

Understanding women’s status, empowerment and autonomy in sub-Saharan Africa: The need to contextualize and validate DHS gender analyses with supplemental qualitative data

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Abstract

Understanding gender in Africa is essential to creating policy and designing interventions to address key health issues—e.g. HIV/AIDs and maternal mortality—that are particularly pressing for the continent and are strongly related to gender inequality. The addition of questions to capture women’s empowerment and autonomy on the MEASURE/Demographic and Health Surveys (DHS) in the late-1990s provides opportunities to expand understandings of gendered implications for population, health and nutrition (PHN). These questions’ conceptualization, however, largely emerged from knowledge of Asian cultures, necessitating investigation into their appropriateness for sub-Saharan African contexts. DHS data offer a starting point for understanding gender through women's status, empowerment and their relationship to demographic processes; however, supplemental qualitative studies to validate and contextualize African data would significantly strengthen analyses. This paper provides examples of how such mixed-methods work would enhance the theoretical frame and analyses by providing (1) more complex understandings of gender contexts, (2) examining the validity of survey questions and use of survey measures in particular quantitative analyses, and (3) elucidating the processes and mechanisms behind gendered experiences.

Key words: Africa, DHS, qualitative methods, mixed-methods, gender

Introduction

Understanding the way in which gender impacts and is impacted by demographic processes is of keen interest to population scientists, as well as having important implications for the fulfillment of the Millennium Development Goals (Becka and Dorao-Moris 2005; Moghadam 2005; Obaid 2008). Furthermore, gender inequality is among the primary drivers for certain pressing health issues in Africa such as HIV/AIDS and maternal mortality (Smith 2002, Ronsmans et al. 2006). Survey data measuring women’s status, empowerment and autonomy are one means of capturing gender and the studying its relationship to population, health and

nutrition (PHN). New questions and variables added in the late 1990s to the MEASURE/Demographic and Health Surveys (henceforth referred to as DHS), which collect both demographic and PHN data in over 30 sub-Saharan African countries provide a starting point from which to assess these very relationships. However, the conceptual framework of DHS questions on women's status, empowerment, and autonomy in the DHS grew primarily out of knowledge of Asian cultures. A contextual understanding of gender is important for research concerned with contextually specific health issues such as HIV/AIDS. Thus, it is less clear if these measures are appropriate and valid in capturing gendered mechanisms related to PHN in Africa. Therefore, we argue that supplemental qualitative studies need to be done to validate DHS data and contextualize measures of gender for the African context.

To date, more DHS (and other survey) analyses have focused the relationship between gender and PHN in Asia, and South Asia in particular than in Africa (Hindin 2005, 2006; Mumtaz, Slaymaker, and Salway 2005; Omabira 2006; Takyi and Broughton 2006; Woldemicael 2009). Yet, the opportunity exists to make use of DHS data to examine these relationships in sub-Saharan Africa (Kishor 2005). Because of the wealth of scholars working on these themes in South Asia, the conceptual and methodological foundations of the DHS variables largely grew out of work in these settings (personal communication with S. Kishor, July 2009). The role and relevance of women's empowerment, status and autonomy and what they say about gender, however, are at least partly dependent on contextually specific historical and cultural gender systems (Kishor 2005; Desai and Johnson 2005). Thus, these DHS questions may not be wholly appropriate for the African context. Scholars must reflect on how to reliably capture gender through contextually appropriate measures of women's status/empowerment/autonomy in sub-Saharan African contexts. One way to begin this process is to supplement DHS data from sub-

Saharan Africa with qualitative studies to contextualize and validate the existing measures, or suggest how to alter them.

While population scientists historically have relied primarily on surveys and censuses, recently there has been a shift toward capturing population issues using qualitative and mixed-method research. The utility of mixed-methods research for demographic research exists in the ability to make up for the weaknesses of one method with the strengths of another (e.g. Sieber 1973; Knodel 1997; Obermeyer 1997; Pearce 2002; Randall and Koppenhaver 2004; Axinn and Pearce 2007; Schatz 2009b). Additionally, articles implementing mixed-method research are increasingly seen in major population studies journals (some examples include: Mensch et al. 1999; Messersmith et al. 2000; Short et al. 2002; Watkins 2004; Seeley et al. 2008; Stewart et al. 2008). These studies show the growing acceptance of mixed-methods work, as well as the importance of mixed-methods research in contextualizing and validating quantitative analyses on complex topics like gender, reproductive health, and AIDS.

There is no shortage of qualitative data from sub-Saharan Africa, and we provide a few examples of qualitative or mixed-methods studies below. However the use of data matched with and meant to enhance DHS analyses are virtually non-existent (see Mojola XXXX, Victor XXX for a few exceptions). This paper provides specific examples of where and how qualitative data might be used to create a mixed-methods project by adding it to DHS data. The aims of this mixed-method work are as follows: (1) to build a more complex understanding of the gender context, (2) to examine the validity of survey questions and use of survey measures in particular quantitative analyses, and (3) to elucidate the processes and mechanisms behind gendered experiences. Finally, some practical suggestions for, as well as limitations to, supplementing DHS data with small qualitative projects will be discussed.

Capturing gender with DHS data

For the past 25 years, DHS has provided technical assistance to governmental partners in developing countries to implement nationally representative household surveys. Over 200 surveys in 75 countries have been completed. With samples ranging from 5,000 to 30,000 households, surveys generally are repeated every 5 years, providing longitudinal data to assess trends in fertility, family planning, maternal and child health, as well as child survival, HIV/AIDS, malaria, and nutrition. These surveys are unique in that they provide standardized measures, making comparative analyses possible. The surveys aim to “advance[e] global understanding of health and population trends in developing countries,” with a strategic objective “to improve and institutionalize the collection and use of data by host countries for program monitoring and evaluation and for policy development decisions.” USAID is the primary DHS funding source (www.measuredhs.com).

Demographic and Health Surveys prior to 1999 collected an assortment of proxy measures of women’s status such as headship, educational attainment, age at marriage, age at first birth, and labor force participation (See www.measuredhs.org for core questionnaires with standard question wording). These measures provided a very general idea of women’s position in society, but they largely provided trend data on sex differences in education, age at marriage and employment. Proxy measures of women’s status, empowerment and autonomy were important to early demographic research when direct measures were not available. However, they did little to explain women’s roles in society or power relationships within their families and households and did not fully elucidate how gender influenced women’s ability to make decisions about demographic processes, such as family size and contraceptive use (Watkins 1993). Thus,

population scientists studying gender questioned the value of proxy measures and highlighted the need for more direct measures of status, empowerment and autonomy in order to better capture gender in context (Kishor and Neitzel 1996; Mason 1986; Watkins 1993).

With an aim of collecting more direct measures of women's status, empowerment, DHS revised the core questionnaires in the late-1990s. Beginning in 1997 DHS began to integrate measures of gender, as opposed to simply variables capturing sex differences, into their surveys (Kishor 2005; Kishor and Subaiya 2008). An advisory group of gender experts met to provide recommendations for questions to add to the core questionnaires (Kishor 2005). The advisory group was primarily made of experts in research on gender in South Asia (personal communication with S. Kishor, July 2009). Since 1999 the core questionnaires have included direct measures of women's participation in household decisions, women's attitudes about wife beating, attitudes about situations when a woman can refuse to have sex with her husband, and obstacles women face in accessing healthcare (see Appendix A, Table 1 for a list of these new questions).¹

In addition, in the late 1990s DHS created new, standardized modules to gather more detailed information on particular aspects of women's lives. These modules, which run alongside the core questionnaires, are available for measuring women's status and empowerment (WS/WE) more extensively, domestic violence (DV), and female genital cutting (FGC).² A limited number of countries have completed the special modules (see Appendix A, Table 2). Thus, this paper

¹ While DHS makes every effort to keep the core and module questionnaires standardized, host country partners make the final decision about which questions and modules will be included on the survey. The host country has the prerogative to remove questions from the survey. Prior to national implementation of the survey, each questionnaire is pretested (personal communication with S. Kishor, July 2009).

² Countries that have implemented one of the women's status modules (Women's Status/Empowerment, Domestic Violence, or FGM) requested the inclusion of the module as part of the survey implementation. Sometimes the request for a particular module is driven by interest of local experts, or in having comparable data to a neighboring country (personal communication with S. Kishor, July 2009). Appendix A, Table 2 lists countries and years in which standard and special modules were run.

focuses more generally on how qualitative data might supplement the gender questions on the core questionnaire of the standard survey.

Gender in the DHS: Advantages and disadvantages

DHS has conducted standard and/or special surveys in over 30 sub-Saharan African countries in the last decade [see Appendix A, Table 2 for specific years and countries]. Standard questionnaires from 1999 to present have several distinct advantages in measuring gender over earlier core questionnaires and over smaller scale surveys. First, questions on gender are based on a conceptual framework developed by the gender advisory group. This includes the treatment of gender as a social construction and the emphasis on gender inequalities resulting from the social construction of gender (Kishor 2005). Second, DHS collect nationally representative samples, providing the opportunity to generalize about women's position from the samples to the general population. These surveys are especially good for identifying things such as the prevalence of female genital cutting; they can even provide a snapshot of attitudes about gender norms in a society. Third, DHS questions are fairly uniform and provide the potential for comparison across contexts. Although comparative analyses require caution (Kishor and Neitzel 1996), in some cases these comparisons can be instructive (e.g. Hindin 2005; Kishor and Subaiya 2008; Mumtaz et al. 2005). Finally, once repeated in a country, DHS provide data for longitudinal analyses enabling a more sophisticated understanding of how women's status, empowerment and autonomy change over time and shifts in relationships to PHN.

Several disadvantages of DHS in relation to measuring gender were pointed out in Kishor's (2005) report describing the process of adding direct measures of women's status, empowerment and autonomy to the core questionnaire. First, DHS has limited space, especially in the core questionnaire, which means that it can cover only a few aspects of gender. These

questions arguably represent integral dimensions of these concepts; however, they do not fully address all dimensions or consider all spheres in which gender relations are enacted. Second, the requirement that questions be nearly uniform across countries severely limits the types of questions that can be asked. Questions must be translatable and relevant in most contexts (personal communication with S. Kishor, July 2009). This restricts the level of specificity that DHS provide on gender relations in various contexts. Finally, the requirement that questions be relevant to understanding population, health or nutrition (PHN) outcomes also limits the scope of questions about gender in the DHS core questionnaire (Kishor 2005). The concern for women's status, empowerment and autonomy only as they relate to PHN issues contributes to limitations in measuring and analyzing women's status, empowerment and autonomy as important outcomes in their own right (Williams 2010).

In sub-Saharan Africa, in particular, there is another important drawback to the DHS variables. The gender advisory group relied heavily on previous research on women's status, empowerment and autonomy from Asia, particularly South Asia. Because so much of the early research on gender had been done in South Asia, particularly in India and Bangladesh, the majority of the experts on the gender advisory panel (e.g. Alaka Basu, Sonalde Desai, Karen Mason, and Sydney Schuler) had expertise in Asia. While a few panel members were generalists, no one with particular expertise in sub-Saharan Africa sat on the panel (personal communication with S. Kishor, July 2009). This omission, while understandable, increases the likelihood of an over-emphasis on measures more appropriate for Asian cultural contexts than for Africa. For example, in many Asian contexts *purdah* limits women's freedom of movement, whereas limited mobility is less of an issue in most African contexts. Therefore, more research is needed in

Africa to identify culturally appropriate gender measures and to test the validity of current DHS measures.

A final and related disadvantage of the DHS measures of empowerment is their lack of grounding in qualitative research. Previous qualitative research, particularly in Asia, informed the creation of women's status, empowerment and autonomy questions (personal communication with S. Kishor, July 2009). However, the only apparent contextual grounding of gender questions in other regions of the world comes from a process of pretesting the DHS questionnaires prior to national implementation (personal communication with S. Kishor, July 2009). This process helps determine, in some cases, questions for which interviewers are able to solicit answers and helps choose appropriate questions from those available. It does not, however, indicate how particular questions are understood within different cultural contexts, nor whether they provide meaningful or powerful measures of women's empowerment in that setting, nor suggest alternative questions to capture women's status, empowerment and autonomy in that setting.³

Gaining from Mixed-Method Research Designs

Despite the overall validity and reliability of large scale surveys, "the strength of comparative surveys...is also their weakness: Precisely because they are, at least in principle, collected in exactly the same way in all settings, the data they yield are limited when the goal of the research is to provide explanations for observed associations, differences between groups, or trends over time." (Obermeyer 2005:3).

³ The one exception is that FGC module was based on qualitative work done in Guinea (www.measuredhs.com). DHS has also completed a number of qualitative projects in sub-Saharan Africa related to gender. While not explicitly focused on women's status and empowerment, their qualitative projects on abortion, child health, FGC, and on AIDS and VCT uptake could shed light on issues related to gender dynamics in the areas where the studies took place (www.measuredhs.com). These data have not, however, been used to alter questions related to women's status, empowerment or autonomy on core questionnaires or modules.

Given the limitations outlined above with the DHS data on women's status, empowerment and autonomy, qualitative research is a vital tool for understanding the gender context and gender relations, for identifying what constitutes each concept in the context, and for helping to differentiate between different dimensions of each of these concepts, as well as components of each dimension. The qualitative data can then be used to guide the analysis of existing DHS data, resulting in a stronger mixed-methods approach and analyses.

Ideally, the methodological process is iterative, with a qualitative component as a starting-, mid- and end-point. In such a scenario, the qualitative data would be used to develop and validate questions for the survey. Then further qualitative data collection in conjunction with the survey would increase the understanding of the gender context and frame quantitative models. And, finally, post survey qualitative data collection would help interpret quantitative findings. Although the iterative process is unlikely to be possible in most settings, mixed-method research designs can accomplish many of the same goals and even small qualitative projects using fairly quick evaluation methods can greatly improve the understanding of gendered processes and the interpretation of quantitative measures or findings. Small qualitative projects can be used to corroborate, elaborate and initiate ways of understanding the DHS data (Rossman and Wilson 1985). The collection and analysis of qualitative data can help ensure that the quantitative models appropriately represent gendered dynamics, women's status, empowerment and autonomy in the given setting. And because the DHS is free for researchers, the monetary and time cost of mixed-method designs with the DHS are reasonable.

A number of authors call for the use of mixed-methods research to better understand topics in which gendered relations are a central issue, i.e. reproductive health, sexual behavior and HIV, and development (Bamberger 2000; Helitzer-Allen, Makhambera, and Wangel 1994;

Obermeyer 2005). Mixed-method research incorporates multiple types of data collection within the research design, thus, qualitative work could be included at least one point in time (beginning, mid-point, or end) to supplement quantitative analyses of the DHS. DHS itself endorses mixed-methods research with a program of qualitative data collection.⁴ The aim of qualitative work at DHS mirrors the authors' line of reasoning for supporting DHS analysis with qualitative data collection, connecting theory and research, and underscoring "the ways that qualitative and quantitative approaches to the study of social interaction can complement one another. This strategy focuses on local terms, concepts and practices to achieve understanding, and explores the social and cultural contexts within which events occur."

<http://www.measuredhs.com/aboutsurveys/qr/methodology.cfm>

Qualitative methods are better than surveys at "elicit[ing] sensitive information on determinants of behavior such as attitudes and social norms, as well as the cultural context in which these behaviors take place" (Helitzer-Allen et al. 1994:75). In addition, qualitative data can get at the meaning of behaviors and attitudes related to gender, and both why and how they change over time (Obermeyer 2005). Local meanings and their relationship to broader social structures can be captured more fully through open-ended discussions, than with fixed-answer questions. Even when survey data point to correlations between two sets of variables, like those representing women's status, empowerment and autonomy with outcome measures of

⁴ DHS has used qualitative projects to understand sensitive topics like how young women cope with an unexpected pregnancy (open-ended interviews in Accra, Ghana), produce better survey questions and pre-coded responses to those questions (semi-structured interviews and focus group discussions on FGC in Guinea) (Yoder, Camara, and Soumaoro 1999), adjust questions that respondents did not understand as intended for an AIDS indicator study (observational study of survey implementation in Tanzania). The reason that the qualitative work at DHS does not fully meet the needs of gender scholars wanting to analyze the country-level data is simply that there is not enough person-power or funding to allow for the breadth of qualitative projects in which researchers might be interested (personal communication with P.S. Yoder, July 2009).

population, health and nutrition (PHN), the processes and mechanisms involved remain hidden.⁵ Narrative analyses of qualitative data help to elucidate these processes and mechanisms, even after the survey data has been collected and analyzed.

A few studies have already successfully incorporated DHS data into a mixed-method design. They show how the DHS can elicit important questions best examined further through qualitative research. The next section highlights the ways that mixed-methods research designs can improve the use of DHS data for research on gender and PHN in Africa, including the importance of qualitative research evoking hypotheses that can be tested through subsequent statistical analyses.

Supplementing DHS Data with Qualitative Research

By utilizing qualitative methods (1) to uncover the meaning of questions, (2) to capture the gender context, as well as (3) to explore the processes and mechanisms behind gendered processes, it is possible to continue unpacking the relationships of gender to PHN in Africa. The sections below outline particular ways of using qualitative research to improve analysis of DHS data that have not been significantly utilized to date. Examples are provided for some of the research methods, especially where research from Africa is available.

Getting the meaning right: understanding what questions mean and how to analyze them

Although work understanding the broad gender context, discussed below, is vital for improving the use of the DHS in the African context, qualitative research focused on validating

⁵ See figure 1 in Kishor (2005) for a conceptual outline of the relationship between sex, gender and Population/Health/Nutrition variables.

specific questions or types of question in the DHS is needed. DHS rely on standardized questions across settings. Without qualitative data to help interpret how the questions are heard and answered, it is hard to know if there are standard understandings and interpretations of these questions across settings. In order for measures to be valid, respondents must understand the content of the question, remember accurately, give answers that correctly reflect their memory, and have the desire to provide truthful answers (Obermeyer 2005). An understanding of what the questions are actually measuring is essential to developing models of how gender relates to PHN outcomes, including providing a foundation for selecting independent, dependent and control variables, and how to build any related indices.

If questions are in fact understood, interpreted and answered in different ways in different places, this is potentially very problematic for cross-national comparisons, or even for country level analyses where extreme variation exists across contexts (Mason and Smith 2000). A key to advancing quantitative DHS analyses of gender in sub-Saharan Africa is making use of qualitative data to improve variable choice and determine which questions are most likely to be related to the outcome of interest. Two qualitative methods in particular could improve the validity of quantitative analyses by improving the understanding of the questions that go into those models—focus groups discussions and individual interviews.

The decision-making questions in the DHS provide an example of how information from FGD could be used to improve analyses. These questions attempt to reveal the distribution of power within the household by quantifying the weight given to a wife's desires versus those of her husband in making a decision. Qualitative research that illuminates how decisions making questions are answered, particularly within new contexts, could greatly improve the use of DHS

data. Furthermore, the same qualitative research could inform how to operationalize these measures in statistical models.

For example, research using DHS data has suggested that women may actually be better off in situations where they make fewer decisions independent of their partners (Hindin 2005). Using DHS data for Zambia and Malawi, Hindin (2005) finds that women who either have all of the final say or whose partners have none of the final say are more likely to have chronic energy deficiency than would be expected. Hindin (2005), therefore suggests that more needs to be understood about when women report having the final say about decisions – are these women empowered to make decisions or do they represent households where partners contribute little and women are left to take care of themselves and their children? As has been true in Asia, more needs to be understood about the difference between true empowerment and economic desperation, which forces women to act on their own (Williams 2004).

In this example, either focus group discussions or individual interviews could center on the issue of decision making, including which decisions women are included in, and in what ways, whether women want to be a part of larger decisions, and why or why not. In FGD, women and men could ask to discuss or come to a consensus about how the responses (wife decides, husband decides, decide jointly) might be ordered in terms of women's power in decision making.

As with the FGD, individual interviews could be used to reflect on specific survey questions. In this scenario, a sample of individuals similar in age, marital status, education level, et cetera, of those in DHS survey could be selected and the same gender questions under review could be asked of the respondents. Rather than moving from one pre-coded question to the next, however, the interviewer could engage with the respondent in an semi-structured conversation

following each question to understand how the respondent heard the question, what her interpretation of its meaning was, what she was thinking about (a particular situation, occurrence, or a cumulative notion of many experiences) when she selected her response to the question (Schatz 2003, 2009a).

Like in the FGD, more detailed questions could be asked about when and how women have influence in decisions in the household, and whether she feels she has more power when she makes decisions alone or jointly with her partner. Indeed, two very different scenarios might conclude with a woman's desires being met, and it is unclear in which she would feel more empowered without asking her view. In one situation, the couple may have had the same desires from the start and virtually no negotiation was necessary—the woman made her desires known and the item was purchased. In the second situation, the couple may have disagreed initially and only through negotiation, bargaining, and/or compromise did the couple agree and purchase the item, fulfilling the woman's desires. These two situations would appear identical in the fixed-choice questions but might be reported differently on the survey, as either a joint or independent decision by the woman. Through re-asking these questions and allowing respondents to give examples in an open ended discussion, the ways in which the questions might have been understood and answered on DHS survey may be clearer. This provides the researcher and future analyst with a better understanding of what a particular closed-ended question response might mean in that context, and clarify if the same response is associated with a sense of higher/more status, empowerment or autonomy in one situation or when responding to one questions, but that same response is associated with a sense of lower/less status, empowerment, or autonomy in a different case.

Qualitative data provides additional information that can be invaluable for analyzing DHS. Small qualitative projects can help researchers understand what questions are measuring, which questions to use in their models, and how best to operationalize the available data. Qualitative projects do not have to be representative of the entire country, rather purposeful samples in select areas can still be used to provide insight as to what DHS survey questions mean in a particular locale and, therefore, how they should be employed in quantitative analyses.

Capturing the gendered context of the research

Gender is socially constructed and therefore is shaped by the same social, economic, and disease burden changes that shape decisions about demographic processes (Hollos and Larsen 2004). One way of contextualizing DHS data analysis is to broaden literature reviews.

Quantitative research using DHS data can benefit greatly from reading literature based on ethnographic and other qualitative methods, as well as in depth studies of other aspects of social context. Through reading literature from multiple disciplines, researchers can begin learning about and understanding social, economic, political, and public health contexts and change over time related to these issues in a given region (Obermeyer 1997; Randall and Koppenhaver 2004).

In addition, there are a number of qualitative methods that can help capture the gender context that could be used to supplement DHS analyses. Supplementary qualitative methods range from participant observation, which might provide information about geography and logistics of mobility, to focus group discussions (FGD), which can afford insights into local values and norms related to gender, to individual interviews (IDI), which can uncover ways that

gender impacts women's experiences in their daily lives. For example, Obermeyer (2005) highlights qualitative research as, "document[ing] the ways in which information about health is filtered through local structures and incorporated into existing systems of understanding, especially in the case of HIV" (pg 7). Qualitative work can help structure conceptual and analytic frames of reference for analyzing recent DHS in sub-Saharan Africa and provide an understanding of the current contexts in which the surveys were conducted, as well as provide insights into differences among places when conducting comparative analyses.

Castle et al.'s (1999) study of clandestine contraceptive use in Mali highlights ways in which qualitative research on gender context may provide important information for policy and programs, negating current trends. Qualitative evidence from focus groups and individual interviews show that bringing men into family planning programming and redirecting programs toward "couple-oriented counseling" may be wrong-headed and have negative impacts on women in settings where contraceptive uptake is still low. In such settings, men may still be resistant to contraceptive use and thus women who use contraception covertly are at risk of being found out, and left in an unsupportive environment if men are brought into the process.

Baylies (2002) work from Zambia and Schatz and colleagues research in South Africa (Ogunmefun and Schatz 2009; Schatz 2007; Schatz and Ogunmefun 2007) outline the ways gender impacts individuals' experiences of AIDS within communities. In both projects the individual interviews highlight the ways in which the age and sex structure of AIDS affects households' ability to cope. The interviews also helped elucidate interactions through which gendered roles becomes important, namely headship and care giving. This type of data collection would be helpful for DHS analyses, especially to supplement to the AIS survey questions, which

determine prevalence, evaluate knowledge, assess HIV services, but don't explore the gendered impacts of HIV/AIDS on families, households, and networks.

Exploring the processes and mechanisms of gender inequalities

Qualitative studies are needed to understand the meaning of gender and particularly the meaning of DHS questions in the African context and are important for understanding the process of gender – how gender inequalities emerge and influence behavior related to demographic and health outcomes. These mechanisms can be uncovered through the use of participant observation, focus group interviews, and individual interviews.

Agadjanian (2002) uses DHS data as a backdrop to his analysis of men's communication about contraceptive use in urban Mozambique. He finds that despite similar patterns of family planning knowledge and of men's and women's family planning communication networks, DHS data conceal important gender differences. Focus group discussions with men and individual interviews with men reveals how men's separate social networks lead to highly gendered informal communication loops that "feedback into gender ideology by reaffirming and challenging gender hierarchies, roles and stereotypes" (Agadjanian 2002:195). He argues that it is the processes and mechanisms behind how men learn about and make decisions related to family planning that are missing from the DHS data. He uses the qualitative work to show that men's informal networks are an important and gendered source of information about family planning, and that many of their conversations about contraceptive use take place in age-sex-class segregated networks, which are not sufficiently captured in the DHS, and significantly impacts men's attitudes about reproduction and contraceptive preferences.

Agadjanaian's (2002) work provides an example of how the DHS and qualitative research can be truly synergistic. Qualitative studies are needed to understand the meaning of gender and particularly the meaning of DHS questions in the African context and are important for understanding the process of gender – how gender inequalities influence behavior related to demographic and health outcomes.

Advancing Research on Gender in Africa using Mixed-Method Designs with DHS Data

While validating, contextualizing, and elucidating DHS data on gender are important goals of adding qualitative research to DHS analysis, mixed method projects can also simultaneously advance the broader research agenda on gender in Africa in several ways.

Scaling-up: going beyond the individual context of gender

While individual attitudes and behaviors are important, much of the literature on gender, and women's status, empowerment and autonomy has pointed to the fact that women's empowerment and autonomy at the community level often provides more explanatory power than do individual characteristics (Desai and Johnson 2005; Mason 1987; Mason and Smith 2000; Matthews et al. 2005). The DHS provide information at the individual level. Qualitative data that provide a general understanding of how gender is lived in a particular context could illuminate community level norms and attitudes, as well as the appropriate level of aggregation of individual level data for quantitative analyses.

Scaling up can be accomplished by collecting data on institutional influences of gender, or by using qualitative methods to gather information about the ways macro-contextual variables influence micro level behavior. One way in which participant observation could be useful to

understanding both the general and gendered context of a setting is by simply recording information about the geographical layout.

Schatz's (2003) study from Malawi provides an example of why even this basic information can be crucial to understanding women's status, empowerment and autonomy, and survey data related to this topic. Participant observation provided insight into differences in terms of the geographic proximity of the market and health center to the study site villages in the southern and northern study sites of the Malawi Diffusion and Ideational Change Project (MDICP). These differences greatly determined the distributions of freedom of movement variables from the 1998 MDICP survey in the two sites. In the northern, patrilineal site, women reported having more freedom of movement than in the southern, predominantly matrilineal area. Participant observation as part of a larger qualitative study revealed that this was largely due to the market and health center being embedded within the community in the northern site, but on a major road near a large trading center in the southern site. It was the "dangers" posed by the main road and trading center that constrained women's mobility in the southern site. For DHS analyses, such insights could reveal whether there are geographic barriers to women's accessing health care, which might require different responses than if the barriers are knowledge or even empowerment related. Knowledge of geography may expose different barriers across regions.

FGD are particularly adept at assessing women's empowerment at a community level because of the ability to capture both consensus and dissent about particular topics during group discussions. Varga's (2003) article highlights the advantages of mixed-methods research, particularly for gender and reproductive health topics; her work highlights the advantages of conducting FGD as an initial strategy. Through a total of 24 FGD, stratified by sex, age, and urban/rural residence, Varga used the FGD to define "social parameters of adolescent sexuality

and fertility dynamics by gauging relevant attitudes about contraceptive use, and pregnancy; by assessing sensitivity about these issues; and by gaining a better understanding of potentially relevant linguistic and sub-cultural differences between rural and township adolescents” (Varga 2003:162). The focus groups uncover gendered consequences of a girl’s but not the boy’s respectability being damaged when a boy denies paternity. Denial of paternity is viewed as normative, particularly in urban areas, further denial can increase a young man’s status among his peers. Focus groups can provide insight into norms and meanings, enhancing the interpretation of DHS analysis related to these topics.

Guiding Comparative Research

Focus group discussions (FGD) can garner local values, norms, and ideas. Particularly in situations where a researcher wants to examine similarities and differences in attitudes and values across various contexts with limited resources, FGD may be the best choice. A researcher could conduct a number of FGD in multiple settings rather than larger number of individual interviews in one setting, to get a sense of the expediency in assuming that questions have the same meanings across contexts. FGD could enhance analyses of DHS data by conducting FGD with men and women separately about situations related to women’s empowerment. Since the DHS questions normally focus on women’s responses, and current questions on the DHS measure different dimensions of women’s empowerment quantitatively, FGD on could help determine which set of questions should be used for a particular type of analysis or in a particular context.

Broadening the Perspectives

In addition, significant work using focus groups has added men's voices to examining how gender influences couples negotiations about sex, contraception, and paternity (e.g. Agadjanian 2002; Datta 2007; Varga 2003; Wolff, Blanc, and Ssekamatte-Ssebuliba 2000). Since gender measures are largely collected through women's responses in surveys, the use of focus groups with men to elucidate their points of view on these issues, particularly in comparison to the ways women understand an issue, or of men's and women's descriptions of negotiations over sex and contraception are important uses of qualitative data to give context to survey findings about contraceptive knowledge and use.

Having a sense of gender systems and context are essential to any type of analysis of women's status, empowerment or autonomy and their relationships to PHN. This type of information is more efficiently and richly captured through open-ended, rather than fixed-choice questions. While the examples given above range in size and scope, the underlying message is that a little knowledge about geography, gendered power relationships, and community norms and values can go a long way to providing context as well as a basis on which to make decisions about variable selection for quantitative analysis and to assist in interpretation of those analyses.

Understanding Trends in Gender Inequality

Trend data is extremely important, as is being able to examine the level of women's status, empowerment and autonomy across contexts and over time. However, without a sense of the processes and mechanisms that drive the trends and underlie cross-national differences, it is difficult to develop programs to improve women's lives, and address needs related to PHN. Qualitative methods can supplement trend data by providing access to local meanings and how they connect to broader social structures. Qualitative data and analyzes offer important insights

into the processes, mechanisms, and even to the ideas and emotions (Obermeyer 2005) behind relationships, behaviors, values and attitudes that help determine both the gender context and the ways in which individuals make decisions about demographic processes. Qualitative data and analyses can uncover the *how* behind decision-making and gender relations. The methods previously discussed, such as FGD and IDI can provide insight into processes and mechanisms as well.

Qualitative research provides a unique opportunity to pay attention both to what is being said, but also to take note of where the silences lie (Obermeyer 2005). Listening to how individuals and groups talk about a topic may reveal jointly held “contradictory” beliefs, and things that prevent behavior change, as well as culturally specific mechanisms through which these patterns emerge. For example, whereas DHS data may reveal certain attitudes about the situations in which domestic violence is justified, it reveals little about the logic or emotions behind those attitudes. In other contexts, qualitative research has generated significant insight to women’s knowledge, fears, and responses to domestic violence (e.g. Fox et al. 2007; Schuler, Bates, and Islam 2008).

Qualitative data can provide the meaning behind patterns that emerge from the quantitative data. For example, similar to Agadjanian (2002), Wolff and colleagues (2000) use qualitative data to explain patterns found in DHS data in Uganda. The importance of this work is in the emergence of the gendered nature of sexual communication and negotiations. In Uganda FGD “shed light on the variable and often one-sided nature of "discussion" reported in surveys.” (p128). Here qualitative data provide a sense of the mechanisms behind responses, and can be used to interpret quantitative results, since more is known about what the variable “discussed family planning” was understood and the ramifications underlying a particular answer, i.e.

discussions about family planning can have social costs because of perceived associations of family planning with infidelity and having children outside of union.

The goal of supplemental qualitative work is to improve the conceptualization for and interpretation of DHS analyses. Other authors have forwarded similar ideas of the need for mixed-methods research to deepen scholars' understanding of women's status, empowerment, and autonomy and PHN outcomes. In their study of marriage and contraceptive use in Tanzania, the authors claim, "an ethnographically informed understanding is essential for the appreciation of culture-specific variables that account for the dynamics of particular marital unions." (Hollos and Larsen 2004:274). The same claims could be made for other issues related to gender, women's status, empowerment and autonomy. As this paper and their paper argue, "the combination of qualitative and quantitative methods should help move the field in realizing this goal." The goals being (1) generating a better understanding of how gender systems function in a particular context, and (2) building conceptually grounded quantitative analyses based on qualitative findings.

Drawbacks of qualitative supplemental research for DHS

While the authors would like to encourage the use of supplemental qualitative data to support DHS analyses and have suggested methods that could be used for various size projects, there are some limitations that are important to keep in mind. One of the main drawbacks of qualitative work is that it is resource intensive. However, "open-ended questions about current opinions or narratives of past experience may appear labor-intensive but are more likely to yield high-quality information than is a simple repetition of standardized close-ended questions" (Obermeyer 2005:7). The time and energy spent on qualitative fieldwork that builds on a public-

access dataset like the DHS could have synergistic effects. The rewards of qualitative research in enriching knowledge of a place and deepening the conceptualization of DHS analyses would be the richness of resulting mixed-methods analyses.

The scope of qualitative projects that might supplement DHS data could range from a small project conducted by a Masters or PhD student in order to complement their quantitative thesis analyses, to much larger, even multi-sited, projects by an established researcher. In the former case, perhaps a small number of FGD (5-10) or IDI (20-60) could be conducted in one site, with a few weeks spent in the site observing and taking notes on the context, geography, and gender interactions. This would provide a means of better understanding the context, gender relations, and specific questions utilized in the quantitative analysis. In the latter case, a multi-sited, multi-method project involving larger numbers of FGD and/or IDI might be more appropriate. In each case the goals are similar, but the resources available to the individual should determine the scope. This paper does not set out to describe how to conduct qualitative projects, but rather to provide justification for supplementing DHS. For those interested in conducting qualitative projects, many good texts are available to use as guides (e.g. Bryman 2006; Esterberg 2001; Teddlie and Tashakkori 2009).

Specificity vs. generalizability

One area in which consideration and caution needs to be taken is in thinking through the size and scope of qualitative data collection to supplement DHS data. Since DHS are country-level, it may be hard to decide how to match qualitative data collection to the country-level quantitative data. Hashemi and colleagues (1996) who worked in just six villages within Bangladesh found that "many of the specific details of women's lives vary because of small

differences in social norms and because the geography, the physical infrastructure, and the configuration of social and economic opportunities varies from place to place" (637). While there is often the opportunity to break down the data by urban/rural residence, region, or ethnic group, the researcher will still need to make a decision about where to conduct the qualitative study, and how to match it with the DHS. Obviously one option is to collect qualitative data in multiple sites (e.g. a rural and an urban site, in various regions of a country if there are distinct regional differences, or among several different ethnic groups, if ethnic or religious traditions related to gender differ greatly). Particularly researchers new to qualitative methods must be careful, however, of not trying to do too much, since single site qualitative projects can be resource intensive, and multi-site projects even more so.

Biases

Qualitative research, like quantitative research is at risk of various types of bias. In qualitative studies, non-probability sampling is common, but also can be rife with selection bias. Fox et al. (2007) use their qualitative data to provide intimate portrait of gender power relations and the ways violence and abuse influence women's experiences with partners and spouses, connection of DV to economic dependence and relationship of both to risk of HIV. One of the reoccurring themes in their work is the ways that gendered communication problems exacerbate abused women's situations. Their work provides important insights into the gender context in South Africa, but as the authors point out, caution is needed in generalizing their results to all women, or even women who have suffered other types of abuse. Their sample was made up of self-selected women who were seeking support for domestic violence; these factors likely had a significant impact on the findings.

In addition, Fox and colleagues (2007) warned of potential bias from participants' desire to protect their self-interest in reporting their experiences. The "self-reported nature of women's own stated risk behaviors may be a potential source of bias if social desirability factors made women uncomfortable disclosing their own sexual risk taking apart from that of their partners." (Fox et al. 2007:598). Thus, when conducting, collecting, and analyzing qualitative data, as with quantitative data, it is important to be aware of potential sources of bias, including selection bias and the ways in which the interests of the respondents may shape the ways they answer the questions.

Conclusions

Why do the authors argue for the collection of qualitative data to supplement the DHS when it would be cheaper, faster and easier to just analyze existing DHS data? This paper makes a case that by improving the conceptual basis and contextual grounding of the quantitative analyses qualitative data would strengthen DHS findings in sub-Saharan Africa. Supplemental qualitative work should "do more than simply add variables" to capture particular behaviors, but it also "must investigate what these behaviors mean and why they change" (Obermeyer 2005:4). By using multiple methods—observation, interviewing, open-ended responses—going beyond what surveys can pick up through pre-coded response categories, qualitative methods can help understand the perspective of the actors, in order to examine how individuals "try to make sense of complicated situations with insufficient information" (Obermeyer 2005:4).

As this paper has shown, utilizing qualitative methods to compliment DHS gender analyses is particularly important for sub-Saharan Africa. Not enough research has questioned how successfully DHS captures of gender through more direct measures of status, empowerment

and autonomy. How well do these measures, created from conceptual frameworks forged in Asia, translate to the African context? More in-depth investigations are needed to accompany DHS analyses, describing the gender context in which the data were collected, determining the local meanings of questions, and to elucidating the processes and mechanisms that help determine gendered relationships, attitudes and PHN behaviors.

While the authors are recommending qualitative studies to supplement DHS analyses, in the longer run they hope that researchers will share any supplemental qualitative studies with DHS so that the scientists there have a better understanding of how well their surveys are capturing gender in various African settings. And, while the authors recognize the overall need for standard surveys, they encourage DHS to make use of this information to change, adapt, improve, or create measures that will better capture these concepts on future modules or revisions of the core questionnaires in sub-Saharan Africa. As more mixed-method data and analyses are available, and more is understood about quantitative measurement of gender in sub-Saharan African settings, there may come a time when it seems appropriate to sacrifice uniformity for specificity. If scholars stop trying to generalize about what gender is, they may be able to generalize more about how gender works. In other words the impact of gendered systems may be universal, even if the mechanisms through which gender works are always context specific. Better grounding of quantitative data and analyses will allow researchers to approach the best ways to measure and compare gender across settings and over time.

Appendix A, Table 1. Direct Measures of Women’s Empowerment: Questions on all DHS 1999/2000 and later

Question no.	Question working on women’s survey	Coding of responses
<p><i>Women's participation in household decisions</i> Women’s participation in decisions that affect their lives is an important indicator of their empowerment.</p>		
719	<p>Who in your family usually has the final say on the following decisions:</p> <p>Your own health care Making large household purchases Making household purchases for daily needs Visits to family or relatives What food should be cooked each day</p>	<p>Respondent Husband/partner Respondent/husband/partner jointly Someone else Respondent/someone else jointly Decision not made/not applicable</p>
<p><i>Women's attitudes toward wife-beating by husbands</i> By presenting women with different scenarios, this question evaluates the acceptability of spousal violence among women. The degree of acceptability of such violence provides insight into women’s attitudes with regards to gender roles and their sense of entitlement with regard to their own rights.</p>		
721	<p>Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, is a husband justified in hitting or beating his wife in the following situations:</p> <p>If she goes out without telling him? If she neglects the children? If she argues with him? If she refuses to have sex with him? If she burns the food?</p>	<p>Yes No Don’t know</p>
<p><i>Women's opinions on whether a woman can refuse sex to her husband</i> This question helps to assess a woman’s sense of empowerment through her normative beliefs about sexual rights. The scenarios listed are those for which most people would agree that a woman should feel justified in refusing to have sexual relations with her husband.</p>		
628	<p>Husbands and wives do not always agree on everything. Please tell me if you think a wife is justified in refusing to have sex with her husband when:</p> <p>She knows her husband has a sexually transmitted disease? She knows her husband has sex with other women? She has recently given birth? She is tired or not in the mood?</p>	<p>Yes No Don’t Know</p>
<p><i>Hurdles faced by women in accessing health care for themselves</i> Several barriers-cultural, social, and financial- can prevent women from accessing health care for themselves. This question helps to identify some of these barriers. The information can help inform interventions designed to increase women’s access to and use of health services.</p>		
490	<p>Many different sectors can prevent women from getting medical advice or treatment for themselves. When you are sick and want to get medical advice or treatment, is each of the following a big problem or not?</p> <p>Knowing where to go Getting permission to go Getting money needed for treatment The distance to the health facility Having to take transport</p>	<p>Yes No</p>

Not wanting to go alone Concern that there may not be a female health provider

APPENDIX A, Table 2: DHS in sub-Saharan Africa 1999-2009

Country	Yr of Standard DHS	Yr/type of Special DHS	Yr Qual	Yr of Women's Status Module
Angola	2006, 2007	MIS	NA	NA
Benin	2001, 2006	NA	NA	2001(FGC)
Burkina Faso	2003, 2009	NA	NA	2003(FGC)
Cameroon	2004, 2009	NA	NA	NA
Chad	2004	NA	NA	NA
Congo (Brazzaville)	2005	NA	NA	NA
Congo Democratic Republic	2007	NA	NA	2007(DV)
Core d'Ivoire	2005,2009	NA	NA	2005(DV)
Eritrea	2002	NA	NA	2002(FGC)
Ethiopia	2000, 2005	NA	NA	2000(FGC)
Gabon	2000	NA	NA	NA
Ghana	2002, 2003, 2006, 2007, 2008	2002-MCH SPA, 2006-MICS, 2007-Special	2001, 2002	NA
Guinea	2005	NA	1999, 2002	2005(WS/WE)
Kenya	2003, 2004, 2008-2009	2004- HIV/MCH SPA	NA	2003(FGC), 2003(DV)
Lesotho	2004	NA	NA	NA
Liberia	2007, 2008-2009	2008-2009 MIS	NA	2007(DV)
Madagascar	2003/2004, 2008	NA	NA	NA
Malawi	2000, 2004, 2009	NA	2003	2004(DV)
Mali	2001, 2006	NA	2000, 2002	2006 (WS/WE), 2001(FGC), 2006(DV)
Mauritania	2000/2001, 2003	2003-special	NA	2000/2001(FGC)
Mozambique	2003, 2009	NA	NA	NA
Namibia	2000, 2006/2007, 2009	2009-HIV/MCH SPA	NA	2006/2007 (WS/WE)
Niger	2006	NA	NA	NA
Nigeria	2003, 2008	NA	NA	2003(FGC)
Rwanda	2000, 2001, 2005, 2007	2001-MCH SPA, 2007-Interim, 2007-HIV/MCH SPA	NA	2005(DV)
Sao Tome and Principe	2007	NA	NA	NA
Senegal	2005, 2006, 2008	2006-MIS, 2008-MIS	NA	NA
Sierra Leone	2008	NA	NA	2008 (WS/WE)
South Africa	2003	NA	NA	NA
Swaziland	2006/2007	NA	NA	2006/2007 (WS/WE)
Tanzania	2003, 2004, 2006, 2007/2008, 2009	2006-HIV/MCH SPA	2004	NA
Uganda	2000/2001, 2004, 2006, 2007, 2009	2007-HIV/MCH SPA, 2009-MIS	2005, 2005	2006(DV)
Zambia	2001/2002, 2005, 2007	2005-HIV SPA	NA	2007 (WS/WE), 2001/2002(DV), 2007(DV)
Zimbabwe	2005/2006	NA	NA	2005/2006 (WS/WE), 2005/2006(DV)

MIS: Malaria Indicator survey, **WS/WE:** Women's status/Women's empowerment, **DV:** Domestic Violence, **HIV SPA:** HIV Service provision assessment; **MCH SPA:** Maternal and child health service provision assessment

Qualitative studies: Ghana: Complementary feeding of infants (2001), Abortion among adolescents (2002); Guinea: Female circumcision (1999), Signs of childhood illness as recognized by mothers (2002); Malawi: Public interest in being tested for HIV (2003); Mali: Complementary feeding of infants (2000), Obtaining informed consent for an HIV test in a survey (2002); Tanzania: Understanding of survey questions in an AIDS Indicator Survey (2004); Uganda: Giving blood for HIV testing and getting test results in a survey (2005), Social context of VCT and disclosure of HIV test results (2005)