

The Effect of Social Interaction on Desired Family Size and Contraceptive Use Among Women in Bangladesh

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Abstract

This paper uses the concept of social interaction to try to understand the decline of fertility in Bangladesh, a decline that occurred despite minimal change in conventional measures of development. Two measures of demographic change are analysed: the proportion of women wanting no more children, and the proportion of women using either traditional or modern methods of fertility control. Two sets of data are used: the 1993-94 Bangladesh Demographic and Health Survey and a set of ethnographic interviews. The data lend support to taking social interaction into account in our analyses of fertility change. The attitudes held and information passed on by a woman's social network (husband, female peers, and family planning workers) influence her judgements on appropriate family size, whether she should regulate her fertility, and the "best" method for her to use.

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Section 1 Introduction and Theory

Until recently, much of the literature concerning population issues in Bangladesh has stressed the presence of conditions that would inhibit a fertility transition — limited opportunities for women in the job market, son preference (Lindenbaum, 1975), the value of children for ameliorating risk (Cain, 1986) and providing familial labour (Caldwell, 1982), the poorly managed national family planning program (Hartman, 1987), and high infant mortality. Bangladesh is still largely impoverished and agricultural, infant mortality is still high, education levels among women of reproductive age remain low, and traditional cultural institutions remain strong. Yet in this unlikely setting the total fertility rate has declined from around seven in the late 1970s to well under four in 1994 (Kantner *et al.*, 1995). The fertility transition in Bangladesh was achieved almost exclusively through the use of birth control methods (modern and traditional) with use increasing dramatically from 8% in 1975 to 45% in 1994 (Mitra *et al.*, 1994).

Limitations of economic theories to explain fertility transitions in Bangladesh, Europe and elsewhere that occurred under varied social and economic conditions (Coale, 1973; Coale and Watkins, 1986; Cleland and Wilson, 1987; Van de Walle and Knodel, 1980) have rekindled an interest in theories based on the diffusion of ideas and cultural change (Palmore, 1967; Freedman and Takeshita, 1969; Rogers and Shoemaker, 1971; Chung *et al.*, 1972). Rather than seeing people as adapting to changing incentives in the environment, these theories focus on the introduction into a given environment of new attitudes regarding fertility control and family size, and of effective techniques. In this school of thought, the mechanisms by which ideas and cultural norms are transmitted, evaluated and altered are referred to as “social interaction”.

A recent study by Bongaarts and Watkins (1996) which analysed fertility change in 69 developing countries concluded that social interaction “is a critical and neglected process in fertility transitions” (p. 641) that should be taken into account in future analyses of fertility change. While data on social interaction is quite limited, some researchers have made ingenious use of available data (Montgomery and Casterline, 1993; Rosero-Bixby and Casterline, 1994). More recently, researchers have collected qualitative data (Mita and Simmons, 1995; Watkins and Danzi, 1995), and ongoing projects are underway to gather both qualitative and quantitative data (see, for example, Watkins *et al.* (1997) in Kenya; Montgomery and Casterline (1998) in Ghana; Watkins and Zulu in Malawi; and Kincaid *et al.*, 1993).

Recent attempts to explain the unexpected fertility change in Bangladesh have recognised social change and the diffusion of new ideas as a potentially important contributing factor, particularly in reference to the role of family planning outreach workers¹ (see, for example, Cleland *et al.*, 1994; Phillips *et al.*, 1996; Simmons, 1997; and Rahman, 1986). This article analyses the effect of various forms of social interaction in Bangladesh on the demand for and use of contraceptives.

Section 2 Analytical Framework

Social interaction, as categorised by Montgomery and Casterline (1995), is broken into social learning, social influence, and institutional constraints in this study. Social learning refers to the accumulation of information by each individual through inferences made from the experiences or views of others with whom the individual interacts, as well as impersonal sources such as mass media. The relevant information would include various potential reproductive strategies or choices. More information may provide a couple with new opportunities by giving them additional reproductive strategies from which to choose. If a new opportunity is preferable to the previous reproductive strategy of choice, behaviour may change.

Couples may or may not act upon knowledge acquired through social learning. The knowledge gained must be evaluated to determine its functional value for oneself and the risks or rewards that one can expect as a result of the behaviour. Others exert social influence when they contribute to the outcome of the evaluation. Social influence overlaps to some degree with social learning, but is expressed in individual preferences as well as information. Individual preferences will also reflect the desire to avoid conflict and conform to meet social expectations. By changing an individual's preferences, social influence may alter the reproductive strategy chosen from the potential choices known.

Institutional constraints are socially constructed and either enable or restrict behavioural choice. Thus, institutional constraints may diminish the range of opportunities available to an individual, regardless of preferences. Because institutions are socially constructed and, once established, resistant to change, they are a means by which the actions of some individuals affect the attitudes and behaviour of others.

In reality, the different aspects of social interaction overlap with each other. An individual woman may be exposed to new information and simultaneously evaluate it in terms of her relationship with the person providing the information and her own perceived freedom to make use of the information².

I hypothesise that a fertility transition is likely to occur when these three dimensions of social interaction favour small families and fertility control. That is, when individuals are exposed to more information on the concept and methods of fertility control, when social support is in place for fertility control, and when social structures allow those desiring to control their fertility to do so.

Section 3 Data and Methods

This paper uses the nationally representative 1993-94 Bangladesh Demographic and Health Survey (BDHS) (Mitra *et al.*, 1994)³, and ethnographic interviews of 40 women. Questions asked in the BDHS gather information that can be interpreted as indicators of dimensions of social interaction. The qualitative interviews supported these interpretations, and provide insight into processes of social interaction that are not available from the quantitative measures.

3.1 BDHS

The two measures of demographic change used in this paper are: the proportion wanting no more children⁴, and the proportion using either traditional or modern methods of fertility control. This represents a two step process leading to reduced fertility – first a woman decides she does not want any more children, then she acts on this desire by using a method. Given the categorical nature of these dependent variables, logistic regression was the statistical tool used for the multivariate analysis.

It is recognised that explanatory variables other than social interaction influence reproductive behaviour, and that social interaction is likely to be affected by the context in which it occurs. Thus, basic demographic characteristics that define both who a woman is and the context in which the interaction takes place are included as background variables. The analysis controls for age, region, residence, measures of wealth (e.g., possession of consumer durable, electricity and land), family size, having a living son, and education⁵.

The social learning variables all measure increased exposure to or contact with the world beyond the household compound or neighbourhood. Some variables measure purposeful exposure of women to information promoting family planning (media messages and discussion of methods with family planning workers (FPWs)) while others merely assume increased opportunity to learn through observation and discussion (participation in an organisation, organisations working in a woman's community, physical mobility, and work outside the household).

The social influence variables measure the support to be expected from peers and husbands for family planning. The influence expected of a husband in any culture due to his stake in and responsibility for his family is magnified in Bangladesh by the economic and social dependence of women on their husbands (Caine, 1986). Peers (usually neighbours and female relatives) also play an important role as they are the group with whom women interact most and are relied upon for help in fulfilling household duties (White, 1992). Two variables indicate interaction with peers (perceived peer use of methods, and having recommended contraception to a member of one's social group) and

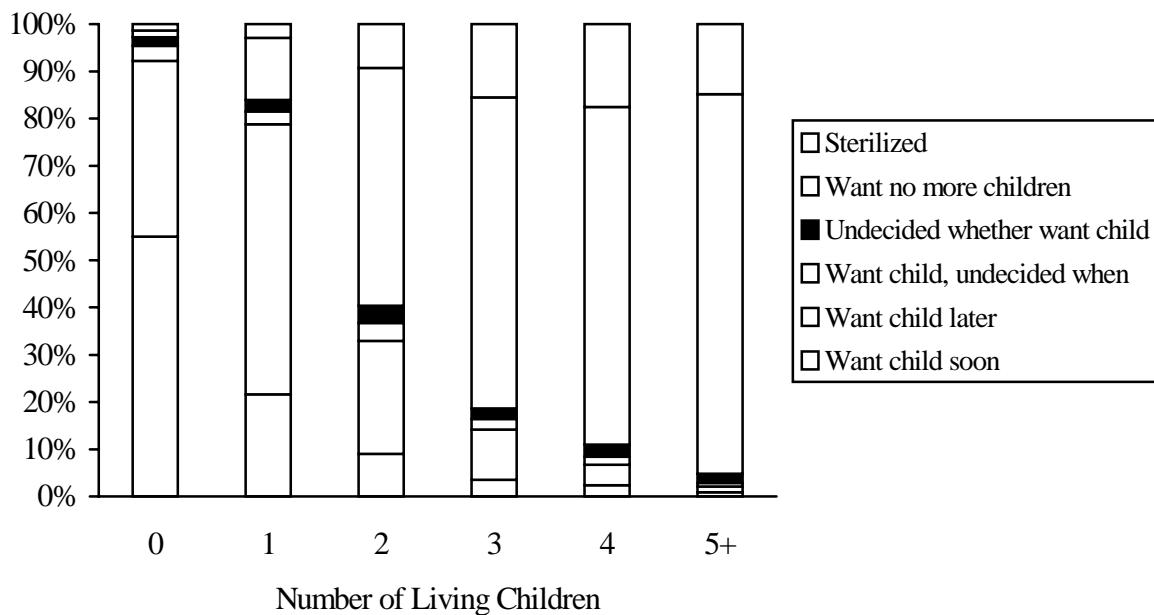
two variables measure interaction with the husband (perceived husband’s attitude towards family planning, and having discussed family planning with him).

The institutional constraint variables measure access to contraceptive methods, based on the assumption that removing barriers to access will increase use. The social institution of *purdah* restricts a woman’s mobility and may prevent her from seeking family planning services out of concern for her family’s honour, fear of punishment, and fear of going out alone in unfamiliar circumstances (Rozario, 1992). The variable used to represent this concept is a woman’s autonomy in seeking health services.

The second social institution is the family planning program itself. The program aims to reduce the constraints on family planning by providing affordable, effective methods to the population. The measures of availability of family planning services included in the study are: the provision of methods by the local family planning worker, the distance to the nearest clinic, the distance to the nearest hospital, and the existence of a satellite clinic in the community⁶.

In order to make the analysis more meaningful the respondents were divided into sub-groups sharing definitive characteristics. In the analysis of wanting no more children, women with the same achieved family size were compared for women with two, three and four children. These are the critical family sizes where decisions regarding fertility goals are made in Bangladesh today⁷. The dependent variable in the logistic regression used for this portion of the analysis is defined as having a value of one when the woman reported she did not want any more children, and zero otherwise.

Figure 1 Fertility Goals of Married Fecund Women (n=8197)



In the analysis of current contraceptive use, women were divided into those who said they did not want any more children and those who said either they want more or are unsure. By analysing these two groups separately, the analysis sheds light on differences in factors affecting those motivated to use contraceptives by the desire to stop births versus those motivated by the desire to space births. It is expected that the former group has a stronger motivation to use contraceptives and social interaction may affect the two groups differently. The dependent variable used in the logistic regression for this portion of the analysis is defined as having a value of one when the woman reports current use of a modern or traditional contraceptive, and zero otherwise.

Only women with a potential need for contraceptive use were included in the analyses. These are currently married women who do not claim that either themselves or their partners are unable to conceive.

Table 1 Characteristics of Married Fecund Women and Their Communities, n=8197

OUTCOMES		%	n	Missing
Current contraceptive use		48.7	3996	
Reproductive goals	desire to stop births	57.2	4691	
	desire to space next birth	28.2	2313	
	want birth soon	14.6	1194	
BACKGROUND				
Mean current age		27.6	8197	
Region of residence	Khulna	12.8	1049	16
	Rajshahi	24.6	2009	
	Dhaka	30.7	2513	16
	Barisal	6.3	519	16
	Chittagong	25.6	2092	16
Type of residence	urban	11.4	933	
Wealth	mean no. of consumer durable	2.47	8180	18
	have electricity	19.5	1593	18
	have agricultural land	57.5	4704	18
Number of living children	0 or 1	32.5	2663	
	2	21	1724	
	3	17	1400	
	4	12	986	
	5 or more	17.4	1424	
Living sons	1 or more	70.4	5768	
Education	none	55.5	4550	
	some primary	18	1473	
	finished primary	10.2	837	
	some secondary or more	16.3	1338	

OUTCOMES		%	n	Missing
SOCIAL LEARNING				
Women's organization	not member of any organization	80.9	6632	
	member of Grameen bank	8.5	699	
	member of another organization	11.2	917	
	mean no. of NGOs in community	2.19	8197	
Mobility	work outside home	4.4	359	
Visits other parts of village/city	every month	24.3	1898	7
	several times a year	39.4	3231	7
	less than once a year	22.1	1811	7
	never	14.2	1160	7
Exposed to media	heard/saw family planning message	44.6	3659	
Ever discussed method with FPW	at least one	39.6	3244	
SOCIAL INFLUENCE				
Perceives most peers use		69.8	5724	
Recommend family planning to peer		40.8	3348	1
Perceives husband attitude positive		83.4	6830	5
Discussion with husband	about family planning/no. of children	85.1	6976	
INSTITUTIONAL CONSTRAINTS				
Autonomy	can seek health services alone	36.9	3027	
	can seek health services with children	39.9	3270	
Service at community level	FPW in area provides methods	98.6	7671	414
	mean miles to family welfare center	1.79	7931	266
	mean miles to thana health complex	5.07	7509	688
	satellite clinic comes to village	69.8	5552	243

3.2 In-depth Interviews

The data used in the second phase of this study was collected through semi-structured taped interviews in Sitakundo thana, Chittagong District, Bangladesh. The qualitative data assist in interpretation of the results from the BDHS analysis (more than one interpretation is possible for some of the variables) and provides richer information on the nature of the social interaction which takes place. Communication networks and social support are identified through conversations women have with others relating to contraceptive use decisions. The interviews elicit the content of informal conversations that are relevant to contraceptive behaviour, with whom they are held, in what settings, and the reactions they provoke in participants and observers.

The sample is neither representative nor randomly selected. Diffusion was likely to be particularly important at the early stages of a fertility transition. Therefore, Chittagong Division was selected as the study site because it is at an earlier stage of the fertility transition. Adoption of family planning was probably hindered there because it is the most conservative and traditional area of the country. The villages selected were in one

general area set back from the highway and were not serviced by any special health programs.

The respondents were chosen in geographically dispersed clusters in order to tap into different social networks. Generally at least two interviews were conducted in a neighbourhood or bari⁸. The consistency of stories regarding events and people in a neighbourhood suggest the respondents were open and honest. An effort was made to include a representative sampling of women from the various socio-economic and religious groups in the communities. Respondents were limited to currently married women who are at risk of conception – those menstruating regularly and whose husbands were present.

Educated Bangladeshi women with field experience conducted the interviews. The author alternated between sitting in on the interviews and, when necessary, entertaining other community or household members to keep them from disrupting the interviews. Women and/or children from the neighbourhood observed the majority of the interviews. Surprisingly, the respondents did not seem to mind the presence of others and spoke quite freely about matters considered highly personal by the interview team. Efforts made to keep large crowds and all men out of earshot were largely successful. However, two interviews were terminated because of curious and persistent male relatives.

Tapes of the interviews were transcribed and translated into English within a couple of days of the interview. Translations from the Bengali transcripts were done in conjunction with the author with the goal of capturing what the respondent *meant* rather than precise literal translations. While literal translations have a quaint quality to them, they leave room for confusion in interpretation.

The transcripts were analysed to detect patterns in the interactions and subsequent decision-making regarding contraceptive use. Each respondent was coded according to their status vis-à-vis the following variables: location of dwelling, religion, education, age, births, living children and gender composition, participation in an organisation, work for remuneration, work outside the home, ever use of contraception, current use of contraception, methods used, whether currently pregnant, fertility goals, and side effects experienced.

Summaries were made of each transcript distilling the events in each woman's history of reproductive behaviour and interaction relevant to that behaviour. From these, women were categorised on the nature of their interaction with husbands, female relatives and neighbours and family planning staff⁹. These classifications were compared with individual's desire to restrict births and contraceptive use, as well as the coded background characteristics to detect patterns.

Section 4 Results of BDHS

4.1 Want No More Children

Logistic regressions with the outcome “want no more children” were run separately for women with two, three and four living children. The results, presented in Table 2, indicate that social influence affects wanting no more children in the expected direction but social learning does not¹⁰.

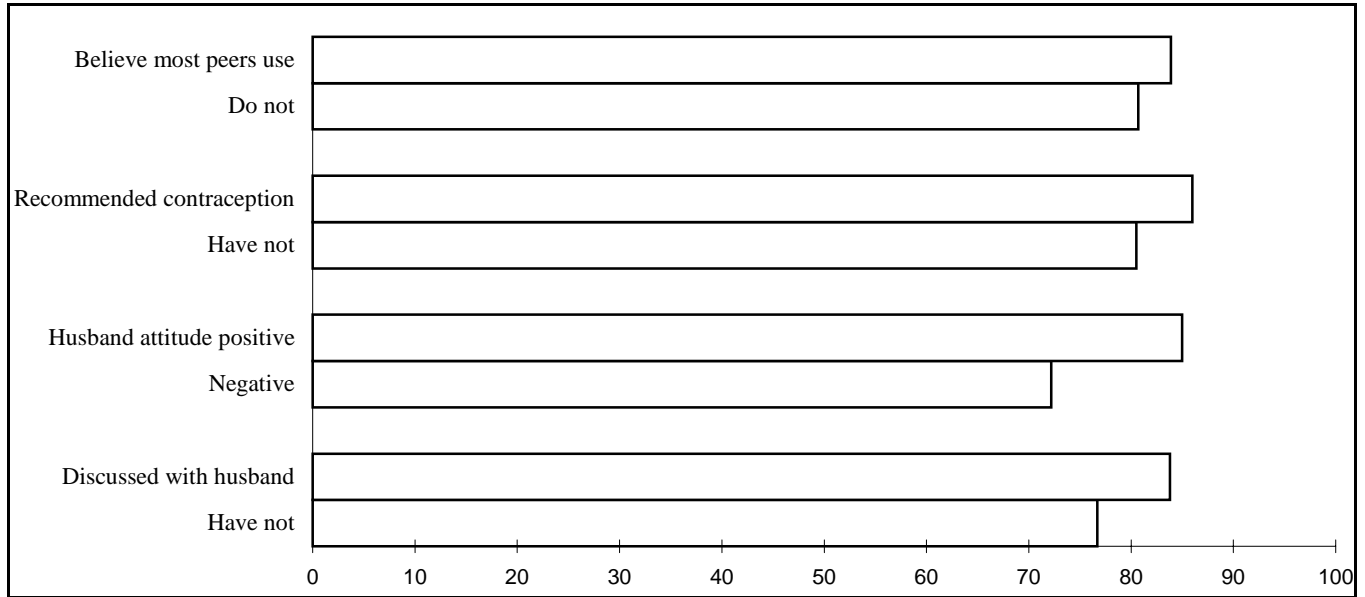
The background variables with the most powerful influence on the desire to limit births are age, having one or more living sons and region of residence. These all had effects in the expected directions. Given the important role played by sons in Bangladesh (Chowdhury and Bairagi, 1990), it is not surprising that people without a living son are much less likely to desire to limit births. The strength of the effect increases with family size – even with larger families, many women still hold out for a son. The effect of region and urban residence show the opposite trend. As family size increases, the regional and residential differences for wanting no more children disappear. Perhaps at larger family sizes, even the aspirations of regions with higher average family size desires have been met. Contrary to expectations, education is not influential when controlling for the other variables. The effects of wealth were not consistent, but possession of land is associated with not wanting to stop births among women with only two children.

The hypothesis that increased opportunities for social learning will increase the desire to limit births is not supported by the measures available in the BDHS. While the percentage of respondents wanting no more children was greater among those with more opportunities for social learning as measured by several of the variables, these relationships were not statistically significant when controls for other characteristics were introduced. The meaning of the significant negative association between discussion of a method with a FPW and desire to stop childbearing among women with fewer children is not clear¹¹.

The variables chosen as proxies for positive attitudes within one’s social group all have consistent effects in the expected direction, thus the hypothesised effect of social influence is supported by the data in the BDHS. Husband attitudes are very influential among women with 2 living children. As family size increases, interaction with peers and discussion with husbands also become influential.

To illustrate the effect of social influence variables, the data for women with three living children are displayed graphically in Figure 2. The figure depicts the probability of wanting no more children for women with given values for the social influence variables, controlling for all other characteristics in the model. The adjusted proportions are derived from underlying logit regressions by holding all other independent variables included in the model constant at their mean value for the entire sample. The figure shows that, all

Figure 2 Adjusted Proportions of Women with 3 Children Wanting No More Children (Social Influence Variables)



4.2 Contraceptive Use

The outcome “contraceptive use” in this study includes any method, modern or traditional. Close to 20% of women using a method use traditional methods (mostly rhythm and withdrawal).

Logistic regressions were run separately for women who want no more children and for those who do want more children or are uncertain. These groups differ dramatically in their use of contraception. Of women who do not want more children, 64% are using contraception. Of women who want more children or are uncertain, 28% use contraception. Among the latter group, those that use contraceptives are presumably doing so for the purpose of spacing¹². Conversely, those wanting no more children who use contraceptives are considered to be limiting their families.

As expected, background variables of family size and one living son are positively associated with contraceptive use for both women who want to space their births and those that want to limit births. Contraceptive use for both spacing and limiting is significantly associated with region of residence in a pattern that corresponds with wanting no more children. As age increases, women are more likely to use contraceptives to limit births. Contrary to expectations, education increased the likelihood of contraceptive use only among women who have achieved the highest levels of education (secondary school or more). Possession of electricity is moderately positively associated with use for spacing.

Table 3 Logit Regression Coefficients of “Current Contraceptive Use

Independent Variable	Desire for Children	
	Want more or are uncertain	Want no more
Background		
age	0.25 ***	0.04
age squared	0.00 ***	0.00
region of residence (a): barisal	-0.15	0.31
chittagong	-0.55 ***	-0.36 ***
khulna	0.54 ***	0.78 ***
rajshahi	0.42 ***	0.74 ***
urban residence	0.10	0.03
wealth: number of consumer durables owned	0.01	0.06 *
possession of electricity	0.03	0.33 **
possession of land	-0.08	-0.04
family size: 2, 3 or 4 children	0.75 ***	0.54 ***
5 or more children	0.40 **	1.45 ***
at least one living son	0.33 **	0.59 ***
level of education (b): some primary	-0.11	0.19
finished primary	-0.01	0.02
secondary or more	0.16	0.56 ***
Social learning		
member of (c): Grameen Bank	0.22 *	-0.16
other women’s organization	-0.02	0.00
number of NGOs working in the community	0.04	-0.01
works outside home	0.36 **	0.08
travels to other parts of residence	0.06	-0.02
media exposure to family planning messages	0.01	-0.17 *
discussed methods with a FPW	0.46 ***	1.07 ***
Social influence		
perceives peers use contraceptive methods	0.27 ***	0.28 **
recommended family planning to someone	0.41 ***	0.39 ***
husband attitude positive on family planning	1.30 ***	0.79 ***
discussed family planning with husband	0.33 ***	1.30 ***
Institutional constraints		
autonomy to seek health services	0.02	0.10
accessibility: FPW in area provides methods	0.40	1.30 ***
distance to clinic	0.03	0.06 ***
distance to hospital	0.00	-0.04 ***
satellite clinic comes to village	0.02	-0.01
No. of cases	4133	2984
Log likelihood	-2276.085	-1396.593

*p \leq .1; **p \leq .05; ***p \leq .01. (a) reference category is Dhaka;

(b) reference category is no education; (c) reference category is no membership in any organization.

The data support the hypothesis that increased opportunities for social learning increases the likelihood of using contraceptives for both those who wish to stop and for those who wish to space their births. The variable with the strongest effect is discussion with a FPW. The size of the effect of this variable is greatest for women using contraception to space births, making them almost twice as likely to use a method. Work outside the home has moderate effects on women’s contraceptive use for limiters. Other social learning variables do not have the expected effects when controls are in place in the full model.

Figure 3 Adjusted Proportions of Women Using Contraception to Space Births (Social Learning Variable)

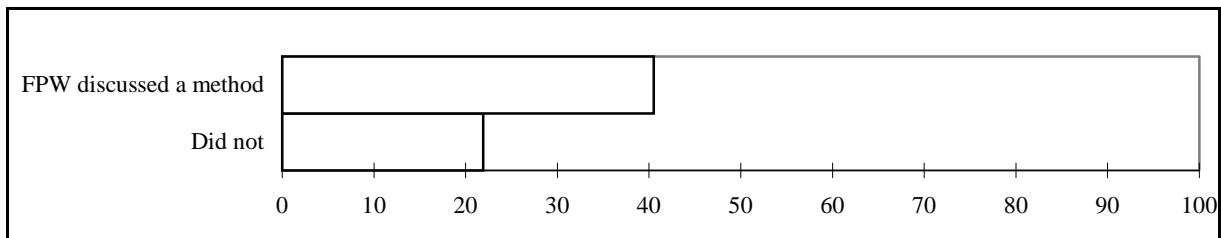
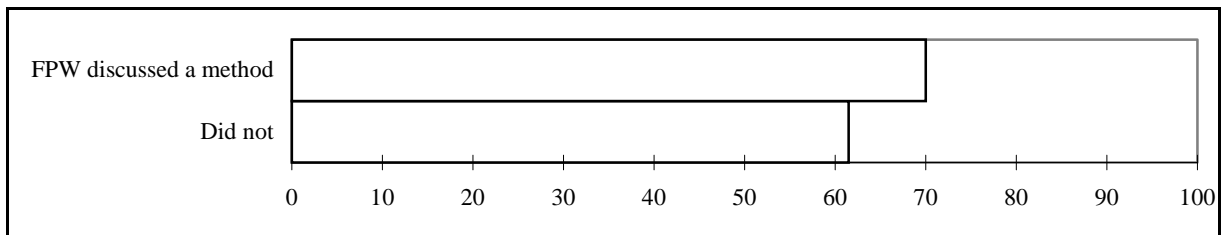


Figure 4 Adjusted Proportions of Women Using Contraception to Limit Births (Social Learning Variable)



The hypothesis that social influence affects contraceptive use among both spacers and limiters is strongly supported by the analysis of the BDHS. All variables were significantly associated with contraceptive use in the expected direction. For spacers, both variables representing interaction with their husbands (particularly discussion of family planning) have a stronger effect than those that represent interaction with their peers. For limiters, the variable representing the husband’s attitude towards family planning has a particularly strong effect.

Figure 5 Adjusted Proportions of Women Using Contraception to Space Births (Social Influence Variables)

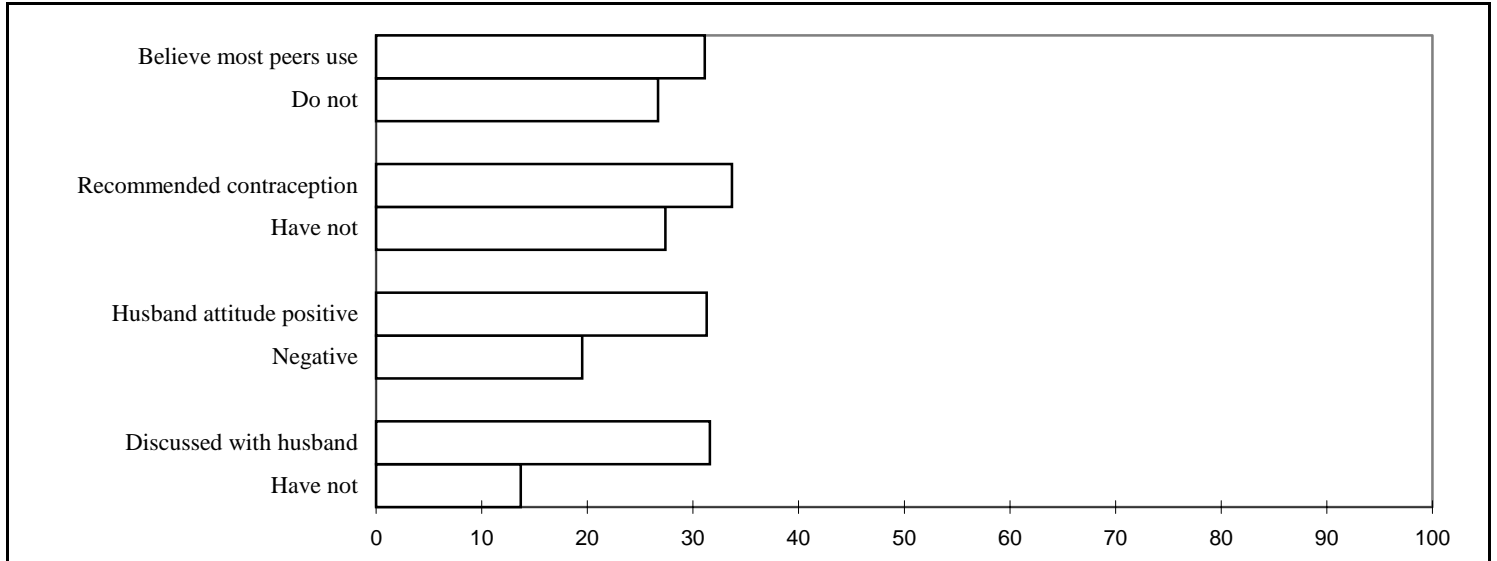
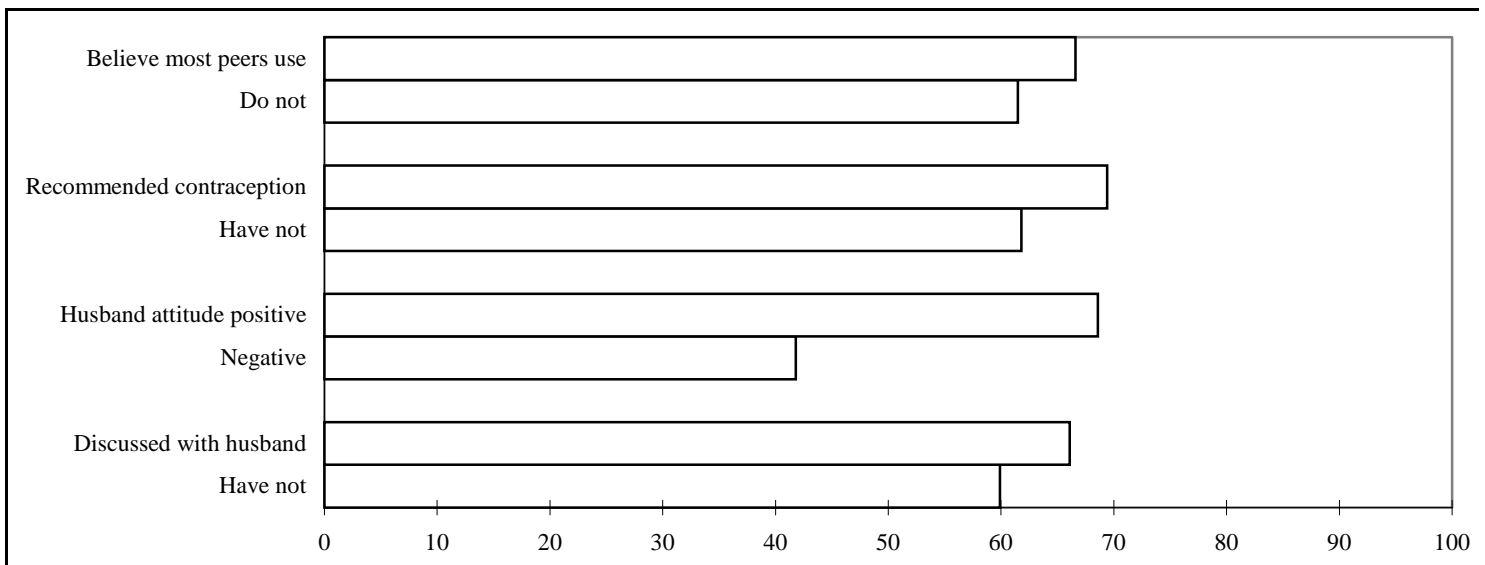


Figure 6 Adjusted Proportions of Women Using Contraception to Limit Births (Social Influence Variables)

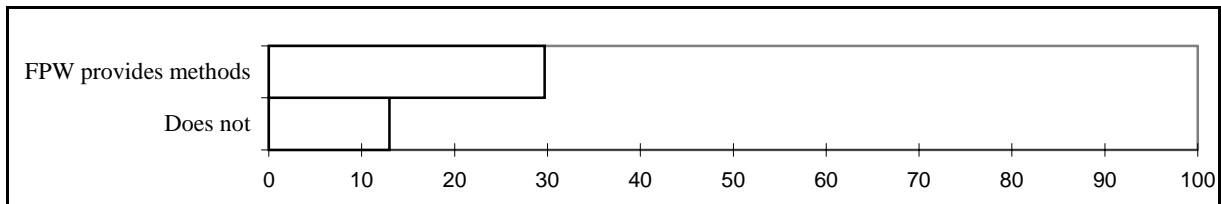


The hypothesis that institutional constraints decrease the likelihood of using contraceptives is not consistently supported by the data. While a higher percentage of women who can seek health services use contraceptives for both spacing and limiting, the

relationship is not significant when background and other social interaction variables are controlled for.

The variables representing service availability do not display the expected relationships consistently. For the variable denoting FPW provision of methods, the lack of consistent effects could be due in part to lack of sufficient cases spread across values (almost all communities have a FPW that provides methods). Despite the uneven distribution of values, women who do not have access to a FPW who provides methods is significantly less likely to use contraceptives to space births.

Figure 7 Adjusted Proportion of Women Using Contraception to Space Births (Institutional Constraint Variable)



Section 5 Results of Qualitative Study

The BDHS analysis confirms that social interaction matters, but the variables are subject to interpretation and the concepts are abstract. This section will report on the nature of social interaction and its effect on fertility behaviour as described by Bangladeshi women themselves. While analytically distinct, the processes of social learning, social influence and institutional constraints may all occur in one conversation with the same person. As the interviews were not constrained by the limitations of multiple choice questions, these processes could be differentiated and explored within a given interaction. Therefore this section will be broken down along the lines of conversational partners, and the three types of social interaction will be discussed for each group as appropriate.

Discussion here is limited to the three sources of interaction found to have the strongest impact in the BDHS: FPWs, husbands, and peers. Further support for focusing on these groups was revealed in the interviews. While family planning is a prominent issue that is actively thought about and discussed by married women in rural Bangladesh, it is discussed only with those deemed by social convention to be related in an appropriate way. “Formal” discussion aimed at promoting family planning is largely restricted to female program staff, usually FPWs. Women did not welcome intrusive and “shameful” questions from male program staff in their villages. Husbands are the only male with whom women generally discuss family planning issues. These discussions tend to start early in the marriage if the husband is interested in family planning, and somewhat later if the wife initiates the discussion. The third common group of conversational partners are female relatives and neighbours. Within this group, only women of the same age cohort or those related in specific ways (for example an older brother’s wife, but not one’s own sister) are normally considered appropriate conversational partners. New brides are especially restricted in whom they can talk to as they generally marry into strange households.

5.1 FPWs

The FPW spans two types of social interaction: they are the source of social learning when providing information, and a means of overcoming institutional constraints when providing supplies. FPWs do try to promote small family size ideals. However, as the benefits of small families are widely known, this information is not valued in the same way as information on contraceptive methods and access to them. This may explain why FPWs do not affect wanting no more children, but strongly affect contraceptive use in the BDHS analysis. FPWs were not commonly credited as being a source of social influence – that is, someone who persuaded a woman to change her mind regarding her choice of reproductive behaviour.

Respondents that have talked to FPWs generally report that the FPW told them about the benefits of restricting childbirth and encouraged them to use one of the various methods they describe. Although FPWs are often referred to in kinship terms, nobody expressed a social obligation to take their advice in the same way they did for real kin. FPWs are seen mainly as providers of information and supplies. One respondent, D, describes the FPW that visits her house:

Interviewer : Did she influence you all to use family planning methods?

Respondent D : It is her job and she tries her best to convince us. First she asks us how many children we have, and if we are using anything or not, then she explains that she has new pills and we can try them, but it is a personal matter, and what people decide to do is their own personal decision.

Interviewer : So she never forced any of you to use anything?

Respondent D : No. She gives us pills and if we don't take them it is our own mistake. But she tries her best to explain what the advantages of having a small family are. She said, "I am doing a job, and my husband is also working, and you women do not have jobs but you have 4 or 5 children in your family. Look at me, I have only 2 children and I can give them everything they want from me. I can buy school bags, shoes, sandals and other things. But you don't have that ability to give your children these things, you can't even afford to give each child one taka everyday. So it is a problem for you, and to solve the problem what you have to do is to have two children."

Being close to the culture of the clients is likely to increase the credibility of the FPWs and enables some, as illustrated in the excerpt above, to use their own experience as an example. Because they share some of the clients' attitudes they adapt the program messages to conform to local values. For example, two respondents were discouraged from using family planning because they did not have a son. Also, in counselling women on side effects, some FPWs reinforce local beliefs about the interaction of contraceptives with one's body. Such information may not be consistent with program goals. One respondent describes how she was dissuaded from using a method. "I heard about them [pills] from a FPW. She said that if I took pills I would have a space between each child. But I was scared so I didn't take pills, because she also said that if I took them I had to eat eggs and drink milk regularly. But we are poor, so what do we choose – milk and eggs or rice? I couldn't afford to buy these foods so I didn't take pills, if I have many children, I don't care. It happens."

The qualitative analysis revealed that while both aspects of interaction with FPWs are important, FPWs serve more women as a source of supply than as a source of information. This may be true in part because women no longer need information once they have settled on a method they find acceptable, but they continue to need supplies as

well as services to alleviate side effects. FPWs provided pills to the majority of users. Also, FPWs accompanied most women seeking long-term methods to the hospital or clinic and made all the necessary arrangements for them. This was true even when a woman's husband or other relative also came along.

The women most strongly influenced by the advice of the FPWs tended to be older. Perhaps these women started childbearing at an earlier point in the fertility transition and are less likely than younger women to have had elder female relatives or neighbours with family planning experience from whom they could receive advice. This was the case for H (41 at the time of the interview) who had six births in rapid succession and was pregnant again when a FPW came and told her about ligation for the first time. The FPW then took H and her niece to the hospital where H had an abortion followed by a tubal ligation. H describes the process in her own words:

Respondent H : I heard about ligation from her [the FPW], and then I thought it wasn't smart to suffer with children and I told my husband I was going to get a ligation.

Interviewer : What did your husband say?

Respondent H : He said that it was my decision, I could use whichever method I thought was good for me. I told him there is no point in having more and more children. We cannot control them, we can't educate and feed them. There is no need to just having children like a dog or cat, and I also felt sick and weak. Then my husband gave me permission to have a ligation.

The importance of FPWs as a source of supply for women without other sources of support is illustrated in the story of P. With encouragement from her peers, P is willing to use birth control despite her husband's opposition. However, the FPW has not come to give her pills for two months, and she is uncertain she will be able to prevent pregnancy.

Interviewer : If they [FPWs] don't come, will you go get pills alone?

Respondent P : How can I go alone? They used to come every month. They don't come; they don't even send word. If I go there [the community centre] and can't find them, what will I do? If they don't call me, how can I go?

Interviewer : If you don't hear from them, what will you do?

Respondent P : That is my only headache now.

Interviewer : Can you get some from anybody else, or buy it from a shop?

Respondent P : I can buy it from a shop, but who will buy it for me? I can't get it from anyone else without my husband's help and he will not go there. I'm scared, that's why my heart is pounding. If I stop taking pills, I will be pregnant again.

Not all women use FPW services – some self select out of the services because they prefer other sources of information and supplies. Wealthier women tend to buy social marketing brands (perceived to be of higher quality) and their relatives tend to travel with them to the hospital or clinic.

In sum, the FPW is a major source of social learning for many women and reduces institutional constraints by supplying methods to even more. As providers of information, they are most important for women who are otherwise isolated from accurate information about contraception. This often includes women living in more conservative households. Once a woman has the information she needs, she will depend on the FPW only for supplies. As suppliers, FPWs are most important for women who cannot afford to buy supplies or do not have a supportive person to travel with to access services. Unfortunately due to poor coverage, many women still fall outside the FPW “safety net.”

5.2 Husbands

All but one respondent reported talking to her husband about family planning issues – even young women who did not yet want to stop or space births. Husbands were the most powerful source of social influence, but contributed new information (social learning) in only a few cases. When a woman counted on support from her husband, institutional constraints became less relevant. In these cases, the husband will generally help his wife overcome problems in accessing services by buying methods for her, accompanying her to seek services, or giving her the resources and permission she needs to seek services without him. This interaction may explain in part why the variable representing a woman’s ability to seek health services becomes statistically insignificant when social influence variables are controlled for in the BDHS analysis.

When both husband and wife desire to use a method and discuss it, they are able to generate the momentum to use a method successfully. Even so, there was often a significant lag before a suitable method was found (during which time unwanted pregnancies resulted). Also, when both members of the couple wanted to use a method, women tended to switch rather than drop methods when experiencing side effects. Joint initiative was especially common among younger couples using a method to space their families. The importance of mutual support between husband and wife for timely contraceptive use is explained by R, a young woman who has successfully used contraceptives to achieve her fertility goals.

Respondent R : Nowadays everybody says that a small family is a good family, but if a husband and wife don't agree about this – maybe one wants children and the other doesn't – they end up with a big family. Most of the

husbands want big families. Wives don't want to give birth to many children because it is very hard to give birth. But husbands refuse to understand this problem. Some husbands make an effort to understand the problem and some don't. Those who understand it early on have small families, and others after already having a big family, realise the problem. At that point they cannot give their children food, clothes, and education and they realise their family is too big.

Women were more likely to want to stop births and use a method than their husbands were. Those who wanted to use a method generally asked their husbands for permission and support before starting. Husbands that refused did so because they either wanted more children or were morally opposed to family planning. Husbands exert considerable influence, as evidenced by the unwanted children borne by women whose husbands prohibited family planning on religious grounds. Women seemed unconvinced by their husbands' religious beliefs, thus the main reason that they bore unwanted children was to preserve marital harmony or to preserve their own health. Using a method without a husband's permission increases the health risk, as there may be no financial support if the woman requires treatment for side effects. The comments of one respondent illustrate the importance of having the permission of one's husband: "If I did anything [use a contraceptive method] without telling him, then had a problem later, he would never help me and he would tell me that he had told me not to do it. And I know in such a case he wouldn't give me any money for treatment, and where else would I get money for treatment? I would die, and then what would happen to my children? That is why I am not taking anything."

For each woman, however, there appears to be a threshold parity where they prefer marital disharmony and the health risk associated with contraceptive use to having more children. At this point they started to use contraception despite negative social influence from their husbands, sometimes secretly. One respondent explains "He [my husband] always says if Allah is giving the child, you have to take it. But he never understands that Allah will not give us food to eat. Will Allah give me food from the sky? We women understand these things, but never men. They don't want to understand." She is willing to disobey her husband only within limits – she took out the intrauterine device (IUD) she secretly had inserted when her husband became angry because she was bleeding a lot. Now she takes pills but considers a tubal ligation too "big a step to take" without her husband's permission.

Women whose husbands want more children may disregard his wishes when they believe their husband is unable to take care of more children. Unlike the women whose husbands oppose contraception on moral grounds, these women reach a threshold where they are willing to create disharmony when they still have relatively few children. When a man cannot feed his family he loses face, and with it the power to control his wife's behaviour. Three women accused their husbands outright of being unable to care for his existing children and use methods with his knowledge. L, for example, works to support herself and her children and lives with her own family, who all supported her decision to cease

childbearing. When asked if her husband had told her not to take pills, L said “I didn’t bother to listen to him since he cannot feed my children, I didn’t pay attention to his words.”

In a minority of cases men wanted to use a method but their wives were opposed. Wives opposed in some cases because they wanted a child, and in others because they feared side effects, but never on religious grounds. If a woman refused her husband’s request to use a method, her husband usually tried to convince her, but seldom took control of the situation by using a method himself. When a husband was supportive, he was generally able to influence his wife to use a method in spite of her reservations. One woman who feared getting a tubal ligation reported she finally relented and overcame her fear due to her husband’s daily “brain washing.” Another example is H, whose husband claimed he wanted only two children because it is the “government rule” and he “would not be able to hold his head up” if he had more. Despite her own objections, H had abortions at her husband’s insistence.

Respondent H : Many people say that I have committed many sins by having my abortions.

Interviewer : Who said that?

Respondent H : People said so. They said that I will be guilty before Allah because I did this, I will have to answer to him when I die. But I think that I didn't do the abortions, it was my husband's decision, so he will have to answer to Allah. But my husband says we didn't commit any sins. When I went to get my MR [abortion] and the doctor was ready to do it, then I jumped up from the table and said I couldn't do it, I was scared, it was a great sin, it is not good. That day was *Shob ei barat* [Muslim holy day] and my husband was fasting that day and on that day he did my MR. So when I said I couldn't do it, thinking about all of these things, the doctor told me that your husband was telling you again and again to get a MR outside this room, he doesn't want the child. So my husband forced me to do MR. But I am scared. My mother told me that it is not a sin if your child dies after giving birth, but an abortion is a great sin.

Social influence has more impact when it includes a commitment to participate in the family planning process. Some wives refused their husbands’ requests to adopt a method when that request was not accompanied by support. Like women who use a method secretly, they generally believed their husband would not give them the necessary assistance to deal with side effects and health problems. Though B agrees with her husband’s desire to stop childbearing, she does not use a method because her husband does not offer her the support that she needs to feel safe. Should she experience side effects, she is afraid her husband will let her die rather than pay for her medicine because he has a second wife to fall back on. She indicates that she would be willing to use a method if he would help her.

Respondent B : I'm scared because if I get sick taking a method I have no one to go to. Otherwise, my husband is telling me to take something all the time. But I'm not doing anything; I'm following my own thoughts. Otherwise, he is always scolding me. Day and night, constantly. ... My husband could take me with him to get a method, but he just told me to go on my own. If we went together, then maybe. But he will never take me with him. He just told me to go by myself. In our house nobody knows much about these things....

In sum, husbands strongly influence decisions on both family size and contraceptive use. The direction of this influence depends on the husbands' attitudes and willingness to support their wives. When husbands desire to plan their families and support their wives in resolving problems with contraceptive methods, they can influence their wives to stop childbearing and use a method. When they oppose family planning, their wives may continue to bear children despite preferences for a small family. As women grew older and had larger families, or when their husband's were unable to support the family, husband influence waned. These women often sought other sources of support and went on to use a method anyway.

5.3 Peers

Peers are a common source of social influence, and to a lesser degree of social learning, regarding desirable family sizes and contraceptive use. In some cases they also assist women in accessing methods, thus acting to reduce institutional constraints on contraceptive use. Peer influence is aimed largely at encouraging women to have small families and to use contraceptive methods. However, peers also influence women against using specific methods of birth control as they warn women of real and imagined dangers associated with the methods. This influence may stop a woman from practising family planning if there are no alternative methods of birth control available to her which are deemed acceptable by her peers.

The conversations between peers are informal and may take place whenever women cross paths. Some women, particularly unmarried women, do not feel comfortable talking about contraceptive use specifically but will still talk about family limitation in general. The majority, however, seem fascinated by the topic of contraception. There seemed to be little privacy regarding reproductive behaviour among women, even for women hiding use from her husband and for abortion which is a morally contentious method. The frequency of and interest in these conversations is illustrated by the comments of one woman who reported that, as "now in every house there are wives and daughters, and also many methods, so there are many stories to discuss," women talked about family planning "whenever they have time."

There is little controversy associated with family size ideals. Conversations tend to reaffirm the benefits of small families given the cost and work involved in raising children properly. About one third of the women interviewed reported that their

neighbours and relatives told them *repeatedly* to have no more children or to keep their family small. While such advice from other women did not carry the same weight as a request from their husband, several women said that advice from a neighbour or relative caused them to start using birth control. H gave birth to five children without using a method, but has been using a mix of pills and injections continuously for the last five years. During the interview H recalled the conversation that spurred her to start taking pills. “When I went to my parents house last time, my brother got married and the new bride said to me, ‘Apa [elder sister] why aren’t you using anything? How can you go on this way? Do you want more children?’ I said ‘No.’ Then she told me to start taking pills right away.” Many of the respondents claimed to be on the other end – they told others who were not using a method to do so.

Those who want large families are considered out of date, and others try to bring them up to speed. While a large family may have once enhanced the prestige of the parents in the community, now it is considered unfortunate and even shameful by most to have many children or children in rapid succession. Describing the numerous children of a nearby household inspired snickers in S and her neighbours listening to the interview. The interviewer asked “So, here you laugh at people who have many children?” S replied that they did laugh, and that “it is embarrassing” to have many children.

While most women argue that small families are better than large ones, there is still debate as to what number of children denotes a “small” family, what gender compositions are acceptable, and the appropriate timing of the births. The label “small family” was used by the respondents to describe a range of family sizes from those with only one child to as many as seven children. While sons were viewed almost universally as desirable, there were those that argued that having a son (or an additional son) did not compensate for having a large family. Many women related sad stories of people who had many daughters they would have to marry off only because they kept trying for a son. M describes how she uses the experience of her neighbour who is in a situation “like me” in order to evaluate the risks involved in trying to have another son.

Respondent M : First in order to have a son, they [neighbours] had 5 daughters, then they had a son whom is big now. But they want another son. It's like me, I have one son and one daughter, but I still want another son, and if I gave birth to a daughter and then tried again I would end up with a big family in this way.

Women also reported discussing how many sons were necessary to ensure old age support. While many argue for at least two sons, others maintain that one good one is enough. R described this point of view saying, “If you raise your children to be good human beings, then in the future one can help you the same amount as ten. And if you can't raise them as good human beings, then it doesn't matter if you have one or ten.” A minority of the respondents indicated that in these times daughters could take the place of sons. This is due to the fact that women can work like men these days if they are educated and that daughters are more responsible. One woman explained that girls

“always think about their parents and try to understand the problems of their parents” whereas “sons these days will not take care of their parents in the future.”

Peers are a source of social learning and social influence in discussions regarding contraceptive use as well as those regarding family size (indeed these topics are often discussed jointly). They influence women through their recommendations on specific contraceptive methods and through providing emotional and logistical support to women seeking to use methods. While many women had been advised by peers against using specific methods or against using a method before a first child, peers generally advocated contraceptive use. The information shared by peers tended to be less focused on the methods themselves and more on the experiences that they or others they knew had with the methods. When a relative or neighbour had explained the advantages of the method that she herself used and encouraged the respondent to try it, it carried more weight. Hearing of a method from the FPW was sometimes not enough – a few women said they had heard of a particular method, but could not try it as they did not know personally anyone (or enough people) who had used it.

In several cases the neighbour or relative took it one step further and brought the respondent a method or accompanied her to get a method from a clinic or hospital. A couple of the respondents and their neighbours seemed to have appointed themselves informal FPWs and regularly supplied neighbours with methods or took them to the hospital. One woman told of her sister in law who helped women access abortions, IUDs and sterilisation. “She is a very brave girl. She gives advice to everybody and takes them to the hospital.”

There were also several cases where small groups of women went together to get methods, reducing the fear and anxiety associated with the experience. During one interview the respondent claimed, “She [indicating her brother’s wife] forced me to come with her to get a Copper-T [IUD]. Me, my brother’s wife and this woman [indicating a neighbour], we got copper-Ts together.” Especially since the respondent’s husband was opposed to family planning, these women undoubtedly were a crucial source of social support.

The importance of interaction with peers for learning about and using contraceptives can be seen in the stories of women who lacked that interaction. Of 40 women, only five women claimed to have little interaction with their neighbours. All of the isolated women were at a disadvantage for acquiring information on methods and modes of access. Also in all of these cases, they had unwanted pregnancies. All but one of these women were educated and socially isolated because of it. Their formal education, which did not include family planning issues, did little to help these women meet their fertility goals.

The more popular and controversial topics of discussion involve side effects that reportedly accompany specific contraceptive methods. Three quarters of the women interviewed mentioned hearing complaints and rumours of side effects (ranging from normal to bizarre) and this information inhibited contraceptive use for many women.

Even women with few and infrequent social contacts could describe various side effects that befall users of certain contraceptive methods.

Many side effects are recognised as being related to certain methods such as bleeding from IUDs and nausea from the pill. Many others are not related to contraceptives in a known way. For example, it is rumoured that ligation causes the death of one's family members.

Where motivation is very strong, women may use a method despite their fear of its side effects. However, such strong motivation may arise only after bearing unwanted children. K's motivation to plan her family may have just reached the point where it overrides her fear. She is currently pregnant and tried to induce abortion with an expensive pill that made her very sick but didn't work. She did this even though she heard that two other women from her community had died from taking this pill. After her failed abortion K went to see a spiritual healer in her village and was told that if she did anything else to try to induce an abortion she would certainly die. Now she is resigned to having this child, but is determined to stop future births. K has canvassed the neighbourhood to gather information so she can choose a method. Though she has been informed that women with ligations suffer pain like childbirth in their stitches when there is a full moon, she is still determined to go ahead. She claims "To me it is better to die than to live like this. Nobody has had a ligation before in my family, but I want to do it because I am sick and tired of being ill and I think that it is more important to me to raise my children, I don't want more children."

Patterns of interaction have changed over time. Half of the respondents interviewed had never heard of family planning before marriage, and many did not hear of it until several children had been born. When asked if she used a method right after marriage, N commented on the general ignorance prevailing when she started her family. She replied, "Who could have taught me at that time? People then didn't know as much as they do now. Now we know about pills, but before we had never heard of pills.... After 4 children I heard about pills." Several respondents (or elder women observing the interview) commented that the elder generation did not have methods and therefore could not use them, but that they approved of use now that methods are available.

In sum, neighbours and relatives are the most frequent conversational partners for all but very young women. Despite frightening accounts of side effects related to specific methods, women generally support other women in the use of contraceptives. In several cases relatives and neighbours went far beyond providing information and opinions on family size and contraceptive use. They pressured women into using a method and/or assisted them in accessing methods.

Section 6 Discussion and Conclusion

Changes in social institutions, mobility and communications led to new patterns of social interaction in Bangladesh, which may have contributed to declines in fertility. The results of this study offer compelling evidence that more extensive social interaction, and social interaction which is supportive of family planning, are both associated with smaller family size desires and increased contraceptive use in Bangladesh. Furthermore, in the BDHS analysis, the effect of social interaction is more powerful than that of other factors that are generally credited with influencing fertility behavior – education, wealth and urban residence. These findings are further supported by the qualitative study which found that women actively discuss issues of family planning with neighbors, relatives, husbands and health workers before making decisions regarding their own fertility behavior. They often credited these interactions with helping to determine the point in their childbearing when they become interested in restricting births, and whether they successfully accessed and used a method. Generally, increased interaction is associated with support for family planning that leads to desires to restrict family size and assists women in accessing and choosing methods. However, increased interaction can also expose women to more information on method side effects (both real and perceived) which can make it more difficult for a women to find an acceptable method.

The BDHS analysis also revealed that the influence of social interaction on contraceptive use is greater than it is on wanting no more children. This may be attributed in part to greater variation in fertility behavior than in fertility desires in Bangladesh. The patterns found in the qualitative portion of this dissertation are compatible with this finding. There tends to be more consensus in women’s conversations on issues of family size and more controversy when the conversations regard contraceptive use, especially specific methods.

The BDHS analysis also brought out the relative importance of specific types of social interaction for contraceptive use. At the current stage of the Bangladeshi fertility transition, social learning as defined by the variables available has a weak effect relative to social influence in formulating family size desires. Family size ideals are fairly uniform and low, indicating that small family norms have already diffused. This is evidenced in the qualitative study by statements that appeared to mimic family planning program educational messages. Regardless of their own family sizes, most women made declarations along the lines of “a small family is a good family” and could support this statement with various problems associated with large families. While some of the problems mentioned were tied to personal experience or observation of others, the majority of women repeated standardised lists including various expenses and the inability to “raise good human beings” if one has many children.

It seems that in this scenario it is not the abstract information that small families are possible and desirable (social learning) that shapes personal fertility goals, rather it is the

evaluation of this information and the interpretation of its applicability for each individual's particular situation (social influence). The results of these personal evaluations are not uniform and they are accomplished with the assistance of those who know and understand one's needs best – peers and spouses. Numerous conversations were reported in the qualitative study which described pressure to stop childbearing (or to continue in a minority of cases) because of personal economic hardships, inappropriate gender mix of one's children, or health problems.

This suggests that fertility behavior depends more on interaction with people who can provide emotional and other types of support, rather than just ideas and information. The importance of inter-personal encouragement and support is not surprising given the ambivalence and fear surrounding contraceptive use in Bangladesh as evidenced in the qualitative study.

There is evidence that the social norms regarding fertility behavior in Bangladesh are changing from stigma associated with contraceptive use, to stigma associated with failure to use contraceptives. A small proportion of the respondents referred to husbands or others who oppose family planning on moral grounds. The majority of the respondents, however, view raising their children as “proper human beings” to be a moral duty which takes precedence in their own eyes. This requires education, food, clothing and medical treatment as well as a mother's attention. They indicated that it is not possible to fulfill this duty when one bears many children. Thus, those who do not plan their families are regarded by some as irresponsible parents and become the subject of gossip, pity and even ridicule.

A new ethos, which places the burden of social approbation on non-users of family planning rather than users, may represent the single most powerful force able to stimulate contraceptive use. If this force is coupled with access to acceptable services and better information flowing through social networks, it would be reasonable to expect fertility in Bangladesh to continue to decline to levels compatible with stated fertility goals.

This study supports the inclusion of measures of social interaction in future studies of fertility. It also suggests that programs promoting family planning can improve their outcomes by actively targeting husbands, and by stimulating community discussion through existing formal groups (such as women's organizations) and informal groups (such as neighborhoods) rather than just providing information and judgements.

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Notes

¹ Unfortunately, much of the evidence gathered is from the area of Matlab where an intensive health intervention and research program make the relevance of the results to the rest of Bangladesh unclear.

² Pollak and Watkins (1993, p. 478) discuss the differences between opportunities and preferences. They stress that the distinction is useful in understanding whether social interaction is working through new opportunities which expand an information set, or through changing preferences which may cause couples to make different choices than before, even if opportunities remain unchanged.

³ The study was conducted by Mitra and Associates, Dhaka under the auspices of the Bangladesh National Institute of Population Research and Training (NIPORT), and with technical assistance from Macro International Inc., Calverton, Maryland.

⁴ Derived from questions about current fertility goals, the measure “wants no more children” is more concretely tied to actual individual circumstances than alternative measures such as “ideal” family size and is thus less likely to yield normative responses (Freedman, 1996, p. 6).

⁵ Age and possession of consumer durables are continuous variables while the rest are dummy variables. The variables region and education have categorical answers with more than two possible outcomes. For these, a reference category was selected (the region of Dhaka and no education) and used as the basis of comparison for the other categories. The contraceptive use models include a variable representing age squared to adjust for the inverted U-shaped relationship between contraceptive use and age.

⁶ Of the social interaction variables, the number of organisations working in a woman’s community, distance to the nearest clinic and hospital are represented by continuous variables. The remaining variables are dummy variables.

⁷ Most respondents (over 90%) with five or more children say they don’t want any more and most with less than two children (over 90%) want more children or are unsure. While achieved family size may be higher, desired family size is narrowly constrained to 2 or 3 children for most women who have not yet exceeded these family sizes.

⁸ This was done to ensure the safety of interviewers while working independently.

⁹ In analysing the interaction with husbands, the categories used to define patterns were whether a discussion had taken place, the husbands attitude towards contraceptive use, whether the husband wants more children, and whether the husband had influenced his wife to use or not to use a method. Interaction with female relatives and neighbours were classified into categories by content (contraceptive side effects, information of specific methods, advice given regarding family size or contraceptive use), the timing of the interaction in a woman’s reproductive career, frequency of contact, and the extent of assistance in accessing methods. In the analysis of interaction with family planning staff, women were classified as to whether they had had contact with staff, and if so, whether information, advice and methods (or help in accessing methods) were received.

¹⁰ The lack of relationship found between the social learning variables and wanting no more children, and between some of these variables and contraceptive use could be due to the cross sectional nature of the data. Longitudinal data might indicate that these same variables were important in exposing the forerunners of the fertility transition to new ideas about small families and the possibility of limiting families when these were in fact new ideas. The lack of a consistent observed effect may also be due to limitations in the variables. The independent variables are necessarily crude proxies for presumed exposure to social learning.

¹¹ When the regressions are run with only background variables and social learning variables, the relationship between discussion of a method with a FPW and desire to limit births are related significantly in the expected direction for women with 2 and 4 children. However, the significant negative relationship persists for women with 3 children. Correlation between discussion of a method with a FPW and the social influence variables range from 0.16 to 0.2 and could be affecting the results. Perhaps the FPW is a less personal source of information and support and therefore has little influence on women's demand for more children relative to people closer to her like husbands and peers.

¹² It is possible that a portion of the respondents using contraceptives despite a desire to have a child soon are doing so at the initiative of their spouse or another influential party who does not desire a birth soon.