

# Female Status and Fertility in Pakistan

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Observations and interpretations of the demographic transition in Western Europe indicate that among the plethora of forces influencing the transition, one of the factors that played a significant role was the variable generally known as the 'status and roles of women'. During the period of socio-economic change in the Western societies, extraordinary changes took place in the roles of women. Not only did new opportunities open up to women but also new familial patterns of parental control, interspouse relationships and planned parenthood emerged that affected the lives of women in a variety of ways. There is a concensus that this all occurred during the course of economic and social development [2, 14, 25, 27].

In the past two decades, planners and policy makers in societies that are faced with the twin problems of poverty and rapid population growth have searched for variables that would provide points of leverage for effective fertility limitation policies. Could changes in the status of women be one such leverage point? In this paper attempt is made to examine this question by analysing the relationship of education and employment status of ever-married women with their reproductive behaviour.

## DEFINITION AND MEASUREMENT OF FEMALE STATUS

The status of women in each society is a complex phenomenon. The aspects of female status and roles that are of interest to social policy makers in population planning are: the ability of women to plan their reproductive behaviour; and the capacity to limit their fertility to a desired number of children. Although the basic ingredients required for changing the life styles of women in the poor societies are the same as were prevalent at the time of transition in the Western World, they are intricately tied to overall development of the less developed world. The most crucial issue is that the environment in which changes

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occurred in the reproductive behaviour of Western women is not similar to that prevailing in less developed countries today.

Although there is a tremendous range of sometimes clear and often subtle ways in which female status can be defined in societies, the two broad ones which are at least in some way quantifiable are: their opportunities for education; and their opportunities for paid employment.

These two features characterized the changes of status and roles of women in societies which constitute the developed world, and they are expected to be the major determinants of similar changes in less developed societies.

To policy makers, the right of females to be educated is less debatable than their opportunity for employment. Education is a less sensitive area for competition with males, but employment opportunities bring females in direct competition with males. It is generally assumed that employment policies must first accommodate males, the traditional bread winners in society. Given the present level of development in most societies, what would suit policy makers ideally is that women receive enough education so that they are able to plan and regulate their fertility, and that they would work only in those jobs which do not compete with male employment but only compete with their motherhood role.

The objectives of the analysis in this paper are first to study the roles of 'education' and of 'work' in the reproductive lives of women and second to analyse the relevance of this information to population policy. The data for the present study were derived from the Pakistan Fertility Survey (PFS), 1975<sup>1</sup> undertaken as a part of the World Fertility Survey.

## EDUCATION AND FERTILITY LEVEL

The evidence regarding the role of education in fertility limitation has been studied in several developed and developing countries [27, 28]. More recently, researchers have reviewed this literature, specifically for the policy relevance of this variable in formulating effective fertility control policies [12, 18, 26].<sup>2</sup> The nature of the relationship is inverse, when it is examined for family size. What buys education is income in developing countries. Simon [24] studying this relationship stated: "An increase in income causes an increase in education. And parental education in LDC's reduces fertility, this much is clear from both cross-national and intracountry cross-sections". As regards the content of education or the type of education, *i.e.*, formal or non-formal, there is little information, simply because studies of this nature have been launched only recently on an experimental basis and in few parts of the world.<sup>3</sup>

<sup>1</sup>Details of the survey are given in the first report of PFS [15].

<sup>2</sup>These references are excellent for bibliographic sources for studies in the developing societies around the world and also for insightful analysis of the policy relevance of this evidence.

<sup>3</sup>Studies on the role of 'population education' and knowledge of population phenomena are limited to young educated persons. It is argued by some that even in developed countries students do not understand the dynamics of population [29, pp. 2-3].

Cochrane [4] referring to education and fertility in a voluminous review of evidence on the variable, while raising some questions, states:

“Such a concensus on the relationship between two variables is extremely rare in social sciences. Does such a well established relationship provide the information necessary to design policies to stimulate fertility reduction?”

... To design such policies in an effective and efficient manner one needs to know what elements of the educational process (Is it the acquisition of literacy, job skills, new values or new information that causes education to have its negative effects on fertility?) leads to lower fertility, and whether it is possible to stimulate these effects quickly and cheaply through mass-media campaigns or small group ‘consciousness sessions’ such as are used in China. Since there is no concensus of how education causes fertility reduction, these questions remain unanswered”.

This statement more or less presents the ‘state of the art’ regarding this variable.

In Pakistan no systematic evidence exists on any of the specific questions mentioned by Cochrane. Mostly what we know is hypothesized regarding female education in that urban women are more educated than rural women, that the wealthy can afford more education, and that urban educated couples use more contraception and the like. Some specific hypotheses that can be tested with our present data are: Education of females is correlated with the age at marriage, *i.e.* a higher level of education postpones their marriage; upon marriage the educated women desire a smaller size for several reasons, primary ones being; their perceptions and norms are more modern; and they have the opportunities to work if they choose to. Following from the earlier hypothesis, educated women are more frequent users of contraceptives in order to achieve smaller family size.<sup>4</sup>

### WORKING FOR WAGES AND FERTILITY

The evidence on the fertility work relationship has been investigated, primarily for working women in the developed countries [3, 13, 19]. Little is known about this relationship for the developing countries and even less for women working in the agrarian economics [6,9, 11, 18,23,30].<sup>5</sup>

For women in the less developed societies, the problem of non-existent opportunities in the monetized sector, is coupled with the fact that there are no known measures to estimate their contribution to the family income [28]. The value of their time is not on record in terms of income, except that some censuses estimate gross female labour force participation. Women start working fairly early in life, but their definition of work varies in concept from society to society [7].

<sup>4</sup>It is argued by some that in order to limit their fertility, high parity women are motivated to adopt the use of contraceptives; on the other hand, some postulate that use of modern means of contraception is affected by the ‘status of women variables’, such as education and work.

<sup>5</sup>These studies provide detailed references and also examine the relevance of this information in formulating fertility limitation policies.

The theories related to work participation and fertility as advanced for the less developed countries as summarized by Shields are: "When a woman is in a work situation which is compatible with housework and child care, there will be no relationship between the two variables. There is a possibility of negative relationship between fertility and female employment outside the home and agriculture. However, the nature of the causality is not well delineated. We are not certain from the evidence whether the reason for this relationship is due to: subfecundity on the part of working women, that is, those women who are less fertile opt for the labour market; or the very fact that women participate in the labour force and the anxieties associated with working cause them to be less fertile; that they deliberately decide to avoid pregnancy because they prefer to stay in the labour force; the association of education and delayed age at first marriage; and deliberate delayed marriage by those who worked before marriage" [23]. We notice that the relationship is complex, and the two broad hypotheses, *i.e.* that women work either for income or for self realization are too simplistic.

### **Female Labour Force Participation**

Certain cultural, socio-economic and demographic correlates on female labour force participation have been studied for Pakistani women [1, 8, 10, 16, 17, 20, 21, 22]. These studies in general suggest that cultural factors tend to limit female labour force participation in the monetized sector; however, certain socio-economic and demographic factors impel women in low income groups to work for wages. Little evidence is available on the marital and reproductive behaviour of professional women, who mostly are urban, educated and from well to do families, which form a thin upper stratum in Pakistani society. We may be able to catch some glimpses of these women in the PFS data. But our information is limited to that of ever married women, and we would not be able to know about these professional women who might have delayed marriage for work reasons.

Taking account of the available information in the light of the two general hypotheses of work-fertility linkage we may hypothesize that poor women would work regardless of large families, given the availability of child care and that better off women would work mostly for self-realization and therefore, would limit their fertility to attain other goals in life.

The demographic variables such as age at marriage and parity are secondary for women in low income families, and economic motivations are primary reason for their working. On the other hand socio-demographic variables such as education and age at marriage play a prominent role in the lives of better off women, who may postpone marriage for education, and may use effective means of contraception to enter and remain in the labour force. In order to determine whether there is any pattern of relationship between fertility and work status, one would need much more detailed information on the "work status" of working and non-working women. Employment in the Monetary Sector requires acquisition of skills, and the ever married women represented in PFS (1975) sample indicate that they have had little opportunity for education and vocational training; we therefore cannot expect many of them to be working for wages.

There is also the problem of a paradoxical element in the data: the definition of work used by PFS. Only employment for wages (cash or kind) is defined as work. Whereas we know that most women in fact work, we also realize that they receive no direct remuneration for the time they spend doing so. Although their efforts do contribute to the household income, since they receive no wages, the fruit of their labour is not easily assessed in quantifiable terms. While it is not impossible to study this situation, it is obvious that much more detailed information is required to disentangle the intricate questions involved in determining the work status of women.

Since an accurate definition of "working women" is impossible within the scope of the data at hand, it is likely that we might not be able to see any specific direction of the fertility—work status linkage, because both these variables are highly complex and deeply embedded and culturally enmeshed in the life style of the society. In order to see the actual degree and direction of relationship, the nature of changes in fertility as a result of working would have to be measured more carefully than the present data set permits. On the basis of present data we can study: whether some women have ever worked for wages; whether or not the ones who have worked have done so before or after marriage; the relationship between these work status categories and fertility behaviour; and the relationship between work status and other intermediate variables affecting fertility.

With the above conceptual framework, we shall study the relationship of education and work status of ever married women with other intermediate and dependent variables. In the first stage of our analysis we shall study the bivariate relationship among education, work status and other variables. In the later stage we shall examine the multivariate relationship among the selected variables.

The PFS definition for work status is indicated in the following question:

As you know, many women work. . . I mean aside from doing their own housework. Some take up jobs for which they are paid in cash or kind. Others sell things or have a small business. Are you doing any such work at the present time?

We see that unpaid family work is omitted and work for any kind of wage or profit, *i.e.* cash or kind, is the criterion for work. This is the main problem in defining work for rural women. In the rural settings often a family rather than an individual is the production unit. In fact, it is the family rather than an individual that is considered economically active. Women who participate in several activities, in addition to the normal housework as members of the family, do not receive any wages directly in cash or kind and are often omitted from the category of labour force. Also omitted is the housework which is generally not considered as a part of the economic activity. The social structure makes it a part of their duties in such a way that only peripheral acknowledgement is made. Besides, the concept of a money equivalent of time is neither reported by the peasants and farmers nor it is adequately probed during the field enquiry.

The recognition of urban women's work is somewhat better, particularly of those who take up jobs as teachers, nurses, or in small factories and cottage industries. Women in the poorest strata also take up jobs as domestic helpers. As they often receive their remuneration in cash, their contribution to economic activity is quite obvious.

The observance of "*pardah*" or seclusion of women is more common among lower middle class households in urban areas, where young girls and women would work only in sex-segregated jobs [5, 6, 15, 31]. They often undertake such activities as sewing, embroidery and other activities related to the cottage industry. As they are not engaged in an organised activity and receive their remuneration in piecemeal, their contribution is also not well recognized. During the past decade, restrictions on female entry into several services have been relaxed, thus opening an avenue for educated women particularly from more modern families to work in socially acceptable positions. The availability of such opportunities is limited even in big cities and the impact of these changes may not become visible for some time to come. In spite of increasing female employment the female labour force participation rate in the urban areas is lower than it is in the rural areas.

The profile of married women presented by PFS data speaks clearly and loudly of the lack of adequate work opportunities for women in the monetized sectors.

### WORK STATUS AND EDUCATIONAL LEVEL

The focus of analysis is on two age groups of ever married women in 20-29 and 30-39.

The women in age group 20-29 are a post-independence cohort,<sup>6</sup> who grew up in a changed socio-economic, political, cultural and psychological environment. It is noteworthy that though the educational and employment opportunities in relative terms have significantly changed, the female literacy and employment rates are still low by the international standards. Demographically, this group is important because these women are in their prime reproductive period. From the point of view of family planning, they constitute a major group of potential acceptors of contraceptives for spacing of births. Moreover in the 1976 PFS Report it is stated that women in age groups 20-24 and 25-29 years were slightly more educated than the other cohorts in the reproductive age span. A focus on the education, work, and fertility characteristics of these women may provide useful indications for formulating effective fertility related policies.

Women in the age group 30-39 years in view of a higher age and parity, on one hand are expected to be more tradition bound and on the other are expected to be better acceptors of family planning services and supplies to limit the size of their family.

<sup>6</sup>Pakistan gained independence from British rule in 1947.

The picture with respect to urban-rural differentials in level of education and the work status of the women in the selected age groups as obtained in the PFS is depicted in Figures 1 and 2.

Figure 1 shows that the urban women of both age groups are better off than the rural women in terms of overall literacy and educational levels. The level of education among rural women is pathetically low, whereas at least one-fourth of older and one-third of younger urban ever married women have had some education. The proportion of those having primary education is somewhat higher for younger rural women than that of older women, but there is no difference with respect to the secondary level of education. As it is believed that age at marriage, family size ideals and use of contraception are correlated with education in the light of Figure 1, we cannot expect much in the way of change except for younger urban women.

It is seen in Figure 2 that there is almost no difference between urban and rural women in the younger ages with respect to the "never worked for wages" category. For women in the older age group there is a slight difference that more urban women worked before or after marriage than rural women. It is unexpected to note that more older urban women worked before marriage than older rural women and it is just the opposite with respect to younger women. One would expect that more rural girls would work before marriage because of the reason stated earlier. Because of the problem of definition of the concept of labour force and response and enumeration biases it is difficult to present the true picture with respect to the work status. However, whatever the differences, it can easily be asserted that most women in both rural and urban settings are either not economically active or are engaged in traditional activities which do not provide sufficient environmental conditions for change in the fertility behaviour.

### **Effect of Education on the Age at First Marriage**

In Table 1 it is observed that urban women, on the average, marry slightly later than their rural counterparts (grand mean 17.2 for urban vs. 16.6 for rural).

Both independent variables, *i.e.* education and work status seems to have significant effect on the age at first marriage in both residence cohorts. The greater effect would seem to be that of education. For the urban women it is noted that age at marriage is consistently and positively related to the years of education, meaning that the higher the education, the later the age at marriage. While this is not surprising for higher education, even primary education is related to age at marriage. We find a delay of approximately a year and a half when compared to no education. This observation holds true for the rural cohorts also. In fact, there were only 11 women who had more than 5 years of education, and their age at marriage was delayed longer than was for the urban women with comparable schooling. This may be due also to the unavailability of suitable mates for higher educated girls in the rural areas.

The effect of education seems to be more pronounced in rural areas. If one computes the actual means for the different education categories, the results are remarkably similar for both urban and rural women with up to 10 years of education. The fact that the grand means are different is due to the differentials in the availability of education in urban and rural areas. In summary, it is found that education inevitably delays the age at first marriage. This is quite consistent with the expected pattern as well as with the findings of other studies.

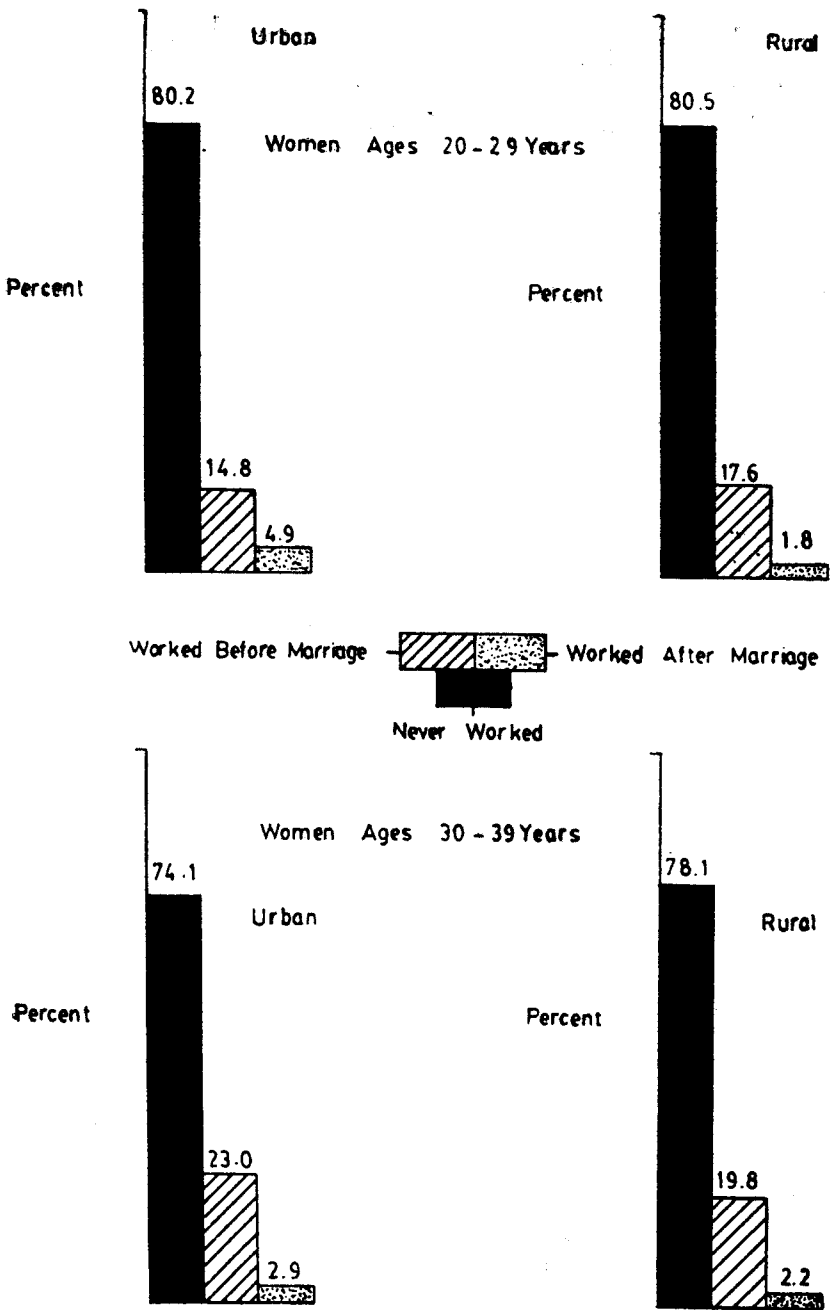


Figure. 2  
Work Status Among Ever Married Women of Pakistan



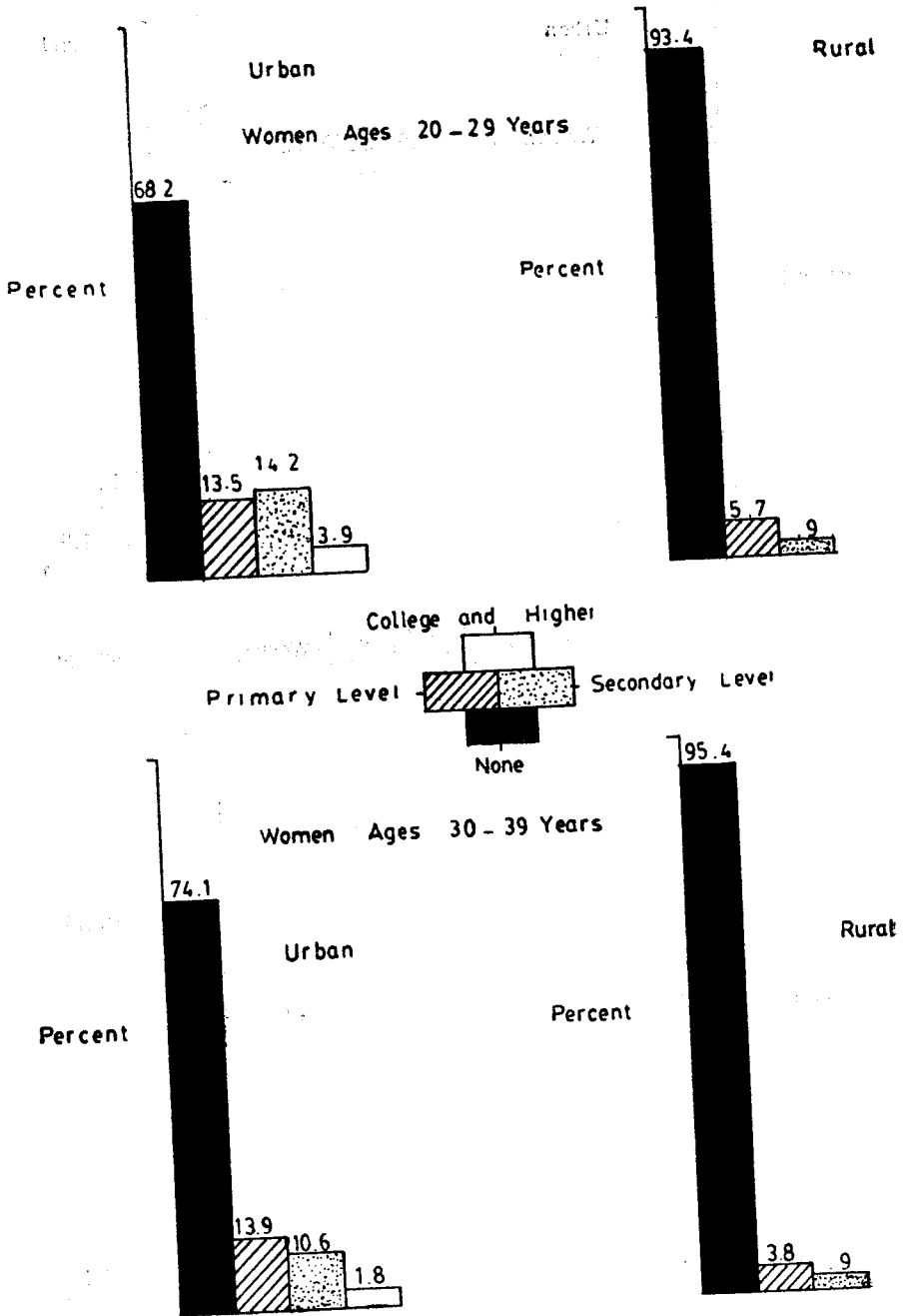


Figure. 1  
Level of Education Among Ever Married Women

Table 1

*Effect of Education and Work Status on Age at First Marriage, by Residence and Age  
(As Computed from ANOVA, Including Multiple Classification Analysis)*

Variable	(Currently Married Women 20—29)							
	URBAN (Grand Mean = 17.2)				RURAL (Grand Mean = 16.6)			
	No. of Cases	1-Way ANOVA*	2-Way ANOVA	Significance (p≤)	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p≤)
<i>Education</i>	464				1254			
0 years	317	16.5	16.5	0.001	1171	16.5	16.5	0.001
1—5 years	63	17.9	17.9		72	17.3	17.9	
6—10 years	66	19.1	19.0		11	19.7	19.8	
11—16 years	18	21.6	21.6		—	—	—	
<i>Work Status</i>	465			(ns)	1254			0.001
Work Before Marriage	69	16.5	16.5		220	15.9	15.9	
Work After Marriage	23	19.1	18.1		23	17.1	17.6	
Never Worked	373	17.2	17.3		1101	16.8	16.8	

R<sup>2</sup> = .178

(ns) = not significant

R<sup>2</sup> = .040

\*ANOVA stands for Analysis of Variance,

Table 2

*Effect of Education and Work Status on Age at First Marriage, by Residence and Age  
(As Computed from ANOVA, Including Multiple Classification Analysis)*

Variable	(Currently Married Women 30—39)							
	URBAN (Grand Mean = 16.9)				RURAL (Grand Mean = 16.7)			
	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p≤)	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p≤)
<i>Education</i>	379			0.001	1046			0.001
0 years	281	16.3	16.3		1001	16.6	16.6	
1—5 years	51	17.4	17.4		37	17.2	18.1	
6—10 years	40	18.6	18.6		8	21.0	21.1	
11—16 years	7	25.1	25.1		—	—	—	
<i>Work Status</i>	380			(ns)	1047			(ns)
Work Before Marriage	88	16.8	16.6		206	16.2	16.3	
Work After Marriage	11	16.6	16.7		23	17.5	17.5	
Never Worked	281	16.9	16.9		818	16.7	16.7	

R<sup>2</sup> = .150

(ns) = not significant

R<sup>2</sup> = .021

The effect of work status follows a similar pattern for both urban and rural women. Women who worked before marriage married younger than those who never worked, perhaps due to lack of opportunities for education or substitution of work for education. Working after marriage is associated with a slightly later marriage, that is about one year later than the grand mean for both cohorts. It is not clear as to what could be the interplay of age at marriage and the working status after marriage. The explained variance for rural women is quite weak, *i.e.* only 4 percent. On the other hand, the explained variance for urban women is 18 percent. This is so because the opportunities for both education and paid work are better in urban areas, and therefore, more likely to influence the age at marriage.

As shown in Table 2 the effect of education is significant for both urban and rural women. The level of schooling is consistently and positively related to age at first marriage in both residence categories. The effect of primary education after adjustment for work status is slightly greater for rural women than for urban women. Probably, since schooling was not widely available for these rural women, the ones who received any schooling were a select group.

The effect of work status is not statistically significant. Nevertheless, the same phenomenon of earlier marriage for those women who worked before marriage and later marriage for those who worked after marriage is indicated for rural areas.

#### **Effect of Education and Work on Number of Children Ever Born**

The effects of education and work on the parity of women 20-29 years are shown in Table 3. It is noted that the grand mean for the parity of urban women is slightly higher than that of the rural women, which may be due to the better recall and reporting by the urban women. The effect of education on the parity of both urban and rural women in this age group is significant. For the urban women it is found that there was a difference of almost one child with at least six years of schooling, and a difference of almost two children with eleven or more years of schooling when compared to the women with no schooling. Primary level schooling does not seem to have an effect on the parity of younger women in the urban areas. On the other hand, primary education makes a difference of almost one child and six to ten years of schooling makes a slightly greater difference in the parity of rural women. It is interesting to note that rural women with secondary education have a comparable family size to urban women with more than ten years of schooling. It is difficult to explain why education is more effective in rural than in urban areas.

We find that effect of work on parity of women in the age group 20-29 is neither significant for the urban nor for the rural women. The curious aspect is that the women who reported that they 'never worked' had the lowest parity in both rural and urban areas. This may be largely a random error due to the fact that so few women have been reported who worked. Also the nature of work was probably conducive to limiting the size of family. We also find that there are no significant interaction effects.

In Table 4 for older women in the urban areas, the level of education indicates inverse association of education with the number of children ever born

Table 3

*Effect of Education and Work Status on Parity (CEB), by Residence and Age  
(As Computed from ANOVA, Including Multiple Classification Analysis)*

Variable	(Currently Married Women 20—29)							
	URBAN (Grand Mean = 2.7)				RURAL (Grand Mean = 2.6)			
	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p ≤)	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p ≤)
<i>Education</i>	464			0.001	1254			0.001
0 years	317	2.9	2.9		1171	2.6	2.6	
1—5 years	63	2.6	2.6		72	1.9	1.9	
6—10 years	66	2.1	2.2		11	1.3	1.3	
11—16 years	18	1.4	1.3		—	—	—	
<i>Work Status</i>	465			(ns)	1254			(ns)
Work Before Marriage	69	3.1	3.1		220	2.7	2.7	
Work After Marriage	23	2.4	2.8		23	2.6	2.7	
Never Worked	373	2.7	2.7		1011	2.6	2.6	

R<sup>2</sup> = .042

(ns) = not significant

R<sup>2</sup> = .013

Table 4

*Effect of Education and Work Status on Parity (CEB), by Residence and Age  
(As Computed from ANOVA, Including Multiple Classification Analysis)*

Variable	(Currently Married Women 30—39)							
	URBAN (Grand Mean = 5.7)				RURAL (Grand Mean = 5.3)			
	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance ( $p \leq$ )	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance ( $p \leq$ )
<i>Education</i>	379			0.001	1046			(ns)
0 years	281	6.1	6.0		1001	5.3	5.3	
1—5 years	51	5.6	5.6		37	4.7	4.7	
6—10 years	40	4.6	4.6		8	3.7	3.6	
11—16 years	7	2.2	2.1		—	—	—	
<i>Work Status</i>	380			(ns)	1047			(ns)
Work Before Marriage	88	5.7	5.8		206	5.5	5.5	
Work After Marriage	11	5.5	5.5		23	5.4	5.4	
Never Worked	281	5.7	5.7		818	5.2	5.3	

R<sup>2</sup> = .066

(ns) = not significant

R<sup>2</sup> = .006

to women in age group 30-39 years and it is more pronounced beyond five years of education. For the rural women the relationship though not statistically significant, but has a pattern which is similar to that of urban women.

Like the younger women, the work status of older women shows no statistically significant relationship with parity for both urban and rural areas.

### **Effect of Education and Work Status on Ideal Number of Children**

Table 5 shows that the grand mean for the number of children desired by women in age group 20-29 years is higher for rural than urban areas. We find that education emerges as a significant factor affecting the number of children desired by both rural and urban women. In particular, urban women who had six to ten years of education, on the average wanted one less child than the urban women with no education. This is an important finding. The one child difference even with some secondary education has a particular significance for educational and population policies.

Primary education also exerts influence on the desired number of children but it seems to have more effect on the rural than urban women. It is surprising to note that secondary education has less effect in the rural areas. Although the number of females in the rural areas who had secondary education is small. Is it possible that women who could afford higher education could also maintain the traditional large family norm? This would require further investigation.

Work status of women 20-29 years of age had apparently no significant effect on their desired family size for the same reasons given for the parity. We also note that the ANOVA procedure showed no interaction effects. The  $R^2$  for rural and urban areas explains only 2 to 5 percent of the variance.

Table 6 shows that in case of women 30-39 years also there is an inverse association between the level of education and the desired number of children and primary education has greater effect on rural than urban women. Work status though not a statistically significant factor also behaves in the same manner as it did for women 20-29 years in both rural and urban areas.

### **Effect of Education and Work Status on Use of Contraceptives**

At the very outset it must be noted that only 10 percent of the currently married women were reported to have ever used specified contraceptive methods including sterilization. This also included 2 percent of the women who used inefficient methods. In Table 7 we find that the grand means for ever use of contraceptive of women 20-29 years is six times greater for the urban than rural women. The effect of education is significant for the urban women, but not for the rural women. Ever use of contraceptives increases with years of education up to secondary school level; beyond this use of contraceptives falls to equal that of women with only primary school education. This may be due to the effect of delayed marriage of the highly educated women, who would wish to have the desired number of children, and thus use less contraceptives. The rural women in this age group do not seem to be disposed towards contraceptive use.

Table 5

*Effect of Education and Work Status on Ideal Number of Children, by Residence and Age  
(As Computed from ANOVA, Including Multiple Classification Analysis)*

Variable	(Currently Married Women 20—29)							
	URBAN (Grand Mean = 3.8)				RURAL (Grand Mean = 4.2)			
	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p <)	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p <)
<i>Education</i>	458			0.001	1225			0.01
0 years	308	4.0	4.0		1146	4.3	4.3	
1—5 years	63	3.7	3.7		72	3.4	3.4	
6—10 years	66	3.1	3.0		11	4.1	4.1	
11—16 years	18	3.2	3.1		—	—	—	
<i>Work Status</i>	455			(ns)	1229			(ns)
Work Before Marriage	69	3.7	3.7		219	4.4	4.4	
Work After Marriage	23	3.7	3.9		23	4.3	4.5	
Never Worked	363	3.8	3.8		987	4.2	4.2	

R<sup>2</sup> = .046

(ns) = not significant

R<sup>2</sup> = .021



Table 6

*Effect of Education and Work Status on Ideal Number of Children, by Residence and Age  
(As Computed from ANOVA, Including Multiple Classification Analysis)*

Variable	(Currently Married Women 30—39)							
	URBAN (Grand Mean = 3.9)				RURAL (Grand Mean = 4.2)			
	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance ( $p \leq$ )	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance ( $p \leq$ )
<i>Education</i>	367			0.001	1017			(ns)
0 years	272	4.1	4.1		973	4.3	4.2	
1—5 years	49	4.0	4.0		36	3.7	3.7	
6—10 years	39	3.4	3.4		8	3.1	3.1	
11—16 years	7	2.5	2.5		—	—	—	
<i>Work Status</i>	367			(ns)	1018			(ns)
Work Before Marriage	86	4.1	4.1		201	4.2	4.2	
Work After Marriage	11	4.3	4.4		23	4.7	4.7	
Never Worked	270	3.9	3.9		794	4.2	4.2	

$R^2 = .055$

(ns) = not significant

$R^2 = .012$

Table 7

*Effect of Education and Work Status on Ever Use of Contraception, by Residence and Age  
(As Computed from ANOVA, Including Multiple Classification Analysis)*

Variable	(Currently Married Women 20—29)							
	URBAN (Grand Mean = 0.18)				RURAL (Grand Mean = 0.03)			
	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p ≤)	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance (p ≤)
<i>Education</i>	464			0.001	1254			(ns)
0 years	317	0.13	0.13		1171	0.03	0.03	
1— 5 years	63	0.23	0.23		72	0.07	0.04	
6— 10 years	66	0.37	0.37		11	0.00	0.01	
11— 16 years	18	0.26	0.23		—	—	—	
<i>Work Status</i>	465			(ns)	1254			(ns)
Work Before Marriage	69	0.21	0.22		220	0.01	0.01	
Work After Marriage	23	0.35	0.30		23	0.05	0.05	
Never Worked	373	0.16	0.16		1011	0.03	0.00	

R<sup>2</sup> = .062

(ns) = not significant

R<sup>2</sup> = .007

Table 8

*Effect of Education and Work Status on Ever Use of Contraception, by Residence and Age*  
*(As Computed from ANOVA, Including Multiple Classification Analysis)*

Variable	(Currently Married Women 30—39)							
	URBAN (Grand Mean = 0.32)				RURAL (Grand Mean = 0.10)			
	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance ( $p <$ )	No. of Cases	1-Way ANOVA	2-Way ANOVA	Significance ( $p <$ )
<i>Education</i>	379			0.001	1046			(ns)
0 years	281	0.25	0.25		1001	0.09	0.10	
1— 5 years	51	0.44	0.44		37	0.20	0.19	
6—10 years	40	0.56	0.56		8	0.29	0.30	
11—16 years	7	0.64	0.64		—	—	—	
<i>Work Status</i>	380			(ns)	1047			(ns)
Work Before Marriage	88	0.34	0.33		206	0.06	0.06	
Work After Marriage	11	0.25	0.25		23	0.21	0.21	
Never Worked	281	0.32	0.32		818	0.11	0.01	

R<sup>2</sup> = .063

(ns) = not significant

R<sup>2</sup> = .015

The effect of work status on ever use of contraceptives is not statistically significant for either urban or rural women; nevertheless, women who have worked either before or after marriage are greater users of contraceptives than those who have never worked but it is not consistent with the earlier results with regard to the number of children ever born or the desired number of children. The same though to a lesser extent is true for rural women. However, in view of the small frequencies of reported users, one should be careful in placing reliance on these results.

Table 8 shows that for women in age 30-39 years, the effect of education is statistically significant for urban women but not for rural women. We note that urban women are almost three times greater users than rural women. Also the older women are more likely to have ever used contraceptives than their younger counterparts in both rural and urban areas. We note that ever use of contraceptives increases monotonically with increasing education for both residence cohorts.

In comparing the two age groups we find confirmation of the explanation given previously of the anomalous contraceptive behaviours of the younger highly educated women. The older women with comparable educational level are the greatest users of contraceptives, as would be expected. Due to postponement of marriage they tend to produce children and use less contraceptives when they are 20-29 years and tend to use more contraceptives when they reach 30-39 years of age.

We find that work status has no statistically significant effects on ever use of contraceptives. Among the urban women contraceptive use is highest for women who had worked before marriage, followed closely by women who have never worked. On the other hand the ever use of contraceptives is highest among rural women who worked after marriage.

### CONCLUSIONS

Before drawing final conclusions attempt was also made to control on the effect of duration of marriage. When marital durations was controlled, the level of education still showed negative but statistically insignificant relationships with parity of both urban and rural women. Although the direction of relationships between women's education and variables related to fertility behaviour seems to be unambiguous in the direction of lower fertility with higher levels of education, it is possible that other socio-economic factors may be intervening that require a higher order interaction analysis. As socio-economic module was not used in the Pakistan Fertility Survey, it is difficult to further refine the relationship.

In studying the relationship between *work status* and fertility-related variables we find that only 23 percent of the urban and 21 percent of the rural ever married women had ever worked for wages. In both rural and urban areas 19 percent worked before marriage, and only 3.8 percent of urban and 1.8 percent of rural women worked after marriage. *Ceteris paribus* we would expect that more urban women should have reported not working before marriage because of their greater possibility of receiving education. Rural women are married at a slightly younger average age than urban women, and this difference may partially explain the similarity in reported employment.

The work status has no statistically significant relationship with age at first marriage for both younger and older cohorts of urban women or for rural women of 30-39 years. It has, however, a statistically significant relationship with age at first marriage for rural women 20-29 years of age. Rural women working after marriage had delayed their marriage almost two years more than those who worked before marriage, and a year more than those who never worked. In view of the conceptual problems of the work status of women particularly in the rural areas, it is difficult to separate the working from non-working women. It may be mainly for this reason that no statistically significant relationship of work status with fertility behaviour could be found in spite of controlling the duration of marriage.

Our analysis clearly supports the hypothesis related to the theoretical framework of the education and fertility linkage, *i.e.* that education reduces female vulnerability to "unwanted" pregnancy. We find that a level of achieved education apparently influences fertility behaviour in three different ways. First, the age of first marriage tends to rise. Second, women know more about and use more contraception. Third, family size tends to vary inversely with the level of education. In other words, education broadens the outlook of females, increases their ability to plan their life more meaningfully and enables them to find security through means other than excessive child bearing.

Although these findings are based on a few broad categories of education of ever married women, a clear pattern of negative association between education and fertility emerges. On the other hand, on the basis of available data, it has not been possible to establish any pattern of association between the work status of women and their level of fertility. Additional factors responsible for this may be the type of work, the division of work status into only three categories and perhaps the cross-sectional nature of the data.

This leads to an obvious conclusion: Much more emphasis should be placed on making females at least literate, because we have seen that in the case of Pakistani women, a mere shift from illiteracy to some literacy makes a measurable impact on their family size ideals and reproductive behaviour. Regardless of work opportunities literacy for these women brings some hope and ability to plan.

Although educational policy should be aimed primarily at the attainment of literacy for all younger women in both rural and urban areas, greater effort is needed to keep urban young women in school, at least up to the secondary level. The secondary education among urban women and primary level among rural women contribute substantially to the difference in attitudes towards reproduction.

Improved educational opportunities can increase the age at marriage, which in turn reduces the average number of children ever born and seems to be an effective complementary and acceptable policy intervention.

The women in age group 30-39 years were less educated than women in age 20-29 and their reproductive behaviour was less affected. Educational efforts should also include adult female literacy programmes. Such programmes should be geared towards functional literacy. Teaching functional literacy to adult females will also provide employment opportunities to educated females

in a socially acceptable environment. This kind of participation in turn may also enhance the role of females as community workers. Women teaching women how to read and write may establish a forum for exchange of ideas, changing life styles and adoption of new behaviour. Literate female motivators in the Family Planning Programme are now supposed to visit and motivate eligible women in their homes for use of contraceptives. If these women were assigned to teach a smaller number of women how to read and write, motivation for the use of contraception could be the by-product of such programmes as women themselves would discover how to deal with their own problems. With this role, the female motivators would probably be better received in the community.

In view of this it is hoped that policy makers would make the allocation of scarce resources in the most critical areas of social development so that a congenial environment is enacted in which family planning practice becomes a motive of couples rather than government imposition upon them.

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