



## Research Report

Yu Xie, Yang Jiang, and Emily Greenman

Did Send-Down Experience Benefit Youth?  
A Reevaluation of the Social Consequences  
of Forced Urban-Rural Migration during  
China's Cultural Revolution

Report 06-603  
August 2006

## **Did Send-Down Experience Benefit Youth?**

### **A Reevaluation of the Social Consequences of Forced Urban-Rural Migration during China's Cultural Revolution \***

Yu Xie

Yang Jiang

Emily Greenman

University of Michigan

***Population Studies Center Research Report 06-603***

7/31/2006

---

\*Please direct all correspondence to Yu Xie (e-mail: [yuxie@umich.edu](mailto:yuxie@umich.edu)) at Population Studies Center, Institute for Social Research, 426 Thompson Street, University of Michigan, Ann Arbor, MI 48106. The research is supported from a research grant from the National Science Foundation, a Guggenheim Fellowship from the John Simon Guggenheim Memorial Foundation, and a Fogarty grant for international research from the National Institute of Child Health and Development. We thank Cindy Glovinsky, Haiyan Zhu and Martin Whyte for their comments and suggestions on earlier drafts of this paper.

Did Send-Down Experience Benefit Youth?  
A Reevaluation of the Social Consequences of Forced Urban-Rural Migration  
during China's Cultural Revolution

**Abstract**

During China's Cultural Revolution, a large proportion of urban youth were forced to go to the countryside as a result of the state's "send-down" policy. Past research has been ambivalent about the long-term social consequences for the Chinese youth who experienced send-down. Some scholars have suggested that the send-down experience may have yielded beneficial effects. To test this claim, we analyze data from the Survey of Family Life in Urban China, which we conducted in three large cities in 1999. Questions available in this data set allow us to ascertain the send-down experience of both the respondent and a sibling and educational attainment at the times of send-down and return. Our analyses of the new data show that the send-down experience does not seem to have benefited the affected Chinese youth. Differences in social outcomes between those who experienced send-down and those who did not are either non-existent or spurious due to other social processes.

## **Introduction**

Human beings are incredibly adaptive and resilient. They often endure and indeed overcome various hardships and traumatic events imposed by natural disasters, illnesses, poverty, war, crimes, betrayals, imprisonment, economic losses, losses of loved ones, public humiliation, and many other sources of misery. In modern history, there is no shortage of instances in which persons in dire circumstances ended up achieving great successes against all odds. Nelson Mandela endured years of imprisonment, racism, and humiliation while overturning apartheid in South Africa. Franklin D. Roosevelt overcame the challenges of polio and led America through the Great Depression and World War II. Some of the children of the Great Depression achieved remarkable success by midlife, even though they suffered greatly from economic hardship during adolescence (Elder 1999). There are countless other examples of individuals who responded heroically to life's challenges.

By most accounts, including those of the current Chinese government, the Cultural Revolution in China between 1966 and 1976 was a large-scale political turmoil with disastrous social and economic consequences. The traumatic impact of this period was evidenced by the disruption of social stability, the breakdown of social norms, economic stagnation, unnecessary deaths due to violence and persecution, physical and emotional suffering throughout certain segments of the Chinese population, and lost life opportunities for a whole generation of youth who grew up during the period (Chen 1999; Chen and Cheng 1999; Davis 1992; Hung and Chiu 2003; Walder and Su 2003; Zhou, Moen and Tuma 1998).

There were three concrete reasons why the children of the Cultural Revolution paid huge prices for this unprecedented political turmoil (Hung and Chiu 2003). First, students in colleges and high schools at the time were mobilized to be the vanguard of the Cultural Revolution (as "Red Guards"). Under Mao Zedong's Three Directives, youth in the Red Guards spent most of their time participating in political activities, varied only by industrial and agricultural work. The regular curriculum was generally abandoned. Many subject areas, including the humanities and social sciences, were "chopped off" from study programs (Bernstein 1977; Cheng and Manning 2003). The generation thus lost opportunities for human-capital accumulation—that is, to receive proper education and acquire skills that enhance productivity (Deng and Treiman 1997; Walder, Li and Treiman 2000). Second, colleges and universities were virtually closed for admission of new students during the Cultural Revolution until 1972, when a small number of students began to be admitted on the basis of political loyalty and family background rather than academic credentials (Shirk 1982). The college entrance examination was not resumed until 1977. Consequently, a large majority of youths were denied the opportunity of receiving higher education during the Cultural Revolution (Chen 1999; Davis 1992; Meng and Gregory 2002). Third, a large proportion of urban youth were forced to go to the countryside as a result of the state's "send-down" policy after the Cultural Revolution began (Singer 1971; Unger 1980; Zhou and Hou 1999). The social consequences of the send-down experience are the subject of this study.

**Background: China's Send-Down Policy**

The “send-down” policy was to send urban youth, upon graduation from junior high school or senior high school, “up to the mountains and down to the countryside.” Multiple factors motivated this policy of the Chinese government at the time, including the desire to alleviate urban unemployment and underemployment, the desire to cultivate Marxist ideology and communist ethics in youth, and the need to develop China’s rural areas and frontiers (Rosen 1981; Seybolt 1977). The policy also helped reduce the need for teachers (Deng and Treiman 1997), who were in short supply due to intellectuals being attacked as having “bad” class backgrounds during the Cultural Revolution (Bernstein 1977; Lin and Xie 1988; Sausmikat 2003; Singer 1971; Walder 1989). Although the “up to the mountains and down to the countryside” movement was started on an experimental basis before the Cultural Revolution, it was during the Cultural Revolution that it became a nation-wide policy that forced millions of Chinese urban youths to live in the countryside (Bernstein 1977; Unger 1979; Zhou and Hou 1999). There was ample evidence that, despite a few well-publicized volunteers, most youths being sent away at the time were reluctant to go and tried very hard to return after arriving at their destinations (Bernstein 1977; Chen and Cheng 1999; Gold 1980; Lan 2004; Rosen 1981; Unger 1979; Zhou and Hou 1999).

The main reason that youths and their parents resisted the send-down policy and tried their best to return to cities was that city residents enjoyed many advantages relative to residents of rural areas. Net of family background and other demographic attributes, people living in the countryside had inferior life chances. For example, they had no direct access to quality schools, non-agricultural urban jobs, elderly support, modern health facilities, state-owned housing, and many other benefits that were enjoyed by urban dwellers (Bian 2002; Liang 2001; Liang and White 1996; Wu and Treiman 2004). The disadvantages of rural residence are attested to by the fact that there has been virtually no voluntary mobility from urban to rural areas in the post-1949 history of China (Wu and Treiman 2004). In 1955, the government stipulated a household registration system (*hukou*), which basically classified the population into “rural” and “urban” residence status. Prior to the 1978 economic reform, Chinese people were restricted from moving at will to other places without government approval. The most common justifications for rural-to-urban migration included pursuit of post-secondary education in cities, military service, job recruitment in urban areas, marriage to persons with urban residence status, and family reunion (Goldstein, Goldstein and Guo 1991; Shixun and Xian 1992; Walder 1989; Walder, Li and Treiman 2000; Wu and Treiman 2004). Not only were the stated criteria hard to meet, but the approval process was also complicated, tedious, and sometimes arbitrary. As a result, family social and political networks played an important role in determining one’s chances of moving from rural to urban areas (Gold 1980; Gold 1985; Pan 1994; Seybolt 1977; Shi 1995; Singer 1971; Unger 1979).

Zhou and Hou’s (1999) study well documents the extent to which the send-down policy affected youths in all families indiscriminately. Parental social status or political capital did not spare youths in

certain privileged classes from being sent down to the countryside (Bernstein 1977; Singer 1971; Unger 1979; Zhou and Hou 1999). As Mao Zedong claimed it would, it appears that the Cultural Revolution indeed reduced social inequality (Chan 1985; Singer 1971). Persons from more privileged family backgrounds, such as intellectual or cadre families, were out of political favor. Their children were deprived of many opportunities, such as admission to higher educational institutions and assignment to professional and administrative positions. Meanwhile, children whose parents were peasants, workers, party members or former Red Army soldiers were given an edge in school admission, employment and promotion (Li and Walder 2001; Liu 1995; Seybolt 1977; Walder 1989; Walder, Li and Treiman 2000). Gender inequality was also substantially reduced, as the gender gap in basic education narrowed during this period (Hannum and Xie 1994). Likewise, the send-down policy served as a social leveler among youth during the Cultural Revolution, as youth from all backgrounds had an almost equal chance of being sent to the countryside.

However, as Zhou and Hou recognize, there was a great deal of heterogeneity in the duration of send-down, with some sent-down youth able to return to cities earlier than others. Therefore, social inequality in the execution of the send-down policy may have lain more in the duration of time spent in the countryside than in the probability of being sent down. Certain families may have been more successful than others at securing an early return for their children to the city. For example, families with good political and social networks may have been able to get their children priority in the process of being selected to return, perhaps after only one or two years' stay in rural areas (Gold 1980; Rosen 1981; Unger 1979). Finally, in 1979 the government began to implement a nation-wide policy that allowed all sent-down youth to return to their cities of origin, except for those who were married to local residents or were employed in non-agricultural jobs in local areas (Zhou and Hou 1999).

Zhou and Hou's (1999) study shows that sent-down youths clearly suffered in terms of delayed age of marriage and delayed age of child-bearing. However, their study remains ambivalent about the consequences of send-down on socioeconomic outcomes. While it finds either nil or negative effects of send-down on income and occupation, it also reports some benefits (Zhou and Hou 1999: 32):

More interestingly, our findings also reveal some positive consequences of the send-down experience. For instance, when compared with urban youth, a noticeably higher proportion of the send-down youth attained a college education after 1977. Partly as a result of their educational attainment, these sent-down youth, especially those with shorter rural durations, were equally likely to enter favorable employment (type of occupation and work organizations) in the urban labor force, despite their relatively short *urban* labor force experience.

In their commentary that accompanied Zhou and Hou's article, Chen and Cheng (1999) applaud Zhou and Hou's finding of "some positive life effects from send-down experiences" (p.38) and speculate various reasons for this finding. Chen and Cheng suggest that the unusual hardship faced by sent-down youth forced them to be more adaptive and thus acquire skills to survive, which positioned them well in the later period of economic reform. Note that Zhou, Chen, and Cheng were all sent-down youth themselves. The notion that the seemingly miserable experience of being sent down might have yielded long-term beneficial effects fits

well with the collective nostalgia of sent-down youth of that era (Yang 2003; Zhao 1994). As appealing as this notion may appear to some Chinese who grew up during the Cultural Revolution, however, we are not convinced that the empirical evidence supports it.

Let us for the moment entertain a commonly invoked working proposition that human beings are rational and base their preferences and behaviors on expected outcomes that affect them (Heckman 2001). Thus, the strong resistance to being sent down among the affected youths would lead us to infer that the send-down experience could cause negative consequences for them, at least in expectation. Accepting the notion that send-down could have benefited the very youths who resisted it is tantamount to asserting that these youths were so blinded by their short-term interests (i.e., material comfort and convenience) as to overlook the long-term benefits. Indeed, this is what Chen and Cheng suggest (“short-term negative with long-term positive consequences” (Chen and Cheng: 37)). Since human rationality is always limited by available information, it is plausible that the youths being sent down did not anticipate the benefits that the send-down experience would later bestow upon them (which Mao Zedong and other Chinese leaders had persistently promised (Seybolt 1977; Singer 1971). However, we are now more than 30 years past the Cultural Revolution. Persons who were sent down are now parents of children who have grown up. If send-down was indeed beneficial, this raises the question of why there has not been a widespread demand from parents who experienced send-down to resume this policy.

Clearly, like any social intervention or historical change, send-down has had different effects on different individuals (Elder 1999; Heckman 2001). Such heterogeneity of treatment effects makes it difficult to characterize the social consequences of the send-down experience. Given the impossibility of observing the counterfactual outcome of not being sent down for someone who was sent down, we cannot measure the treatment effect of the send-down experience at the individual level. Thus, the discussion of the social consequences of the send-down experience has to be at the aggregate level. It is possible that send-down had some positive effects for some members of the population but negative effects for other members of the population, yielding no discernable average differences between those who were sent down and those who stayed in cities. We know from previous research on massive social upheavals that although all members of a society may be affected, the effects vary across social groups. For example, experiences of the Great Depression are known to vary by age, sex, social class, rural versus urban residence, and life-course stage (Elder 1977; Elder 1999; Elder and Shanahan forthcoming).

Another explanation for the absence of negative effects of send-down is that the youth who stayed in cities also faced dire circumstances for socioeconomic advancement, as they were not given opportunities to pursue postsecondary education and could not find desirable jobs or migrate to other cities. Instead, they could only work in assigned positions, most of which were in low-level manual and service work.

More importantly, one should not equate humans' ability to adapt to and overcome difficult circumstances with *benefits* of experiencing difficult circumstances. It is possible that there were no

discernable consequences of the send-down experience because the sent-down youth were able to find ways to circumvent negative long-term social consequences of send-down. However, it would be a stretch from this to claim that they actually benefited from send-down.

With this background, let us now proceed to our analysis. In this study, we are interested in evaluating the claim that the send-down experience may have had beneficial effects. To test this claim, we analyze data from the survey of Family Life in Urban China that we conducted in three large cities in 1999. A battery of questions available in this survey allowed us to ascertain the send-down experience of both the respondent and a sibling and educational attainment at the times of send-down and return.

### **Data and Research Design**

Zhou and Hou's (1999) pioneering study is based on a cross-sectional survey of urban residents conducted in 1993 and 1994. There are two reasons why their findings may be questioned. First, some youth who were sent down may have stayed in the countryside or gone to other cities, making the comparison of those with send-down experience and those without send-down experience in selected cities problematic. Second, Zhou and Hou's important findings about the differences associated with duration of rural residence render it necessary to pay closer attention to the selection process of early returns.

In order to address these two concerns, we capitalize on a unique feature of our data. The data came from a survey, "Study of Family Life in Urban China," which we conducted in the summer of 1999 in three Chinese cities: Shanghai, Wuhan, and Xi'an. We also refer to the study as the "Three-City Survey." In the Three-City Survey, we collected information about send-down experiences and socioeconomic attainment not only for the respondent but also for the sibling (if available) closest in age to the respondent. During the Cultural Revolution, local government policy typically dictated a formulaic assignment of send-down (such as keeping a family's oldest, or youngest, child in the city) with no apparent rationality when a family had more than one child (Shi 1995; Unger 1979; Whyte and Parish 1984). Thus, the comparison of siblings who were sent down with those who were not constitutes an ideal research design that mimics a true experiment. This sibling comparison model allows us to reach a more definitive answer than Zhou and Hou as to the true influence of send-down experiences on life chances.

Furthermore, we collected detailed educational histories, including years spent in attaining each level of schooling and the dates of completing different levels of schooling (i.e., elementary, junior high school, senior high school, junior college, college, and graduate school).<sup>1</sup> With this time-varying information, we are able to ascertain the years and levels of education that were completed *before* a youth was sent down and *when* a youth was returning to a city. Thus, we are able to compare differences between the short-term sent-down youth and long-term sent-down youth in education completed both before and after the send-down experience.

---

<sup>1</sup> Unfortunately, we did not collect the dates at which the respondents began each level of schooling. We impute the beginning dates from the date of completion and the duration at each level of schooling.



At each of the research sites, the Three-City Study initially targeted a probability sample of 1,000 households, with a two-stage probability sampling method. At the first stage, 50 neighborhood communities were randomly chosen in proportion to size. Within each selected neighborhood community, 20 households were randomly chosen. A Kish table was used to select an adult respondent (18 years or older) within each selected household. If the person being interviewed was younger than 60, we first interviewed the person with Questionnaire A. We then interviewed one of his/her parents with Questionnaire A+, which was specifically tailored to the elderly. If the person initially selected was 60 years or older, we interviewed the person with Questionnaire B, which is similar to Questionnaire A+ for elderly respondents. We then randomly selected one of his/her children for an interview with Questionnaire B+, which is very similar in content to Questionnaire A for adult respondents.

We pool all respondents who answered Questionnaire A and Questionnaire B+ across the three cities. For this study, we restrict the analysis to respondents who were between ages 37 and 48 with urban origin. They were born in the years between 1951 and 1962 and faced the risk of being sent down during the Cultural Revolution (Bernstein 1977; Zhou and Hou 1999). To control for average differences in socioeconomic outcomes across the cities, we include dummy variables for cities in regression analyses.

We examine a total of six socioeconomic indicators in this study. They are: (1) likelihood of attaining a college education, including junior college, (2) years of schooling attained, (3) annual salary in 1998 (RMB yuan), (4) total annual income in 1998 (RMB yuan), (5) likelihood of being a cadre, and (6) socioeconomic status measured by the International Socioeconomic Index (SEI). In addition to regular salary, total income includes bonuses, cash subsidies, and other sources of income. Both cadre status and SEI were based on self-reported detailed current occupation coded into a 3-digit occupational classification system developed by the China State Statistical Bureau.

The statistical analyses proceed in four stages. In the first stage, we present differences in a variety of socioeconomic indicators between respondents who experienced send-down and those who did not experience send-down. We provide both simple descriptive (unadjusted) comparisons and group comparisons adjusted for differences in covariates through regression analyses. The covariates used in the regression analyses include age, sex, work experience, city of residence, father's educational level, parents' cadre status, and father's socioeconomic status measured by the International Socioeconomic Index (SEI) of the occupation when respondents were 16 years old. In the second stage, we present results from a fixed-effects model capitalizing on the sibling structure in our data. In the third stage, we use logistic hazard models to investigate what factors might have sped up youths' return to the cities. In the fourth and last stage, we examine educational attainment closely as a time-varying covariate and its endogenous role in affecting early returns of sent-down youth.

### Unadjusted and Adjusted Comparisons

In Table 1, we compare descriptive differences in six major indicators of socioeconomic status between respondents with send-down experience and respondents without send-down experience, preceded by the comparisons of the two groups' key demographic characteristics (age and sex) in the first two rows. Our data include 650 respondents without send-down experience and 481 respondents with send-down experience. We compare the two groups in the first two columns. Following Zhou and Hou (1999), we further break down respondents who were sent down into those with shorter-duration (under six years) send-down experience and those with longer-duration (six or more years) send-down experience, presented in the last two columns. Statistical significance refers to the test between the group of respondents with no send-down experience (the first column) and a group of respondents with send-down experience (the next three columns).

Table 1: Descriptive Differences between Respondents with Send-Down Experience and Respondents without Send-Down Experience

	Not Sent down	Sent Down	Sent Down Duration <6	Sent Down Duration 6+
Age	41.4	43.8 ***	43.4 ***	44.9 ***
Sex (% Female)	51.7	47.6	49.3	43.2 *
College Education (%)	10.9	11.9	15.2 *	3.0 ***
Years of Schooling	11.0	10.8	11.3 **	9.4 ***
Annual Salary (yuan)	5,317	4,983	4,567 ***	6,083 ***
Total Annual Income (yuan)	8,470	8,680	7,976	10,542 ***
Cadre (%)	5.3	6.3	6.6	5.3
SEI	42.5	42.0	42.6	40.6
N	650	481	349	132

Notes: \* $p < .1$ , \*\* $p < .05$ , \*\*\* $p < .01$ , where  $p$  refers to  $p$ -values for statistical tests for the equality null hypothesis that there is no difference between the group without send-down experience (the first column) and a group with send-down experience (one of the next three columns).

Data Source: the main sample of 1999 Social Survey in Shanghai, Wuhan, and Xi'an. Analyses are restricted to respondents between ages 37 and 48 with urban origin.

Respondents who experienced send-down were on average older than respondents who did not, and this difference is statistically significant. As we will discuss later in the paper, this may reflect policies that often required the send-down of older siblings (Shi 1995). The sex composition appears to be more masculine among sent-down respondents than among non-sent-down respondents, although this difference is not statistically significant. For all of the six socioeconomic indicators, we do not find any significant difference between sent-down respondents and non-sent-down respondents. The uniformity of these results is surprising.

In the last two columns, when we break down the respondents with send-down experience by send-down duration, we find some significant differences. In particular, we are able to confirm Zhou and Hou's result that persons who were sent down for a shorter duration (under 6 years) seem to enjoy an educational advantage over persons who were not sent down. However, persons who were sent down for a longer duration appear worse off than persons who were not sent down. In our data, those who experienced short-term send-down have a 15.2% rate of attaining college education, compared to a 10.9% rate for respondents without send-down experience and a 3.0% rate for respondents who were sent down for six or more years. In terms of years of education attained, respondents with short-term send-down experience enjoyed a significant advantage at 11.3 years, compared to 11 years for those not sent down and 9.4 years for those with long-term send-down experience. Thus, the results give the appearance that short-term send-down has had beneficial effects on educational attainment.

In terms of earnings, we also see significant differences between the group without send-down experience and the two send-down groups with different durations. Those with a longer duration have higher salaries and total incomes (6,083 and 10,542 RMB yuan respectively) compared to those without send-down experience. Those with shorter duration have lower salaries and total incomes (4,567 and 7,976 RMB yuan respectively) than those without send-down experience. However, this discrepancy is artificial, since regional differences are not taken into account in this simple comparison. In fact, most respondents with long-duration send-down experience (75%) resided in Shanghai rather than in the other two cities. Economic development has been regionally uneven during China's economic reform (Xie and Hannum 1996). The three research sites were chosen to represent different levels of economic development in urban China, with Shanghai leading the pack, Xi'an falling behind, and Wuhan in between. In our data, the average salary levels were 6,089 in Shanghai, 5,384 in Wuhan, and 3,256 in Xi'an. Once we control for region, there are no more statistical differences in either salary or total income (not reported here; see Table 2 for a related result).<sup>2</sup>

---

<sup>2</sup> In Table 1, we replicated Zhou and Hou's results by breaking down the send-down group into two groups using six-year duration in rural areas as the cut point. Their rationale for this cut point is that 50% of respondents in their sample returned to the city within 6 years. Our sample, however, differs substantially from Zhou and Hou's in the average length of send-down. More than half of the people in our sample stayed in rural areas for 3 years or less. Therefore, we also used 3 years as a cut point for our analysis to see whether it would substantially affect the results. Most of the results (not shown, available upon request) are very similar to those in Table 1: the signs are in the same direction, the significance levels for most of the results remain about the same, and the magnitudes of the

The above example illustrates the need to control for relevant characteristics before we draw any conclusions by send-down status. In Table 2, we report results from regression analyses that control for relevant covariates. Since the inclusion of the predictors statistically adjusts for group differences in these dimensions, we call the results “adjusted comparisons,” in contrast to “unadjusted comparisons” based on descriptive statistics reported in Table 1. Again, we focus on the six socioeconomic outcomes.

Table 2: Unadjusted and Adjusted Differences in Socioeconomic Outcomes between Respondents with and without Send-Down Experience

	Scale	Unadjusted			Adjusted		
		Sent Down vs. Not Sent Down	Sent Down <6 vs. Not Sent Down	Sent Down ≥ 6 vs. Not Sent Down	Sent Down vs. Not Sent Down	Sent Down <6 vs. Not Sent Down	Sent Down ≥ 6 vs. Not Sent Down
College Education	Log-Odds-Ratio	0.09	0.38 *	-1.37 **	0.04	0.30	-1.33 **
Years of Schooling	Difference	-0.18	0.34 **	-1.54 ***	0.31 **	0.64 ***	-0.53 **
Log of Annual Salary (yuan)	Difference	-0.07	-0.16 ***	0.19 ***	-0.02	-0.03	0.02
Log of Total Annual Income (yuan)	Difference	0.04	-0.03	0.23 ***	0.07	0.07	0.06
Cadre (%)	Log-Odds-Ratio	0.18	0.24	0.01	0.07	0.03	0.16
SEI	Difference	-0.48	0.05	-1.88	-0.86	-1.45	0.59

Notes: \* $p < .1$ , \*\* $p < .05$ , \*\*\* $p < .01$ , where  $p$  refers to  $p$ -values for statistical tests for the equality null hypothesis that there is no difference between the group “not sent down” and a group “sent down.”

Adjustment is through regression analysis controlling for the following variables: College Education and Years of Schooling: city, father’s education, father’s SEI, parents’ cadre status, sex, and age.

Annual Salary and Total Income: city, education, sex, and work experience.

Cadre and SEI: city, years of schooling, father’s education, father’s SEI, parents’ cadre status, sex, and age.

Data Source: the main sample of 1999 Social Survey in Shanghai, Wuhan, and Xi’an. Analyses are restricted to respondents between ages 37 and 48 with urban origin.

differences do not change substantially. Nevertheless, some differences between the group with longer duration and the group who was not sent down become statistically insignificant, including percent with college education, annual salary and total annual income. These results reveal that people who stayed in rural areas for 3 to 6 years are more similar to those who stayed for under 3 years than to those who stayed more than 6. We thus stay with Zhou and Hou’s classification.

Depending on the nature of the outcome variables, we use two different scales for comparisons. For continuously measured outcome variables, we use the difference in mean:

$$E(Y_s) - E(Y_0), \quad (1)$$

where  $E(Y_0)$  represents the average value for the group without send-down experience, and  $E(Y_s)$  represents the average value for the  $s$ th group with send-down experience. In our study,  $s$  could refer to one of the three groups: (1) all those with send-down experience, (2) those with short-duration send-down experience, and (3) those with long-duration send-down experience. For dichotomous outcome variables, we use the logit scale that measures the log-odds-ratio:

$$\log(P_s / (1 - P_s)) - \log(P_0 / (1 - P_0)), \quad (2)$$

where  $P_0$  represents the probability for the group without send-down experience, and  $P_s$  represents the probability of the  $s$ th group with send-down experience. In both scales, a positive number indicates an advantage of the send-down experience. Conversely, a negative number indicates a disadvantage.

We now adjust for a slightly different set of covariates for each of three pairs of outcomes, reflecting our understanding of which factors are most relevant for different socioeconomic outcomes. For college education and years of schooling, we include age, sex, city of residence, father's education, father's SEI, and parents' cadre status. For annual salary and total income, we include sex, city of residence, education and work experience. For cadre status and SEI, we include sex, age, city of residence, years of schooling, father's education, father's SEI, and parents' cadre status.

The unadjusted results (left panel) were earlier presented and discussed in Table 1, although they are now in different metrics for comparison. Let us focus on adjusted results in the right panel. For the first comparison between all sent-down respondents and non-sent-down respondents, the only statistically significant result is that of years of schooling. We observe that, after adjustment for city and family background, those who experienced send-down enjoy an advantage of having attained 0.31 more years of schooling. This result lends more credence to Zhou and Hou's suggestion that send-down may have a beneficial educational effect. The second and third comparisons show that this beneficial effect is highly dependent on send-down duration. While the respondents who experienced short-duration send-down (<6 years) enjoy a 0.64 year educational advantage over the respondents who did not experience send-down, those respondents who were sent down for 6 or more years have a clear disadvantage compared to those who were not sent down (with a log-odds-ratio of -1.33 of attending college and 0.53 fewer years of schooling). After the adjustment, there are no longer differences in salary or income<sup>3</sup>.

<sup>3</sup> We also compared the unadjusted and adjusted differences in socioeconomic outcomes between respondents with short and long-term send-down experience and respondents without by using 3 years of duration as the cut point. However, there is no statistically significant difference in any of the six socioeconomic outcomes between the no send-down group and the send-down group with 3 or more years duration. Once again, this suggests that people who stayed in rural area for 3 to 6 years are quite different from people who stay there longer than 6 years.

**Fixed-Effects Results from a Sibling Model**

The previous results appear in agreement with those of Zhou and Hou (1999), suggesting that the send-down experience, particularly a short-duration send-down experience, may have a positive effect on educational attainment. An important question then arises: Is this observed association causal?

Our results reported in Tables 1 and 2 and those of Zhou and Hou's study are based on cross-sectional surveys of urban residents. There are two reasons why these results may be biased. First, family background characteristics, some of which may be unobserved, may have been associated with the likelihood of being sent down and may have also later affected youths' educational attainment. To address this question, we replicated Zhou and Hou's analyses in examining how the likelihood of being sent down may be predicted by family background characteristics. Our results confirm Zhou and Hou's conclusion that observed background characteristics do not seem to hold much explanatory power in predicting who would be sent down.<sup>4</sup> Thus, we do not find evidence suggesting that the likelihood of being sent down was selective on observables. However, we do not know whether it is selective on unobservables.

Second, some youth who were sent down may have stayed in the countryside or gone to other cities, making the comparison between those with send-down experience and those without send-down experience in selected cities problematic. Without a nationally representative longitudinal sample, this problem potentially poses a serious threat to our results as well. Zhou and Hou defend their results by arguing that most sent-down youth eventually returned to cities. However, the small percentage of youth who did not could generate a bias. In addition, not all sent-down youth returned to their cities of origin. To the extent that education is correlated with returning destination, bias is possible. One of our Three-City survey sites is Shanghai. Because Shanghai is the largest Chinese city with many universities, it is possible that many sent-down youth came to Shanghai for higher education and later stayed there, thus causing an upward bias on our estimate of the educational benefit of the send-down experience.

To address both problems, we capitalize on sibling information in our survey. As shown below, a fixed-effects model using sibling pairs controls for unobserved family-level characteristics shared by siblings. Sibling data can also address the second problem of sample selection, since we use a proxy report for the sibling's characteristics regardless of the sibling's current location. For this part of the analysis, respondents who either did not have a sibling or did not report a sibling were dropped from the analyses. We further restrict sibling pairs so that both were between ages 37 and 48. There are a total of 785 sibling pairs. We first examine sibling pairs with respect to the send-down experience: (respondent=yes, sibling=yes), (respondent=yes, sibling=no), (respondent=no, sibling=yes), and (respondent=no, sibling=no). The numbers of cases for the four types are 158, 193, 151, and 283 respectively. Similar to results reported in Table 1, we

---

<sup>4</sup> Results not shown – available from authors upon request.

found that respondents and siblings who were both not sent down had slightly lower average educational attainment than other sibling pairs.<sup>5</sup>

We now use a simple fixed-effects model with two siblings per family. The fixed effects model requires that we restrict the analyses to sibling pairs in which one, and only one, of the siblings was sent down. As discussed earlier, there are 344 such pairs. Let  $j$  ( $j = 1, \dots, n$ ) denote the  $j$ th family of origin. Let  $i$  ( $i = 0, 1$ ) denote the  $i$ th sibling within a family, with  $i = 0$  denoting the sibling who was not sent down, and  $i = 1$  denoting the other sibling who was sent down. We parameterize the (additive) influence of send-down experience with a parameter  $\delta$ . The fixed-effects model is powerful in allowing for unobserved fixed family-level factors, denoted by  $\alpha_j$ , which also encompasses all observed but fixed family-level characteristics. The sibling-specific models then are:

$$Y_{0j} = \alpha_j + \varepsilon_{0j} \quad (3a)$$

$$Y_{1j} = \alpha_j + \delta + \varepsilon_{1j} \quad (3b)$$

Taking the difference between equations (3a) and (3b) eliminates the family-level unobserved factor and leads to the following simple equation:

$$Y_{1j} - Y_{0j} = \delta + (\varepsilon_{1j} - \varepsilon_{0j}) \quad (4)$$

If we take the expectation of equation (4), we have  $E[(Y_1) - (Y_0)] = \delta$ . This means that the difference in social outcomes between a sent-down sibling and the other sibling results from the send-down experience, controlling for all possible family-level fixed, unobserved heterogeneity. We apply the fixed-effect model to four outcome variables – college education, years of schooling, cadre status, and socioeconomic status index (SEI).<sup>6</sup> We did not collect information on siblings' income, as we deemed a third-party report to be unreliable. The fixed-effects results are presented in Table 3.

Although demographic characteristics preceded rather than followed send-down, we still compare them in our sibling model by send-down status. In the first two rows of Table 3, we observe that the siblings who were sent down are on average significantly older (at 43.2) than the siblings who were not sent down (at 41.9). This confirms a similar result reported in Table 1, suggesting that earlier birth-order siblings faced a higher risk of being sent down than their younger siblings. The send-down policy allowed the family to keep one child in the city (Shi 1995; Whyte and Parish 1984), and it is plausible that some parents would prefer, or that some local policies might require, the youngest child to stay. Further, we also find that the sent-down siblings are significantly less likely to be female than the siblings who were not sent down (39.0 percent versus 50.9 percent). Given that sent-down youth endured hard living conditions in the countryside, often in remote regions of China's western frontier, parents may have preferred to send a son rather than a daughter.

<sup>5</sup> The respondents and siblings who were both not sent down had on average 10.91 and 10.70 years of education respectively, while all other sibling pairs have at least 10.95 years of education.

<sup>6</sup> In the presence of other covariates, the fixed-effect model for binary data can take the conditional logit specification (Powers and Xie 2000, pp.179-183).

Table 3: Results from Fixed-Effects Analyses Using Sibling Pairs

	Not Sent down	Sent Down	$\delta$	
Age	41.9	43.2	-1.2	***
Sex (% Female)	50.9	39.0	11.9	***
College Education (%)	11.4	11.7	-0.3	
Years of Schooling	11.2	11.0	0.2	
Cadre (%)	8.9	5.4	3.5	
SEI	43.7	44.5	-0.7	
N	344	344		

Notes: \* $p < .1$ , \*\* $p < .05$ , \*\*\* $p < .01$ , where  $p$  refers to  $p$ -values for statistical tests for the equality null hypothesis that there is no difference between respondents/sibs who were not sent down and respondents/sibs who were sent down.

Data Source: the main sample of 1999 Social Survey in Shanghai, Wuhan, and Xi'an. Analyses are restricted to the respondent-sib pairs meeting the following criteria: both were between ages 37 and 48, and one of them was sent down and the other was not.

However, aside from these two key demographic characteristics, which showed statistically significant differences between the two types of siblings, we do not find any other discernible average differences in any of the four measures of socioeconomic status. Thus, we infer from the fixed effects sibling analyses that the send-down experience did not seem to have a causal impact on socioeconomic status among the youth who were affected.<sup>7</sup>

### Endogenous Role of Education for Early Returns

There remains a puzzle as to why persons who were sent down for a shorter duration have higher levels of education than either persons who were not sent down or persons who were sent down for a longer duration – an important finding of Zhou and Hou that is confirmed in our study (Tables 1 and 2). We do not think that this finding should be interpreted as causal, as the duration of send-down is an endogenous outcome that may be affected by past schooling and is closely tied to future college education. For example, it is possible, as Zhou and Hou's study suggests, that sent-down youth with more education returned to cities at faster rates than their counterparts with less education. Thus, we next focus on the issue of endogeneity of education with respect to the duration of the send-down experience.

<sup>7</sup> Because respondent's sex is related to send-down probability and also potentially to the socioeconomic outcomes we examined, we also experimented with our fixed-effects analyses for same-sex sibling pairs. There were still no statistically significant differences in socioeconomic outcomes by send-down status between either brothers or sisters.



In the Three-City survey, we collected enough information on educational history to construct time-varying measures of attained education and enrollment status. For respondents who were sent down, we also know the year of send-down and the year of return. From these sources, we can create a few new education variables: (1) high school graduation at the time of send-down, (2) years of schooling at the time of send-down, (3) years of schooling at the time of return, and (4) college enrollment status at the time of return. We then compare differences in these variables between respondents with short-duration send-down experience and those with long-duration send-down experience. We present the results in Table 4.

Table 4: Unadjusted Differences between Respondents with Short-Duration Send-Down Experience and Respondents with Long-Duration Send-Down Experience

	Sent Down Dur. <6 Yrs.	Sent Down Dur. ≥ 6 Yrs.
Age at Send-Down	17.94	17.60 ***
HS Graduate at Send-Down (%)	49.57	11.36 ***
Years of Schooling at Send-Down	10.42	9.03 ***
Years of Schooling at Return	10.52	9.20 ***
School Enrollment in Year of Return (%)	13.47	1.52 ***
College Education (%)	15.19	3.03 ***
Truncated Sample	11.59	2.31 ***
Current Years of Schooling	11.33	9.45 ***
Truncated Sample	11.08	9.38 ***
N	349	132

Notes: \* $p < .1$ , \*\* $p < .05$ , \*\*\* $p < .01$ , where  $p$  refers to  $p$ -values for statistical tests for the equality null hypothesis that there is no difference between respondents who were sent down for less than 6 years and respondents who were sent down for 6 years or more.

Data Source: the main sample of 1999 Social Survey in Shanghai, Wuhan, and Xi'an. Analyses are restricted to respondents between ages 37 and 48 with urban origin, who were sent down between 1967 and 1978. "Truncated sample" refers to the remaining sample after we exclude 48 sent-down respondents who were enrolled in school in the year of leaving the countryside.

As we expected, there are very large differences in pre-send-down educational attainment between the two groups. Compared to those who stayed in the countryside for 6 or more years, respondents who were sent down for less than 6 years were older (17.94 versus 17.60) and were more likely to be high school graduates (49.57 percent versus 11.36 percent). As a result, most of the educational advantage enjoyed by the short-duration group does not have anything to do with send-down, as it existed prior to send-down. We also infer from Table 4 that youth who experienced short-duration send-down were more likely to be enrolled in college the year they returned to the city. This is a potentially important result, but we will defer commenting on it until after our discussion of factors predicting an earlier return to cities.

As we mentioned earlier, most youth who were sent down had a strong desire to return to their cities (Chen and Cheng 1999; Gold 1985; Rosen 1981; Singer 1971; Zhou and Hou 1999). However, actually returning at an earlier date was highly competitive (Gold 1980; Shi 1995; Unger 1979). In Table 5, we first present a simple logit model predicting the likelihood of a relatively early return (within 6 years). We include a variety of background factors that were collected by the survey, including pre-send-down education, age at send-down, sex, city of residence, and father's socioeconomic status. In a simple logistic model, pre-send-down education, age at send-down, and city of residence significantly predicted return within 6 years.<sup>8</sup> Pre-send-down education was a particularly important predictor of an early return: For each additional year of education attained before send-down, the odds of an early return within 6 years increase by almost 36 percent ( $\exp(0.31)-1$ ).

In Model 2, we use a discrete-time logistic hazard model to examine the factors that influence the likelihood of returning to cities. We include the same variables as in Model 1 and add two time-varying variables—duration since send-down and additional education received during send-down, both measured in years. Once again, pre-send-down education is an important predictor of returning to the cities in this model, with each additional year of pre-send-down education increasing the odds of return in a given year by about 9%. Additional education received during send-down, however, has no significant effect on the likelihood of return. This is not surprising given that very few sent-down youths, 28 in our survey, actually attained any additional education while in the countryside.

Duration since send-down, living in Wuhan or Xi'an rather than Shanghai, and father's job prestige are also related to a significantly higher likelihood of returning to cities. A one unit increase in time since send-down is predicted to increase the odds of returning to the city by 12.75%, while a one unit increase in father's job prestige is predicted to increase the odds of return by 1%. The results seem to support Zhou and Hou's argument that paternal social status and youths' duration of stay in the countryside are positively associated with the likelihood of returning to the cities, but they also provide evidence of an important factor that Zhou and Hou's analysis overlooked: having a greater amount of education *before* send-down may have facilitated youths' earlier return to the cities.

---

<sup>8</sup> Note that city of residence refers to current city of residence, not pre-send-down city of residence, which we unfortunately do not know from the survey. We include city of residence as a proxy for pre-send-down city because the majority of sent-down youth did return to their original cities.

Table 5: Logistic Model of Early Return on Selected Variables

Variables	Model 1 Simple Logit Model of Return within 6 Years		Model 2 Discrete-Time Logistic Hazard Model of Return	
	Coefficient	St. Error	Coefficient	St. Error
Pre-Send-Down Education	0.31 ***	(0.08)	0.09 **	(0.04)
Education Gained during Send-Down			-0.01	(0.10)
Age at Send-Down	0.32 ***	(0.11)	0.08	(0.05)
Duration			0.12 ***	(0.02)
Sex (Female)	-0.12	(0.29)	0.09	(0.11)
City (Shanghai=reference)				
Wuhan	3.24 ***	(0.33)	1.46 ***	(0.14)
Xi'an	3.45 ***	(0.46)	1.40 ***	(0.17)
Father's Education (Less than Primary School=reference)				
Primary School	0.68 *	(0.38)	0.27 *	(0.15)
Junior High School	0.32	(0.51)	0.13	(0.19)
Senior High and Above	-0.25	(0.49)	-0.03	(0.19)
Father's SEI	0.01	(0.01)	0.01 **	(0.005)
Father's Cadre Status	-0.25	(0.41 )	0.002	(0.15)
Constant	-10.0 ***	(2.20)	-5.49 ***	(0.95)
N	481		2202	

Notes: \* $p < .1$ , \*\* $p < .05$ , \*\*\* $p < .01$  N = 2202. Also included in regression models are dummy variables representing missing data for father's education, father's SEI, and father's cadre status.

Data Source: respondents in the main sample of 1999 Social Survey in Shanghai, Wuhan, and Xi'an. Analyses are restricted to respondents between ages 37 and 48 with urban origin, who were sent down between 1967 and 1978.

Furthermore, duration of send-down is confounded by educational attainment through another mechanism: many youths ended their send-down experience precisely through college education. This came about in two ways. First, a small number of sent-down youth were accepted to colleges through recommendations on the basis of political loyalty and family background rather than examinations between 1972 and 1977. Second, colleges became open to all potential students with an examination-based admission policy in 1977, *before* the government began to allow all sent-down youth to return to cities in 1979 (Deng and Treiman 1997; Meng and Gregory 2002; Zhou and Hou 1999). Thus, ending send-down experience through college education was a real possibility for some people. For them, the causal direction is not from short duration to college education. Rather, it was college education that caused a short duration of send-down.

Although we did not collect explicit information on how respondents who were sent down left the countryside, we constructed a time-varying indicator of educational enrollment status by age. In our data, we find 49 respondents who were enrolled in college in the same year they ended their send-down experience. We assume that they left the countryside to attend school. In the fifth row of Table 4, we show that this occurrence is far more likely for those who were sent down with short duration than for those with long-duration send-down experience. If we exclude the 49 respondents who ended send-down and began college at the same time, we find that the college enrollment rate among respondents with short-duration send-down experiences drops sharply from 15.19 percent to 11.59 percent, which is no longer significantly different from 10.9 percent for those who were not sent down. Similarly, the years of education attained among those experiencing short-duration send-down declines from 11.33 to 11.08. Since our measure of time-varying enrollment is a crude approximation, it is plausible that we may still underestimate the extent of selection out of send-down due to college attendance.

Altogether, caution should be exercised before interpreting the higher educational attainment among youth who experienced short-duration send-down as caused by send-down *per se*. Instead, we suggest that this apparent educational advantage of send-down may be a statistical artifact due to the social processes that selected sent-down persons back to cities. As Zhou and Hou (1999) realize, there is not much selection in terms of who was sent down, but selection is strong in terms of who returned early once sent down. Our results show that there are two important ways that the endogenous role of education gives rise to the appearance that a short-duration send-down experience is beneficial. First, because educational attainment is a strong predictor of an early return, duration of send-down is associated negatively with education level attained *prior to* send-down. Second, because college attendance is one of the most desirable channels of early return, an association is observed between the two, even though the causal process is such that an opportunity to advance educational attainment was the cause, rather the effect, of an early return.

## Conclusion

Did send-down experience benefit youth? Results reported in this study have led us to give a tentative answer -- no. In this study, we analyzed unique information that we collected in a 1999 social survey in three large Chinese cities, which enabled us to pin down this question more precisely than before. We examined a total of six indicators of socioeconomic outcomes: likelihood of college education, years of schooling, salary, total income, the likelihood of being a cadre, and occupational status. We implemented a number of different statistical models and methods using different research designs.

Our baseline results based on the main respondents from the survey showed virtually no average differences between the respondents who experienced send-down and the respondents who did not, except that the former are somewhat older. When we disaggregated sent-down respondents according to the duration of their time in the countryside, some differences emerged. Respondents with short-duration send-down, using either 6 or 3 years as the cut point, appear to have an advantage in educational attainment. However, our fixed-effects models based on sibling pairs, which control for unobserved family-level heterogeneity, showed no educational (or any other) advantage for sent-down youth over their non-sent-down siblings. Our results thus do not lend support to the notion that the send-down experience was beneficial.

We further explored the empirical finding that persons who were sent down for a shorter duration appear to enjoy educational advantages over those who were not sent down or those who were sent down for a longer duration. Through analyses of time-varying information, we found that the observed advantages are artifacts resulting from two related social processes. First, pre-send-down education strongly predicted an early ending of send-down. Second, college education enabled some to end their send-down experiences. Hence, our analyses of the new data show that the send-down experience *per se* did not benefit the youth who were affected. Differences in social outcomes between those who experienced send-down and those who did not are either non-existent or spurious due to other social processes.

While we found no benefit of send-down, we also found no evidence of negative consequences. Despite our different conclusions regarding education, most of our findings are thus consistent with Zhou and Hou's primary findings, which showed that the send-down experience did not appear to result in lasting negative socioeconomic consequences for the affected youth. This result is somewhat counterintuitive: how could such a widely resisted policy of forced migration not matter for the later outcomes of those affected? Part of the answer undoubtedly lies in the poor opportunities associated with the alternative to being sent down. High urban unemployment and underemployment and the closure of universities during the Cultural Revolution meant that youth who stayed in the cities also faced limited life chances and struggled under difficult conditions. Youth coming of age at this point in China's history were thus deprived of many opportunities, whether they were sent down or not. Finally, the lack of lasting negative effects of send-down can be interpreted as an example of human resiliency, in which people who suffer difficult or traumatic circumstances find ways to adapt and thus avoid lasting harm. Such an interpretation of resiliency is surely more plausible than the contention that the experience of send-down was actually beneficial to China's youth.

## References

- Bernstein, Thomas. 1977. *Up to the Mountains and Down to the Villages: The Transfers of Youth from Urban to Rural China*. New Heaven: Yale University Press.
- Bian, Yanjie. 2002. "Chinese Social Stratification and Social Mobility." *Annual Review of Sociology* 28: 91-116.
- Chan, Anita. 1985. *Children of Mao: Personality Development and Political Activism in the Red Guard Generation*. Seattle, WA: University of Washington Press.
- Chen, Kevin and Xiaonong Cheng. 1999. "Comment on Zhou & Hou: A Negative Life Event with Positive Consequences?" *American Sociological Review* 64: 37-40.
- Chen, Yixin. 1999. "Lost in Revolution and Reform: the Socioeconomic Pains of China's Red Guards Generation, 1966-1996." *Journal of Contemporary China* 8: 219-240.
- Cheng, Yinghong, and Patrick Manning. 2003. "Revolution in Education in China and Cuba in Global Context, 1957-1976." *Journal of World History* 14: 359-391.
- Davis, Deborah. 1992. "'Skidding': Downward Mobility among Children of the Maoist Middle Class." *Modern China* 18: 410-437.
- Deng, Zhong and Donald Treiman. 1997. "The Impact of the Cultural Revolution on Trends in Educational Attainment in the People's Republic of China." *American Journal of Sociology* 103: 391-428
- Elder, Glen. 1977. "Family History and the Life Course." *Journal of Family History* 2: 279-304.
- Elder, Glen. 1999. *Children of the Great Depression: Social Change in Life Experience*. Boulder, CO: Westview Press.
- Elder, Glen, and Michael Shanahan. In press. "The Life Course and Human Development." for the *Handbook of Child Psychology*. Rev. ed. New York: Wiley.
- Gold, Thomas. 1980. "Back to the City: The Return of Shanghai's Educated Youth." *The China Quarterly* 84: 755-770.
- Gold, Thomas. 1985. "After Comradeship: Personal Relations in China since the Cultural Revolution." *The China Quarterly* 104: 657-675.
- Goldstein, Alice, Sidney Goldstein and Shenyang Guo. 1991. "Temporary Migrants in Shanghai Households, 1984." *Demography* 28: 275-291.
- Heckman, James. 2001. "Micro Data, Heterogeneity, and the Evaluation of Public Policy: Nobel Lecture." *Journal of Political Economy* 109: 673-748.
- Hannum, Emily and Yu Xie. 1994. "Trends in Educational Gender Inequality in China: 1949-1985." *Research in Social Stratification and Mobility* 13: 73-98.
- Hung, Eva and Stephen Chiu. 2003. "The Lost Generation: Life Course Dynamics and Xiangang in China." *Modern China* 29: 204-236.
- Lan, Feng 2004. "Reframing the Chinese Cultural Revolution in Diaspora: Joan Chen's the Sent-Down Girl." *Literature Film Quarterly* 32: 193-198.
- Li, Bobai and Andrew Walder. 2001. "Career Advancement as Party Patronage: Sponsored Mobility into the Chinese Administrative Elite, 1949-1996." *American Journal of Sociology* 106: 1371-1408.
- Liang, Zai. 2001. "The Age of Migration in China." *Population and Development Review* 27: 499-524.
- Liang, Zai and Michael White. 1996. "Internal Migration in China, 1950-1988." *Demography* 33: 375-384.
- Lin, Nan and Wen Xie. 1988. "Occupational Prestige in Urban China." *American Journal of Sociology* 93: 793-832.
- Liu, Xiaomeng. 1995. "'Xuetonglun' Yu Zhiqing Shangshan Xiaxiang Yundong." *Qingnian Yanjiu* 2: 33-37.

- Meng, Xin and Robert Gregory. 2002. "The Impact of Interrupted Education on Subsequent Educational Attainment: A Cost of the Chinese Cultural Revolution." *Economic Development and Cultural Change* 50: 935-959.
- Pan, Yi. 1994. "Zhishiqingnian Dafancheng Fengchao Dongyin Tanxun." *Qingnian Yanjiu* 3: 26-28.
- Powers, Daniel A. and Yu Xie. 2000. *Statistical Methods for Categorical Data Analysis*. New York: Academic Press.
- Rosen, Stanley. 1981. *The Role of Sent-Down Youth in the Chinese Cultural Revolution: The Case of Guangzhou*. Berkeley: The Regents of the University of California.
- Sausmikat, Nora. 2003. "Generations, Legitimacy, and Political Ideas in China." *Asian Survey* 43: 352-384.
- Seybolt, Peter. 1977. *The Rustication of Urban Youth in China: A Social Experiment*. White Plains, NY: M.E. Sharpe.
- Shi, Weimin. 1995. "Shangshanxiang Zhishiqingnian De 'Bingtui', 'Kuntui' Wenti." *Qingnian Yanjiu* 5: 46-49.
- Shirk, Susan. 1982. *Competitive Comrades: Career Incentives and Student Strategies in China*. Berkeley: University of California Press.
- Shixun, Gui and Liu Xian. 1992. "Urban Migration in Shanghai, 1950-88: Trends and Characteristics." *Population and Development Review* 18: 533-548.
- Singer, Martin. 1971. "Educated Youth and the Cultural Revolution in China." *Michigan Papers in Chinese Studies* 10. Ann Arbor, MI: The University of Michigan Center for Chinese Studies.
- Unger, Jonathan. 1979. "China's Troubled Down-to-the-Countryside Campaign", *Contemporary China* 3: 79-92.
- Unger, Jonathan. 1980. "Bending the School Ladder: The Failure of Chinese Educational Reform in the 1960s." *Comparative Education Review* 24: 221-237.
- Walder, Andrew. 1989. "Social Change in Post-Revolution China." *Annual Review of Sociology* 15: 405-424.
- Walder, Andrew, Bobai Li and Donald Treiman. 2000. "Politics and Life Chances in a State Socialist Regime: Dual Career Paths into the Urban Chinese Elite, 1949 to 1996." *American Sociological Review* 65: 191-209.
- Walder, Andrew and Yang Su. 2003. "The Cultural Revolution in the Countryside: Scope, Timing and Human Impact." *The China Quarterly* 173: 74-99.
- Whyte, King and William Parish. 1984. *Urban Life in Contemporary China*. Chicago: University of Chicago Press.
- Wu, Xiaogang and Donald Treiman. 2004. "The Household Registration System and Social Stratification in China: 1955-1996." *Demography* 41: 363-384.
- Xie, Yu and Emily Hannum. 1996. "Regional Variation in Earnings Inequality in Reform-Era Urban China." *American Journal of Sociology* 101:950-992.
- Yang, Guobin. 2003. "China's Zhiqing Generation: Nostalgia, Identity, and Cultural Resistance in the 1990s." *Modern China* 29:267-296.
- Zhao, Xiaoshi. 1994. "Luelun 'Zhiqing Qingjie'." *Qiqihaer Shifan Xueyuan Xuebao* 3: 40-44.
- Zhou, Xueguang and Liren Hou. 1999. "Children of the Cultural Revolution: The State and the Life Course in the People's Republic of China." *American Sociological Review* 64:12-36.
- Zhou, Xueguang, Phyllis Moen, and Nancy Tuma. 1998. "Educational Stratification in Urban China: 1949-94." *Sociology of Education* 71: 199-222.



# Population Studies Center Research Reports

The Population Studies Center (PSC) at the University of Michigan is one of the oldest population centers in the United States. Established in 1961 with a grant from the Ford Foundation, the Center has a rich history as the main workplace for an interdisciplinary community of scholars in the field of population studies. Currently the Center is supported by a Population Research Infrastructure Program Grant (R24) from the National Institute of Child Health and Human Development, and by a Demography of Aging Center Grant (P30) from the National Institute on Aging, as well as by the University of Michigan, the Fogarty International Center, the William and Flora Hewlett Foundation, and the Andrew W. Mellon Foundation.

PSC Research Reports are prepublication working papers that report on current demographic research conducted by PSC-affiliated researchers. These papers are written for timely dissemination and are often later submitted for publication in scholarly journals. The PSC Research Report Series was begun in 1981.

**Copyrights for all Reports are held by the authors.** Readers may quote from this work as long as they properly acknowledge the authors and the Series and do not alter the original work.

Population Studies Center  
University of Michigan  
Institute for Social Research  
PO Box 1248, Ann Arbor, MI 48106-1248 USA  
<http://www.psc.isr.umich.edu/pubs/>