

**Women's Work, Fertility Level and Contraceptive Use: A Synthesis of Results from
Bolivia, the Philippines and Zimbabwe**

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Bolivia, the Philippines and Zimbabwe**

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Executive Summary

Empirical data from three study populations: an urban sample of women from Bolivia, urban and rural samples in Zimbabwe and samples of women and men in the Philippines were explored to assess:

- 1) whether contraceptive use is associated with a decrease in fertility;
- 2) whether number of children is associated with women's current work status;
- 3) the effects of women's educational levels and previous work experience on contraceptive use, fertility level and current work; and
- 4) the effects of partners on women's contraceptive use, fertility level and current work.

Qualitative in-depth interview data from Filipino men complemented the quantitative results from their wives.

The relationship between women's fertility level and employment is complex but there are certain aspects of the relationship that can be understood and subjected to programs and policies that may enable women to fulfill their multiple roles in less strained and more equitable environment. The complexity of the relationship stems from the fact that a woman's parity may determine whether she would seek employment or her parity -- more specifically, the presence of young children who demand significant child care -- may deter her from working. In the same manner, assessing the relationship of contraceptive use and parity may be complicated in that one factor affects another. That is, parity may determine contraceptive use or contraceptive use may determine parity. In addition to the potential bi-directional effects of parity and contraceptive use and parity and work status, the pattern of the association can be conditioned by the gender relations and other factors at the household and community levels. To understand the relationship between fertility and working for pay, the characteristics of the labor markets available to women must be taken into account in addition to personal, household and partner factors.

Despite the above difficulties, we found compelling results that may bolster continuing provision of contraceptives by governmental institutions, and promotion of educational and occupational opportunities for women and creation of awareness programs that focus on the contributions of women to economic development beyond fertility.

In all three countries, negative impact of contraceptive use on number of children was demonstrated once appropriate control variables were taken into account. Furthermore, the Bolivia and Philippine results suggest that proactive contraceptive use must be promoted while respecting the cultural values of proving fertility among couples. As the Filipino men suggested in their in-depth interview, men are likely to adopt family planning once they realize that limiting or spacing their children may lighten their economic responsibilities and promote their families' economic well-being.

The positive effects of women's high education on contraceptive use and its negative effects on number of children bolster the commonly accepted view that increases in women's education can be a tool for decreasing fertility. Together with the negative effect of previous work experience on number of children (in Bolivia and Zimbabwe), the negative effects of women's education on fertility provide important empirical data to support policies and programs that promote educational and occupational opportunities for women.

The negative effects of living with husbands on women's work status in Zimbabwe, and observations by Filipino husbands that their wives' work outside the home was supplementary rather than a significant contribution to the household welfare, signal that women's work outside

the home may continue to be marginally recognized. Thus, policies and programs that promote educational and occupational opportunities for women must be accompanied by policies that create awareness of women's economic contributions as well as the constraints women face in contributing economically. If World Bank projections hold up, globalization of labor will continue with jobs being created targeted to women. In countries that openly accept global and feminized jobs, the productive roles of women need to be emphasized without jeopardizing their reproductive roles and their relationships with their husbands. That is, the emergence of feminized jobs should not create marital conflicts if appropriate gender-relations awareness policies and programs are in place.

While educational levels are associated with contraceptive use, smaller number of children, and greater likelihood of work in Zimbabwe, the relatively low prevalence of work among women raises concerns on whether increasing the educational level and occupational opportunities is sufficient to enable women to work. Moreover, even if Zimbabwean women wanted to work, there apparently are not sufficient jobs for women, or even for men.^a Thus, policies and programs that create and expand labor opportunities are badly needed vis-à-vis the continuing provision of social services.

^a Unemployment rates hovered above 50% for men and women.

Women's Work, Fertility Level and Contraceptive Use: A Synthesis of Results from Bolivia, the Philippines and Zimbabwe

Introduction

Women, as the bearers of children and the mostly unacknowledged economic providers of families, face continuing changes in their reproductive and productive roles.¹ These changes in women's productive and reproductive roles are generally attributed to changes in educational levels and occupational roles of women outside the home. In turn, these changes raise questions on whether these factors affect women's fertility levels and family structure. While increased educational levels are associated with lower fertility in developing and developed countries,² empirical studies on the association of women's labor-force participation (e.g., working for pay) with fertility show mixed results. Ware asserts the association of the reproductive and productive aspects of women's lives is conditional and varies by women's life cycles.³ In developed countries, women's work is associated with lower fertility^{4,5} but in developing countries, where kinship networks provide unpaid child care for working women, or where child care and working for pay are not incompatible, working for pay and fertility levels are not associated.⁶ Cochrane cautions that increasing educational opportunities for women is not an efficient mode for decreasing fertility.² Mason similarly cautions against promoting women's labor-force participation as a means to reduce fertility, as the link between women's employment and fertility is at best tenuous.⁷ On the other hand, educational and employment opportunities create certain viewpoints and values among women⁸ that may be favorable to having smaller families as a way of life.⁹

This study aims to assess:

- 1) whether contraceptive use is associated with a decrease in fertility;
- 2) whether number of children is associated with women's current work status;
- 3) the effects of women's educational levels and previous work experience on contraceptive use, fertility level and current work; and
- 4) the effects of partners on women's contraceptive use, fertility level and current work.

While contraceptive use is expected to decrease fertility, the impact of contraceptive use on fertility remains a contentious issue in most developing countries.¹⁰ Some researchers have suggested that governmental institutions and donors need not implement family planning programs. Instead, governmental organizations must implement programs and policies that aim at increased economic development. With increased economic development, lower fertility follows. Others, however, have contended that "slower population growth would be beneficial to the economic development of most developing countries."¹¹ Along this line, fertility must decrease through contraceptive use so a country may achieve its planned economic development. The current study attempts to provide empirical evidence, if there is any, that contraceptive use is associated with a decrease in the number of children, using individual rather than aggregated data. Such assessment of the association of contraceptive use and number of children is done while controlling for women's educational level, previous work experience and other control factors. Measuring the potential impact of contraceptive use on fertility at the individual rather than country level brings into focus the need to base policies and programs on conditions and needs of individuals rather than the aggregated impact at country level.

Increased educational level and occupational opportunities are two aspects of the status of women that researchers consider may lead to fertility or mortality transition.¹² To the extent possible, this study provides empirical data to explore whether the above two aspects of increased

status of women is related at all with fertility. With the underlying assumption that increased educational level and work opportunities imbue women with values that are favorable to smaller family sizes,⁹ empirical data that link increased educational and occupational opportunities with lower fertility are needed to justify these programs for women. But more importantly, the program of action of the 1994 International Conference on Population and Development calls for increased educational and occupational opportunities for women, not simply as a means of controlling fertility, but for increasing the quality of life of women and children.¹³ In addition, increased educational and occupational opportunities are important in building a country's human capital.¹⁴

While it is ideal for women to make autonomous decisions themselves, practical realities and most empirical studies indicate that women make fertility and work decisions jointly with or probably in deference to their husbands' decisions.^{15,16,17} An understanding of the roles of husbands in fertility and women's work is needed to develop programs and policies that consider the context in which decisions about fertility and labor-force participation are made.

The report takes the position that while motherhood remains probably the most essential source of self-fulfillment and accomplishment for women, having obtained a certain level of education and having previously worked prior to childbearing are important personal resources and characteristics that enable women to fulfill their maternal and non-maternal roles. However, there remains a critical gap in governmental policies and programs that may assist women in performing their reproductive and productive roles. The current study attempts to provide empirical data that help justify promulgating and implementing policies and programs that may assist women perform their multiple roles.

The rest of the document presents: background information on each of the study countries, highlights of research results from each country, discussion, and some policy and research recommendations. We present empirical data from three study populations: an urban sample of women from Bolivia, urban and rural samples in Zimbabwe and samples of women and men in the Philippines. Qualitative in-depth interview data from husbands complement and supplement the quantitative results from wives in the Philippines.¹⁸

Study Populations and Research Methods

Study Populations

The Bolivian study population consisted of a subset of women between the ages of 15 and 49 interviewed in the 1993-1994 Demographic and Health Survey (DHS) and followed up in a survey conducted in 1997. (The follow-up survey was conducted under the Women's Studies Project (WSP), a cooperative agreement between Family Health International and the U.S. Agency for International Development.) The sample women consisted of those living in the cities of La Paz and El Alto who participated in the 1993-1994 DHS. Of the 1,308 women surveyed at baseline, 816 were interviewed in the 1997 follow-up. This represents a 62 percent response rate. (For additional information about the survey methods, see the 1993-94 DHS or Polo, et al.)¹⁹ Since this study involves fertility decision-making, the analysis focused only on those women who were fecund during the interval. Dropped from the analyses were 97 women who indicated in 1997 that they were menopausal or perimenopausal. The resulting analysis was therefore conducted on a sample of 719 women. An additional 10 women with no data on their partner's educational status were excluded from some multivariable analyses. The key outcomes of interest included a dichotomous contraceptive use that takes the value of one when the study participants

reported using modern or traditional contraceptives in 1994; whether they had at least one birth during the survey intervals, 1994 to 1997; whether they were working in 1997, and, among those working, whether work was in the formal or informal sectors.

The Zimbabwean study population consisted of a sample of 1,986 Zimbabwean women ages 18 to 49 who reported having had sex at the time of interview in a 1997 survey conducted by the Centre for Demographic Studies, University of Zimbabwe.²⁰ Just like the follow-up Bolivian survey, the Zimbabwean survey was conducted with WSP funding. The key outcomes of interest included early contraceptive use, current number of children, and women's self-report of whether they were working for pay at the time of interview. Early contraceptive use is a dichotomous variable which takes a value of one if the study participants reported having used contraceptives during first sex, immediately after marriage or immediately following the birth of the first child. Otherwise, the value of the dichotomous variable is zero.

The Filipino male qualitative in-depth interviews were from 24 husbands interviewed in 1998 and early 1999 whose wives were similarly interviewed in 1995. The wives' qualitative data supplemented and complemented the male qualitative results. These qualitative data supplemented and complemented results of a previous quantitative analysis of the association of number of children and wives' work status, prepared under WSP funding.¹⁸ Results of this quantitative analysis are quoted below to put in context some of the qualitative results obtained from the husbands. Other details of the in-depth interviews are given below.

Quantitative Analytical Procedures

For each country, we present:

- descriptive statistics for the study populations;
- bivariable statistics that relate contraceptive use and fertility measures (birth in the interval, number of children, having an infant or preschool child), and fertility measures and women's current work status; and
- multivariable statistics that relate women's educational level, previous work status, living with a partner, and age with each of the above outcomes of interest -- contraceptive use, number of children and current work -- while controlling for additional factors. In these multivariable models, we assess whether contraceptive use affects the number of children or number of children affects contraceptive use. Similarly, we consider the effects of number of children on current work and the effects of current work on number of children while controlling for several variables. Details of the procedures used for the analysis of the Zimbabwe and Bolivia data sets are in the specific country reports.²¹ For the Philippine data sets, we use results from analytical methods used by Adair et al.¹⁸

In-depth Interviews of Husbands: Philippines

A sample of 24 husbands of women participating in the Cebu Longitudinal Nutrition and Health Survey (CLNHS)¹⁸ was obtained to: 1) explore husbands' views and attitudes regarding family planning and the labor-force participation of their wives; and 2) examine linkages, if any, between their views regarding their wives' contraceptive use and labor-force participation. The study staff selected 24 out of 63 men whose CLNHS wives participated in in-depth interviews examining their personal views and experiences regarding financial and decision-making autonomy, marital relations, value of children, their aspirations and assessment of their status. The study staff selected 24 men so that two to three sample men were obtained in each of eight

cells defined by the following: 1) work status of husband and wife (both working, only husband working, only wife working); 2) couple's use of family planning (never and ever used); and 3) number of living children (less than four and four or more).

The set of guide questions used for the husbands' in-depth interviews addressed the following general topics: 1) husbands' reproductive goals and views about family planning; 2) their perspectives of wives' participation in economic activities; and 3) their economic and domestic responsibilities in the family. A similar, albeit broader, set of unstructured questions was used during the wives' interviews. Interviews were conducted, transcribed and coded in Cebuano using Ethnograph. The interviewers who conducted the interviews later translated the full Cebuano transcripts into English.

Background Information and Results

Country-Level Background Information

Of the three study countries, the Philippines and Zimbabwe have had long histories of family planning programs and Bolivia has recently introduced a national family planning

Table 1. Selected Characteristics of the Study Countries			
Selected Items	Bolivia ^a	Philippines ^b	Zimbabwe ^c
Contraceptive Use			
Percentage of All Women Using Any Method	31.4	24.2	35.1
Percentage of Married Women Using Any Method	48.3	40.0	48.1
Fertility			
Total Fertility Rate	5.1 (1989) 4.8 (1994) 4.2 (1998)	5.1 (1983) 4.1 (1993)	5.5 (1988) 4.3 (1994)
Labor Force Participation			
Percentage of Women Working	67.9	--	49.6
Percentage of Female Share of Labor Force ^d	26	31	34
Education			
Percentage of Women with No Education	12.1 ^e	2.1	11.1
a 1998 DHS ²² b 1994 DHS ²³ c 1994 DHS ²⁴ d 1993 World Development Report ²⁵ e Figure is for 1993			

program. The Philippine program has been marked with swings in level of intensity, while the Zimbabwe program has been consistently strong since the country became independent in 1980.^b

^b With structural economic changes occurring in the country, however, there are concerns that the government may reduce the delivery of contraceptive services.

Both Bolivia and Zimbabwe have exhibited a significant decline in total fertility rate while the Philippines is fairly slow in moving into a fertility transition (see Table 1). Although the estimated total fertility rate in 1994 was 4.8, 4.1 and 4.3 for Bolivia, the Philippines and Zimbabwe, respectively, it took the Philippines longer to lower its fertility rate than the other two countries. The contraceptive prevalence for all women was highest in Zimbabwe and lowest in the Philippines. The labor-force participation rates of women were higher in Bolivia and the Philippines than in Zimbabwe. The percentages of women with no education in 1994 were 12.1, 2.1 and 11.1 in Bolivia, the Philippines and Zimbabwe, respectively.

Characteristics of Study Samples

In Table 2 are selected characteristics of the samples from the study populations. Thirty-seven percent of Bolivian women reported contraceptive use in 1994; 27 percent had at least one birth in the three-year interval following the initial survey; and 58 percent reported working for

Table 2. Selected Characteristics of Study Participants				
Selected Characteristics	Bolivia ^a	Cebu, Philippines ^b	Urban Zimbabwe ^c	Rural Zimbabwe ^c
% Contraceptive Use	36.7	33.4	63	51.2
Mean Number of Children	1.9	6.0	2.0	2.3
% Currently Working	58.3	73.4	39.7	32.3
% Previously Worked	42.6 ^d	40.3 ^e	19.9	15.4
Mean Age	27.3	37.9	28.9	28.9
Mean Educational Level	9.0	7.0	9.1	8.2
% Living with Partners	55.2	95	65.5	52.4
Household Size	5.1	6.9	4.3	4.1
^a 1994 DHS and 1997 Follow-up Survey ^b 1994 Follow-up Survey ^c 1997 Survey ^d Working in 1994 ^e Working in 1991				

pay in 1997. In 1994, parity was 1.9, on average, with 38 percent having zero parity, 51 percent with one to four live births and 11 percent with more than four live births. The mean educational level was 9.0 years and 55 percent reported living with a partner in 1994.

A fairly large number, 63 percent, of urban Zimbabwean women reported using contraceptives early, e.g., before first sex, immediately after marriage or immediately after the birth of the first child. About 50 percent of the rural sample reported using contraceptives early. About 40 percent of the urban sample reported working currently for pay and almost 20 percent reported working previously. The rural figures were 32 percent working currently and 15 percent working previously. The mean educational attainment was nine years for the urban sample and a little over eight years for the rural sample.

Some of the selected characteristics of the CLHNS women's sample from which the in-depth interview sample of men was obtained are as follows: contraceptive-use prevalence was 33 percent, 73 percent were working for pay and 40 percent had worked previously. Average age was 38 and mean educational level was seven years. The Cebu sample is not a representative

sample of women of reproductive age in the Philippines as this cohort was originally recruited in 1983 when women were between 15 and 49 years old. This cohort, however, reflects the characteristics of the sample women and their husbands who participated in in-depth interviews.

Quantitative Results

In this section, we present unadjusted and adjusted estimates of the association of contraceptive use with number of children, and number of children with women's current work status. Unadjusted estimates of association do not take into account that other variables may affect the measure of association between two variables. In contrast, adjusted estimates take into account that the association between two variables may differ based on the values of additional control variables.

Contraceptive Use and Fertility Measures

In Table 3 is a summary of the direction and statistical significance of the association of contraceptive use and measures of fertility by study population and whether measures of association are unadjusted or adjusted for various control variables. The fertility measures vary by country: parity and having birth in a three-year following report of contraceptive use in Bolivia, number of pregnancies in the Philippines, and number of living children in Zimbabwe. The contraceptive use variables also vary slightly: contraceptive use in 1994 in Bolivia, ever used one of four types of contraceptives (modern, sterilization, barrier, natural) in the Philippines, and early contraceptive use in Zimbabwe.

Table 3. Direction and Significance of Measure of Association of Contraceptive Use and Fertility Measure by Study Population and Method of Estimation		
Study Population: Contraceptive Use Variable and Fertility Measures	Method of Estimation of Association	
	Unadjusted	Adjusted
Bolivia: contraceptive use and number of children in 1994	+*	-*
Bolivia: contraceptive use in 1994 and giving birth in next three years	-NS	-*
Philippines: ever used contraceptives (five categories: modern, sterilization, barrier, natural and never used) and number of pregnancies	-* (modern, ligation)	-* (ligation) +* (natural method)
Urban Zimbabwe: early contraceptive use and number of children	-NS	-NS
Rural Zimbabwe: early contraceptive use and number of children	-*	-*
Legend: + Positive - Negative NS Not significant * Statistically significant at .05 or lower		

Unadjusted estimates in Bolivia indicated that women who were using contraceptives in 1994 had more children than women who were not using contraceptives. Without controlling for any other characteristics, contraceptive users in 1994 were about as likely as non-users to have had an additional birth in the three-year interval following report of contraceptive use. Once personal characteristics of women, such as age, educational level, and parity, were controlled in a

model relating contraceptive use and birth in the interval, a negative association of contraceptive use on additional birth was found. Similarly, when the characteristics of women were taken into account in relating contraceptive use and parity, a negative effect of contraceptive use on parity was found.

Unadjusted estimates in the Philippines showed women who ever used contraceptive methods or who were sterilized had fewer pregnancies than women who never used any contraceptive methods. Women who used barrier methods or natural methods had as many pregnancies as those who never used any method. The strength of the association, however, was fairly weak. When personal characteristics of women were taken into account, the negative effect of sterilization on number of pregnancies persisted.

In urban Zimbabwe, early contraceptive use was not associated with number of children while in rural Zimbabwe, early contraceptive users were likely to have fewer children than those who did not use contraceptives early. Such negative effect of early contraceptive use on number of children held up when the estimate of association was controlled for other covariates.

Fertility Measures and Women's Current Work

In Table 4 is a summary of the direction and statistical significance of the association of fertility measures and current work status of women by study population and method of estimation of association, unadjusted or adjusted. The fertility measures vary by country and are

Table 4. Direction and Significance of Measure of Association of Fertility Measure and Women's Current Work Status by Study Population and Method of Estimation of Association		
Study Population: Fertility Measure and Work Status	Method of Estimation of Association	
	Unadjusted	Adjusted
Bolivia: number of children and work status (three categories: work in formal sector; informal sector and no work)	+*	NS
Bolivia: birth in next three years following contraceptive use report and three-category work status	-*	-* working; working in formal sector; NS in informal sector
Philippines: having preschool child or infant and five work sectors (wage, piece, self-employed, unpaid family worker, not working)	-* ^a	-* for infant
Urban Zimbabwe: number of living children and dichotomous work variable	+*	-*
Rural Zimbabwe: number of living children and dichotomous work variable	+*	-*
^a Women with one to three children had higher median earnings per week than women with four or more children. Legend: + Positive - Negative NS Not significant * Statistically significant at .05 or lower		

described as in Table 3. Similarly, women's work-status definitions vary by country: a three-category work variable (1 = working in informal sector, 2 = working in formal sector and 3 = not working) was used in Bolivia; a five-category work variable (1 = wage sector, 2 = piece work, 3 = self-employed, 4 = unpaid family work and 5 = not working) was used in the Philippines and a dichotomous variable, working or not working was used in Zimbabwe.

Unadjusted estimates in Bolivia and Zimbabwe indicated that women with more children were more likely to work than women with fewer children. However, when other characteristics like women's age, educational level, presence of partner and other variables were considered, no association between parity and women's work was found in Bolivia, while in Zimbabwe, a negative association was found. In both Bolivia and the Philippines, having a small child rather than parity served as a deterrent to women's work. When the work sector was considered together with other characteristics of the women, having a small child was not a deterrent to work in the informal sector in Bolivia, or to work as an unpaid family worker in the Philippines.

Education, Previous Work Experience, Age and Living with Partners as Predictors of Contraceptive Use, Number of Children and Current Work

Table 5 is the summary of the direction and statistical significance of the measures of effects of women's previous educational level, previous work experience, living with partner (or education of partner) and women's age on each of the three outcomes of interest: contraceptive use measure, fertility measures and women's work. The direction and statistical significance are taken from multivariable models of the outcomes of interest where other covariates were used in modeling.

From the human capital formation perspective, the association of current work with age and education is important as the literature indicates that significant returns from education occur early with returns diminishing over time and age.¹⁴ (Although this study has no data on wages (the returns usually considered), we consider actual work as potential returns from education.) On the other hand, family formation, e.g., childbearing for women, is likely to occur at the time that returns from education may be potentially maximized. In keeping with the theme that early socialization rules are important in determining women's fertility level, labor-force participation, education and previous work experiences are assessed for their unadjusted and adjusted association with the above response of interest. In addition, to account for the potential effect of sexual division of labor on women's work status, the association of women's work status is also reported by whether or not women were living with partners.

As the educational levels of Bolivian women increased the likelihood of contraceptive use increased, the mean number of children decreased among women who were not using contraceptives, and no association with current work was found, but the likelihood of working in the formal sector increased. Similarly, as educational levels increased among urban and rural Zimbabwean women, the likelihood of early contraceptive use increased and the mean number of children decreased. In Zimbabwe, increased educational levels were associated with an increased likelihood of working for pay. In the Philippines, higher educational levels were associated with a decrease in mean number of children and increased likelihood of work in the wage sector.

In all study populations, having worked previously was associated with fewer number of children and a higher likelihood of working currently. In Zimbabwe, having worked previously had strong negative effects on the number of children among women who reported using contraceptives early.

In Bolivia and Zimbabwe, living with a partner increased the likelihood of using contraceptives and having fewer children. It had mixed effects on women's current work status; in Bolivia, living with a partner was not associated with women's work status while in urban and rural Zimbabwe, living with a partner was a deterrent to women's working for pay. In the Philippine qualitative study, having a partner was also a deterrent from working, especially when couples perceived that the partner's income was sufficient to meet the family's economic needs.

Table 5. Direction and Significance of Association of Women's Educational Level, Previous Work Status, Living with Partner and Age on Contraceptive Use, Fertility Measures and Women's Current Work Status				
Selected Covariates	Study Population	Contraceptive Use	Number of Children	Women's Work Status
Women's Educational Level	Bolivia	+*	-*	NS for working per se; +* for working in formal sector
	Philippines	na	-*	+*
	Urban Zimbabwe	+*	-*	+*
	Rural Zimbabwe	+*	-*	+*
Previous Work Status	Bolivia	+*	-*	+*
	Philippines	na	na	+* (except for unpaid family worker)
	Urban Zimbabwe	+*	-* for users	+*
	Rural Zimbabwe	+*	-* for users	+*
Living with Partner/ Partner Characteristics	Bolivia	+*	+*	NS
	Philippines	na	na	-*
	Urban Zimbabwe	+*	+* for users	-*
	Rural Zimbabwe	+*	NS	-*
Women's Age	Bolivia	+*	+* for users	+* for working and working in informal sector; -* for working in formal sector
	Philippines	na	+*	NS
	Urban Zimbabwe	+*	+* for users & NS for nonusers	+*
	Rural Zimbabwe	+*	+* for users & -* for nonusers	+*
Legend: + Positive - Negative NS Not significant * Statistically significant at .05 or lower na Not applicable				

As women got older, they were more likely to use contraceptives, had more children and were more likely to work. The increase in proportion of women working had increased to around 40 years of age; thereafter, a relatively lower proportion of women were working.

Filipino Male Perspectives on Contraceptive Use and Women's Work: Results from In-depth Interviews

The quantitative results from an earlier analysis of women's wages from a sample of Filipino women¹⁸ showed that over time women who worked consistently had the largest increases in real wages. Furthermore, as women got older, a greater proportion reported working for pay. While many women reported having used contraceptives intermittently, their mean number of children was fairly large relative to the total fertility rate of the DHS sample women. A key reason for this seeming inability to limit the number of children could be traced to some of the results of the qualitative interview of men and women. Among couples, contraceptive use was generally reactive.²⁶ That is, couples tended to use contraceptives only after most of them realized they could barely support their children. Wives who perceived their husbands to be indifferent to their family's needs, economically or emotionally, tended to use contraceptives later in family formation with or without their husbands' support or even knowledge of contraceptive use. Interestingly, this qualitative analysis identified wives whose husbands were involved in family planning early during family formation. These couples seemed to be more successful in controlling their fertility than couples where the husbands belatedly agreed to use contraceptives.

All of the 24 husbands interviewed espoused a favorable attitude toward family planning. Older husbands with low educational attainment were most likely to resist family planning in the past but may have subsequently changed their attitudes. Furthermore, many husbands recognized the importance of their own involvement in the practice of birth control. They felt that their role was crucial because: 1) they are primarily responsible for the economic well-being of their families; 2) they are the initiators of sexual activity; and 3) whether they like it or not, they realize they have to support their wives in providing child care. Of these three reasons, economic responsibility weighed heaviest in the husbands' minds and served as the strongest motivation to adopt family planning. Some husbands, however, perceived the gravity of their spousal and parental responsibilities rather late in life, making it too late for them to rectify adverse consequences of past judgments. Some husbands had poor communication with their spouses and lacked accurate information about family planning. There were also couples whose fertility preferences were rather weak and undefined and thus could be easily modified with the slightest changes in family circumstances.

In general, husbands were ambivalent with regard to their wives' participation in the labor force. Like their wives, they spoke of advantages as well as disadvantages of wives' working, and thus vacillated between approval and disapproval of work status by wives. Such ambivalence of husbands and wives may be partially explained by the traditional sexual division of labor, with husbands as main economic providers and wives as homemakers and providers of child care. This division of labor generally supposes that a wife's domestic duties extend to income supplementation when the family's economic survival is at stake. However, it does not stipulate that once a wife becomes the primary breadwinner, the husband's duties must also extend to home and child care duties.

In one of the 24 couples interviewed, we found that contraceptive use played a significant role in the wife's relative valuation of her reproductive and productive roles. Thus, this case illustrates that contraceptive use is an important tool for women to balance their reproductive and

productive roles. This facilitating role of contraceptive use is conditioned by the high value that her earnings bring to the family and by the fact that she has adequate job skills for which her employer is willing to pay.

In the Philippines, most women are “pushed” into the labor force, especially when both husbands and wives perceive that the husband’s income is not adequate to feed, clothe and educate the children. In this sample, husbands’ income determines wives’ work status, bringing into focus the centrality of husbands’ earning capacity in the link between family planning and wives’ employment. Husbands approve of, or even encourage, the economic participation of their wives when they perceive their own income as unstable or insufficient to meet the needs of the family. Conversely, if their income is adequate, husbands generally prefer their wives to be full-time homemakers. In most cases, wives share this sentiment, although it can and does happen that husband and wife differ in their perceptions about income adequacy. Husbands also explain that their concern for and involvement in family planning emanate mainly from the recognition and expectation that they are the breadwinners of the family. They recognize that their capacity to provide for the family determines, and is determined by, the number of children a couple has. Thus, the practice of family planning is relevant to wives’ employment status only in the sense that a couple’s family planning effort affects (and is affected by) the husband’s ability to support his family. This capability, in turn, determines whether or not his wife should work. (Further details of the results of men’s in-depth interviews are in Gultiano and Wong.²⁷)

Discussion

The relationship between women’s fertility level and employment is complex but there are certain aspects of the relationship that can be understood and subjected to programs and policies that may enable women to fulfill their multiple roles in less strained and more equitable environment. The complexity of the relationship stems from the fact that a woman’s parity may determine whether she would seek employment or her parity -- more specifically, the presence of young children who demand significant child care -- may deter her from working. In the same manner, assessing the relationship of contraceptive use and parity may be complicated in that one factor affects another. That is, parity may determine contraceptive use or contraceptive use may determine parity. In addition to the potential bi-directional effects of parity and contraceptive use and parity and work status, the pattern of the association can be conditioned by the gender relations and other factors at the household and community levels. To understand the relationship between fertility and working for pay, the characteristics of the labor markets available to women must be taken into account in addition to personal, household and partner factors. Despite the above difficulties, we found compelling results that may bolster continuing provision of contraceptives by governmental institutions, and promotion of educational and occupational opportunities for women and creation of awareness programs that focus on the contributions of women to economic development beyond fertility.

Empirical evidence suggested that contraceptive use could reduce the likelihood of birth in a short interval, as in Bolivia. Or if contraceptive use was used early during family formation, a negative effect on number of children could be documented, as in rural Zimbabwe. On the other hand, the absence of association between early contraceptive use and number of children in urban Zimbabwe suggests that a certain threshold on the effect of contraceptive use on number of children may have already been reached in urban Zimbabwe, while in rural Zimbabwe, the force of fertility transition mediated through early contraceptive use was continuing. In the Philippine qualitative data, empirical evidence of reactive contraceptive use was found, which may limit the negative effect of contraceptive use on number of children.

The effects of fertility measures on women's work status were mixed, which is not surprising given the different reproductive phases and reference periods in which the association of work status and fertility was examined. In the Bolivia sample, giving birth in the interval, e.g., having young children, rather than the number of children, had a negative effect on women working per se or working in the formal sector. Having a young child did not deter women from working in the informal sector in Bolivia or working as unpaid family worker in the Philippines.

Higher level of education among women was associated with an increased level of contraceptive use in all of the three countries and with fewer children among contraceptive users in Bolivia and Zimbabwe. In a similar manner, the negative effect of previous work experience on parity was stronger among contraceptive users than non-users. Previous work and higher educational levels increased the likelihood that women were working for pay.

Considering that women who had additional births in the interval were women with lower parity, this result suggested that the negative effect of having young children on women's work status occurred when women were in their prime for childbearing. On the other hand, that older women were more likely to work than younger women suggests that at a certain point during the reproductive cycle, women became relatively free to work rather than bear and rear children.

The different work patterns of women across age groups as well as the effects of education and previous work experience can be understood within an economic model of work and fertility supplemented by an economic theory of human capital formation.^{28,29,30,14} An economic theory of women's fertility and work predicts that the competing demands for women's time to work outside the home or to bear and care for children reach equilibrium where the household obtains maximal gain. Based on this model, a woman with sufficient education, training and work skills who is well compensated in the paid labor market opts to limit her number of children as the relative cost of raising children for this woman is particularly high. Thus, highly educated women or women with significant work experience may be more likely to marry later or to bear fewer children as they devote their time to labor-force participation. In extending the model through a woman's life cycle, one may also assert that women with appropriate occupational qualifications past the childbearing years should be able to participate in the labor force as time constraints imposed by childbearing are minimal. Whether women can work at any point in their reproductive cycle, however, will depend not on just whether they have more time, but whether they have levels of training and skills needed for available jobs.

The mixed effects of living with a partner on women's work status (no effect in Bolivia, negative in Zimbabwe, and conditional in the Philippines) could be due to the differential mode in which sexually based division of labor -- men as economic providers and women as homemakers -- interact with the available jobs for men and women in each country. We conjecture that the available jobs in Bolivia are probably targeted to women. As suggested by Mitter,³¹ in economic settings where low-paying jobs are targeted to women, men are likely to reject available jobs because of their low pay and potential stigma of taking on "feminized" jobs while women are willing to accept them. In the Philippines, the qualitative data indicated that most men and women would prefer that men continue to be economic providers with women's work taken to be supplemental to men's income. Such statements from men and women point to possible continuing marginalization of women's economic contribution to the household, and, as noted by economists,¹ to a country's developmental efforts. In Zimbabwe, the historic sexual division of labor promulgated at the time of its colonization with men working away from their own homes to meet the hut tax²⁰ could still be prevailing.

Policy Recommendations

In summary, results from these three countries indicate policies and programs that: 1) promote continuing provision of contraceptives; 2) increase educational and opportunities for women; and 3) create awareness of the gender-based division of labor are warranted. In all three countries, negative impact of contraceptive use on number of children was demonstrated once appropriate control variables were taken into account. Furthermore, the Bolivia and Philippine results suggest that proactive contraceptive use must be promoted while respecting the cultural values of proving fertility among couples. The positive effects of women's high education on contraceptive use and its negative effects on number of children are not new but these empirical results bolster the commonly accepted view that increases in women's education can be a tool for decreasing fertility. Together with the negative effect of previous work experience on number of children (in Bolivia and Zimbabwe), the negative effects of women's education on fertility provide important empirical data to support policies and programs that promote educational and occupational opportunities for women.

The negative effects of living with husbands on women's work status in Zimbabwe, and observations by Filipino husbands that their wives' work outside the home was supplementary rather than a significant contribution to the household welfare, signal that women's work outside the home may continue to be marginally recognized. Thus, policies and programs that promote educational and occupational opportunities for women must be accompanied by policies that create awareness of women's economic contributions as well as the constraints women face in contributing economically. If World Bank projections hold up, globalization of labor will continue²⁵ with jobs being created targeted to women. In countries that openly accept global and feminized jobs, the productive roles of women need to be emphasized without jeopardizing their reproductive roles and their relationships with their husbands. That is, the emergence of feminized jobs should not create marital conflicts if appropriate gender-relations awareness policies and programs are in place.

While educational levels are associated with contraceptive use, smaller number of children, and greater likelihood of work in Zimbabwe, the relatively low prevalence of work among women raises concerns on whether increasing the educational level and occupational opportunities is sufficient to enable women to work. Moreover, even if Zimbabwean women wanted to work, there apparently are not sufficient jobs for women, or even for men.^c Thus, policies and programs that create and expand labor opportunities are badly needed vis-à-vis the continuing provision of social services.

Strengths and Limitations

A key contribution of this study is the use of the statistical approach that recognizes that fertility and work are outcomes of interest affected by an overlapping, if not the same, set of personal, household and community variables. Indeed, it should be recognized that in many cases, the variables that affect fertility and work may be unobserved or immeasurable. Therefore, appropriate statistical methods should be incorporated to control for the unobserved variables that may affect outcomes of interest. In addressing the overlapping effects of some variables with appropriate statistical methods, we are able to tease out the significant negative effects of contraceptive use on childbearing.

^c Unemployment rates hovered above 50% for men and women.³²

Our review of the literature has pointed out a missing set of variables that would help us fully explain the association between childbearing and working for pay. That is, in addition to understanding women's behavior and personal characteristics, it is important to characterize the labor markets in which women and men are engaged. We believe that the types and characteristics of jobs available to men and women may explain the absence of a significant negative effect of living with a partner on women's work status in the Bolivian sample. However, empirical data are warranted.

While there are several theoretical frameworks explaining how increased educational and occupational opportunities may influence fertility levels, this study focused only on demonstrating plausible negative effects of increased education and previous work experience on fertility. Similarly, while there is significant literature on multiple burdens of women, data are limited on women's attitudes and coping mechanisms to deal with these multiple burdens. To develop policies and programs that may assist women in performing their multiple burdens, we need empirical data on women's perceptions and needs with respect to balancing their reproductive and productive roles.

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