

A STUDY OF THE CHINESE POPULATION⁷

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CHAPTER III

THE AGE AND SEX COMPOSITION OF THE CHINESE POPULATION

THE age composition of a population may not appear, at first glance, to be of much importance. Every population has people of all ages in it, but the number of persons in each age group differs greatly from one population to another population. For example, South China has a larger proportion of young people than North China, a situation which, if other factors did not enter in, would result in a lower death rate, since mortality rates increase with age. In Tables 5 and 6 the total population is classified by five-year groups above five and single-year age groups under five in order to make a comparison, as a standard, with the age distribution for eleven European countries in 1900, made by G. H. Knibbs and C. H. Wickens, statisticians of the Commonwealth of Australia.⁸ (Fig. 3.)

There is no great difference between the age distribution of the Chinese population and that of the eleven European countries. The age groups in which the Chinese data have a distinctly lower percentage than the European countries are: 10-14, 15-19, 20-24, and 60 and above. There are some other age groups, 0, 3, 4, under 5, 5-9, and 35-39 which have a higher percentage than the standard.

⁷From the Department of Agricultural Economics of Nanking University, and the Division of Research, Milbank Memorial Fund. This study was made in cooperation with the Land Utilization Project financed by the China Council of the Institute of Pacific Relations. The first two chapters of Mr. Chiao's study were presented in the October issue of the *Bulletin* and the remaining chapters will appear in the April and July issues.

⁸Whipple, G. C.: *Vital Statistics*. New York, John Wiley and Sons, Inc., 1923 (Second Edition), p. 193.

The unevenness in Chinese population by single years under 5 is caused by the under-reporting of younger children. But in spite of under-reporting and a high mortality from

Table 5. Percentage age distribution of the population for China, India, eleven European countries, and the United States (rural farms 1930).

AGE (In Years)	CHINA	II EUROPEAN COUNTRIES (1900) ¹	INDIA (1921) ²	U. S. A. (Rural, Farms 1930) ³
0	3.2	2.46	2.9	2.1
1	2.4	2.43	1.4	—
2	2.3	2.41	2.4	—
3	3.1	2.38	2.9	—
4	2.5	2.35	2.9	—
0-4	13.5	12.03	12.5	11.1
5-9	11.9	11.35	14.7	12.5
10-14	9.9	10.61	11.7	12.4
15-19	9.2	9.82	8.3	11.3
20-24	8.8	8.98	8.3	8.1
25-29	8.4	8.12	8.8	6.0
30-34	6.9	7.25	8.3	5.5
35-39	6.9	6.40	6.0	11.4
40-44	5.6	5.57	6.2	—
45-49	5.6	4.79	3.7	9.8
50-54	4.0	4.04	4.4	—
55-59	3.6	3.36	1.8	6.6
60-64	2.3	2.70	2.8	—
65-69	1.6	2.08	0.8	3.7
70-74	0.9	1.46	1.7 ⁴	—
75-79	0.5	0.89	—	1.5
80-84	0.2	0.41	—	—
85 and over	0.1	0.14	—	—
Age unknown	0.1	—	—	—
TOTAL	100.0	100.0	100.0	99.9

¹See footnote 8.

²Census of India, Vol. I, Part II—Tables. Governmental Printing Press, Calcutta, 1921.

³Brunner, E. de S., and Kolb, J. H.: *Rural Social Trends*. New York, McGraw-Hill Co., Inc., 1933, pp. 17-19. The United States figures after age 34 are for ten-year groups up to 75 and over.

⁴70 and over.

AGE (Years)	NUMBER OF PERSONS			PER CENT		
	China	North China	South China	China	North China	South China
0	2,179	979	1,200	3.2	3.3	3.2
1	1,610	781	829	2.4	2.6	2.2
2	1,570	717	853	2.3	2.4	2.2
3	2,098	852	1,246	3.1	2.8	3.3
4	1,674	692	982	2.5	2.3	2.6
0-4	9,131	4,021	5,110	13.5	13.4	13.5
5-9	8,037	3,240	4,797	11.9	10.8	12.7
10-14	6,662	2,817	3,845	9.8	9.4	10.2
15-19	6,239	2,653	3,586	9.2	8.8	9.5
20-24	5,949	2,656	3,293	8.8	8.8	8.7
25-29	5,666	2,386	3,280	8.4	8.0	8.7
30-34	4,668	1,918	2,750	6.9	6.4	7.3
35-39	4,641	2,022	2,619	6.9	6.8	6.9
40-44	3,752	1,813	1,939	5.5	6.1	5.1
45-49	3,774	1,847	1,927	5.6	6.2	5.1
50-54	2,720	1,248	1,472	4.0	4.2	3.9
55-59	2,441	1,101	1,340	3.6	3.7	3.6
60-64	1,713	798	915	2.5	2.7	2.4
65-69	1,079	645	434	1.6	2.2	1.2
70-74	606	397	209	0.9	1.3	0.6
75-79	338	214	124	0.5	0.7	0.3
80-84	133	79	54	0.2	0.3	0.1
85 and over	50	31	19	0.1	0.1	0.1
Age unknown	44	23	21	0.1	0.1	0.1
TOTAL	67,643	29,909	37,734	100.0	100.0	100.0

Table 6. Age distribution of the population; 12,456 farm families, 22 localities, 11 provinces, North and South China, 1929-1931.

contagious diseases, such as smallpox, diphtheria, and measles, the proportion of the total population which is under five years of age is larger than in other countries. This can be ascribed only to a higher birth rate. The chief causes for the lower percentage in China for the age groups of 10-14, 15-19, and 20-24 are probably the emigration of males and

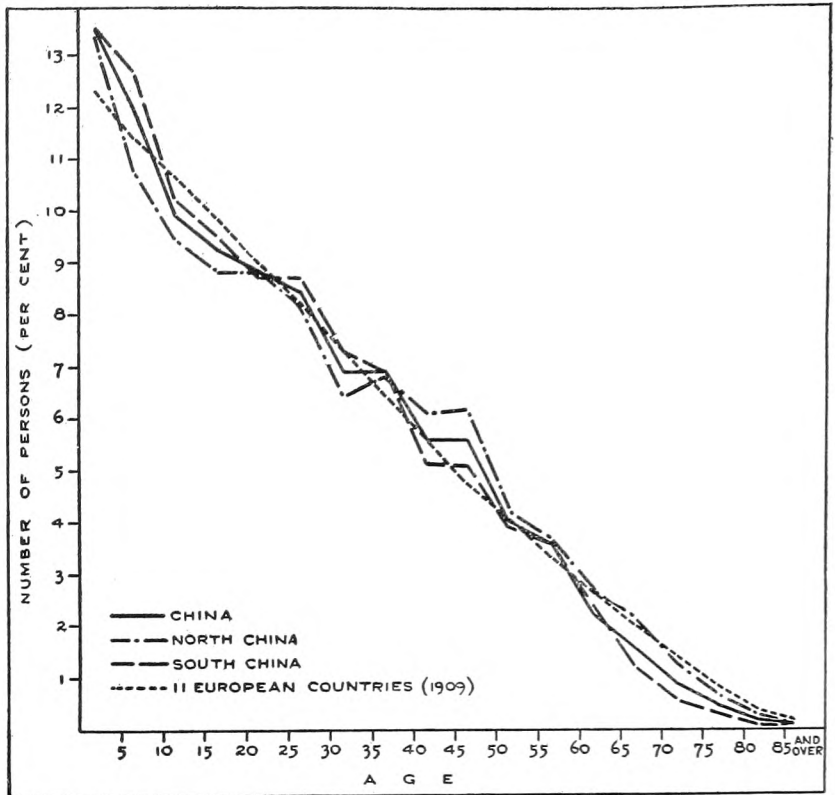


Fig. 3. Percentage age distribution of the population; China and eleven European countries.

the under-reporting of females, principally for the ages 10-19. The relatively small proportion of Chinese who are 60 or more years of age can only be explained by a shorter average duration of life in China than in Europe.

The comparison of North and South China shows that in North China the ages from 5 to 39 have a smaller percentage except that the age group 20-24 is higher by one-tenth of one per cent than in South China. But above the age 39, North China has a higher percentage than South China, except for ages 85 and over which are equal. The chief causes are probably the greater emigration of middle-aged people to Manchuria and the under-reporting of persons of certain

specified ages in North China. For instance, in the years 1924, 1925, and 1926, the total number of immigrants to Manchuria from Hopei, Shantung, and Honan provinces were 613,709 persons.⁹ There was still more migration before and after this period. Seven out of nine of the localities in this study are in these three provinces of North China. The much lower percentage in the age group 5-9 for North China is probably due to a higher infant and child mortality.

In comparing the Chinese population by ten-year groups with available information for other countries in Table 7, it is seen that under age 10, China has 25.4 per cent, or the highest proportion, while France has 13.9, or the lowest proportion. A possible explanation is that China has a higher birth rate than France. In the age group 10-19, Germany has the highest per cent of 20.4 and France has the lowest per cent of 17.7. China has 19.1 per cent, which is higher than France, England and Wales, and the United States.

Table 7. Percentage age distribution (decennial groups) of the Chinese populations and of those for other countries.

AGE (In Years)	CHINA (1929-1931)			ENG- LAND AND WALES ¹ (1921)	FRANCE ¹ (1921)	GER- MANY ¹ (1925)	SWEDEN ¹ (1920)	UNITED STATES ¹ (1930)
	Total	North	South					
Under 10	25.4	24.3	26.3	18.1	13.9	15.8	19.3	22.6
10-19	19.1	18.3	19.7	18.9	17.7	20.4	19.5	18.7
20-29	17.2	16.8	17.4	16.1	15.1	18.3	16.3	17.4
30-39	13.7	13.2	14.2	14.6	14.3	14.2	13.3	13.7
40-49	11.1	12.2	10.2	13.2	13.8	12.5	10.8	11.6
50 and over	13.5	15.2	12.2	19.1	25.2	18.8	20.9	16.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹Thompson, W. S.: *Population Problems*. New York, McGraw-Hill Book Company, Inc., 1930, p. 58.

⁹ Kiang, W. H.: *Emigration to Manchuria*. Proceedings of the First Annual Conference of Chinese Sociological Society, 1932. (in Chinese) p. 143.

But it is lower than Germany and Sweden. Why has Germany a higher percentage of population in age 10-19 and a lower percentage of population under age 10? Obviously Germany had a lower birth rate during the World War. The total percentages for age groups 20 up to 49 are nearly the same for all countries except Sweden which had the lowest figure, 40.4 per cent, and Germany which had the highest, 45.0 per cent.

Judged by Sundbärg's standard¹⁰ the Chinese population is slightly progressive. (Table 8.) The standard classifies as "progressive" populations with a relatively large proportion of persons under fifteen years of age because that is the typical situation found in a growing population. Probably the Chinese population approximates this progressive type because it is a shorter lived group than the European population upon which the standard was based.

The sex composition of a population can be studied in two ways: first, by the percentage of age distribution for each sex.

Second, by the ratio of males to 100 females in each age group.

The age distribution by sex is shown in Tables 9 and 10 and in Figure 4. For China as a whole, the male population

Table 8. The farm population in China compared with Sweden, United States, eleven European countries, and the progressive, stationary, and regressive types.

Region	Per Cent of Population by Age Groups		
	0-14	15-49	50+
China	35	51	14
North China	34	51	15
South China	36	52	12
Sweden (1751-1900) ¹	33	50	17
11 European countries (1900) ¹	35	51	14
United States (1930) ²	36	48	16
Sundbärg's standard ¹			
Progressive type	40	50	10
Stationary type	33	50	17
Regressive type	20	50	30

¹Whipple, G. C.: *op. cit.* pp. 189-193.

²Brunner, E. de S. and Kolb, J. H.: *op. cit.* pp. 17 and 19.

¹⁰Whipple G. C.: *op. cit.* p. 189.

shows some deficiency of persons in the ages from 10 to 34, and the female population in those from 5 to 34. In the case of the males this may be due in part to migration to Man-

Table 9. Age and sex distribution of the population; 12,456 farm families, 22 localities, 11 provinces, North and South China, 1929-1931.

Age (Years)	North China		South China	
	Male	Female	Male	Female
0	538	441	621	579
1	409	372	408	421
2	381	336	456	397
3	463	389	620	626
4	351	341	505	477
0-4	2,142	1,879	2,610	2,500
5-9	1,787	1,453	2,532	2,265
10-14	1,546	1,271	2,195	1,650
15-19	1,395	1,258	1,978	1,608
20-24	1,375	1,281	1,709	1,584
25-29	1,227	1,159	1,700	1,580
30-34	1,039	879	1,445	1,305
35-39	1,067	955	1,390	1,229
40-44	971	842	970	969
45-49	915	932	972	955
50-54	665	583	742	730
55-59	505	596	625	715
60-64	394	404	424	491
65-69	283	362	190	244
70-74	163	234	79	130
75-79	85	129	49	75
80-84	35	44	17	37
85 and over	6	25	4	15
Age unknown	17	6	14	7
Total	15,617	14,292	19,645	18,089

churia, and in the case of the females to the under-reporting of girls under 20 years of age for reasons already mentioned. Among married women over 20 years of age deaths from tetanus in childbirth (tetanus neonatorium) may also be a contributing factor. The small proportion of both sexes present in the age group 30-34 is probably in part the result of the famine which accompanied the Boxer Rebellion in 1900-1901 in North China causing the death of many children and a drop in the birth rate.

It is apparent from the age pyramid (Fig. 4) that there are fewer

males in the age group from 10 to 34 in North than in South China. Migration to Manchuria from the Northern provinces doubtless accounts for the less even distribution of

AGE (Years)	CHINA		NORTH CHINA		SOUTH CHINA	
	Male	Female	Male	Female	Male	Female
0	3.3	3.1	3.4	3.0	3.2	3.2
1	2.3	2.5	2.6	2.6	2.1	2.3
2	2.4	2.3	2.4	2.4	2.3	2.2
3	3.1	3.1	3.0	2.7	3.2	3.5
4	2.4	2.5	2.3	2.4	2.5	2.6
0-4	13.5	13.5	13.7	13.1	13.3	13.8
5-9	12.2	11.5	11.5	10.2	12.8	12.5
10-14	10.6	9.0	9.9	8.9	11.2	9.1
15-19	9.6	8.9	8.9	8.8	10.0	8.9
20-24	8.7	8.8	8.8	9.0	8.7	8.7
25-29	8.3	8.5	7.9	8.1	8.7	8.7
30-34	7.0	6.7	6.7	6.2	7.4	7.2
35-39	7.0	6.7	6.8	6.7	7.1	6.8
40-44	5.5	5.6	6.2	5.9	4.9	5.4
45-49	5.4	5.4	5.9	6.5	4.9	5.3
50-54	4.0	4.1	4.3	4.1	3.8	4.0
55-59	3.2	4.0	3.2	4.2	3.2	4.0
60-64	2.3	2.8	2.5	2.8	2.2	2.7
65-69	1.3	1.9	1.8	2.5	1.0	1.4
70-74	0.7	1.1	1.0	1.6	0.4	0.7
75-79	0.4	0.6	0.6	0.9	0.2	0.4
80-84	0.2	0.3	0.2	0.3	0.1	0.2
85 and over	—	0.1	—	0.2	—	0.1
Age unknown	0.1	—	0.1	—	0.1	0.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Table 10. Percentage age distribution of the population by sex; 12,456 farm families, 22 localities, 11 provinces, North and South China, 1929-1931.

the pyramid for the North. There is a dearth of females between the ages 5 and 34 in North China and the ages of 10 to 24 in South China. The explanation is the same as for China as a whole. In general, the South China population is distributed more symmetrically than that of the North because there were fewer outside factors such as famine, war, and migration to disturb the age and sex composition.

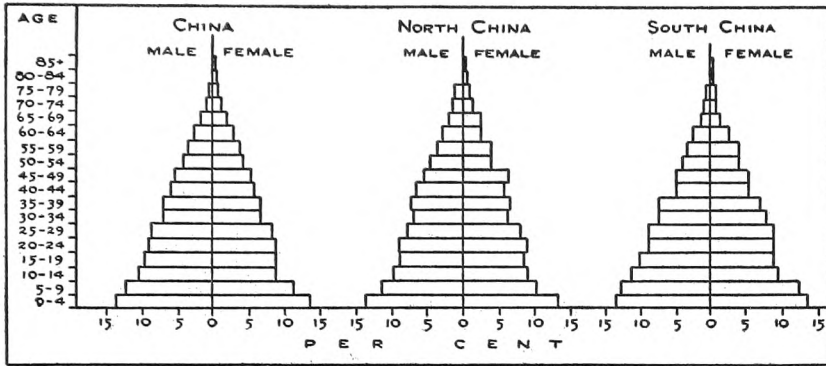


Fig. 4. Percentage, age, and sex distribution of the population; 12,456 farm families, 22 localities, 11 provinces, China, 1929-1931.

The ratio of males to 100 females is shown in Table 11 and Figure 5. The ratio is 109 for China, North China, and South China, respectively. The deviation from the average ratio of 109 for the various age groups is also shown in Table 11. For China, when we examine carefully the single year ages from 0 to 4, we find that at ages 0 and 2 there is more than the average excess of males but that at ages 1, 3, and 4 the proportion of males is somewhat lower than that for all ages. The excess of males in ages under 5 is more striking for North than for South China. It is safe to say that in China the under-reporting of younger children and deaths from diseases occur more for females than for males. The chief reason is that the females have a lower social status than males. In some parts of China there is always a tendency to under-report children under three years of age because such children are not treated as human beings for fear the evil spirits will cause them harm during the very early ages. In some parts of China, the people still feel that male babies are more important than females, and do not report them for fear something might happen to them, and thus male babies are not reported as well as female babies. In general, the opposite conditions will prevail because in

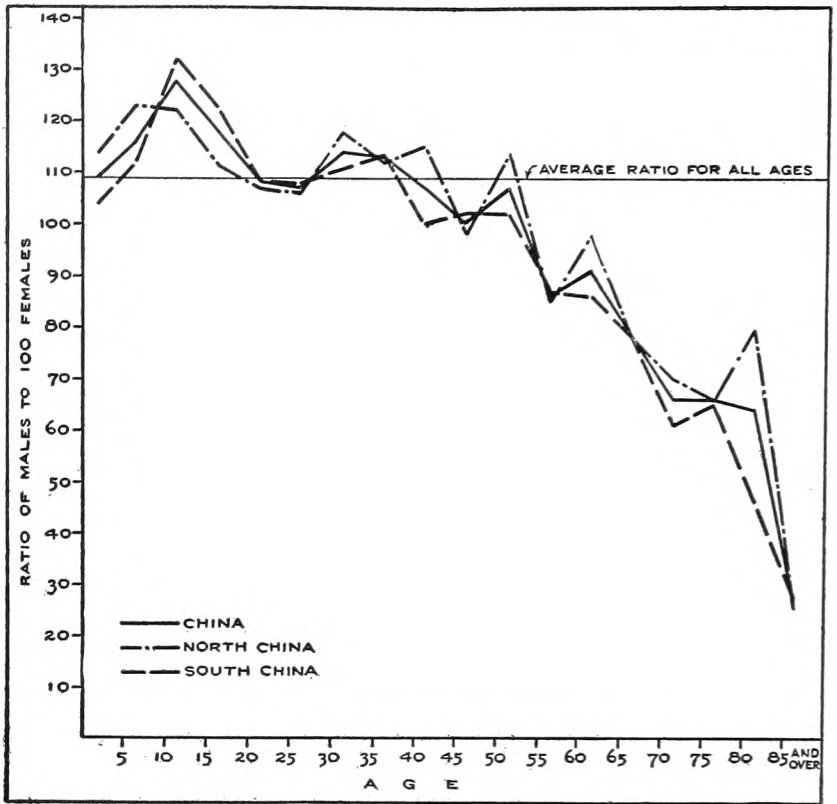


Fig. 5. Ratio of males to 100 females; 12,456 farm families, 22 localities, 11 provinces, China, 1929-1931.

most parts of China the people feel that the girl children are not very important. So deaths caused by infanticide and carelessness are more common with females.

In some parts of China, the children from ages 3 to 12 are also subject to certain age irregularities. When the children live until age three, parents like to report the child. This is also true for the twelve-year age. In China there is a typical system for counting age called the "twelve animal cycle." "Twelve" is a complete cycle and "three" is one-quarter of the cycle. So the ages "three" and "twelve" are the critical ages for children. The parents always feel that if their children are reported either before three or before twelve,

AGE (In Years)	CHINA		NORTH CHINA		SOUTH CHINA	
	Ratio	Devi- ation	Ratio	Devi- ation	Ratio	Devi- ation
0	114	+5	122	+13	107	-2
1	103	-6	110	+1	97	-12
2	114	+5	113	+4	115	+6
3	107	-2	119	+10	99	-10
4	105	-4	103	-6	106	-3
0- 4	109	0	114	+5	104	-5
5- 9	116	+7	123	+14	112	+3
10-14	128	+19	122	+13	132	+23
15-19	118	+9	111	+2	123	+14
20-24	108	-1	107	-2	108	-1
25-29	107	-2	106	-3	108	-1
30-34	114	+5	118	+9	111	+2
35-39	113	+4	112	+3	113	+3
40-44	107	-2	115	+6	100	-9
45-49	100	-9	98	-11	102	-7
50-54	107	-2	114	+5	102	-7
55-59	86	-23	85	-24	87	-22
60-64	91	-18	98	-11	86	-23
65-69	78	-31	78	-31	78	-31
70-74	66	-43	70	-39	61	-48
75-79	66	-43	66	-43	65	-44
80-84	64	-45	80	-29	46	-63
85 and over	25	-84	24	-85	27	-82
Age unknown	238	+129	283	+174	200	+101
ALL AGES	109	0	109	0	109	0

Table 11. Ratio of males to 100 females by age, and the deviation of the ratio for each age group from that for all ages; 12,456 farm families, 22 localities, of 11 provinces, North and South China, 1929-1931.

unlucky things will happen to them.

In ages 5-19 there is an excess of males. The highest ratio is 128 in age group 10-14. The deviation from the average ratio is plus 19. This excess of males can be explained in three ways: first, it may be due to the under-reporting of brides and unmarried grown-up girls because of reluctance to report these persons. Second, in some of the famine regions

COUNTRY	YEAR	PER CENT OF TOTAL POPULATION		RATIO OF MALE TO 100 FEMALE
		Male	Female	
China	1929-31	52.3	47.7	109
United States ¹	1930	50.6	49.4	102
England and Wales ²	1920	47.7	52.3	91
France ²	1920	47.5	52.5	91
Germany ²	1920	48.4	51.6	94
Sweden ²	1920	49.1	50.9	96

¹Native White Population of Native Parents (1930). Fifteenth Census Reports on Population, Vol. II, Chapter 10. Washington, United States Government Printing Office, 1933.

²Thompson, W. S., *op. cit.*, p. 55.

Table 12. Sex composition of the population in different countries.

the girls are sold as brides or sons' fiancées in the non-famine areas. Third, more deaths of females may be caused in the group of married women of child-bearing age from tetanus, miscarriage, and suicide due to family unhappiness. The above explanation applies to both North and South China except in a different degree. From age 20-29 the sex distribution seems to be normal. A balancing tendency between male and female may result from two factors, first the migration of males and second, the death of females in child-bearing period. From age 30-39 there is a shortage of females, probably due to more deaths and some migration. In the age group 50 and over, there are more females than males caused by the natural tendency of males to be shorter lived.

In Table 12, the sex composition for different countries is shown. Of these six countries only China and the United States have a higher proportion of males than females. The low proportion of males in Europe may be accounted for in part by the large number of males killed in the war, by losses through emigration, and perhaps by a lower ratio of male to female births.

