

**Year 3 Annual Report for the Gansu Poverty and Education Project (#200000037)**  
Submitted by Emily Hannum, 10/6/2002

**Summary**

This annual report consists of the following components: a project overview (I), a progress report on activities undertaken during the last year (II), a list of products from the project (III), and a discussion of selected findings (IV). Activities over the past year primarily consisted of 1) qualitative data collection; 2) grant proposal writing; 3) preparing for wave-2 data collection; 4) data analysis and paper writing; and 5) documenting the project through a large report and development of a Web site. Qualitative data collection was delayed from the fall to the spring due to travel concerns after September 11.

**I. Project Overview**

A. Focus of Research

The Gansu Poverty and Education Project is a mixed-method, multi-level study designed to analyze the following issues:

- boys' and girls' development and schooling experiences (broadly defined) in a poor rural setting
- attitudes of children, families, and teachers about parenting and schooling
- the mechanisms (home, community, school) linking poverty and girls' and boys' education and development
- rural children's schooling experiences and social mobility

Larger goals are to inform the design of policies and interventions that will improve the quality of life for rural children and to attract the attention of a broader scholarly community to rural educational issues in China.

B. Research Site

The research site is an interior province of China characterized by high rates of illiteracy and prevalent poverty. Gansu is an appropriate research site for studying poverty-education linkages in rural settings because it is characterized both by high rates of poverty and by varying poverty conditions in flat, hilly and remote mountainous sites. Further, the barriers to schooling faced by families in Gansu are common to provinces and autonomous regions located in China's less-developed interior.

C. Sample Design and Instrumentation

The sample design for the GSCF consisted of the following elements:

- a primary sample of 2000 children in 20 rural counties aged 9-12 in June 2000
- five linkable secondary samples of children's mothers, household heads, home-room teachers, school principals, and village leaders
- a census of primary school teachers and school principals in sampled villages

Instrumentation for the survey component of the project included detailed measurement of material resources and the human, social and cultural capital available to children, families, communities and schools. In addition, parent and teacher practices, attitudes and decision-making processes related to the education of children were directly measured. Measures of children's schooling experiences included external measures such as enrollment, attainment, grades, and tests of general skills and academic achievement. Subjective measures of educational experiences included mother's, child's and teacher's assessments of well-being, motivation, engagement, achievement, and behavioral problems.

The project also includes a qualitative interview sample of children, mothers, and teachers. The qualitative component of the Gansu Project, consisting of in-depth interviews, was tested in August 2001 and implemented in March 2002. The in-depth interviews followed lines of inquiry developed for the survey, in order to probe particular findings from analyses of survey data. In-depth interviews were delayed to the spring due to travel concerns related to September 11.

## **II. Progress Report**

### **A. August-December 2001**

Faculty and students worked on revising papers throughout this period.

In August, the research team put together a preliminary list of in-depth interview protocols. Xiaodong Liu traveled to Gansu to pretest these protocols. Pretest interviews were transcribed. Emily Hannum and Albert Park received \$100,000 from the International Studies in Health and Economic Development Program at the Fogarty International Center, National Institutes of Health to begin developing wave -2 instrumentation. The funding was designed to further develop the physical and psychosocial health components of the study, to enable analysis of the links between health, education, and poverty across the early life course.

### **B. January-August 2002**

Paul Glewwe, an economist at the University of Minnesota, joined the project. Collaborating with Glewwe, Emily Hannum and Albert Park and wrote and presented a proposal to the World Bank for additional support for the second wave of the survey. Results of the grant competition should be available within a month.

Emily Hannum, Xiaodong Liu, and Penn Graduate School of Education doctoral student Tanja Sargent traveled to Gansu in March and conducted in-depth interviews with 75 respondents in three villages in sample counties. Respondents included children, mothers, and teachers.

Emily Hannum, Jennifer Adams, Tanja Sargent, Albert Park, Paul Glewwe, and Penn Demography doctoral student Shengchao Yu traveled to Gansu in July to work on instrument development for the health and education components of the second wave of the study.

Tanja Sargent and Shengchao Yu are working with Emily Hannum to prepare a final project report documenting the project and containing key results. They are also collaborating to develop a project Web site. A prototype Web site will be on-line in mid-October.

## **III. Products**

### *Conference Papers, Manuscripts, and Publications*

Adams, Jennifer. (2002) A Different Kind of Capital: What Does Social Capital Look Like in China? (Work in Progress.)

Adams, Jennifer. (2002) The Place They Call Home: Links between Communities and Children's Schooling in Gansu. (Paper submitted to the International Conference on Educational Reform in China, Center on Chinese Education, Teachers College, Columbia University.)

Brown, Phil. (2001) Disentangling the Relationship between Parent Education and Child Learning in Rural China. (Paper presented at the Education Research Workshop for the Gansu Poverty and Education Project, Cambridge, July).

Brown, Phil. (2002) "Parental Investment in Children's Human Capital in Rural China," *China Education Forum* 3(1) (on-line journal, 7 pages).

- Hannum, Emily and Albert Park. (2002) "Educating China's Rural Children in the 21st Century." *Harvard China Review* 3 (2): 8-14.
- Hannum, Emily and Albert Park. (2002) Families, Teachers and Children's Educational Engagement in Rural Gansu, China. (Paper presented at the 2002 Annual Meetings of the Population Association of America, Atlanta, April 2002. Earlier version presented at the Harvard Conference on Chinese Education Reform, Cambridge, July 2001).
- Hannum, Emily and Peggy Kong. (2002) Family Sources of Educational Gender Inequality in Rural China: A Critical Assessment. (Paper presented at the American Association of Asian Studies, Washington DC, March 2002).
- Li Wen, Wang Sangui and Albert Park. (2001) Equity in School Finance in Rural Gansu. (Paper presented at the American Association of Asian Studies, Washington DC, March, 2002. Earlier version presented at the Education Research Workshop for the Gansu Poverty and Education Project, Cambridge, July, in Chinese).
- Liu Xiaodong. (2001) The Effects of Parental Warmth and Punishment on Children's Internalizing Behaviors: an Empirical Study in Rural China. (Paper presented at the Sixth Annual Student Research Conference and Eighteenth Annual International Forum, Harvard Graduate School of Education, Cambridge, February, and the Education Research Workshop for the Gansu Poverty and Education Project, Cambridge, July).
- Liu Xiaodong. (2002) How does Community Matter in Children's Problem Behaviors in Rural China? (Paper presented at the Seventh Annual Student Research Conference and Nineteenth Annual International Forum, Harvard Graduate School of Education, Cambridge, February.)
- Liu Xiaodong, Emily Hannum, and Gil Noam. (2002) Parental Behaviors and Young Adolescents' Internalizing Problems in Rural China. (Manuscript, preparing for journal submission).
- Park, Albert and Emily Hannum. (2001) Teacher Influences on Child Learning in Developing Countries: Evidence from Rural China. (Paper presented at the Social Science Research Council Conference, "Rethinking Social Science Research on the Developing World in the 21<sup>st</sup> Century," Utah, June, and at the Harvard Conference on Chinese Education Reform, Cambridge, July).
- Yu Shengchao and Emily Hannum. (2002) Food for Thought: Poverty, Family Nutritional Environment and Children's Educational Performance in Rural China. (Paper accepted for presentation at the International Health Economics Association, June 2002, San Francisco.)
- Zhang Yanhong. (2001) School Effects on Student Academic Performance in Rural Gansu. (Paper presented at the Education Research Workshop for the Gansu Poverty and Education Project, Cambridge, July).

*Book Manuscripts in Progress*

- Hannum, Emily. Poverty and Children's Schooling in Rural Northwest China. (Manuscript in progress, based on Gansu Project data).
- Part, Albert and Emily Hannum [eds.]. Education Reform in China. (Prospectus submitted to Harvard University Press; all chapters are in and are being edited. A segment of the book will highlight issues of education and rural poverty; a chapter will feature Gansu Project data).
- Wang Jiayi. A Survey of Rural Education in Gansu. (Manuscript in progress, based on Gansu Project data, in Chinese).

### *Dissertations and Qualifying Papers*

Adams, Jennifer. *Local Advantage: The Influence of Communities on Children's Schooling in Gansu*. Dissertation, Administration, Planning and Social Policy, Harvard Graduate School of Education. (Proposal in progress).

Brown, Phil. *Time and Money Investments in Children's Human Capital in China*. Dissertation Third Paper, Department of Economics, University of Michigan. (Dissertation in progress).

Kong, Peggy. *Gender, Socio-economic Status, and Parental Investments in Children's Schooling in Rural Gansu, China*. Qualifying Paper, Administration, Planning and Social Policy, Harvard Graduate School of Education. (Qualifying paper, submitted).

Liu Xiaodong. *The Effects of Parental Warmth and Punishment on Children's Internalizing Behaviors: an Empirical Study in Rural China*. Qualifying Paper, Human Development and Psychology, Harvard Graduate School of Education. (Qualifying paper, passed).

Liu Xiaodong. *Parenting Practices, School Environment, and Children's Adjustment in Rural Northwest China*. Dissertation, Human Development and Psychology, Harvard Graduate School of Education. (Dissertation in progress).

### *Grant Proposals Submitted or Funded since September 2001*

- 1) "Gansu Survey of Children and Families, Waves 2 and 3: Pilot." (2001-2002). Submitted by Emily Hannum and Albert Park to the Fogarty International Center at National Institutes of Health. (Funded, \$100,000)
- 2) "The Interaction of Health, Education and Employment in Western China" Submitted by World Bank researchers Guo Li and Alan Piazza and external researchers Paul Glewwe, Emily Hannum, and Albert Park to the World Bank for consideration for grant funding. (Under Review.)

## **IV. Selected Findings**

Here, we summarize selected new findings (based on papers completed since last year's annual report). A full report of key results, as well as papers and manuscripts, will be submitted with the final report.

### **A. Family Gender Attitudes**

#### **Family Sources of Educational Gender Inequality in Rural China: A Critical Assessment**

Emily Hannum and Peggy Kong

Concerns about the educational opportunities afforded to girls in poor rural settings in China are frequently raised by researchers studying China's education system. Commonly-cited barriers to girls' schooling include traditional attitudes about girls' and women's abilities and expected returns to the family for educating daughters. These preferences translate to differences in investments in boys and girls; differences in treatment translate to differences in children's ability to perform in school and to persist in school. However, no empirical studies have emerged that test this process.

This study investigates family sources of educational gender differences using detailed survey data on family attitudes and educational practices in rural Gansu, China. Strikingly, results show that at ages 9-12, rural girls in Gansu compare well to boys in terms of parental economic

investments and provision of a learning environment, own achievement, industriousness, academic self-concept, and alienation from school. Few mothers espoused beliefs that girls had inferior innate abilities and worthiness. Girls and boys both had high aspirations relative to what the system is likely to support.

However, boys' educational aspirations were significantly higher than girls' aspirations. Part of this gap can be attributed to mother's aspirations and mother's allocation of chores. In turn, gaps in mother's aspirations appear across the spectrum of attitudes about future support and gender discrimination in the labor market, but may be somewhat larger among families that expect future support from sons and perceive gender differences in returns to education. The gender bias in allocating chores was pervasive and unrelated to these considerations.

## B. Family Food Security and Children's Achievement

Food for Thought: Poverty, Family Nutritional Environment and Children's Educational Performance in Rural China

Shengchao Yu and Emily Hannum

Recent research indicates that over 40 percent of children in poor rural areas in China are stunted in their physical growth. The coincidence of economic deprivation and inadequate nutrition means that poor children are particularly vulnerable to risks of ill health and stunted growth. More insidiously, poor nutrition may curtail children's capacity to perform well at school. However, little research has investigated this possibility.

Analyzing data from a survey of 2000 9-12 year-old children and families in rural Gansu, China, this study investigates the role of household nutrition in conditioning children's school performance. The paper measures household nutrition using scales derived from a panel of mother-reported family food frequency questions, and operationalizes school performance as math achievement and language achievement. The paper addresses two specific questions: first, does the nutritional environment in the home affect children's performance, and second, is the nutritional environment in the home an important mediator of poverty effects on schooling? Our focus on how the household food environment acts as a mechanism by which resource-constrained households transmit disadvantage to children brings a new perspective to the sociology of education literature, which has traditionally focused on economic, cultural and social resources as the dominant mechanisms.

Results from multivariate analyses show that nutrition measures exert significant effects in models of school performance that control for socio-economic status, other family demographic and environmental variables, and unobserved school quality and community resource differences. Further, the effects of socio-economic status are significantly reduced in models that consider nutritional environment in the home, suggesting that nutrition is an important mechanism linking household poverty to school outcomes.