



# Inequality in Chinese Education

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*This article investigates the status of educational equality in China in the context of the reform of major Chinese economic, political, and social institutions at the turn of the twenty-first century. In the first part of this article, the authors address the importance of the theoretical issue of equality in education and explore the relationship between theories of human capital, modernization, and political culture. They begin with a general introduction of the theme, and then explore the linkages between basic education (literacy and numeracy), the increasing productivity of the labor force, and the essential guarantee of basic human rights—necessary for survival. They then discuss how advanced education provides people with the necessary adaptability and creativity to perform in a world characterized by rapidly developing technology and a complex management system. The second part of the article uses statistical data to describe current educational conditions and the extent of the variance in educational attainment for different groups. They conduct the analysis from two perspectives: (1) comparing the effects of gender, ethnicity (minorities), and disability status on educational attainment; and (2) by comparing the effects of gender, minority status, and disability status on educational attainment in four types of regions, as defined by economic and social development. In the final part of the paper, the authors try to find the particular government policies that are responsible for exiting discrepancies in educational achievement. The article concludes with a number of policy recommendations.*

## Introduction

Since the late 1950s, China has made tremendous efforts to improve education, with the aim of promoting economic and social development and securing basic human rights. In spite of these efforts, striking defects nevertheless remain in the Chinese educational system, and enormous difficulties still lie ahead for the ongoing educational reform during China's overall institutional transition at century's end.

Although there has been much educational legislation passed since 1949 and numerous promises made by the government, the condition of Chinese education in many remote regions and rural areas is deplorable, indeed deteriorating even further. Newly released figures show that educational expenditures as a percentage of GDP have remained at a fairly low level (less than 2.4%) throughout the 1990s. Since at least one-third of educational funds comes from the provincial governments and another third comes from local governments, the actual percentage may be even lower than the reported figures. This is because the provincial and local

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governments in poorer and more remote areas tend to allocate a smaller portion of their budget to education than that mandated by the central government. The result of long-term neglect due to insufficient funding of education has left nearly one-fifth of the Chinese people illiterate, not only arithmetic but, surprisingly, in science and law as well. The nation's unsuccessful attempt to implement compulsory education has become the crux of an educational crisis that has accompanied the process of modernization. In the light of the current situation of stagnation or even deterioration of educational quantity and quality, there is an urgent need for setting new priorities in education and implementing programs for improvement.

Setting priorities in education in today's China is not an easy task. Besides many other competing priorities, such as defense and infrastructure, there are also ideological, philosophical, and strategic disagreements within the party leadership and among the educational experts that makes it very difficult to set policy. Thus, some see education as a compelling investment in economic development, whereas others feel that it is necessary but can be deferred. Some favor general/basic academic education, others favor specific vocational training and emphasis on occupational skills. Still others argue that the goal should be universal basic literacy and numeracy, with limits placed on access to post-basic education and training. And of course, there are always people who would privilege economic development over education. Burris suggests that the expansion and reform of China's education is similar to that in any other country, particularly in one that is in the throes of transforming its major institutions, a developmental process fraught with conflict and contradiction that can translate into significant tensions over educational policy.<sup>1</sup>

Those in the international intellectual community are in agreement that education, broadly defined, is essential to the utilization of human potential for social and economic progress. They identify five 'energizers' of human resource development (HRD): education, health and nutrition, the environment, employment, and political and economic freedom.<sup>2</sup> These energizers are interdependent, but education is the basis for all the others: improving health and nutrition, maintaining a high-quality environment, expanding and improving labor pools, and sustaining political and economic responsibility.<sup>3</sup> Education is a means of equipping well-trained workers with knowledge and skills, of creating well-balanced citizens, and of encouraging active participation in a democratic society.

Leaders in many developing countries are committed to increasing material production capacity and worker productivity, both of which require the development of human capital and investment in physical infrastructure. Many leaders have spent heavily on basic literacy and labor skill training despite competition from other projects (including defense) for the limited physical and human resources. Those leaders hold that economic development depends more on enhanced labor skills than on other capital.<sup>4</sup>

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1. Mary Ann Burris, 'Struggle, criticism, transformation: education in the People's Republic of China', in Martin Carnoy and Joel Samoff, eds, *Education and Social Transition in the Third World* (Princeton: Princeton University Press, 1990), pp. 371–375.

2. Jacques Hallak, *Investing in the Future* (Paris: Pergamon Press, 1990), pp. 44–49.

3. *Ibid.*, pp. 45–46.

4. Carnoy and Samoff, *Education and Social Transition in the Third World*, p. 374.

More important, education also plays a crucial role in democratization and shaping a new political culture.<sup>5</sup> In a concrete sense, Hallak suggests that schools of various types and at various levels are institutions that can provide the means to guarantee basic human rights and also contribute to greater equality through the creation of an informed and voluntarily participating citizenry.<sup>6</sup>

## Education and economic development

Education is closely associated with economic growth. There is extensive historical evidence demonstrating that none of the rich industrialized countries was able to achieve significant economic growth before attaining universal primary education. In less developed agricultural societies, the value of labor is determined by manpower—human physical strength multiplied by working hours. Human capital theory, as developed by Schultz, argues that education increases human productivity. Human resource theory (including intellectual capital, psychological capital, cultural capital, and social capital) further expands this framework into a broader and more complicated system.<sup>7</sup> Based on these theories, Hallak demonstrates that the most successful newly industrialized countries (Korea, Singapore and Hong Kong) and those with the fastest-growing GNPs in the 1960s and 1970s (Thailand, Portugal, Greece, and others) all had achieved near-universal literacy before their economies began to expand. Although the high performance in literacy and schooling is not directly and solely responsible for the outstanding performances of these countries, education nevertheless plays a crucial role in fostering economic development in these societies.<sup>8</sup>

It is very shortsighted to limit education to the role of producing skilled manpower or to judge educational success only in terms of advances in literacy and numeracy. More comprehensive and advanced studies beyond the basic skills are

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5. Seymour M. Lipset, 'Some social requisites of democracy: economic development and political legitimacy', *American Political Science Review* 53(1), (March 1959), pp. 69–105; Karl Deutsch, 'Social mobilization and political development', *American Political Science Review* 55(3), (September 1961), pp. 493–514; James Coleman, 'Conclusion: the political system of developing areas', in Gabriel A. Almond and James Coleman, eds, *The Politics of Developing Areas* (Princeton: Princeton University Press, 1960); Alex Inkeles and David Smith, *Becoming Modern: Individual Change in Six Developing Countries* (Cambridge: Harvard University Press, 1974); Jan F. Triska and Paul M. Cocks, eds, *Political Development in East Europe* (New York: Praeger, 1977); Samuel Huntington and Joan M. Nelson, *No Easy Choice: Political Participation in Developing Countries* (Cambridge: Harvard University Press, 1976). For recent re-evaluation of the thesis, see Ross E. Burkhart and Michael S. Lewis-Beck, 'Comparative democracy: the economic development thesis', *American Political Science Review* 88(4), (December 1994), pp. 903–910; Ronald Inglehart, 'The renaissance of political culture', *American Political Science Review* 82(4), (December 1988), pp. 1203–1230; *idem*, *Modernization and Postmodernization: Cultural, Economic, and Political Change in 43 Societies* (Princeton: Princeton University Press, 1997); Robert W. Jackman and Ross A. Miller, 'The poverty of political culture', *American Journal of Political Science* 40(3), (August 1996), pp. 697–716; *idem*, 'A renaissance of political culture', *American Journal of Political Science* 40(3), (August 1996), pp. 632–659.

6. Hallak, *Investing in the Future*, p. 45.

7. Theodore William Schultz, *The Economic Value of Education* (New York: Columbia University Press, 1963); *idem*, *Investment in Human Capital* (New York: Free Press, 1971); Gary Stanley Becker, *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education* (New York: Columbia University Press, 1975); Theodore William Schultz, *Investing in People* (Berkeley: University of California Press, 1981).

8. Hallak argues that education should be considered as a necessary but not sufficient condition for economic development: Hallak, *Investing in the Future*, p. 48.

needed, including the middle-level technical and organizational skills that are usually provided by higher education. Increasingly, high-level cognitive skills—abstract reasoning and problem solving—will be a sine qua non for successful technological advancement.<sup>9</sup>

Investment in intellectual capital becomes most profitable in a post-industrial society. Hallak stresses that with the introduction of new technologies—especially biotechnology and electronics, information processing and other complex technologies—fields of employment based on repetitive unskilled and skilled jobs will tend to shrink, other areas which build essentially on high-level professional personnel with the skills to improve the quality and management of their work, seem to be expanding, without making unskilled labor obsolete.<sup>10</sup> All these require extending the traditional limits placed on both research and training.

Inkeles and Holsinger elaborate on this in their modernization theory and identified the school as a key context for modernization. They consider education to be one of the most important order-producing principles governing the characteristics of individuals in modern, large-scale, complex societies. More education, they explain, results in greater computational skills, more extensive knowledge of geography, more accurate identification of historical events and figures, wider acquaintance with authors and works of literature, and so on.<sup>11</sup> More important, education leads to differences not only in cognitive content but also in cognitive styles, that is, in the way individuals reason. Furthermore, higher-quality education can have a positive impact on individual attitudes, values concerning personal and social relations, and the psychological propensities of individuals to be more inclusive and tolerant. While a majority of studies concentrate on the positive impact of mass literacy or numeracy on economic development, some recent studies report that higher education, too, is important, for its strong, positive, and statistically significant effect on democratization.<sup>12</sup>

## Education and democratization

In democratic societies education is seen as a route to all things. Molnar suggests that democracy requires the highest standard of literacy for all adult citizens. Without genuine literacy (the capacity to think, read, speak, observe, and listen critically), citizens in a society are forced to rely on ‘experts’ and those who currently hold political and economic power.<sup>13</sup> For Almond and Verba, stable democracy requires a belief in the legitimacy of democracy. Such a belief can only come from interaction between citizens and the authorities. In order for a democracy to function properly, citizens must obey the authorities. At the same time, they must also be able to question and challenge those authorities through participation.

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9. *Ibid.*, p. 48.

10. *Ibid.*

11. Alex Inkeles and Donald B. Holsinger, *Education and Individual Modernity in Developing Countries* (Leiden: Brill, 1974). See also Inkeles and Smith, *Becoming Modern*.

12. Aaron Benavot, ‘Education and political democratization: cross-national and longitudinal findings’, *Comparative Education Review* 40(4), (1996), pp. 377–402.

13. Alex Molnar, *Social Issues and Education: Challenge and Responsibility* (Alexandria, VA: Association for Supervision and Curriculum Development, 1987).

Thus, Almond and Verba suggest that it is essential to foster psychological orientations that facilitate participation, for example, for democratic institutions to function properly, political interests, acquisition of information and knowledge, political efficacy, and political affects.<sup>14</sup> In exercising control and making decisions on major issues facing the country, citizens must have the cognitive ability to understand complicated issues, a skill that can be acquired only from formal education. Moreover, schools are expected to be the places where ideas, values, and orientation develop. From the process of schooling there emerges a new person—not simply someone with skills but also someone with an understanding of his or her own role in society. Of course, schools are also expected to assume the responsibility for recruiting and preparing personnel for future leadership positions in society.

Political leaders know that they must go beyond the economic and psychometric views of education and deal with its fundamental ethical and human dimension.<sup>15</sup> If education is considered a basic human right rather than a privilege, equity and equality should receive priority in the allocation of national resources. In weighing the objectives of growth and equity (quantitative expansion and qualitative improvement), efforts must be made to reconcile the consequences of resource shortages and needs with the demands of various socioeconomic, ethnic, and religious groups. Unfortunately, in many societies, including China, access to education is determined by power, and human rights remain problematic. As a consequence, the problem of inequality of educational opportunity, whether geographic, ethnic, sexual, and/or socioeconomic, is closely linked to inequality of distribution of income, human resources, and political power.

In this article, we will first look at data on educational attainment and enrollment in China to see how those vary by gender, ethnicity, and disability status. We then examine the combined effects of these factors by comparing educational attainment and enrollment for different geographic regions. Finally, we explore the reasons for the current state of educational inequality. We conclude with a discussion of the future of Chinese education in the context of the current social and economic transition in China, and we offer some policy recommendations.

## Data and methodology

As pointed out by scholars of Chinese education, several obstacles stand in the way of making any serious assessment of the current situation in China. Most problematic is the lack of quantitative, qualitative, or contextual data on rural schooling and schooling of disadvantaged groups. In addition, the data provided by the state and

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14. See Gabriel A. Almond and Sidney Verba, *The Civic Culture: Political Attitudes and Democracy in Five Nations* (Princeton: Princeton University Press, 1963); Gabriel A. Almond and Sidney Verba, eds, *The Civic Culture Revisited* (Boston: Little, Brown and Company, 1980). Among the features of 'participant citizenship' as identified by Inkeles that might be considered especially important for democracy are an active interest in public affairs, 'validated by keeping informed and expressed through participants in civic actions' and an orientation toward modern forms of authority and objective rules rather than toward traditional and/or arbitrary forms of authority. See Alex Inkeles, 'Making men modern: on the causes and consequences of individual change in six developing countries', *American Journal of Sociology* 75(2), (1969), pp. 208–255.

15. Hallak, *Investing in the Future*, p. 45.

provincial governments usually lacks reliability, validity, and consistency, a function of unsophisticated data collection techniques, ambiguities in definition, misconceptions, and political manipulation of data collection and the publication process. Therefore, the unquestioning use of published materials can yield misleading results.<sup>16</sup> It may be particularly disastrous for research with historical, cross-group, or cross-cultural comparisons. In addition, most published data are aggregate, rather than individual-level data.

Scholars are aware, therefore, that caution is called for when using data from Chinese sources. Statistical figures must not be taken at face value, and proper procedures should be designed to verify the results of the analysis. Following these suggestions, we analyzed the data from the 1990 census,<sup>17</sup> and where possible, we used the 1997 data to verify the results of the analysis from the 1990 data.<sup>18</sup> The analysis concentrates on national trends and general patterns, rather than on any particular distribution, specifically, using data from different sources and different time periods (1990 and 1996) to study attainments and enrollment in Chinese education. We did not conduct many significance tests of the differences between population segments because even tiny differences with samples of such a large size would be significant.

### **Inequality in Chinese education: empirical findings**

In the last four decades China has expanded its educational system rapidly and reached out to more people of all ages than in any previous period in history. It has attempted to mobilize the entire population to achieve universal literacy over a relatively short period and has devised new ways to expand and deliver all levels of schooling to its citizenry. The most ambitious year for education in the history of the PRC was 1986, with the passage of 16 education-related laws. Of these, the most impressive was the Law of Compulsory Education, which mandated the gradual introduction of 9 years of compulsory schooling throughout China.<sup>19</sup> During the first 6 years of implementation, junior high school education would become universal in cities and coastal areas, and within 10 years it was to become universal in the countryside. A national wage adjustment was to be implemented for underpaid primary and secondary teachers, and there was also to be a simultaneous correction of the disproportionate investment in higher education (too high proportionally) and in basic schooling (too little) in line with development

16. Steven M. Goldstein, 'Urbanization and population distribution: three months of research in China', *China Exchange News* 12, (1984), pp. 4-9; John Cleverley, "On the evidence before me ..." Putting the case for rural educational reform in China', *Comparative Education* 27(1), (1991), pp. 53-60; Rong Xue Lan, 'Compulsory education and modernization—a Chinese dilemma', in Hu Jixuan, Hong Zhaohui and Eleni Stravrou, eds, *In Search of a Chinese Road towards Modernization* (Lewiston, England: Edwin Mellen Press, 1996), pp. 245-269.

17. The 1990 census data were from a sample of 10% of China's entire population. See State Statistical Bureau, *Tabulation on the 1990 Population Census of the People's Republic of China* (Beijing: China Statistical Publishing Company, 1993).

18. Data for 1997 were drawn from a sample of 1% of China's population in 1996. See State Statistical Bureau, *China Statistical Yearbook, 1997* (Beijing: Statistical Publishing Company, 1997).

19. Burris, 'Struggle, criticism, transformation', p. 48.

**Table 1.** Educational attainment for people (age 6 and over) by gender and education

	Population	Male	Female
Illiterate	15.6%	9.3%	22.1%
Completion of 6 years of schooling	41.3%	41.1%	41.5%
Completion of 9 years of schooling	31.5%	36%	26.8%
Completion of 12 years of schooling	9.4%	10.9%	7.9%
Completion of 3 or more years of college	2.2%	2.8%	1.6%

Source: State Statistical Bureau, *China Statistical Yearbook* 1997.

needs. After 13 years, however, the primary goal of compulsory education has yet to be accomplished in rural and remote areas.

Moreover, educational reform seems to have slipped on the priority list of all levels of governments in today's China. Rong has documented this situation in terms of educational input, educational progress, and educational outcomes, using 1982 census data and other data published in the late 1980s.<sup>20</sup> She paints an unflattering picture of the state of Chinese education, despite the mandate for change in the Compulsory Education Law passed in 1986.

Table 1 presents our analysis of the educational attainment of the Chinese population based on the data from the 1997 statistical yearbook. Whereas the illiteracy rate in 1990 was approximately 18% of the total population, in 1996 this figure was reduced to 16%. Forty-one percent of the population had completed 6 years of schooling, about 32% of the population had completed 9 years of schooling, 9% of the population had 12 years of schooling, and only 2% of the entire population had completed 3 or more years of college education. These figures put China behind many other developing countries in Asia in terms of the educational attainment of its population.

Scholars report that education enhances women's eagerness and ability to work by raising their earning potential and aspirations, changing their attitudes regarding traditional roles in the home and workplace, and providing them with the qualifications needed to find a proper job. As their educational levels rise, women may be able to move from traditional agricultural work to the modern service sector, with its wider range of occupational possibilities. More important, education is found to play a key role in women's knowledge and skills in population control and child development.<sup>21</sup>

Unfortunately, that women 'hold up half the sky in China' is only an outdated cliché in current China. Rather, the high level of female illiteracy and the underprivileged situation of girls with regard to their access to and retention in schools is one of the greatest challenges facing China, just as it has been in many other developing countries.<sup>22</sup> In China, a diversified system of education separating various elements in society (for example, girls from boys, peasants from workers, urban residents from rural people, Han from ethnic minorities) has been part of the

20. Rong, 'Compulsory education and modernization', pp. 256–259.

21. Hallak, *Investing in the Future*, pp. 45–46, 104–108.

22. *Ibid.*

**Table 2.** Illiteracy and semi-illiteracy rates among population (age 15 and over), 1990

	Population	Male	Female
Minority illiterate	30.8%	20.5%	41.7%
Han illiterate	17.8%	10.1%	25.5%

*Source:* State Statistical Bureau, *Tabulation on the 1990 Population Census of the People's Republic of China*.

drive toward specialization and efficiency. However, female participation in schooling still declines at all levels of education.<sup>23</sup>

Our data confirm this pattern. Table 1 shows that women are the majority of illiterate and semiliterate persons in China. According to 1996 national data, women accounted for 72% of the 165 million illiterates (about 18% of the total Chinese population aged 15 and older). In other words, in comparison with men, women were 26% less likely to finish 9 years of schooling, 28% less likely to finish high school, and 43% less likely to finish 3 or more years of college. Women had lower attainment than men because girls are less likely than boys to be enrolled in schools and more likely than boys to drop out.<sup>24</sup> Of the 2.73 million school-age children who were not in school in China in 1990, 82% of them were female. Of the 3 million school dropouts, 76% were female.

The gender gap is even worse for girls in poor rural areas. While the national statistics in China do not provide the data to conduct such an analysis, Hallak provides empirical evidence that can be used for heuristic purposes. He analyzed 80 empirical studies of the determinants of educational participation and achievement for women in many developing countries. From this, he makes a persuasive case that family economic level is the most important factor in children's schooling: the poorer the household, the greater the reliance of parents on their daughters to perform domestic duties and the greater tendency to channel resources of education to the sons.<sup>25</sup>

Besides women, Chinese society has other marginalized groups, such as minorities and disabled persons.<sup>26</sup> With the exception of Korean-Chinese, minorities usually have higher rates of illiteracy than the Han. Kwong and Xiao reveal that the illiteracy rate among minority groups is two to four times higher than that of the Han residing in the same region.<sup>27</sup> Our analysis shows that illiteracy rates among the minority groups were 74% higher than that of the Han in 1990. Furthermore, while the illiteracy rates for minority males were double that of the

23. Beverly Hooper, 'Gender and education', in Irving Epstein, ed., *Chinese Education: Problems, Policies, and Prospects* (New York: Garland Publishing, 1991), pp. 353-367; Rong, 'Compulsory education and modernization', pp. 245-269.

24. Cheng Kai Ming, 'China's recent education reform: the beginning of an overhaul', *Comparative Education* 22(3), (1986), pp. 255-269; Shanmai Wang, Yuhong Du, and Yuanxin Liu, 'An analysis of the unbalanced development of Chinese education', *Education Research* 6, (1998), pp. 19-23.

25. Hallak, *Investing in the Future*, p. 106.

26. Rong, 'Compulsory education and modernization', pp. 256-259.

27. Julia Kwong and Hong Xiao, 'Educational equality among China's minorities', *Comparative Education* 25, (1989), pp. 229-243.

**Table 3.** Educational attainment for persons (age 6 and over) by gender and minority status, 1990

	Han			Minority		
	Population	Male	Female	Population	Male	Female
Illiterate	20.6%	12.7%	29%	29.9%	21%	39.2%
Completion of 6 years of schooling	42.3%	43.2%	41.3%	43.5%	46.7%	40.1%
Completion of 9 years of schooling	26.5%	31.3%	21.5%	18.8%	22.8%	14.6%
Completion of 12 years of schooling	9%	10.7%	7.3%	6.8%	8.1%	5.4%
Completion of 3 or more years of college	1.6%	2.2%	1%	1.1%	1.4%	0.7%

Source: State Statistical Bureau, *Tabulation on the 1990 Population Census of the People's Republic of China*.

Han males, the illiteracy rates for minority women were four times the rates of Han men (see Table 2). In the same year the percentage of the minority population who had completed junior high and high school and/or college was far lower than that of the Han (see Table 3). Minorities were 29% less likely than Hans to finish junior high school, 25% less likely than Hans to finish high school, and 31% less likely than Hans to complete college education. When taking gender and minority status into consideration simultaneously, statistics show that Han males were twice as likely to finish junior high and high school as were minority females, and three times as likely to have college education as were minority females.

We have seen that educational attainment for ethnic minorities in China is generally lower than that of the Han's. Research by other scholars also reveals great variability in educational attainment minority groups themselves.<sup>28</sup> According to 1990 census data, 17 minority groups, most of them residing in northeastern and northwestern China, had illiteracy rates only one third that of the Hans. By contrast, 15 other groups had illiteracy rates three times that of the Hans, these latter ethnic minorities, including Tibetans, Bulang, and Hani, usually live in Tibet and other southwestern provinces such as Guangxi, Guizhou, Yunnan, and Sichuan. Illiteracy rates among women of these ethnic minority groups are extremely high: eight out of 10 such women were illiterate in 1990. And in some ethnic minority groups, all rural women were illiterate.<sup>29</sup>

Although there are no national level statistical data available on the educational attainment of the disabled population, empirical research by both Chinese and Western scholars reveals that illiteracy rates of people with various disabilities are

28. Gerard A. Postiglione, 'The implications of modernization for the education of China's national minorities', in R. Hayod, ed., *Education and Modernization: the Chinese Experience* (Oxford: Pergamon Press, 1992), pp. 307-336.

29. Illiteracy by ethnic groups was calculated from the State Statistical Bureau, *Tabulation on the 1990 Population Census of the People's Republic of China* (Beijing, China: China Statistical Publishing Company, 1993), pp. 736-739.

much higher than those of the general population.<sup>30</sup> Disabled people have limited access to education in China. According to the data provided by the *1997 Chinese Statistical Yearbook*, the enrollment rates in schools for the hearing impaired and special programs for children aged 6–14 is 4.2 persons per 10,000, and the enrollment rate in comprehensive special educational programs (including programs for the hearing impaired) for children with special needs is 14.8 persons per 10,000.<sup>31</sup> The estimated occurrence in the Chinese population for people aged 6–14-years-old who are either deaf, mute, or mentally retarded is between 1 and 3%.<sup>32</sup> There is thus an enormous gap between the need and demand for facilities and teaching resources for disabled children, on the one hand, and the shortage of those resources, on the other hand. The estimated number of hearing impaired students who may need special service was between 700,000 and 1.5 million and the total number needing all types of special education programs was between 2.2 and 6 million. There are, however, only 90,149 students enrolled in schools for the hearing impaired and 321,063 enrolled in all special education programs in China.<sup>33</sup> Moreover, the inequality of education in China is ever more serious for people living in the peripheral areas, such as in the underdeveloped rural and inland provinces. Thus, the combination of being a rural women, and handicapped, and a member of an ethnic minority group in addition to residing in rural less developed areas further aggravates educational problems.

To study the role of gender, ethnicity, and disability in educational attainment in China, we use the model developed by Wang, Du and Liu.<sup>34</sup> They classify the 27 provinces and three municipalities under the direct control of the central government (Beijing, Tianjin, and Shanghai) into four regions according to a set of economic and social indicators: a type 1 region represents the most developed areas in China, and a type 4 region represents the least developed ones. We then compare educational attainment between the most developed and least developed regions in China. Such a comparison reveals that the lower the level of economic development, the smaller the gap in the educational attainment among people in those regions. Comparison of the data gathered from type 1 regions and type 4 regions reveals that populations in type 4 regions were disadvantaged at all levels of education. The data presented in Table 4 indicate that the gap is more striking at the college level than for illiterates. While the population in a less developed, type 4 region was 1.4 times more likely to be illiterate than the population residing in

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30. Keli Wu, 'China's special education: a comparative analysis', *Annual Convention of the Council for Exceptional Children*, paper presented (5–9 April 1993), San Antonio, TX; Irving Epstein, 'Special educational provision in People's Republic of China', in R. Hayhoe, ed., *Education and Modernization the Chinese Experience* (Oxford: Pergamon Press, 1992), pp. 285–305; Irving Epstein, 'Educating China's disadvantaged youth: a case of modernization and its discontents', in Irving Epstein, ed., *Chinese Education: Problems, Policies, and Prospects*, pp. 196–216; Beverly Hooper, 'Gender and education', pp. 352–367; Rong, 'Compulsory education and modernization', pp. 245–269.

31. See State Statistical Bureau, *Tabulation on the 1990 Population Census of the People's Republic of China*, pp. 667–668.

32. Qi Chang, 'Disabled children's rehabilitation', *Chinese Women* 29, (August 1997), p. 2; and Baoli Wu, 'Let disabled children be educated', *Chinese Women*, (19 August 1997), p. 2.

33. Keli Wu, 'China's special education'.

34. Shanmai Wang, Yuhong Du and Yuanxin Liu, 'An analysis of the unbalanced development of Chinese education', *Education Research* 6, (1998), pp. 19–23.

**Table 4.** Educational attainment for people (age 6 and over) by gender and types of regions, 1996

	Type 1 regions*			Type 4 regions*		
	Population	Male	Female	Population	Male	Female
Illiterate	8.2%	3.7%	12.5%	20%	12.3%	28.1%
Completion of 6 years of schooling	23.8%	23.8%	23.8%	43.5%	44.4%	42.6%
Completion of 9 years of schooling	35.2%	37.7%	32.7%	26.4%	31.2%	21.4%
Completion of 12 years of schooling	22.5%	22.5%	22.5%	8.2%	9.7%	6.7%
Completion of 3 or more years of college	10.3%	12.2%	8.5%	1.9%	2.4%	1.3%

Source: State Statistical Bureau, *China Statistical Yearbook* 1997.

Note: Type 1 region includes Beijing, Tianjing, and Shanghai. Type 4 region includes Gansu, Guangxi, Guizhou, Hainan, Inner Mongolia, Jiangxi, Ningxia, Qinghai, Shannxi, Tibet, Yunnan (for details see Wang, Du and Liu, *An Analysis of the Unbalanced Development of Chinese Education*).

a type 1 region; and they were 1.8 times less likely to graduate from high schools and 4.4 times less likely to complete college than the people residing in type 1 regions. Being female and residing in a type 4 region exacerbated the educational disadvantages. Females who lived in type 4 regions were 6.6 times more likely to be illiterate than males living in type 1 regions (28.1% versus 3.7%). Females living in type 4 regions were 8.4 times less likely to complete college than males living in a type 1 region (1.3% versus 12.2%).

In Table 5, we compare the educational attainment of minorities and Hans. The analysis shows that the minorities living in type 4 regions were 3.5 times more likely to be illiterate than minorities living in type 1 regions. The largest attainment gap with regard to regional difference appeared among minority males: males belonging to the ethnic minorities living in type 4 regions were 4.6 times more likely to be illiterate than the male minorities living in type 1 regions. Females belonging to the minority group living in type 4 regions, however, were only 3.2 times more likely to be illiterate than minority females living in type 1 regions.

**Table 5.** Illiteracy rates of population (age 15 and over) for minorities and Han nationality in the type 1 and the type 4 regions, 1990

	Region type*					
	Type 1			Type 4		
	Population	Male	Female	Population	Male	Female
Illiteracy rate for minorities	8.2%	4.3%	12.3%	37.2%	23.9%	51.1%
Illiterate rate for Hans	9.2%	4%	14.1%	22.9%	13.5%	32.5%

Source: State Statistical Bureau, *Tabulation on the 1990 Population Census of the People's Republic of China*.

Note: for areas included in the different types of regions, see notes in Table 4.

**Table 6.** Enrolment rates in special academic units and/or programs among per 10,000 children aged 6–14 in four types of regions, China 1996

	Region type*			
	Type 1	Type 2	Type 3	Type 4
Schooling for hearing impaired	6	6.2	3.9	2.3
Special education	35	22.7	11	12.6

Source: State Statistical Bureau, *China Statistical Yearbook* 1997.

Note: Type 1 includes Beijing; type 2 includes Guangdong, Jiangsu, Liaoning, Shandong and Zhejiang; type 3 includes Anhui, Fujian, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jilin, Shanxi, Sichuan, Xinjiang; type 4 includes Gansu, Guangxi, Guizhou, Hainan, Inner Monogolia, Jiangxi, Ningxia, Qinghai, Shaanxi, Tibet and Hunnan. Special education refers to the educational programs for the blind, hearing impaired, and the mentally retarded.

The gender gap was actually larger among the minority population who lived in a type 1 region (2.9 times) than among those living in a type 4 region (2.1 times). Table 5 further indicates a relatively complicated combined effect of gender, minority status, and place of residency on educational attainment. Minority populations who lived in a type 1 region were less likely to be illiterate than the Han population (8.2% versus 9.2%). The pattern of the relationship revealed in Table 5 suggests that educational inequality for minority populations might be offset by the gender and regional differences: minority women living in a type 1 region were 13% less likely to be illiterate than were Han women living in the same region (12.3% versus 14.1%).

Residing in a less developed region also has negative effects on education for disabled children (see Table 6). With few exceptions, the number per 10,000 children aged 6–14 who were enrolled in schools for the hearing impaired and who were enrolled in all special education units and programs gradually dropped between type 1 regions and type 4 regions from at 7.6 persons per 10,000 to 2.3 persons, respectively. Taken at face value, the finding suggests that disabled children living in type 4 regions (2.3 persons per 10,000 for the hearing impaired and 12.6 persons for all special education programs) might be only one-third as likely to be enrolled in special education units and programs as children who live in type 1 regions, where there are 7.6 persons enrolled in hearing impaired institutions per 10,000 children aged 6–14 years old and 35 persons for all special education program. Experts and scholars have suggested, however, that the percentage of children classified as disabled is actually higher in underdeveloped areas than in more developed regions.<sup>35</sup> Therefore, the possibility for disabled children living in type 4 areas to be enrolled in those programs may actually be much less than the figures provided above.

The effects of gender, minority status, and disability on attainment of enrollment between the most affluent regions and the least affluent ones is even more obvious. While the overall illiteracy rate for China in 1996 was 18%, 10% of men and more

35. Epstein, *Chinese Education*, pp. 367–370.

than 25% of women were illiterate at that time. Of the 27 provinces, nine had 25% or nearly 25% of the population designated as illiterate. These provinces had several things in common: they had a higher percentage of non-Han ethnic groups; they were located in rural, mountainous regions and were distant from the center and coastal regions; and per capita income was one-third to one-half that of the national average. The vast majority of the illiterate population that lives in these provinces is either female, a member of an ethnic minority, or both.

In some provinces, gender effects are even more devastating. At least one-third of the females in 10 provinces are illiterate. As of 1996 about half or more females in Guizhou, Gansu, Qinghai, and Tibet were illiterate.<sup>36</sup> The minority population residing in these provinces were further disadvantaged. While one-third of the minority population were illiterate nationwide in 1990, about half or more of the minority population in Sichuan, Ningxia, Qinghai, Gansu, Yunnan, Tibet, and Guizhou were illiterate, including 63% of the minority population in Qinghai, 68% in Gansu, and 73% in Tibet.<sup>37</sup>

Minority women residing in the least developed provinces were triply disadvantaged in terms of educational attainment. For example, although four out of 10 minority women were illiterate nationally, the illiteracy rates for the minority female population was 60% in Yunnan and 86% in Tibet. A minority woman residing in Gansu was 24 times more likely to be illiterate than a Han male residing in Beijing (81.5% versus 3.3%, respectively).

We have seen that the likelihood of disabled children being enrolled in special education units or special programs is less in the less developed regions than in the developed regions. In addition to the overall scarcity of special education programs for disabled children, the gaps between provinces were also large. For example, disabled children living in Jilin Province were eight times more likely to be enrolled in special education institutions and programs than were children who lived in Xinjiang and Hainan (10 persons per 10,000 children versus 1.1 and 1.2 persons per 10,000 children, respectively).

Although we do not have national data for the educational conditions of migrant children, studies based on local sample surveys suggest that the children of migrant families in urban areas have encountered enormous difficulties enrolling in schools in those cities.<sup>38</sup> Communities with migrant populations—a new social phenomenon in China—must commit themselves to the education of those children and the training of migrants themselves, whether in the formal, informal, or nonformal educational sectors.<sup>39</sup>

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36. State Statistical Bureau, *China Statistical Yearbook 1997*, pp. 77–79.

37. Calculated from a combination of several sources. The major source is State Statistical Bureau, *Tabulation on the 1990 Population Census of the People's Republic of China*, pp. 667–668.

38. Yongzhong He, Ming Ming and Tiedao Zhao, 'Investigation and understanding on the educational conditions of migrants in "three west regions" of Gansu and Ningxia', *Education Research* 5, (1992), pp. 35–38; Qungle Jiao and Housen Yu, 'The movement trends of migrant labor workers', *Legal Daily*, (10 September 1997), p. 2; Yiaohui Zhao, 'The roles education played on the migration of Chinese rural labor workers', *Economic Research* 2, (1997), pp. 37–43.

39. Xue Lan Rong, 'Democracy of education and democratic education', Paper presented at the conference on China after the Fifteenth Party Congress (New York, September 1998) and Jiao and Yu, 'The movement trends of migrant labor workers', p. 2.

## Discussion

Despite the claims of Chinese officials that inequality in education has been eliminated, we found that disadvantaged groups in China have not shared in the recent economic prosperity enjoyed by the urban population in coastal regions. The educational gap among different segments may reflect either the widespread disparity in the level of economic development between different geographic locations or the historical, geographic, and sociocultural differences between provinces. Whatever the explanation however, lack of educational investment, long identified by scholars inside and outside of China, has been a major factor in China's current educational problems.<sup>40</sup>

### *Lack of investment in education*

By any standing, expenditure on education in China has been far too low for too long. For many years only about 2.5% of China's GDP has been dedicated to education—one of the lowest rates of educational expenditure in the world. At 2.5% of GNP in 1990, China ranked 114th in the world, far lower even than most other developing countries. Newly released figures show that annual Chinese educational expenditures were lower than 2.4% of GDP in the 1990s: 2.4% in 1993, 2.0% in 1994, 2.1% in 1995, and 2.4% in 1996, compared with the world average of 5.2% and 4.5% for Asian countries.<sup>41</sup>

To make matters even worse, there was a widespread disparity among regions and provinces in terms of educational expenditure. Table 7 shows that the per capita educational expenditure for children aged 6–14 at the national level is 626 yuan, but per capital educational expenditure in type 1 regions was 2,786 yuan, whereas the figure for type 4 regions was 422 yuan, less than one-sixth of the amount spent in type 1 regions. Zhejiang spent 3.5 times more than Guizhou Province on each child aged 6–14 (1,017 yuan versus 231 yuan). Since only two-fifths of educational expenditure may actually be spent in elementary and junior high school and since urban schools receive more money than rural schools, it should come as no surprise that the annual expenditure per rural student in some provinces is less than 10 yuan per year; moreover provincial and local governments often violate the law by withholding educational funds. In China, elementary education usually receives a higher proportion of funds from local government than schools at higher levels. Therefore, this problem has especially hindered the development of elementary education in China. Funds from local governments are even less likely to be forthcoming in comparison with those from provincial governments.

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40. Jingyan Pu, 'Reviewing the history of the problems and issues in Chinese educational investment', *People's Education* 10, (1998), pp. 4–14.

41. For figures for the educational spending of China, see State Statistical Bureau, *China Statistical Yearbook, 1997*, pp. 28–29. For the figures of the other countries, see United Nations Education, Scientific and Culture Organization, as cited in *China Statistical Yearbook, 1997*, p. 849.

**Table 7.** Educational expenditures per child aged 6–14 by regions, 1996

	National	Types of regions			
		Type 1	Type 2	Type 3	Type 4
Total expenditure per child (yuan)	626	2786	824	526	422
Government expenditure per child (yuan)	463	2308	579	379	340
% Government expenditure in total expenditure	74%	83%	70%	72%	80%

Source: State Statistical Bureau, *China Statistical Yearbook* 1997.

Note: For areas included in the different types of regions, see note in Table 6.

### *Trends and policies*

Thus far, we have discussed inequalities in educational attainment and enrollment, as well as disparities in educational investment in China. We believe that researchers need to alert policy makers and educators to the existence of this widespread educational neglect and discrimination; to the pervasive inequality based on residence, ethnicity and gender, and to the specific educational problems for disabled children.

Although the Communist Party has stayed in power and the state remains 'socialist', its political-economic institutions—including the educational system—have gone through major transformations since the early 1980s. There have been efforts to reform China's educational institutions, to reduce illiteracy in rural areas, and also to improve the quality of schools in urban areas. At the same time, however, the economic reform has exacerbated the unequal distribution of educational investment, which has further increased inequality in educational opportunity and attainment, at least in the short term. This, in turn, has created occupational and income gaps between the coastal urban business elites and the peasants of remote areas and inland provinces. Lack of educational and retraining opportunities have left larger proportions of females, ethnic minorities, disabled, and workers who are 40 years old or older in disadvantaged situations. Responding to newly decentralized job placement schemes, current profit-maximizing enterprises find it in their short-term best interests to hire well-educated and sophisticated urban young men. This leaves older workers, women, and the disabled facing discrimination in finding and keeping their jobs.<sup>42</sup>

Apparently, current government policies have ignored issues of class, gender, and ethnicity, as well as changing times in Chinese society.<sup>43</sup> Educators and others concerned about education found many apparent contradictions in current educational policies, such as fiscal decentralization versus accountability, local control versus legitimation, priority versus equality, quality versus quantity, and privatization versus government control of schools. The result has been heated debates both inside and outside China over who gains and who loses from the current policies.

42. Burris, 'Struggle, criticism, transformation', pp. 137–140.

43. Noel Ginn, 'Guest editorial essay and presidential address', *Comparative Education Review* 40(4), (1996), pp. 341–357.

Another trend in today's China warrants the attention of researchers. With low primary school enrollment and high dropout rates, low quality of schooling, low efficiency, and scarce resources, the Chinese Government is frustrated and uncertain about the value of formal schooling in rural areas. The leadership has emphasized economic growth over the development of new social relations (including more equal distribution of goods and services and educational opportunity), which has led China to spend relatively more on university education and less on raising everyone—children and adults—to higher levels of basic education. The underlying argument is that it will be impossible to achieve modernization of the country without highly trained party officials, business managers, and military officers.<sup>44</sup> Based on precisely these considerations, the Chinese leadership has made a series of conscious decisions to expand university education during the 1980s and 1990s.

Not surprisingly, decisions of this kind have caused considerable tension between different social strata and between populations residing in the east coast urban areas and populations residing in remote rural regions. To cope with these tensions, the Government attempted to satisfy the yearning for education by using indigenous resources on an 'irregular' or half-time basis and by encouraging teachers to provide instruction to as many people as possible. Nonetheless, the desire for formal education was never satisfied and the demand for more educational facilities, especially at the high school and tertiary levels, remains.

Moreover, the Chinese Government, like governments in many other developing countries, also initiates programs that focus more on nonformal education than on formal schooling and other long-term educational planning. Several recent nonformal educational programs, such as Xiwang Gongcheng (Project Hope), Chenlei Jihua (Project Spring Flower Bud), and the Saomang Jihua (Eliminating Illiteracy Campaign) promoted in rural areas, have usually been substandard, offered only irregularly and based on soft money or donations. Reported achievements of these programs, according to Chinese newspapers, are often held to be questionable.<sup>45</sup>

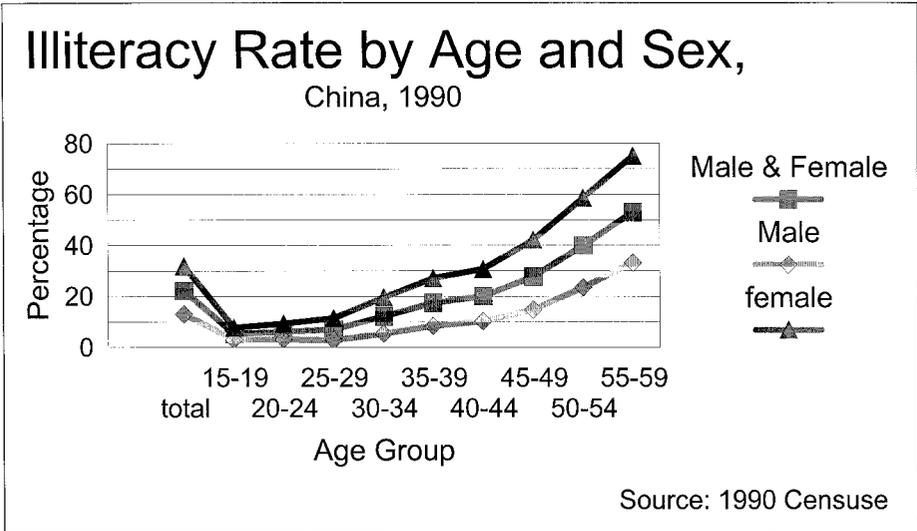
Regarding schooling for disabled children, Chinese society usually offers help for disabled children's education through more 'family-community' approaches, such as assistance from the community, relatives, and immediate family members, rather than from institutional provisions. These formal and informal efforts to educate children with disabilities have never met their actual needs, however, and the consequences have been devastating. A very high percentage of rural children who need special education programs have never been able to go to elementary school because most regular schools are not equipped or prepared, pedagogically or emotionally, to teach them.<sup>46</sup>

Figure 1 shows the distribution of illiteracy among different age groups in 1990. The figure shows that the illiteracy rates diminished gradually and dramatically with age. While two of three people in China aged 60–64 were illiterate, only 5% of the young people aged 15–19 were illiterate. More important, the patterns of the

44. Carnoy and Samoff, *Education and Social Transition in the Third World*, pp. 7–8.

45. Rong, 'Democracy of education and democratic education'.

46. Epstein, 'Special educational provision in People's Republic of China', pp. 366–368; *idem*, 'Educating China's disadvantaged youth'.



**Figure 1.** Illiteracy rate by age and sex, China 1990.

relationship between age and literacy rates were the same for males and females. This trend reveals a potentially rapidly decreasing illiteracy rate for China's population as a whole in the near future. However, we cannot lower our guard on this matter. While we observed a 20% illiteracy rate for people aged 45–49 and a wide gender gap (10.2% for males and 30.7% for females) within that age group, we should remember that this is the generation that was born after 1949 and went to school in the 1950s. Statistical data showed a nearly 90% school enrollment rate for that group with no visible gender gap at the time. This finding clearly indicates that not all children who enrolled in school at that time graduated or were able to maintain their reading and writing skills as they grew older.

Besides long-term and massive educational investment from the central and provincial governments to the poorest and least developed regions and areas, policies to boost educational achievement for women and other disadvantaged groups must take geographic, cultural and socioeconomic factors systematically into account in the search for new answers to the challenges. Many scholars have suggested that, in addition to increased educational investment and effective enforcement of the Compulsory Education Law, government at different levels should offer incentives to groups lacking in educational opportunity.<sup>47</sup> Incentives could include exemption from school fees, free provision of books, uniforms, and other needed goods, or direct subsidies to households with scholarships for educational materials and for transportation, school meals, and other charges. We also need to remember that mothers play an influential role in their children's performance in school, their rates of promotion and dropout. The more and better educated the mother, the greater the mother's commitment to education. It is thus

47. Rong, 'Compulsory education and modernization', pp. 34–43.

incumbent upon planners of children's programs to include educational sessions for mothers to the extent possible.

Different from the situation in many other societies, the rapid economic progress in China has had contradictory effects. On the one hand, unequal economic development increased regional difference in educational attainment for different groups. On the other hand, economic development generated strong public pressures and desires for improving education. Chinese leaders and intellectuals need to pay more attention to the growing gap in education and in income distribution between the wealthy and the disadvantaged. There is a need for long-term investment in education, which will improve the living standards of the disadvantage in the long run. Intellectual opportunities must be made available to all and such opportunities should include educational efforts that foster personal initiative and adaptability. Otherwise, the Chinese people will face a future of increasing inequality in the distribution of wealth and in access to opportunities for social mobility. The vast inequality of education in China could also seriously affect the future of both economic and political development in the society as well as the stability of the country. The Chinese leadership must therefore take the problems in its educational systems seriously. It is crucial for the future development of the country as it enters the twenty-first century.