MATERNAL EDUCATION AND CHILD HEALTH: A FEMINIST DILEMMA

SONALDE DESAI

EFFICIENCY VERSUS EQUITY: STRATEGIC CHOICES

In recent years, feminist scholarship has transformed the field of international development by articulating a strong case for the inclusion of women in development planning.[1] However, as the field has matured, a curious dilemma has emerged: strategic choices that served an emerging field have become problematic for a mature field. Feminist scholars initially approached the field of international development by arguing that development planning could not be efficiently undertaken without incorporating women and "women's issues" into the planning process. Documentation of the differences in women's and men's farming patterns in sub Saharan Africa, for example, was used to suggest that exclusion of women from agricultural extension projects has a negative impact on food production. Similarly, research showing that women's incomes are more likely to be used for household food expenses than men's was used to argue that greater income-earning opportunities for women would have a beneficial social effect.[2] By appealing to policymakers' desire for increased efficiency and economic growth, these arguments provided an easier entrée into a world that had hitherto excluded gendered approaches. However, by focusing on efficiency arguments for women's inclusion into the planning process instead of outright advocacy for equity between women and men, this approach renders considerations of gender inequality relevant only as long as they increase overall economic efficiency. Although this can be a very effective strategy in some situations, in others, it leaves feminist advocacy vulnerable to the dictates of economic efficiency, often resulting in policy prescriptions antithetical to interests of the

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very group it seeks to serve–women from vulnerable sections of society. In the following sections, I explore this dilemma in greater depth by focusing on research on maternal education and child health and linking it to the strategies for incorporating feminist concerns in demography.

MATERNAL EDUCATION AND CHILD HEALTH

After examining data from large household surveys from a number of developing countries, in an article published in the journal *Demography*,[3] Soumya Alva and I concluded that there is little empirical evidence to suggest that children of educated mothers are more likely to survive in infancy than children of uneducated mothers, once socioeconomic differences between educated and uneducated mothers are taken into account.[4] In particular, our results suggest that region of residence plays an important role in shaping the relationship between maternal education and child health. Educated mothers tend to live in cities, which have better water and sanitation systems as well as health facilities. Even in rural areas, some villages are populated by powerful elite clans or tribes, which are able to better mobilize national resources and get access to schools as well as clinics. Because water, sanitation, and health systems each have a positive impact on child health, excluding these factors from our analysis makes it appear as if maternal education results in better child health whereas maternal education is often just a proxy for other factors.

Our study showed that in fifteen diverse developing countries, once we control for these community effects, the effect of maternal education on children's survival and nutritional status is relatively small and often not statistically significant. Nutritional status is measured by children's height for age. Children who receive adequate food and remain free from diarrheal diseases grow taller, although chance and genetic endowments play important roles in determining children's height. In a well-fed North American population, although there is considerable diversity in height among children, the height of an average child is considerably taller than that of a comparable child in India or Guatemala. In all developing countries for which results exist, children from the upper classes receive better nourishment and grow taller than children from poorer segments of society. Hence, following the

recommendation by the World Health Organization, we calculate a standardized scale for children's height-for-age, which in a well-nourished population would have a mean of zero, but is considerably below zero for this sample of children from developing countries, thus indicating a high degree of malnutrition. Our study examined the effect of maternal education on children's nutritional status and the likelihood of surviving the first year of life.

Results from fifteen countries clearly showed that children in low-education areas are considerably shorter (have a greater negative score) than children in high-education areas. Moreover within the same education category, children in low-education communities are shorter than children in high-education communities. In almost all countries, mothers with a secondary education fail to realize the full advantage of education if they live in low-education communities. In contrast, in many countries, children of uneducated mothers benefit if they live in high-education communities. We obtained similar results for child survival.

When we began working on this project, we started with considerable trepidation because the prevailing wisdom in the field of demography suggested that maternal education is closely linked to child health and survival. John Caldwell, former president of the International Union for Scientific Study of the Population, summed up this belief succinctly, "[A] large number of studies have shown, almost as convincingly as anything can in the social sciences, that a mother's education has an independent, strong and positive impact on the survival of her children."[5] Additionally, this belief has had considerable influence on the public policy discourse. When 186 national delegations and thousands of non-governmental organizations met in Cairo in September 1994 for the United Nations "International Conference on Population and Development," one of the few things most participants in the conference agreed upon was a need to invest in education for women and girls. The Programme of Action adopted at the Cairo conference argues that increased levels of women's education lead to reductions in infant and child mortality as well as fertility; hence, investment in education for women is an important cornerstone of demographic and health policy in developing countries.

Above and beyond high socioeconomic status associated with education, maternal education is hypothesized to enhance child

health in many ways. Educated mothers are better able to access medical services and follow advice, they have greater power within the household to ensure that sick children receive care, and they engage in childcare practices that enhance child health.

Thus, my colleague and I were puzzled when during the course of other research we accidentally stumbled upon data that suggested that maternal education has a relatively small and usually statistically insignificant impact on infant survival and child nutrition. We felt that this observation deserved further investigation and submitted a paper reporting these findings for review to *Demography*. We fully expected reviewers to be hostile to this idea and discover some flaws in our empirical analysis. Thus, we were surprised by the following comments from an anonymous reviewer:

> This paper calls into question a central tenet of public policy discourse–that women's education has a strong causal effect on infant and child mortality and, more generally, on child health. Analyses of Demographic and Health Survey (DHS) data from 23 countries show that controlling for individual socioeconomic characteristics and community effect reduces the measured effect of women's education and renders it statistically insignificant in a majority of countries. There is no question that the results are important. Rather, the question is whether they are new. Or, putting it another way, what is the unique contribution of this paper, given the existing literature?
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> The problem is this. The authors are not the first to point out that the empirical record does not support the hypothesis of a strong causal effect of women's education on child survival. Hobcraft published similar results three years ago, also based on DHS data. The authors acknowledge this. But it appears that the message has not gotten out. As the authors write on page 2, public policy discourse continues to be dominated by the assumption that investing women's education is key to improvements in infant and child health. The paper attempts to change this assumption.[6]

This review corroborated our argument that the relationship between maternal education and child health is relatively weak and that this has been known to demographers working in this area for some time and has been documented in publicly accessible literature. Thus, although our paper made some statistical contribution to research methodology in this field, our central argument was not new, just overlooked–if not deliberately ignored–in public policy discourse. This realization left me with an even greater puzzle; if a select group of specialists so readily agrees that the relationship between maternal education and child health is relatively weak, why do other demographers and policymakers

continue to display such unshakable faith that investments in women's education form an important avenue of improving children's health? This is a particularly puzzling problem given the highly technical and positivistic nature of the field of demography. Demographers tend to display a rather touching faith in empirical evidence, and hence, if some studies[7] have empirically documented that the relationship between maternal education and child health is rather weak, it is surprising that the rest of the field has continued to ignore this evidence.[8] An examination of the origins of this research helps shed light on this anomaly.

MATERNAL EDUCATION AND CHILD HEALTH: THE GENESIS OF THE FIELD

As documented in an intriguing article by Harriet Presser,[9] research on gender, often grouped under the rubric "women's roles and status," has had a difficult time finding a niche in demography. A significant number of feminist demographers instinctively felt that gender inequality should be located at the core of demographic research, but in a field traditionally defined as consisting of research on the size and composition of population (affected by fertility, mortality, and migration), it was difficult to find space for research on gender. Consequently, this group of feminist demographers tried hard to persuade the rest of the demographic community that the core demographic project could not be carried out efficiently without incorporating gender within it and further that policies affirmative of women would lead to desirable demographic outcomes. An article published in 1979 by established demographer John Caldwell, provided the ideal opening.[10] In his research on Nigeria, Caldwell demonstrated that children of educated mothers are more likely to survive than children of uneducated mothers. When this article was published, a small number of feminist demographers were working on developing a conceptual framework linking women's status with demographic variables of interest, namely, mortality and fertility.[11] This research received impetus through a small grants program on women's status and fertility set up by Mary Kritz, an innovative program officer at the Rockefeller Foundation. The basic conceptual framework for this approach is outlined in a highly influential 1984 paper by Karen O. Mason.[12] This emerging community drew on Caldwell's work

to argue that improvement in women's status is an essential component of improvements in child health. "Women's status" remained loosely defined during this era and was often reduced to women's education. Thus, educating girls–future mothers–was seen as an important prerequisite to enhancing child health.

These arguments would have remained largely invisible had they not been combined with an emerging interest in sociocultural dimensions of health. Public health, which had hitherto enjoyed a privileged position in the field of population studies, was affected by a downturn in the world economy. Public health professionals routinely recommended investments in water and sanitation as well as the provision of low-cost primary healthcare as important interventions for reducing child mortality.[13] But these interventions were found to be extremely expensive, particularly during the global economic downturn of the 1980s. Thus, increasing attention was being directed at finding relatively low-cost interventions. One such effort was directed by the Rockefeller Foundation. A conference on "Good Health at Low Cost" was organized by the foundation in Bellagio, Italy, in 1985[14] and a program for examining sociocultural antecedents of transition from poor to good health was established. This program on health transition led to several conferences and a journal entitled *Health Transition Review*.

Examination of papers from one of these conferences paints an intriguing picture.[15] Because the focus was meant to be on social, cultural, and behavioral antecedents of health, there was little attention paid to material conditions surrounding transition from high to low mortality. Instead, emphasis was placed on cultural constraints, which were assumed to prevent individuals from engaging in health-enhancing behavior. In this situation, it is not surprising that women's education emerged as an important antecedent of child health. The empirical research presented in this volume often failed to control for the socioeconomic differences between educated and uneducated women and attributed most of the differences in health between children of educated and uneducated mothers to the positive influence of maternal education in facilitating care given to young children in order to prevent and treat various illnesses.

These vast quantities of empirical studies on the relationship between maternal education and child health, combined with the

conceptual framework advanced by feminist demographers, led to an increasing belief that the relationship between maternal education and child health was well established and tested. John Hobcraft notes: "As has been stressed throughout this paper, we can still not be sure that the associations of all these key factors in child health with maternal education are causal. Associations are often attenuated by control for a limited range of other factors. Control for key unmeasured factors might reduce these associations with mother's education to negligible levels."[16] However, in another report published by the United Nations (for which John Hobcraft is credited for being a primary author) he stresses a different conclusion, using the data from same surveys:

> In all models considered, maternal education appears as a very powerful and pervasive correlate of child survival. . . . Moreover the association of child survival with maternal education remains strong in the face of a wide range of other controls . . . these nearly universal findings on association with child survival reinforce the importance of improving education systems.[17]

DOUBLE-EDGED SWORD

The reader may ask, even if maternal education does not enhance child health, what harm could come from that belief if it ultimately results in increased investments in girls' schooling? After all, this belief–mistaken or not–is an important cornerstone of the consensus reached at the 1994 "International Conference on Population and Development" at Cairo and has bolstered the demands of women's groups around the world for increased government resources for girls' schooling.

I suggest that although advocating investments in women's education as a way of enhancing child health was a powerful strategy for women's movements in Third World countries at one point in time, changes in state and institutional ideologies in the last two decades have demonstrated the dangers of this strategy. In the climate of privatization prevalent around the world, and advocated by institutions such as the World Bank and the International Monetary Fund, focusing on the role of mothers in enhancing child health shifts the boundaries between public and private responsibilities for caring for children.

World Bank recommendations are summarized in its annual publication, *World Development Report*, and receive wide publicity

around the world. The 1993 *World Development Report*, discusses investments in health and provides a good summary of the World Bank position in this area. This report argues:

> What people do with their lives and those of their children affects their health far more than anything that governments do. . . . Education greatly strengthens women's ability to perform their vital role in creating healthy households. . . . Demographic and Health Surveys in twenty-five developing countries show that, all else being equal, even one to three years of maternal schooling reduced child mortality by 10 percent.[18]

Although advocating investments in women's education, this report also suggests that there is little need for public investments in water and sanitation systems on health grounds. On what grounds would one suggest that water and sanitation system improvements are not required to improve health, particularly child health, and at the same time recommend increased investments in mothers' education? Looking below the surface of these two recommendations is quite instructive.

The World Bank estimates that approximately 2 million deaths and 200 million episodes of diarrhea can be averted by provision of safe water and adequate sanitation.[19] However, most of the diarrheal deaths are not caused by diarrhea per se but, rather, by dehydration associated with diarrhea. Thus, many of these deaths can also be averted if dehydration caused by diarrhea is reduced. In developed countries it is possible to hospitalize seriously dehydrated children and rehydrate them through intravenous infusion of liquids. In the Third World with poor hospital facilities, it is usually recommended that parents provide oral rehydration by feeding children small quantities of sugar and salt solution throughout the day.

Although oral rehydration is an effective response to diarrhea, many families do not use it or use it ineffectively, resulting in diarrheal deaths that could have been averted. It is suggested that educated mothers will more easily understand the need for oral rehydration and will be able to save children from diarrheal deaths associated with low public investments in water and sanitation systems. If maternal knowledge and competence in rehydration therapy are the main stumbling blocks, it seems likely that educating mothers in the benefits of rehydration therapy and training them in correct usage of the therapy would help avert many child deaths. However, results from a controlled experiment showed little effect of such training. Between 1985 and 1987,

researchers in West Bengal, India, conducted a controlled experiment in which intensive training of community-based health workers was carried out in one of the rural blocks and use of oral rehydration in this block was compared with another block in which such training was not carried out.[20] These community workers were then asked to provide instruction in oral rehydration therapy to mothers. This study showed that in spite of this intensive training, the women in the study block were no more likely to use oral rehydration therapy than women in the control block and none of the mothers administered oral rehydration therapy early or in adequate amounts.

Given the widespread information regarding advantages of oral rehydration therapy in the study area, the researchers concluded that maternal motivation was the main stumbling block. Although not explored by the physicians who conducted this study, a look at the actual dynamics of administering oral rehydration therapy is instructive. The therapy for very small children is highly demanding and time intensive because young children refuse to drink a lot of liquid, especially when they are suffering from severe diarrhea, and parents–mostly mothers and grandmothers–have to spoon-feed small quantities of liquid throughout the day. Although there are no estimates of women's time spent in administering oral rehydration therapy, some simple calculations are illustrative. Research on diarrheal prevalence shows that in twelve of the twenty-four developing countries, 22 percent of the children under the age of five suffered from diarrhea in the fifteen-day period prior to the survey.[21] Assuming a three-day period when mothers must pay attention to rehydrating children per diarrheal episode, about 5 percent of women's available time is spent in caring for each sick child. Because many mothers in developing countries have at least two children under age five, nearly 10 percent of mother's time will be devoted to caring for children with diarrhea and providing therapy. It is not surprising that many mothers in such diverse settings as Honduras, Thailand, and India fail to administer the full quota of oral rehydration solution.[22] Several studies provide corroborating evidence for the time demands on women. A study in rural Somalia documents that nonfarming women are far more likely to administer the solution than farming women, who have many other demands on their time.[23] Similarly, a study based on surveys from

twenty developing countries shows that mothers are far more likely to administer rehydration therapy to children over six months old than to children younger than six months although younger children are at far greater risk of dehydration.[24] It seems likely that the ability of older children to hold a bottle increases the likelihood that they will actually receive the solution.

It is important to note that oral rehydration therapy, when properly administered, saves lives, but it does not address parents' felt need by actually stopping diarrhea.[25] Thus, focusing on educating women to save the lives of their children through short-term measures like administration of oral rehydration therapy, although important for child health, serves to add to the already heavy work load carried by poor women.[26] When advocated in conjunction with recommendations for limiting public investments in water distribution systems (as shown by the World Bank recommendation described earlier), it serves to shift the burden of dealing with diarrheal diseases from the society as a whole to women in poor households.

One of the most serious examples of transferring responsibility of child survival to mothers is presented in a recent paper entitled "Does Intelligence Account for the Link between Maternal Literacy and Child Survival?"[27] Using data from a literacy project in Nicaragua, this article concludes: "Intelligence is an important determinant of child health among the illiterate [and] education may have the greatest impact on child health for mothers of relatively low intelligence." Uncritical acceptance of intelligence tests in this study is troublesome, but even more troublesome than the empirical conclusion of one study is the direction that a focus on maternal behavior seems to lead. Instead of focusing on what causes diseases and how they can be treated and then addressing the overall disease climate, this approach takes the environmental conditions as given and then looks at maternal characteristics that might marginally reduce child mortality.

CO-OPTATION OF FEMINIST LANGUAGE

Feminist scholars face a major dilemma–the danger of co-optation of feminist language and arguments by others for purposes that were never intended. When early research on the link between maternal education and child health was carried out, most femi-

nist scholars saw in this argument a tool for convincing lethargic governments to reduce inequality in education between girls and boys. The notion that this work may be used as a justification for withdrawing public subsidies from water and sanitation systems seemed outrageously farfetched. However, working through a variety of World Bank documents today, it is difficult not to wonder about the motivation of institutions advocating reduction in public investments in water and sanitation systems while simultaneously advocating education of mothers in order to reduce infant and child mortality. In fact, the emphasis on girls' education that emerges from the World Bank and International Monetary Fund is suspiciously like the New Right's emphasis on the self-sufficient family in the United States. Investment in girls' education is an important goal in its own right, but it is hardly the panacea for all the ills of the world, from child mortality to poverty, and cannot be substituted for policies which address issues of inequality within and across countries.

There is a similar cause for concern with the new emphasis on reproductive health. As originally proposed by women's health activists, the concept of reproductive health deals with women's perceived health needs that have been largely overlooked by the society. However, instead of understanding women's needs and their own priorities, this concept is being increasingly used by the international family planning movement to seek a greater level of international financial support for family planning.

One of the most striking instances of this is documented in research on maternal mortality.[28] Research shows that very young mothers are at somewhat greater health risk than older mothers. Thus, teen mothers are far more likely to experience maternal mortality than older mothers. For example, likelihood of death due to maternal causes to mothers aged ten to fourteen is four times that experienced by mothers aged twenty through twenty-nine. This observation has been used to strengthen the case for family planning programs to reduce maternal mortality.

However, if reduction in maternal mortality is of central concern, one might need to focus on mothers in their twenties rather than very young mothers. The earliest reliable data on maternal mortality from a high-fertility country come from Bangladesh in the early 1970s. Even here, despite relatively early age at marriage, most of the births occur to mothers in their twenties and

early thirties, with only about 3 percent of the births occurring to mothers below age fourteen. Hence, only 8 percent of all maternal deaths occur to mothers aged ten to fourteen and only 24 percent to mothers aged fifteen to nineteen. However, 43 percent of all maternal deaths occur to women aged 20-29.[29] Moreover, stopping childbearing to prevent maternal deaths is hardly a solution to the problem of maternal mortality. Adequate nutrition, prenatal care, and emergency obstetric care are sufficient to reduce maternal mortality, even for high-risk mothers. For example, teen mothers in the United States experience maternal mortality at the rate of seven per 100,000 births[30] while teen mothers in the Bangladesh example cited above experience maternal mortality at the rate of 1,700 per 100,000 live births; even mothers in their twenties have a maternal mortality rate of 450 per 100,000 live births. Thus, if reduction in maternal mortality is the goal of population policies, then the policies should focus on providing care for pregnant women rather than providing contraception to stop these pregnancies from taking place.

CREATING A NICHE

These examples point to a difficult issue. Historically, feminists have used efficiency reasons to bolster their arguments, particularly when working within relatively hostile environments. The efficiency approach argues that whatever the ultimate goal, it cannot be achieved efficiently unless gender inequality is taken into account and constraints on women for full participation are removed.

Ninteenth-century U.S. feminists argued that without education and the franchise for women, American society would not be able to achieve its full potential.[31] Feminist economists have argued that the conception of "economic man" does not do justice to women's experiences, and, hence, economic theory cannot be realistic unless women's experiences are taken into account.[32] Many scholars in the field of women in development have argued that mainstream development projects are bound to fail unless they take into account gender inequality in a society and fully involve women in design and implementation of development projects.[33]

Faced with a discipline that does not see the study of gender inequality as an important part of its domain, feminist demogra-

phers have taken lessons from the experiences mentioned above. Although demography deals with issues like fertility, contraception, and child survival, a study of gender has never formed the central core of the field. Feminist demographers have argued that "good" demographic research is not possible without incorporating gender into it.[34] Thus it has been suggested that it would be impossible to study the way in which women make fertility decisions without taking into account differences between women and men in costs and benefits of childbearing and childrearing. Similarly, any discussion of children's health must incorporate the role of mothers as procurers of family health.

This strategy has yielded rich dividends. Although financial investments in research on gender in demography remain modest, rich intellectual investments have been made and a small but highly influential group of feminist scholars continues to work in this area. The mainstream demographic community has recognized the legitimacy of this line of research by creating space for it in the annual meetings of the Population Association of America and by creating a Committee on Gender in the International Union for Scientific Study of the Population.

Unfortunately, this strategy is also a victim of the very framework it seeks to subvert. The quantitative and statistical nature of demography requires empirical proof that incorporation of gender in research on fertility or mortality increases the understanding of fertility or mortality. As the example of maternal education and child health discussed earlier shows, such proof is not easy to obtain, largely because the phenomena under study are complex and are often related to other types of inequalities in a society besides gender. Even a mother with a great deal of education and power vis-à-vis her husband or mother-in-law can do little to stop a child from dying of typhoid in absence of good health clinics. Similarly, gender inequality in a society may play some role in differential desire for children on the part of women and men, but both poor women and their husbands often choose to have large families because poverty increases the likelihood of child death and reduces savings for old age, increasing their reliance on children for support in their old age. Consequently, when child mortality in Pakistan declines without enormous increases in women's education, or fertility in Thailand declines without major changes in gender relations in the household, it is disconcerting

for the efficiency proponents of gender in demography.

Demographers share this dilemma with their peers in other disciplines, particular those working in the field of women in development. The women in development literature has come to be increasingly dominated by social cost-benefit analysis, which rests on a simple argument. If a planner needs to make a decision regarding whether to undertake activity A, she or he needs to know the costs and benefits of activity A. If benefits exceed the costs, the activity will be undertaken. Women in development specialists have used cost-benefit analysis to justify the inclusion of women, and more explicitly, a focus on gender inequality, in development planning by showing that projects and programs do not function well if they ignore gender. In development planning, the matrix by which success is measured is money. In demography, it is typically decline in fertility or mortality.

However, the addition of gender as a new variable within the same old equation often fails to capture "true" costs and benefits of any policy from women's perspective. If reduction in child mortality due to diarrhea is the sole objective, investments in water and sanitation systems are likely to be far less cost-efficient than training women to provide oral rehydration therapy to their infants. From the government perspective, providing training programs of this type only requires a few hours of a nurse's time per village, far less expensive than installing water and sanitation systems. Little attention is paid to incorporating the costs of mothers' time in administering the oral rehydration therapy because within gender-segmented labor markets it is often difficult to determine the economic value of a woman's time. Moreover, the subjective costs of having to deal with the unpleasantness of children's diarrhea and stress of spoon-feeding liquids to a reluctant and apathetic child are impossible to quantify. It is even more difficult to incorporate long-term social costs of developing a society in which women must choose between full-time participation in the formal labor force and their children's health and survival. Hence, however inherently powerful the efficiency argument, its actual use remains subject to deeply entrenched disciplinary constraints.[35]

Disheartening as this experience is, two recent developments in the field of demography provide hope. The first is the attempt to incorporate a gendered perspective into how costs and benefits of population policies are defined. The second involves the transfor-

mation of the ultimate outcome to be achieved. The first approach is a variation on the efficiency approach and suggests that because there are many paths to achieving the same goal, the chosen path should incorporate feminist values and focus on hidden costs and benefits of specific policy interventions for women. For example, historical evidence suggests many different pathways through which countries can achieve fertility decline: through state policies as in China, through poverty and widespread landlessness as in Bangladesh, through wealth and prosperity as in Taiwan, and through equity and societal transformation as in Costa Rica. The path specific countries choose must be influenced by values that are affirmative of individual women and subordinant sections of society. This implies that policies which change the balance of power between the sexes and make daughters as valuable as sons and thereby reduce desire for large families are far more valuable than policies which tax families with a large number of children. Policies which reduce child mortality through prevention of diarrhea are more valuable than rehydration therapy for children with diarrhea because the former benefits the mother as well as children, but the latter benefits children alone. A focus on values in addition to measurable costs and benefits is one of the greatest contributions of feminist scholarship to research in this arena.

The expansion of the definition of costs and benefits to incorporate feminist values is relatively new to demography and is not easily accepted given the appearance of value neutrality that demographers like to present. Moreover, many demographers have felt that a focus on feminist values overshadows traditional demographic concerns like population growth and mortality decline and consequently have tended to oppose the plan of action adopted at the 1994 Cairo conference. For example, demographer John Cleland disapprovingly notes: "ICPD [International Conference on Population and Development] plan of action has a real urgency when discussing women's issues that is largely absent when discussing problems of population growth and structure."[36]

The second approach is far more radical and involves a transformation of the subject matter of demographic inquiry. This approach argues that instead of focusing on fertility and mortality as the main components of population change, demography should focus on the broader social processes which affect the way individuals deal with dimensions of life such as marriage, family

building, work, and healthcare. By broadening the subject matter of interest, it is possible to emphasize the experiences and needs of diverse groups of women and to focus on the way in which gender shapes these experiences. In this way, it is possible to define gendered dimensions of life as a central focus of inquiry rather than as extraneous factors, which may affect the central core.[37] This approach would imply that it is not important to prove that maternal education reduces child mortality to seek gender equity in education.

Incorporation of research on childcare and a focus on reproductive health are two examples of this transformation. In the 1970s, no one would have seen research on childcare as forming a part of the central core of the discipline of demography. However, by 1989 this area had become sufficiently central that Harriet Presser[38] focused on childcare issues in her address as the president of the Population Association of America. A search of the Population Index bibliographic database reveals that although only 12 articles were published or presented in demographic forums on childcare in the period 1965 to 1974, this number had grown to 151 in the period 1975 to 1984 and to 578 from 1985 to 1994. Similarly, although not a single article on reproductive health was published from 1965 to 1974 and only 3 articles were published from 1975 to 1984. This number grew to 981 from 1985 to 1994. It is important to note that more than 90,000 articles are published in a ten-year period in journals/conferences listed under the Population Index. Hence, as a percentage of overall research in demography, these topics are still relatively minor, and far greater strides in this arena have been made with respect to industrial societies than to less-developed countries. However, that these topics are considered demography at all is a tribute to a small group of feminist demographers.

This transformation, however, is problematic in some ways for feminist scholarship. First, although the issues being addressed are of concern to a large number of women, once defined, the feminist origins of this type of research can easily be obscured. For example, a fair amount of research on childcare quality and price of childcare has been conducted by neoclassical economic demographers with no ties to feminist scholarship.[39] Thus, instead of a focus on gender dimensions of the issues being studied, childcare per se becomes the raison d'être of research. This trans-

formation has been of great concern to feminist demographers.[40] Second, in diverging from traditional focuses of demographic interest, scholars working at these frontiers face a real danger of being marginalized.[41] Finally, it must be acknowledged that in some cases arguments based on efficiency may be the only possible strategy. The women's movement has always sought equality in education. However, many governments in developing countries have been unwilling to invest in girls' education. Recent change in Afghanistan under the Taliban government is one of the most striking examples. In this case, claims to education for women as mothers may be far more acceptable and equity arguments far less effective. Similarly, many funding agencies are willing to fund research on the linkages between gender inequality and fertility or infant mortality, but few are willing to support research on infertility in developing countries because this is not seen as a high-priority area. Finding publication outlets may be even more difficult. Although *Demography*, the official publication of the Population Association of America, has been quite receptive to articles on childcare, *Population Studies*, published from London and until recently distributed as the official publication of the International Union for Scientific Study of the Population, has not been receptive.

CONCLUSION

In this article, I have covered a diverse terrain, which reflects the evolution of my thinking in this arena. I began with the literature on maternal education and child health in demography and showed that although advocacy for investment in girls' schooling in order to enhance child health is a powerful political strategy, it carries a number of risks and tends to transfer the responsibility of children's health and well being from the society to mothers. I then used the research on linkages between maternal education and child health as my entry point into the question of the strategies used by feminist demographers to make space for research on gender within demography. I reviewed several strategies used by feminist demographers and the benefits and risks attached to each.

However, this article also reflects my own biases as someone deeply tied to the field of demography. In my discussion, I have neglected a rich stream of feminist scholarship outside of main-

stream demography which has seen the international population movement, and, by extension, the field of demography, as oppressive of women and thus a legitimate object of inquiry in itself.[42] In many ways, this omission highlights the dilemma most feminist demographers face.

Academic demographers remain deeply divided in their relationship with the international population control movement. A substantial segment has received funding from international donor agencies and has worked closely with these agencies to generate intellectual foundations for population control ideology. At the same time, a fairly significant minority of demographers has sought refuge in academe precisely because of their discomfort with the population control movement and have insisted on questioning the very premise of population control ideology.[43] Their perspective was reflected in a National Academy of Sciences report of 1986[44] that was particularly disliked by population control movement activists because it questioned the very foundation of the movement by suggesting that there was little empirical evidence to prove a strong and unequivocal link between population growth and lack of economic development. Additionally, many demographers argue that poverty, lack of development, and high infant mortality are the root causes of high fertility, and, hence, development is the best contraceptive and that the emphasis on population control through family planning programs is misplaced.

Feminist demographers are juxtaposed within this setting. On the one hand, a vast majority feel strong sympathy and kinship with the women's health movement and oppose the imposition of demographic goals on the most private decision any individual could make–how many children to have and when, if at all, to have them.[45] On the other hand, they are keenly aware of the fact that a large number of academic demographers have never supported the coercive population control ideology. Thus, within the field, they would be fighting a straw man were they to focus largely on the oppressive nature of the population control movement. However, even this "revisionist" group has been highly resistant to the feminist discourse. Thus, given a limited goal of transforming the academic field of demography without reforming the international family planning movement, feminist demographers are at a loss to figure out how to make synergistic use of

the external criticisms leveled by the reproductive rights movement coming from outside.

Given these diverse feminist dilemmas that I have described–co-optation of language, marginalization within the discipline, the uncomfortable relationship between demography as a discipline and the population control movement–one might be tempted to suggest that perhaps feminist demographers should seek employment in other disciplines. In fact, Nancy Reilly, a demographer who has struggled extensively with these issues, once provocatively titled a paper "Is Feminist Demography an Oxymoron?"[46] My only defense is that this is a field that deals with issues of vital concern to women such as sexuality, marriage, family, employment, and health. Moreover, it is a field which supplies most of the empirical data fueling the policy discourse, so why give up feminist claims to this terrain? The dilemmas that I outlined above simply increase the challenges and require greater creativity and reflexivity than we have demonstrated so far.

NOTES

I thank Harriet Presser, Susan Watkins, Susan Greenhalgh, and Richard Brown for comments on an earlier version. I remain solely responsible for all opinions expressed in this article.

1. Although demographers, on the whole, have been better about incorporating class-based inequalities than gender-based inequalities in their work, this work does not stand up to close scrutiny. However, the purpose of this article is to focus on the difficulties of incorporating gender in demographic research. Examination of other forms of inequality and intersection between gender and class inequality is outside the scope of the current work.
2. Daisy Dwyer and Judith Bruce, eds., *Homes Divided* (Stanford: Stanford University Press, 1988).
3. *Demography* is the flagship journal of the Population Association of America and the papers published in *Demography* tend to be highly technical in nature following a positivistic scientific methodology as documented by its one-time editor. See Avery M. Guest, "Gatekeeping among the Demographers," in *Editors as Gatekeepers*, ed. Rita J. Simon and James J. Faye (Lanham, Md: Rowman & Littlefield, 1994).
4. Sonalde Desai and Soumya Alva, "Maternal Education and Child Health: Is There a Strong Causal Relationship?" *Demography* 35, no. 1 (1998): 71-81.
5. John Caldwell, "How Is Greater Maternal Education Translated into Lower Child Mortality?" *Health Transition Review* 4, no. 2 (1994): 224-29.
6. Comments on manuscript 95-077(r1)b, transmitted by Robert Mare, editor, *Demography*, in a letter dated 25 April 1997.
7. John Hobcraft, "Women's Education, Child Welfare, and Child Survival: A Review of the Evidence," *Health Transition Review* 3, no. 2 (1993): 159-79; John Cleland, George

Bicego, and Greg Fegan, "Socioeconomic Inequalities in Childhood Mortality: The 1970s Compared with the 1980s," in *Proceedings of the Demographic and Health Surveys World Conference*, vol. 1 (Columbia, Md: IRD/Macro International, 1991); Carmen Elisa Florez and Dennis Hogan, "Women's Status and Infant Mortality in Rural Colombia," *Social Biology* 37, nos. 3-4 (1990): 188-203.

8. Examples of articles simply assuming the linkage between maternal education and child health are too numerous to list. But some noteworthy studies include: Karen O. Mason, *Gender and Demographic Change: What Do We Know?* (Liège, Belgium: International Union for the Scientific Study of the Population, 1995); John Hobcraft, *The Health Rationale for Family Planning: Timing of Births and Child Survival* (New York: United Nations Population Division, ST/ESA/SER.A/141, 1994).

9. Harriet Presser, "Demography, Feminism, and Science-Policy Nexus," *Population and Development Review* 23, no. 2 (1997): 295-332.

10. John Caldwell, "Education as a Factor in Mortality Decline: An Examination of Nigerian Data," *Population Studies* 33, no. 3 (1979): 395-413.

11. For a description of the political processes surrounding the development of the field of feminist demography, see Presser, "Demography, Feminism, and Science-Policy Nexus."

12. Karen O. Mason, *The Status of Women: A Review of Its Relationships to Fertility and Mortality* (New York: Rockefeller Foundation, 1984).

13. W.H. Mosley and L.C. Chen, "An Analytic Framework for the Study of Child Survival in Developing Countries," *Population and Development Review* 10 suppl. (1994): 25-45.

14. Scott Halstead, Julia Walsh, and Kenneth Warren, *Good Health at Low Cost* (New York: Rockefeller Foundation, 1985).

15. J. C. Caldwell et al., *What Have We Learnt About Health Transition? The Cultural, Social and Behavioural Determinants of Health* (Canberra: Australian National University Printing Service, 1990).

16. Hobcraft, "Women's Education, Child Welfare, and Child Survival: A Review of the Evidence," 158-75.

17. Hobcraft, *The Health Rationale for Family Planning: Timing of Births and Child Survival.* The primary author of this United Nations publication, John Hobcraft is a thoughtful and respected demographer and as can be seen from the passage cited, has no illusions about the strength of the empirical results he presents. It seems quite likely that the United Nations exercised considerable editorial control over the material in this report.

18. World Bank, *World Development Report, 1993* (New York: Oxford University Press, 1993), 42. Ironically, this report cites John Hobcraft, "Women's Education, Child Welfare, and Child Survival," 1993, to provide technical support for this argument without acknowledging Hobcraft's cautionary note that it is difficult to draw conclusions regarding the causal role of maternal education. This report also fails to acknowledge that the improvement in mortality associated with one to three years of maternal education was statistically significant only in five of the twenty-five countries he studied.

19. World Bank, *World Development Report, 1992: Development and Environment* (New York: Oxford University Press, 1992).

20. B.K. Sircar et al., "An Operational Study on Implementation of Oral Rehydration Therapy in a Rural Community in West Bengal, India," *Indian Journal of Medical Research* 93 (December 1991): 297-302.

21. J. Ties Boerma, A. Elisabeth Sommerfelt, and Shea O. Rutstein, *Childhood Morbidity and Treatment Patterns* (Columbia, Md: Institute for Resource Development/Macro International, 1991).

22. Carl Kendell, Dennis Foote, and Reynaldo Martorell, "Ethnomedicine and Oral Rehydration Therapy: A Case Study of Ethnomedical Investigation and Program Planning," *Social Science and Medicine* 19, no. 3 (1984): 253-60. A.T. Sabchareon et al.,

"Maternal Practices and Risk Factors for Dehydration from Diarrhoea in Young Children: A Case-Control Study in Central Thailand Slums," *Journal of Diarrhoeal Diseases Research* 10 (December 1992): 221-26.
23. M.M. Ibrahim et al., "Diarrhoea among Children in Rural Somalia: Maternal Perceptions, Management, and Mortality," *Annals of Tropical Pediatrics* 14, no. 3 (1994): 215-22.
24. Boerma, Sommerfelt, and Rutstein.
25. Pamela Bolton et al., "Health Technologies and Women of the Third World," in *The Women and International Development Annual*, vol. 1, ed. Rita S. Galin, Marilyn Aronoff, and Anne Ferguson (Boulder: Westview Press, 1989).
26. Sonalde Desai, "Women's Burdens: Easing the Structural Constraints," in *Population Policies Reconsidered: Health, Empowerment, and Rights*, ed. Gita Sen, Adrienne Germaine, and Lincoln C. Chen (Cambridge: Harvard University Press, 1994).
27. P. Sandiford et al., "Does Intelligence Account for the Link between Maternal Literacy and Child Survival?" *Social Science and Medicine* 45, no. 8 (1997): 1231-39.
28. Deborah Maine et al., "Risk, Reproduction, and Rights: The Uses of Reproductive Health Data," in *Population and Development: Old Debates, New Conclusions*, ed. Robert Cassen (Washington, D.C.: Overseas Development Council, 1994).
29. L.C. Chen et al., "Maternal Mortality in Rural Bangladesh," *Studies in Family Planning* 5, no. 9 (1974): 334-41.
30. U.S. Department of Health and Human Services, *Vital Statistics of the United States, 1992*, vol. 2, Mortality (Washington, D.C.: National Center for Health Statistics, 1992).
31. Zillah Eisenstein, "The Sexual Politics of the New Right: Understanding the Crisis of Liberalism," in *Feminism and Philosophy: Essential Readings in Theory, Reinterpretation, and Application*, ed. Nancy Tuana and Rosemarie Tong (Boulder: Westview Press, 1995).
32. For some interesting discussion in this area, see messages posted on the listserve FEMECON-L from Bucknell University.
33. Jennie Dey, "Development Planning in Gambia: The Gap between Planners' and Farmers' Perceptions," *World Development* 10 (May 1982): 377-96; Diane Elson, *Male Bias in the Development Process* (Manchester, U.K.: Manchester University Press, 1991).
34. Presser, "Demography, Feminism, and Science-Policy Nexus"; Mason, "Gender and Demographic Change: What Do We Know?"
35. Naila Kabeer, "And No-One Could Complain at That: Claims and Silences in Social-Cost Benefit Analysis," in *Reversed Realities: Gender Hierarchies in Development Thought*, ed. Naila Kabeer (London: Verso, 1996).
36. John Cleland, "ICPD and Feminization of Population and Development Issues," *Health Transition Review* 6, no. 1 (1996): 107-9.
37. In demographic jargon this is the distinction between dependent and independent variables.
38. Harriet Presser, "Can We Make Time for Children? The Economy, Work Schedules, and Child Care," *Demography* 26, no. 4 (1989): 523-44.
39. D.M. Blau and P.K. Robins, "Child Care Demand and Labor Supply of Young Mothers Over Time," *Demography* 28, no. 3 (1991): 333-51; Jacob Klerman and Arleen Leibowitz, "Child Care and Women's Return to Work after Childbirth," *American Economic Review* 80, no. 2 (1991): 284-88.
40. Susan Watkins, "If All We Knew about Women Was What We Read in *Demography*, What Would We Know?" *Demography* 30, no. 4 (1993): 551-578; Susan Greenhalgh, "The Social Construction of Population Science: An Intellectual, Institutional, and Political History of Twentieth-Century Demography," *Comparative Studies in Society and History* 38, no. 1 (1996): 26-66.
41. For an interesting interchange with respect to social inequality, see the exchange between Karen Mason and Andrew Cherlin in the *Newsletter of the Sociology of Population Section, American Sociological Association* 20, no. 1 (1996): 1-3.

42. Greenhalgh, "Social Construction of Population Science."
43. Dennis Hodgson, "Orthodoxy and Revisionism in American Demography," *Population and Development Review* 14, no. 4 (1988): 451-79.
44. Gayle Johnson and Ronald Lee, eds., *Population Growth and Economic Development: Policy Questions* (Washington, D.C.: National Academy of Sciences Press, 1986).
45. Ruth Dixon-Mueller, *Population Policy and Women's Rights: Transforming Reproductive Choice* (Westport, Conn.: Praeger, 1993); Susan Greenhalgh, "Controlling Births and Bodies in Village China," *American Ethnologist* 21, no. 1 (1994): 3-30; Faye Ginsburg and Rayna Rapp, eds., *Conceiving the New World Order: The Global Politics of Reproduction* (Berkeley: University of California Press, 1995).
46. Nancy Reilly, "Is Feminist Demography an Oxymoron?" (Paper presented at the 1993 Annual Meeting of the Population Association of America, Westport, Conn., 1993).