

Promoting Multi-methods Research: Linking Anthropometric Methods to Migration Studies

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Abstract

The experience of migration includes costs and benefits to migrants and sending communities. In the tradition of a “letters” type discussion, this paper presents a synthesis of recent work from a longitudinal study from Zambia, Africa that used a mixed-methods approach to investigate the experience and outcomes of migration among the Gwembe Tonga. In this ethnographic study, we argue that including anthropometric methods in migration studies enhances our ability to empirically assess impacts of mobility to better understand the experience of migration. In this particular African context we see, on average, a beneficial outcome for migrants’ nutritional status, and livelihoods.

Keywords: Africa, livelihoods, poverty, development, households, gender.

Introduction

Scholars frequently examine positive and negative effects of migration on those moving, and those left behind. We know that remittances can contribute to cultural renaissance and community level economic improvements in sending communities, and increased economic and educational opportunities for migrants themselves (eg: Cohen 2001; Massey et al 1998; Trager 2005). We also know that migration can lead to improvements in environmental circumstances that translate to greater growth and improved nutritional status

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for migrant children (Boas, 1912; Bogin 1999). Evidence also exists for less positive outcomes of migration, such as increased infant mortality in communities with high rates of outmigration (eg: Kanaiupuni et al 1999), and increased psychosocial stress with implications for chronic disease in some groups of migrants (e.g., Brown 1981; Pearson et al 1993).

The preliminary findings we report here utilize a mixed-method approach to the study of migration in which we conduct fine-grained ethnographic analysis while also collecting anthropometric measures of height, weight, and arm circumferences to measure well-being within the migrant community (Crooks et al. 2007). This approach allows us to ascertain how well (or not) migrants are faring in their new communities, compared to their families and neighbors in sending communities where loss of labor and regular income have broad impacts on households and livelihoods.

By collecting anthropometric data on children as both household members (in the context of household surveys) or as community members (in the context of school “measuring days”), we can see children’s growth and nutritional status as a proxy for the well-being of the household and the communities more generally (Schell 1986). By combining these data with data that reflect the changing ecological and economic circumstances of migrants, we are able to gain insight into the particular aspects of change that contribute to or detract from health and well-being

Our project is on-going and our data analysis still preliminary. Thus, this paper presents a synthesis of preliminary data from one aspect of the on going study of the Gwembe-Tonga people (Zambia), with a focus on the voluntary migrants to the frontier farming region outside of the original Zambezi valley homeland (Cliggett et al 2007). In addition to producing important empirical findings, the on-going research project demonstrates the high value of collaborative research programs which join a range of research methods to interrogate questions of migration and mobility. In the case of the current research, joining longitudinal qualitative data and previously collected anthropometric data on

child growth and development which are part of the 50-year Gwembe Tonga Research Project described below, with contemporary survey and ethnographic data and recent anthropometric data, produces findings that clearly document ways in which voluntary migration benefits a particular rural African population. The research also offers a model to other qualitative researchers seeking a way to empirically measure costs and benefits of migration for other populations, with attention to change over time.

Background to the project

The Gwembe-Tonga Research Project (GTRP) began as a “before and after” study of the impact of the large-scale Kariba Dam development project (Colson, 1960, 1971; Scudder, 1962). Following displacement from their homeland due to the construction of the Kariba Hydroelectric Dam on the Middle Zambezi River in 1957, over 57,000 Gwembe-Tonga people (in Zambia and Zimbabwe) were forcibly resettled onto land that was inadequate to support their needs. As a consequence, their economic, nutritional and overall well-being was compromised (Colson 1971; Scudder and Colson 2002). In addition, social conflict increased in the Gwembe Valley, which added to material insecurity both within and between households (Cliggett, 2000). Because of these difficult conditions, which continued to worsen over time, many Gwembe-Tonga chose to migrate to a newly-opened frontier zone on the plateau to the north and west of the valley.

The research we report here is on-going, and informed by over fifty years of research among the Gwembe-Tonga begun in 1956 by Elizabeth Colson and Thayer Scudder (Scudder and Colson 2002; Cliggett 2002). The sample population in the current study (discussed in this paper) originates from the relocated 1957 population; some household heads in the current study were either children or young adults at the time of relocation, or are direct descendents of those who were relocated.

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Field site

In 1979, the Zambian government announced on the radio the de-restriction of six “previously uninhabited” wildlife management areas, and their opening for human settlement. Any Zambian wanting more land was free to settle in any of the newly-opened areas, and many of the displaced farmers from the Gwembe Valley saw this as an opportunity to improve their living conditions through increased agricultural landholdings. Since that time, a number of migrants have settled in an area known as “Chikanta,” part of the Bbilili Springs game management area bordering Kafue National Park. Upon arrival, the migrants encountered difficult conditions, including dense Miombo woodland requiring clearing for farming, spotty and unevenly distributed water resources and a plethora of wild animals.

Today, the Gwembe-Tonga farmers have achieved some success in carving out large agricultural fields from the woodlands although they still face other environmental challenges. Most households grow cotton and maize for local and national sale, and maize and other crops for home consumption and many still gather food from the surrounding landscape. In most years, migrant farmers can grow enough to feed their families, and often to share with relatives back home in the valley; many produce surplus for sale even in lean, drought years. At the same time, there is talk of hunger, and most migrants say they experience food shortages, especially during the annual hunger season.

In addition to food, migrants also face challenges in regards to health e.g., they experience a host of devastating problems, including malaria, HIV/AIDS, diarrhea, “whooping cough,” and eye infections. While migrants have extensive knowledge of local health remedies and use them intensively and extensively, they have extremely circumscribed access to biomedical health care resources. Although a health clinic was built in 2004-2006 as a result of a recent development project, as of this writing, the clinic is only partially staffed, and carries only a small supply of basic medicines.

Sample and methods

The field site consists of a number of adjacent villages with an approximate population of 6600 people in 1100 households. Since 1994 Cliggett has carried out short periods of ethnographic research in the field site, and in 2001 began an intensive focus on this field site, with the equivalent of two years of field work conducted between 2001 and 2007. Crooks has carried out three seasons of fieldwork, totaling approximately seven months, since 2004. From 2004-2006 Cliggett and Crooks led three summer field schools for training graduate students in anthropological research methods (sponsored by the National Science Foundation). Field school students and a number of local research assistants assisted in data collection, both ethnographic and anthropometric. To date we have conducted anthropometric measurements (height, weight and arm circumference) according to procedures outlined in Lohman et al. (1988) in five primary schools and two preschools (430 school children; 222 boys and 208 girls), as well as in all the households in which we conduct intensive interviews (27 to-date). Crooks, Cliggett, student researchers and local research assistants conduct household interviews to gather information on migrant histories, livelihood strategies, diet and illness, and all involved in the project provide data via participant observation techniques.

One reviewer of this paper expressed concern that using “anthropometric techniques” was reminiscent of “colonial repression” or “racial stereotyping” – legitimate concerns from previous eras of social science. However, we argue that contemporary methods of health measurement are increasingly set in a “bio-cultural” framework emphasizing the social context in which physical outcomes of growth and nutrition are found (Bogin et al 2007; Schell 1986; Schell and Magnus 2006; Pike and Williams 2006). Indeed, we present our discussion of linking anthropometry with qualitative research specifically to encourage more qualitative researchers to consider the value of such complimentary methods.

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Before moving on to findings, it is important to clarify issues of cultural sensitivity, rapport and trust in the context of anthropometric techniques. Collecting anthropometric measurements must be carried out with good knowledge of local cultural systems (for another example, see Fairhead et al. 2006). In Chikanta, fear of witchcraft, Satan Worship and trading / marketing in body parts required that before beginning data collection we met with all local leaders in public meetings, met with individual families and other “cultural brokers” in the community to explain our activities. Perhaps more importantly, after collecting measurements, we reported back to all communities and families with our findings, giving each family and local leader summary reports of the growth status of children. At the time of reporting our findings, and giving printed summaries, we gave a “lesson” to all adult family members, local leaders and school personnel, in how to read the charts and understand what these anthropometric findings mean. By returning the findings to the community, the local population had evidence which they could present to regional political leaders and development groups in an effort to argue for increased infrastructure and resources (such as more wells for clean water, school food programs, etc). Additionally, reporting back to the community helped to allay fears that the anthropometric techniques we use were in the service of malicious or supernatural powers.

Summary of findings

Preliminary findings document a few important outcomes of migration to the farming frontier. First, the anthropometric data from the 2004 field season school measuring days indicates that migrant boys and girls have different nutritional and growth patterns (reported in Crooks et al., paper submitted to *Ecology of Food and Nutrition*, forthcoming). The data show that while all boys and girls in the sample population are growing less well than World Health Organization references, girls in the sample population are doing slightly better than boys. And while the sample migrant

children are not doing as well as the global reference children, comparing the recent data with earlier data from the sending community (Gillett and Tobias, 2002; Gillett-Netting, 2007; Gillett-Netting and Perry, 2005) suggests that, on average, children in the migrant population are doing better than their counterparts (and indeed their families) from the early 1990s in the sending communities. It is important to recognize that our sample is independent from earlier samples (snapshots in time rather than a panel comparison), but never-the-less indicative of improved status of a closely linked population (see Crooks et al, forthcoming for the detailed discussion of findings from earlier studies in comparison to the current sample). Key in these results is the ability to see change, through empirical data collection and analysis, in nutritional status between sending communities and migrant communities, and over time.

As a complimentary finding to the community level data and the data documenting differences between sending and migrant communities, we have documented the range (i.e., disparity) of well-being in the community by also collecting data at the household level. Findings to date drawing from the household level data indicate that some households are doing better than others in promoting their children's nutritional status. Combining life history data from the longitudinal project started in the 1950s, and our ethnographic interview data (that captures livelihood decisions and change, along with knowledge about good farming) with the anthropometric data, we can link variability in nutritional well being with particularities of household dynamics (for a full summary of these preliminary findings, see Crooks et al 2007).

Some of the most salient findings in this particular analysis point to the importance of post-marital residence patterns as an influence on child well-being (newlyweds co-residing with husbands' parents for the first few years of marriage); engagement with entrepreneurial activities correlates positively to households with good nutritional status; and well nourished children are more frequently found in households

with articulated knowledge of “what makes a good farmer”, a characteristic that goes beyond simple statements of “early preparation” and “cattle and plows.” In this analysis, we have concretely linked nutritional well being at the household level with household socio-economic decision making and social practice in order to argue that those characteristics have very real outcomes in child health and well-being.

Conclusion

The findings generated from this collaborative, multi-method research agenda demonstrate the persuasive power of linking in depth qualitative research with more empirically founded research methods such as anthropometry. Either method can, and often does, stand alone, but the linkage of these methodologies clearly has a sum greater than the parts. During an era when universities, funders and development programs increasingly encourage “interdisciplinary” study of important issues, seeing how some researchers have incorporated complementary methods offers an example of ways to answer the challenge of “interdisciplinarity” and multi-method studies.

Using anthropometric methods to assess child nutrition and well being adds strength to more qualitative studies that seek to identify costs and benefits of migration. Studies that capture income variability, mortality, political and legal factors, changes in identity and attachment offer important insights into migration. However, studies that give attention to nutrition, health and well being, produce an important dimension to our understanding of the migration experience. For qualitative scholars with concerns about the power dynamics or repressive potential of using anthropometric measurements for assessing well being, it is important to see examples of linking these complimentary methods in new ways that emphasize the social and cultural context of “well-being.”

With such studies, we can answer questions such as, what are the subtleties that influence why some migrant households fare better than others? What factors influence why

children within one migrant household have better nutrition than others? And how, at a very basic level, do migrants fare in providing a nutritional foundation for children (at the least) in their homes? – a foundation that determines the long term outcomes of the migrant experience.

If we see voluntary migration as a choice to change, and possibly improve, household well being, looking at the nutritional status of migrant children offers one clear indicator of well being. Ultimately, healthy children equal potentially greater possibilities for economic, political and social benefits in subsequent generations.

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