54	0.40	9.76	7.53	2.42	2.16
Rajasthan	0.07	0.10	0.61	0.44	2.98	1.43	5.14	5.43
Bihar	0.07	0.09	0.35	0.22	10.22	6.95	2.24	1.67
Punjab	0.04	0.02	0.55	0.39	4.22	3.66	3.75	3.45
Haryana	0.10	0.16	0.37	0.23	0.41	0.37	4.03	3.60
Himachal Pradesh	0.07	0.03	0.25	0.17	3.50	2.72	2.70	2.22
India	0.20	0.25	0.45	0.35	5.98	4.44	2.71	2.39
Urban								
Andhra Pradesh	0.24	0.14	0.41	0.30	4.86	4.44	2.85	2.38
Karnataka	0.16	0.14	1.33	1.19	6.81	6.41	1.07	0.92
Kerala	0.05	0.05	0.13	0.07	1.38	1.97	1.00	0.84
Tamil Nadu	0.09	0.07	0.01	0.02	3.03	2.92	10.00	9.36
Maharashtra	0.15	0.13	1.67	1.65	5.39	5.35	0.99	0.85
Gujarat	0.14	0.10	0.20	0.16	5.00	4.84	1.20	1.12
West Bengal	0.18	0.17	0.43	0.38	5.92	5.66	1.86	1.52
Orissa	0.38	0.38	0.80	0.63	6.48	6.32	2.08	1.76
Uttar Pradesh	0.03	0.02	0.73	0.67	9.99	8.96	4.45	3.75
Madhya Pradesh	0.15	0.11	0.93	0.89	11.38	10.58	2.45	2.24
Rajasthan	0.04	0.10	1.27	1.20	6.43	5.54	4.58	4.35
Bihar	0.05	0.40	0.70	0.68	18.10	17.24	1.86	1.37
Punjab	1.95	0.02	2.33	2.47	7.37	6.63	4.57	4.07
Haryana	0.08	0.07	1.64	1.50	0.75	0.81	3.96	3.48
Himachal Pradesh	0.06	0.00	0.70	0.58	5.45	4.88	2.32	1.77
India	0.19	0.13	0.84	0.78	6.88	6.39	3.09	2.78

Note: Jharkhand, Chhattisgarh and Uttaranchal have been included in Bihar, Madhya Pradesh and Uttar Pradesh respectively in 2001.

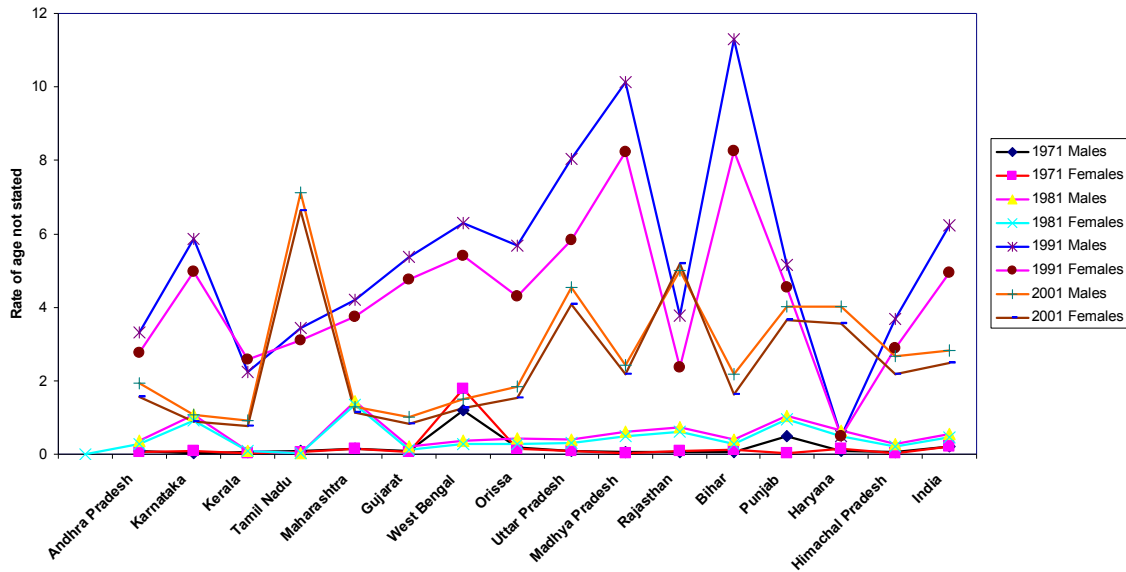


FIGURE 1
Rate of age not stated (per 1000 population) by sex in the all areas of India and major states, 1971-2001

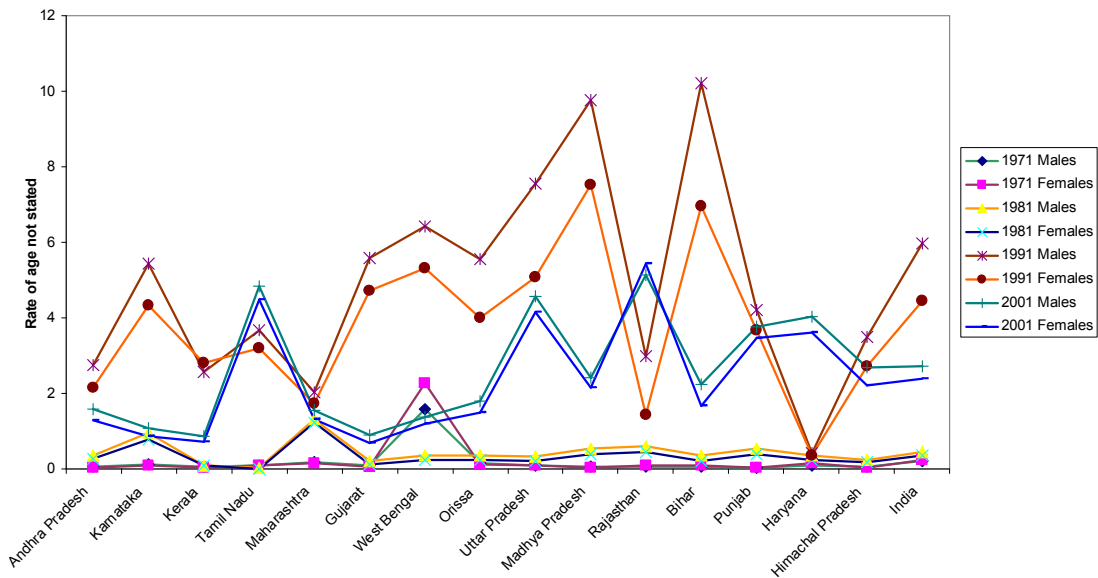


FIGURE 2
Rate of age not stated (per 1000 population) by sex in the rural areas of India and major states, 1971-2001

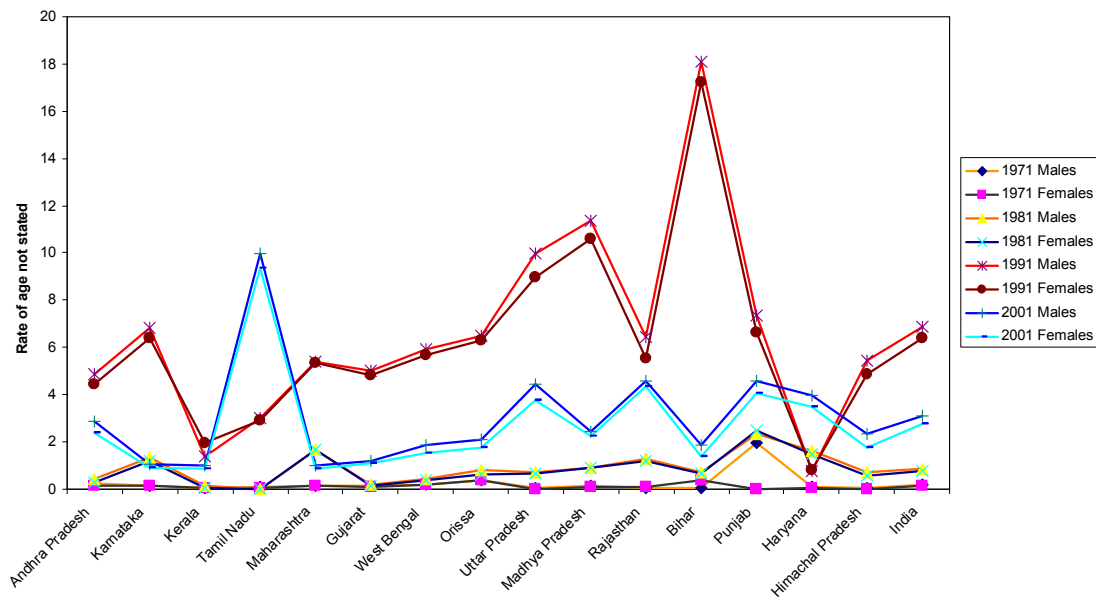


FIGURE 3
Rate of age not stated (per 1000 population) by sex in the urban areas of India and major states, 1971-2001

TABLE 2

Rate of age not stated (per 1000 Population) by sex, residence among Illiterates in India and major states, 1971- 2001.

State	1971		1981		1991		2001	
	Males	Females	Males	Females	Males	Females	Males	Females
All areas								
Andhra Pradesh	0.10	0.07	0.26	0.23	0.44	0.37	2.10	1.60
Karnataka	0.18	0.11	0.80	0.70	0.62	0.63	1.43	1.06
Kerala	0.08	0.06	0.11	0.08	0.32	0.43	2.54	1.83
Tamil Nadu	0.10	0.08	0.01	0.00	1.05	0.78	6.79	5.95
Maharashtra	0.27	0.18	1.19	1.15	0.47	0.46	2.05	1.51
Gujarat	0.13	0.08	0.18	0.12	1.89	1.70	1.56	1.04
West Bengal	1.00	1.66	0.24	0.21	1.74	1.52	1.77	1.39
Orissa	0.21	0.16	0.28	0.21	1.11	0.93	2.25	1.66
Uttar Pradesh	0.10	0.09	0.14	0.13	1.96	1.66	4.29	3.69
Madhya Pradesh	0.07	0.04	0.40	0.36	6.66	5.47	3.07	2.42
Rajasthan	0.09	0.11	0.52	0.45	0.12	0.09	5.15	5.43
Bihar	0.09	0.10	0.14	0.10	2.21	2.08	2.01	1.57
Punjab	0.35	0.02	0.24	0.15	0.01	0.01	6.57	5.12
Haryana	0.12	0.16	0.13	0.10	0.12	0.10	7.67	5.08
Himachal Pradesh	0.09	0.04	0.18	0.12	1.09	0.74	6.62	3.98
India	0.20	0.22	0.32	0.29	1.72	1.48	3.19	2.64
Rural								
Andhra Pradesh	0.05	0.05	0.27	0.24	0.43	0.35	1.63	1.31
Karnataka	0.15	0.09	0.79	0.70	0.54	0.57	1.30	0.96
Kerala	0.08	0.05	0.10	0.08	0.36	0.40	2.41	1.74
Tamil Nadu	0.09	0.08	0.01	0.00	1.08	0.86	5.00	4.37
Maharashtra	0.25	0.18	1.07	1.11	0.28	0.32	2.06	1.49
Gujarat	0.10	0.07	0.18	0.12	1.81	1.68	1.26	0.81
West Bengal	1.15	1.91	0.23	0.20	1.88	1.62	1.54	1.25
Orissa	0.19	0.14	0.25	0.20	1.13	0.94	2.14	1.58
Uttar Pradesh	0.11	0.10	0.13	0.13	2.01	1.71	4.24	3.65
Madhya Pradesh	0.05	0.02	0.38	0.34	6.73	5.51	3.01	2.36
Rajasthan	0.09	0.10	0.49	0.41	0.13	0.08	5.24	5.61
Bihar	0.09	0.10	0.15	0.11	2.24	2.09	2.01	1.58
Punjab	0.05	0.03	0.23	0.13	0.01	0.01	6.06	4.66
Haryana	0.12	0.17	0.12	0.09	0.13	0.10	7.50	4.84
Himachal Pradesh	0.09	0.04	0.16	0.11	1.02	0.68	6.67	3.93
India	0.18	0.23	0.30	0.28	1.78	1.53	2.99	2.49
Urban								
Andhra Pradesh	0.45	0.18	0.23	0.16	0.46	0.44	4.07	2.83
Karnataka	0.32	0.23	0.84	0.73	0.87	0.82	1.83	1.39
Kerala	0.12	0.11	0.20	0.08	0.16	0.52	2.98	2.14
Tamil Nadu	0.12	0.09	0.00	0.01	0.96	0.52	10.32	9.15
Maharashtra	0.34	0.21	1.54	1.28	0.64	0.54	2.03	1.54
Gujarat	0.25	0.13	0.18	0.14	2.11	1.76	2.38	1.74
West Bengal	0.31	0.25	0.28	0.27	1.13	1.02	2.71	2.03
Orissa	0.57	0.49	0.63	0.41	0.84	0.85	3.30	2.46
Uttar Pradesh	0.05	0.02	0.19	0.15	1.70	1.32	4.51	3.90
Madhya Pradesh	0.28	0.15	0.48	0.51	6.24	5.26	3.37	2.71
Rajasthan	0.07	0.14	0.72	0.70	0.08	0.13	4.68	4.48
Bihar	0.06	0.10	0.06	0.05	1.92	1.89	2.09	1.55
Punjab	1.88	0.02	0.26	0.21	0.02	0.01	7.97	6.46
Haryana	0.11	0.12	0.15	0.12	0.07	0.12	8.29	5.99
Himachal Pradesh	0.07	0.00	0.58	0.29	2.31	1.89	6.04	4.78
India	0.29	0.16	0.45	0.39	1.40	1.20	4.01	3.31

Note: Jharkhand, Chhattisgarh and Uttaranchal have been included in Bihar, Madhya Pradesh and Uttar Pradesh respectively in 2001.

TABLE 3

Rate of age not stated (per 1000 Population) by sex, residence among literates in India and major states, 1971-2001.

State	1971		1981		1991		2001	
	Males	Females	Males	Females	Males	Females	Males	Females
All areas								
Andhra Pradesh	0.05	0.03	0.51	0.51	6.71	9.12	1.82	1.53
Karnataka	0.06	0.05	1.34	1.43	9.98	12.39	0.88	0.72
Kerala	0.03	0.02	0.09	0.11	2.71	3.31	0.56	0.45
Tamil Nadu	0.07	0.05	0.02	0.04	4.82	5.98	7.25	7.12
Maharashtra	0.06	0.04	1.61	1.76	6.32	8.00	1.04	0.85
Gujarat	0.06	0.06	0.23	0.16	7.61	9.22	0.75	0.64
West Bengal	1.49	2.24	0.50	0.45	9.77	11.62	1.38	1.16
Orissa	0.12	0.08	0.59	0.57	9.85	12.63	1.61	1.35
Uttar Pradesh	0.03	0.04	0.83	1.36	15.54	22.54	4.74	4.78
Madhya Pradesh	0.04	0.03	0.97	1.22	14.07	17.40	2.05	1.86
Rajasthan	0.01	0.02	1.15	1.76	8.44	13.99	4.91	4.74
Bihar	0.03	0.36	0.81	1.34	23.86	36.24	2.36	1.79
Punjab	0.71	0.01	1.95	2.57	9.39	10.71	2.67	2.48
Haryana	0.06	0.04	1.22	1.93	0.79	1.24	2.11	1.88
Himachal Pradesh	0.04	0.01	0.39	0.37	5.21	5.67	1.25	0.93
India	0.20	0.27	0.80	0.94	10.25	12.22	2.61	2.32
Rural								
Andhra Pradesh	0.04	0.01	0.51	0.52	6.35	9.38	1.53	1.20
Karnataka	0.07	0.07	1.17	1.17	10.37	13.68	0.91	0.76
Kerala	0.03	0.02	0.08	0.12	3.11	3.66	0.53	0.42
Tamil Nadu	0.08	0.06	0.03	0.03	5.57	7.29	4.79	4.57
Maharashtra	0.07	0.04	1.52	1.55	5.65	7.36	1.32	1.14
Gujarat	0.05	0.05	0.24	0.15	8.61	11.12	0.68	0.50
West Bengal	2.36	4.24	0.51	0.44	10.88	13.57	1.26	1.09
Orissa	0.10	0.06	0.52	0.46	10.05	12.97	1.59	1.34
Uttar Pradesh	0.04	0.06	0.70	1.14	15.34	24.19	4.85	5.31
Madhya Pradesh	0.03	0.01	0.86	1.01	14.18	18.43	2.01	1.82
Rajasthan	0.01	0.05	0.88	1.10	7.67	14.78	5.06	5.02
Bihar	0.03	0.02	0.73	1.19	23.06	36.53	2.50	1.99
Punjab	0.03	0.01	0.99	1.08	8.32	9.96	2.27	2.25
Haryana	0.06	0.09	0.70	0.98	0.67	1.13	1.97	1.85
Himachal Pradesh	0.04	0.01	0.34	0.32	5.06	5.57	1.21	0.94
India	0.24	0.41	0.67	0.71	10.70	13.23	2.52	2.23
Urban								
Andhra Pradesh	0.07	0.07	0.51	0.50	7.30	8.83	2.40	2.08
Karnataka	0.05	0.02	1.60	1.69	9.38	10.85	0.83	0.66
Kerala	0.03	0.01	0.11	0.07	1.63	2.38	0.64	0.53
Tamil Nadu	0.07	0.04	0.02	0.04	3.71	4.46	9.91	9.46
Maharashtra	0.06	0.04	1.72	1.95	7.09	8.61	0.72	0.54
Gujarat	0.07	0.07	0.22	0.17	6.15	7.15	0.84	0.79
West Bengal	0.11	0.08	0.49	0.46	7.80	8.82	1.61	1.27
Orissa	0.25	0.19	0.90	0.94	8.95	11.46	1.73	1.37
Uttar Pradesh	0.01	0.01	1.18	1.64	16.11	20.07	4.41	3.62
Madhya Pradesh	0.07	0.05	1.18	1.41	13.87	16.25	2.15	1.93
Rajasthan	0.01	0.01	1.63	2.16	9.95	13.37	4.54	4.23
Bihar	0.04	1.04	1.08	1.63	26.87	35.61	1.77	1.22
Punjab	2.00	0.02	3.67	4.76	11.34	11.91	3.30	2.83
Haryana	0.07	0.00	2.45	3.05	1.07	1.41	2.41	1.92
Himachal Pradesh	0.05	0.00	0.74	0.77	6.36	6.33	1.54	0.81
India	0.12	0.08	1.05	1.22	9.37	10.84	2.78	2.47

Note: Jharkhand, Chhattisgarh and Uttaranchal have been included in Bihar, Madhya Pradesh and Uttar Pradesh respectively in 2001.

TABLE 4

Rate of age not stated (per 1000 Population) by sex and residence and marital status in India and major states, 2001.

State	Never Married		Currently Married		Widowed		Divorced/Separated	
	Males	Females	Males	Females	Males	Females	Males	Females
All areas								
Andhra Pradesh	2.82	2.53	1.00	0.92	1.48	0.96	1.41	0.76
Karnataka	1.38	1.27	0.69	0.61	0.85	0.57	0.71	0.50
Kerala	1.41	1.34	0.36	0.38	0.63	0.34	0.60	0.21
Tamil Nadu	8.94	8.18	5.27	5.83	5.65	4.59	4.74	3.44
Maharashtra	1.57	1.47	1.01	0.90	1.01	0.70	0.67	0.52
Gujarat	1.48	1.29	0.50	0.50	0.64	0.53	0.45	0.47
West Bengal	1.81	1.64	1.14	0.99	1.77	0.99	1.43	0.90
Orissa	2.43	2.16	1.13	0.97	1.51	1.08	1.88	0.94
Uttar Pradesh	5.47	5.06	3.30	3.13	3.13	3.07	4.65	4.31
Madhya Pradesh	2.86	2.78	1.92	1.63	2.15	2.09	1.99	1.61
Rajasthan	5.22	4.82	4.73	5.55	5.06	4.85	6.91	6.44
Bihar	2.80	2.15	1.38	1.17	1.59	1.20	4.24	2.10
Punjab	5.45	5.42	2.42	2.28	2.48	2.23	2.75	2.79
Haryana	5.52	6.00	2.16	1.53	2.51	2.13	2.64	3.42
Himachal Pradesh	3.86	3.92	1.23	0.77	1.43	1.11	1.87	0.84
India	3.49	3.19	2.00	1.95	2.40	1.77	2.40	1.42
Rural								
Andhra Pradesh	2.31	2.01	0.84	0.79	1.20	0.89	1.08	0.66
Karnataka	1.33	1.20	0.74	0.65	0.85	0.59	0.64	0.51
Kerala	1.35	1.28	0.34	0.37	0.62	0.34	0.65	0.20
Tamil Nadu	6.19	5.62	3.48	3.88	3.78	3.11	3.30	2.47
Maharashtra	1.86	1.72	1.20	1.07	1.17	0.82	0.68	0.60
Gujarat	1.28	1.06	0.49	0.39	0.54	0.45	0.35	0.53
West Bengal	1.57	1.47	1.11	0.94	1.70	0.96	1.39	0.82
Orissa	2.38	2.11	1.10	0.95	1.43	1.07	1.79	0.86
Uttar Pradesh	5.56	5.21	3.27	3.17	3.02	3.09	4.39	4.45
Madhya Pradesh	2.86	2.79	1.92	1.59	2.07	2.03	1.94	1.55
Rajasthan	5.38	4.98	4.83	5.90	5.05	4.96	7.27	7.03
Bihar	2.87	2.22	1.41	1.18	1.58	1.21	4.03	2.13
Punjab	5.09	5.22	2.18	2.05	2.35	2.05	2.27	2.82
Haryana	5.62	6.15	2.04	1.46	2.54	2.11	2.90	3.94
Himachal Pradesh	3.90	4.02	1.25	0.76	1.38	1.12	1.83	0.91
India	3.36	3.07	1.92	1.86	2.23	1.65	2.29	1.29
Urban								
Andhra Pradesh	4.11	3.82	1.42	1.30	2.67	1.23	3.20	1.29
Karnataka	1.46	1.41	0.57	0.53	0.84	0.52	0.91	0.49
Kerala	1.56	1.52	0.39	0.41	0.67	0.35	0.40	0.27
Tamil Nadu	12.44	11.41	7.50	8.28	8.61	6.69	6.94	4.96
Maharashtra	1.19	1.13	0.75	0.66	0.75	0.49	0.67	0.35
Gujarat	1.82	1.71	0.53	0.69	0.89	0.68	0.65	0.36
West Bengal	2.46	2.11	1.20	1.09	1.92	1.06	1.51	1.16
Orissa	2.72	2.49	1.25	1.10	2.22	1.19	2.67	1.53
Uttar Pradesh	5.15	4.51	3.43	2.96	3.77	2.99	6.11	3.91
Madhya Pradesh	2.85	2.75	1.93	1.74	2.51	2.29	2.22	1.80
Rajasthan	4.72	4.32	4.38	4.36	5.12	4.42	5.11	5.05
Bihar	2.36	1.68	1.16	1.05	1.63	1.14	6.01	1.95
Punjab	6.16	5.82	2.86	2.73	2.81	2.62	3.71	2.73
Haryana	5.26	5.64	2.46	1.69	2.42	2.20	2.11	2.63
Himachal Pradesh	3.48	2.96	1.07	0.78	2.22	1.02	2.45	0.00
India	3.81	3.51	2.21	2.20	2.99	2.08	2.71	1.81

Note: Jharkhand, Chhattisgarh and Uttaranchal have been included in Bihar, Madhya Pradesh and Uttar Pradesh respectively in 2001.

TABLE 5

Rate of age not stated (per 1000 Population) by sex and residence and religion in India and major states, 2001.

State	Hindu		Muslim		Others	
	Males	Females	Males	Females	Males	Females
All areas						
Andhra Pradesh	1.78	1.46	2.47	2.10	6.40	4.18
Karnataka	1.06	0.87	0.98	0.89	1.58	1.28
Kerala	0.84	0.71	0.92	0.78	1.09	0.86
Tamil Nadu	7.01	6.54	7.60	6.95	8.32	7.32
Maharashtra	1.17	0.99	1.14	0.99	2.68	2.43
Gujarat	0.95	0.79	1.12	0.92	3.42	3.06
West Bengal	1.46	1.23	1.51	1.32	3.02	2.12
Orissa	1.80	1.50	1.86	1.53	2.91	2.12
Uttar Pradesh	4.59	4.15	3.86	3.45	12.95	8.84
Madhya Pradesh	2.38	2.14	2.88	2.70	3.23	2.61
Rajasthan	5.11	5.33	3.92	3.94	4.84	4.24
Bihar	2.17	1.66	2.05	1.54	2.84	1.58
Punjab	4.08	3.80	4.01	3.85	4.00	3.57
Haryana	3.91	3.47	6.00	5.80	3.53	2.91
Himachal Pradesh	2.63	2.16	2.78	3.00	3.36	2.41
India	2.80	2.50	2.55	2.25	3.66	2.98
Rural						
Andhra Pradesh	1.54	1.25	1.38	1.24	5.24	3.11
Karnataka	1.04	0.85	1.15	0.99	1.45	1.34
Kerala	0.84	0.70	0.91	0.77	0.94	0.74
Tamil Nadu	4.83	4.47	4.70	4.36	5.45	4.61
Maharashtra	1.32	1.10	1.39	1.11	4.55	4.17
Gujarat	0.88	0.68	0.88	0.60	2.34	1.66
West Bengal	1.31	1.12	1.43	1.28	2.13	1.60
Orissa	1.76	1.46	1.91	1.49	2.72	2.05
Uttar Pradesh	4.58	4.20	3.94	3.55	15.65	10.71
Madhya Pradesh	2.39	2.14	2.75	2.55	3.55	2.70
Rajasthan	5.27	5.60	3.37	3.41	4.31	3.55
Bihar	2.23	1.70	2.10	1.58	2.76	1.51
Punjab	3.54	3.38	3.48	3.13	3.82	3.47
Haryana	3.91	3.48	6.07	5.81	3.48	2.77
Himachal Pradesh	2.66	2.20	3.05	2.93	3.71	2.65
India	2.70	2.39	2.44	2.12	3.53	2.84
Urban						
Andhra Pradesh	2.56	2.16	3.25	2.73	7.70	5.37
Karnataka	1.08	0.92	0.87	0.82	1.71	1.21
Kerala	0.85	0.74	0.95	0.79	1.59	1.24
Tamil Nadu	10.10	9.51	8.65	7.95	10.47	9.37
Maharashtra	0.94	0.80	1.04	0.94	1.18	1.02
Gujarat	1.08	1.00	1.29	1.16	3.88	3.67
West Bengal	1.77	1.46	1.86	1.50	6.88	4.50
Orissa	2.03	1.74	1.79	1.58	4.18	2.66
Uttar Pradesh	4.67	3.94	3.72	3.25	8.47	5.77
Madhya Pradesh	2.35	2.14	2.95	2.79	2.83	2.50
Rajasthan	4.53	4.25	4.50	4.51	5.64	5.24
Bihar	1.81	1.33	1.78	1.36	3.49	2.11
Punjab	4.51	4.16	4.65	4.88	4.66	3.91
Haryana	3.92	3.43	5.63	5.70	3.68	3.26
Himachal Pradesh	2.35	1.74	1.39	3.56	2.31	1.63
India	3.09	2.79	2.75	2.49	3.49	3.27

Note: Jharkhand, Chhattisgarh and Uttaranchal have been included in Bihar, Madhya Pradesh and Uttar Pradesh respectively in 2001.

TABLE 6

Whipple's index of concentration by sex: India and major states, 1951-1991.

India/ States	Whipple's Index of Concentration									
	1951		1961		1971		1981		1991	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Andhra Pradesh	363	379	327	343	332	346	328	338	321	330
Karnataka	NA	NA	315	343	315	338	300	329	290	313
Kerala	182	193	206	223	195	207	178	187	165	173
Tamil Nadu	251	270	279	308	265	286	256	279	247	268
Maharashtra	296	310	245	259	279	299	288	311	182	303
Gujarat	334	343	309	307	278	269	292	272	272	240
West Bengal	160	170	206	234	233	241	253	281	243	268
Orissa	220	229	261	276	272	286	284	295	269	282
Uttar Pradesh	254	258	324	314	333	364	358	320	343	293
Madhya Pradesh	230	234	297	312	302	311	314	314	199	287
Rajasthan	275	289	336	359	341	359	339	342	333	317
Bihar	183	186	253	252	308	303	347	334	353	334
Punjab	304	320	311	323	316	300	306	285	285	257
Haryana	NA	NA	NA	NA	320	329	312	310	284	271
India	247	258	282	294	294	300	304	305	293	288

Source: Srinivasan, K and V.D. Shastri.2001, *Errors in Age Reporting of Children in the 2001 Census: A Preliminary Appraisal, Presented in Symposium on Sex Ratio in India, 10-11 January, 2001, IIPS, Mumbai.Report and Tables on Age, Census-2001, Series-1, India*

Note: Bihar, Madhya Pradesh and Uttar Pradesh include Jharkhand, Chhattisgarh and Uttaranchal respectively in 1951-1991.

TABLE 7

Whipple's index of concentration by sex, residence and literacy status: India and major states, 2001.

India/ States	Whipple's Index of Concentration									
	Combined		Rural		Urban		Illiterates		Literates	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Andhra Pradesh	255	262	239	251	253	246	300	275	227	211
Karnataka	248	266	216	259	274	230	318	303	218	206
Kerala	144	147	136	151	154	143	217	226	139	141
Tamil Nadu	212	231	188	228	246	206	287	279	191	187
Maharashtra	219	227	209	227	234	220	282	265	206	201
Gujarat	221	223	218	186	173	205	262	193	208	177
West Bengal	215	218	209	226	229	220	264	258	198	196
Orissa	238	244	208	241	243	224	293	266	217	205
Uttar Pradesh	294	304	261	207	200	235	336	211	270	198
Madhya Pradesh	251	259	229	206	197	229	300	215	231	191
Rajasthan	235	239	225	197	190	218	271	204	220	181
Bihar	302	306	270	235	232	260	328	239	281	224
Punjab	234	243	219	195	193	198	293	217	211	177
Haryana	185	182	189	166	160	178	216	174	174	155
India	241	252	216	218	219	218	299	240	218	191

Source: Report and Tables on Age, Census-2001, Series-1, India.

Note: Jharkhand, Chhattisgarh and Uttaranchal exclude from Bihar, Madhya Pradesh and Uttar Pradesh respectively in 2001.

TABLE 8

Rate of age not stated (per 1000 Population) by sex and classification of work in selected states of India, 1991.

State	Total		Main Workers		Marginal Workers		Non-Workers	
	Males	Females	Males	Females	Males	Females	Males	Females
All areas								
Bihar	11.30	8.25	3.51	2.94	8.48	2.20	18.43	9.21
Madhya Pradesh	10.14	8.22	6.74	4.52	9.00	5.26	13.84	9.91
West Bengal	6.29	5.40	2.84	2.07	3.99	1.94	9.92	5.83
Rural								
Bihar	10.22	6.95	3.47	2.85	8.16	2.19	16.65	7.79
Madhya Pradesh	9.76	7.53	6.66	4.43	9.15	5.14	13.34	9.40
West Bengal	6.43	5.31	3.11	1.95	4.10	1.85	10.03	5.82
Urban								
Bihar	18.10	17.24	3.83	4.54	12.74	2.86	28.38	17.94
Madhya Pradesh	11.38	10.58	7.00	5.52	7.78	8.95	15.23	11.10
West Bengal	5.92	5.66	2.13	2.58	3.16	4.47	9.65	5.85

TABLE 9

Rate of age not stated (per 1000 Population) by sex and classification of work in selected states of India, 2001.

State	Total		Main Workers		Marginal Workers		Non-Workers	
	Males	Females	Males	Females	Males	Females	Males	Females
All areas								
Rajasthan	5.00	5.18	4.68	6.10	5.29	5.44	5.25	4.88
Tamil Nadu	7.13	6.62	6.13	5.60	6.04	5.00	8.50	7.15
Uttar Pradesh	4.66	4.19	3.51	5.21	4.34	3.59	5.54	4.18
Rural								
Rajasthan	5.14	5.43	4.79	6.12	5.31	5.42	5.42	5.20
Tamil Nadu	4.85	4.47	4.00	4.17	4.75	4.31	5.94	4.66
Uttar Pradesh	4.68	4.27	3.44	5.06	4.29	3.52	5.67	4.32
Urban								
Rajasthan	4.58	4.35	4.31	5.87	5.13	6.01	4.76	4.18
Tamil Nadu	10.00	9.36	8.77	9.01	9.60	8.58	11.49	9.45
Uttar Pradesh	4.55	3.85	3.78	6.11	4.69	5.20	5.10	3.71

Note: Uttaranchal has been included in Uttar Pradesh in 2001.