(April 30, 2005)

NSF Summer Training Workshop on Methods of Data Collection in Cultural Anthropology

Six weeks: June 6th-July 16, 2005

[I]. Goals.

- To help you clarify your thinking about how to formulate and develop competing hypotheses for your dissertation
- To expose you to a range of methods for collecting information so you can test the hypotheses of your dissertation using a multivariate approach
- To help you develop professionally by discussing topics not normally covered in the classroom (e.g., strategies for publication, grants)
- To expose you to a collaborative multidisciplinary research project
- To expose you to life in the field in a structured, relaxed, supportive, and safe setting

[II]. Expectation before training starts. It would be ideal if we could iterate by email at least twice before we meet in Bolivia your ideas about a dissertation topic – ideas that presumably you should be able to explore/test in a preliminary way while in Bolivia. The document before you send me would form the kernel of your summer work.

To move the process forward, in two pages or less try to do the following (send me the document even if only in very rough form):

- State the problem you intend to tackle and its academic, policy, or methodological importance [The topic does not have to bear on all three, but it should at least have a clear and obvious academic impact]. 1 paragraph.
- Two competing hypotheses about what explains variation in the outcome you have chosen. 1 paragraph.
- Define and explain how you intend to measure the following (be specific) [2 paragraphs]:
  - The outcome at the core of your problem
  - Each of the two explanatory variables that according to your competing hypotheses explains variation in the outcome
  - Two control variables that have the following property: each links with both the outcome and one of your explanatory variables
- Try to do some quick search in the journal literature about methods that have been used in the past to collect data on the variables of central interest to you
- Example:
  - Problem: The breakdown of social capital harms child health. Outcome = perceived and objective indicators of child health. Child=<13 years of age.
  - Importance: Large debate in academia about the role of social support in health, yet the topic is messy to explore in industrial nations owing to the socioeconomic heterogeneity/complexity of industrial nations. Analysis in a simpler society allows one to detect patterns harder to spot in industrial societies.
  - Two competing hypotheses about the determinants of child health:

        - H1: Child health does not respond to the breakdown of social capital because parental income (particularly maternal income) can protect child health independent of the role of social capital
        - H2: The breakdown of social capital harms child health by increasing parental stress
    - Measurement of variables
        - Outcome variable: anthropometric indices of short-run nutrition for child (e.g., BMI or body-mass index, kg/mt^2)
        - Explanatory variables:
            - Parental income: money earned in last month by each of the two parents
            - Social capital: # of gifts given/received in last month to kin and non-kin by each parent
            - Stress: cortisol measures and subjective perceptions of stress (1-10, with lower #s showing less stress)
        - Control variables:
            - Child's age (in years)
            - Child's sex (1=girl; 0=boy)
            - Number of siblings or sibling rank
            - Proximity to market town measured in km in straight line or hours walking to closest town or motor road

[III]. Expectation by the end of the training period. Each student (or perhaps pair of students with overlapping interests) will develop a methodological tool kit (that might include a survey) to test the hypotheses of interest, pilot test the survey, do the survey with a sample of households, enter the data in the computer, clean the data, and do preliminary analysis of your hypotheses with the information you collect.

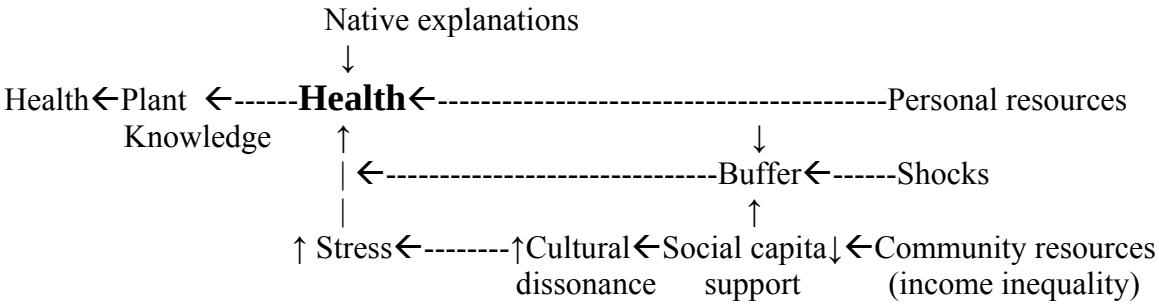
Since we will all be working in the village of Napoles, we do not want to have each student doing her/his own independent survey because then any one Tsimane' household might be surveyed several times by different students, which would be a burden on the household. Instead, to be more efficient and so you learn how to develop one multi-purpose survey you will have to coordinate with each other so you produce one survey that includes questions of relevance to each one of you individually. You will all then apply the survey, even though only some of the questions in the survey pertain to your interest; the other questions will pertain to the topics of the other students. This would mimic the reality of collecting information as part of a multi-disciplinary team. By the end of the training you should have a paper of 10 pages discussing the final hypotheses you tested, the model you used, the sample size and sampling strategy you used, and the strategy you used to obtain unbiased estimates of parameters to test your hypotheses.

[IV].The intellectual road map. To give intellectual coherence to the training, this summer we will explore what drives variation in health – broadly defined to include subjective and objective indicators, including anthropometric indicators of nutritional status – and the effect of health on the use of traditional knowledge of plants. We will then ask the further question of whether traditional knowledge of plants contributes to

health and other indicators of individual well-being; in so doing, we will be able estimate some of the private market and non-market returns to traditional knowledge – the benefits to the individual (not to the community or society) of accumulating stocks of traditional knowledge.

In the figure below we try to highlight the causal links of individual health and provide a conceptual map of what the summer training will cover. We start on the right side with the measure of variables such as income, wealth, credit, and other individual resources because we know from the standard literature in economic development that such variables protect own and child health. We then move on to the measure of community attributes that shape individual health. Such attributes include prices of food and health inputs or proximity to market town, but more importantly for us they also include village income inequality. Unlike individual resources which have a direct protective effect on health via greater expenditures in food or medical services, income inequality affects health through several paths, including: (a) social capital (e.g., social networks), (b) cultural consonance, (c) higher costs in reaching agreement on the provision of public goods – all of which contribute to stress (both perceived and objective). Stress, in turn, bears directly on health and other indicators of quality of life (e.g., happiness, anger). When ill, do people use traditional knowledge of plants and self medicate, or do they turn to modern medical systems? If they turn to traditional plants, does the use of medicinal plants actually improve health and labor productivity? We speak of the private returns to traditional knowledge as the personal benefits the person holding the knowledge accrues either in higher earnings and wages or labor productivity (market returns) or through fewer days ill (non-market returns). We can also explore whether traditional plant knowledge has spillover effects (e.g., whether mothers with more knowledge have healthier children) and whether traditional knowledge produces positive environmental externalities – boons for the rest of the world or village – as might happen, for instance, if people with more traditional knowledge clear less old-growth forest and conserve more biological diversity. Note that at the top of the figure we have an alternative interpretation – e.g., how people themselves explain variation in health – an explanation that might have nothing to do with this entire paragraph.

Figure 1. The determinants and consequences of individual health



[V]. <u>Broad themes covered in the training program</u>. Training will focus around five broad themes (each lasting about one week) that reflect the road map just discussed:

- Personal resources (income, wealth, credit, demographic composition, and human capital)
- Community or group attributes (prices, social capital, social networks, and income inequality)
- Perceived well-being (health, stress, happiness, anger, sadness, and fear)
- Traditional knowledge of local wild plants used as medicines, and
- Objective indicators of health, stress, and nutritional status

[VI]. Tentative syllabus. Training will take place during Monday-Saturday, with Sundays off. We will devote mornings (8-12) to theory, afternoons (2-5pm) to practical applications, and evenings (8-9pm) to discussion of topics related to professional development, statistics, research design, and logistics and practical dimensions of carrying out field work. Below we summarize a tentative syllabus, with topics, faculty in charge. Section **VII** contains the readings for each week; try to do the readings before you come to Bolivia.

[VII]. Readings for each week. You will receive a complete package with the readings and exercises before we leave for the field; the readings will also be on the web.

Week #1.
- Code of ethics
- Survey problem set
- Figure on three-dimensional econometrics
- Summary of biases in survey design: 1 sheet summary
- Methods of panel study

Week #2.
- Consumption smoothing across space. J. Morduch. (Manuscript PDF version)
- Consumption smoothing in Honduras (World Development)
- Human capital, wealth, and nutrition in the Bolivian Amazon (Economics and Human Biology)
- Spanish fluency and earnings (Population Economics; under review)
- Size matters. (Journal of Socio-Economics)
- The standard error in regression. (Journal of Economic Literature)

Week #3.
- Kuznets in the bush (Human Ecology)
- Do smiles have a face value? (Journal of Economic Psychology)
- In search of *homo economicus*. (American Economic Review)
- Food transfers among Hiwi foragers. (Human Ecology)

Week #4.
- Wildlife knowledge among migrants. (Environmental Conservation)
- Economic development and traditional knowledge. Manuscript
- Measuring culture as shared knowledge. (Field Methods)
- Folk ecology, cultural epidemiology, and spirit of the comment. (Current Anthropology)

Week #5.

- Physical growth and nutritional status (American J of Physical Anthropology)
- Field methods with diet and activity (Notes)
- Social and demographic influences on diet and nutritional status (Human Ecology)
- Methods of dietary and anthropometric assessment of nutritional health (Research Methods in Human Biology; Human Biology)
- Predictors of C-reactive protein (American J of Physical Anthropology)
- The health consequences of cultural consonance (American Anthropologist)

[VIII]. Student feedback.

- Let us know whether there are methods/topics that you would like to see covered or developed more fully than the ones indicated here
- At the end of each week we will discuss the progress of the week, what went well and not so well, so we can improve it for the subsequent weeks.
- More importantly, as the summer unfolds and your ideas sharpen, we might want to modify the syllabus so that it fits with your progress and direction

[IX]. Some topics of current research interest. Below we list some topics that we will be either pilot testing over the coming months or planning to do research if we obtain the funding.

- Secular trends in adult anthropometrics as revealed through self-reported measures of parental and grandparental anthropometrics
- Role of traditional and modern human capital in parasite transmission
- Experimental research design to study the effect of income on income inequality and social capital and, through these, on individual health
- Status symbols among Tsimane' and how to measure attachment to traditional Tsimane' culture

Table 1. Schedule of training in methods, Bolivia summer 2005

DOW	Morning	Afternoon	Evening	Fac
Week 1 (6/6-6/12): Logistics and personal resources				
1-2	Embassy & $ (LP)	Student background & interests	Student background & interests	TH
2-3	SB logistics	Ethics of fieldwork	History of project & Tsimane'	VR
4-5	Meet community	Mode, hypotheses, & causal inference	Overview of methods & data: advantages/disadvantages	RG
6	Income	Measurement of income	Exercise on survey questions & review of survey biases	
Week 2 (6/13-6/19): Personal resources				
1-2	Consumption smoothing	Food survey & weigh days	Univariate & bivariate analysis & reading coefficients	VR RG
3	Wealth	Measurement of wealth	Flows vs stocks	
4	Credit	Measurement of credit	Mixing research-development	
5	Modern human capital and demography	Measurement of modern human capital: schooling & skills	Biases from measurement errors & omitted variables	
6	Focus group re measure of personal resources	Focus group	Discussion of focus group results	
Week 3 (6/20-6/26): Community or group attributes & perceived well being				
1	Prices & community attributes	Focus group on community attributes	Inequality: measure, causes & effects in households & village	VR RG
2	Social capital	Measuring reciprocity & other standard forms of social capital	Strategies for publications & grants	EC
3-4	Social networks		Sample size,, statistical power, & instrumental variables	
5-6	Self-perceived health-stress & emotions	Measuring happiness, anger, sadness, fear, and stress	Data entry/cleaning Rectangularizing data	
Week 4 (6/27-7/3): Traditional knowledge of local wild plants for health and culture				
1	Assessing TEK	Free listing of medicinal plants; participant observation	Experimental economics	VR TH
2-3	Biological knowledge	Surveys of biological knowledge	Experimental research design Inter-generational transfers of human capital & height	
4-5	TEK and cultural consensus	Multiple choice, ranking, pile sorts,	Private, social, market, & non-market returns to traditional human capital	
6	Factual TEK	Measure of skills	Linking research & policy	
Week 5 (7/4-7/10): Objective indicators of health, stress, and nutritional status.				
1	Measuring health	Rationale; dimensions of health	Correlates of health status	WL TM
2	Dietary assessment	Dietary intake methods, determinants of dietary needs	Relative merits; interpretation of dietary data	
3	Anthropometry	Measurement of growth & nutritional status	Interpretation alternative measures	
4	Activity, expenditure, work capacity	Time allocation, Heart rate monitoring	Linking dietary/energetic data to social-ecological variables	
5	Measuring biological function (Hb, CRP)	Hb, CRP measurement, storage	Infection-nutrition-health interplay	
6	Cultural Consonance	Measuring culture at individual & group level	Linking biological and cultural variables	
Week 6 (7/11-7/16): Cleaning, documenting, and analyzing data & giving back to the community				
1	Survey	Survey	Exiting the village	RG
2	Survey	Survey	Giving back to the Community	WL TM
3	Data cleaning/entry	Data cleaning/entry	Workshop on Communication	TH

4	Analysis	Analysis	Ethnographic econometrics	
5	Write up	Write up	Presentation	
6	Exiting community	Presentation	Overall evaluation	