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Extended Abstract Submission

Title: **Son preference and its impact on contraception use and fertility in selected South Asian countries**

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Abstract: Son preference is the most prominent form of gender preference observed in the societies, while the desire for a balanced number of daughter and sons is the other type of gender preference. The study by Das Gupta et al 2002, shows that the son preference is so persistent in east and south asia. The exploration of defferentials in son preferences in terms of the effect of sex composition of living children on contraception in four south asian and what are the predector for the son preference and its contribution to the impact of son preference on contraception and fertility. The demographic Health Survey (DHS) of countries like India (2015-16), Pakistan (2012-13), Bangladesh (2014) and Nepal (2011). The primarily results shows that in India, women among currently married whose age group are 15-24 years more preferring for girls and among age group 35-49 years showing highest (25.8%) percent of boys preferred.

Introduction:

Gender Preference for children is widely prevalent in societies of South, East and West Asia and North Africa (Arnold). Son preference is the most prominent form of gender preference observed in these societies, while the desire for a balanced number of daughter and sons is the other type of gender preference. The study documented a preference for sons in Indian society, and the degree of this preference is very strong in the northern, north-central and western regions of India (Mutharayappa et al., 1997). The result of 2011 census shows a declining trend in the sex ratio of the child population, which indicates a strengthening of sex preference in many of northern states, paradoxically in the context of rapidly declining; fertility, advances in development and technology (RGI, 2011).

Much less attention was given until recently to research on the potential impact of son preference on contraception and fertility, based on the notion that son preference has less effect on fertility than the socio-economic status of women would have (Pepetto, 1972). Low levels of son preference contribute to low fertility (Dreze and Murthi, 2001). The analysis of some studies (Muthurayappa et al., 1997; and Arnold et al., 1998) shown that the actual influence of son preference on contraception and fertility has been found to be significant with the levels of fertility across the states of India. Countries with effective birth registration data report sex ratio at birth (SRB) of around 104 to 107 male births for every 100 female births (Chahnazarian, 1991). When the SRB is above or below the average biological range of 104-107, other factors such as sex preference may override the biological forces, bias upwards, or downwards, and the Sex ratio at birth (Bumiller, 1990).

The availability of scientific equipment such as ultrasound machines and amniocentesis in health facilities for determining the sex of a foetus demonstrate that expectant parents desire to know the sex of their unborn foetus. This desire to know the sex of the unborn child is strong in societies partly because parents have a preference for one sex or the other (Fuse, 2010). Son preference has been documented in India through sex-selective abortions that lead to abnormally high sex ratios at birth (Arnold, 1992), contraceptive use behaviour and gender bias in the allocation of food and healthcare (Arokiasamy 2002). The economic importance of male children in South Asia is also evident from the fact that while less pressure is put on the daughters to make contributions towards the support of their parents, sons are morally obligated to take care of their parents in old age. Also, compared to daughters, sons can put more hard work on fishing and farming for providing support to their parents and other relatives (Bhatia, 1984). Also, succession and inheritance devolve through the male line in patrilineal societies in Ghana (Nukunya, 2003).

In some societies, the daughters are totally excluded while in other societies, both sons and daughters share the property, but the shares of the daughters are small. As a rule, sons take precedence over daughters, though the latter is not entirely excluded from the share. Similarly, in polygamous families among the property is shared equally among the eldest sons of all wives that are women who had male children for the deceased. In many societies, there is low stated that women do not own or inherit the land. As, such, a men's personal property devolve only to his son. For this purpose, boys are more likely to be preferred than girls in such type of societies (Nukunya, 2003).

The variation in sex preferences among countries and regions have been linked with a wide range of predictors. These predictors can be classified into micro and macro level predictors.

Among the macro level predictors that are expected to have an impact on sex preference include population policy, modernization, cultural settings, and socio-economic and political transformation. And, Micro-level predictors involve the individual characteristics of parents, especially their level of education (Wongboonsin and Ruffalo, 1995).

Sex preference can also lead to gender bias in the allocation of food and health care (Das Gupta 1987; Mishra et al., 2004). Demographically, it can determine the number of children to be born and can affect the number of male and female children who survive into adulthood. This may adversely impact on a country's fertility rate (Bhatia, 1984). Birth intervals have been observed to be largest for women having an equal number of boys and girls, intermediate for those having more boys than girls and shortest for those having more girls than boys. Campbell and Campbell (1997) reported that the preference for sons contributed to the high fertility levels in the western area of Sierra Leone. This may imply that sex preferences tend to increase fertility levels.

Das (1982) using survey data for Gujarat found a pronounced influence of son preference on the current use of contraception and a large independent effect on fertility. He suggested that to see an impact of sex preference on fertility, contraceptive use must be above some threshold level so that couples who have achieved their desired number of sons are able to stop childbearing. En the absence of any conscious effort to limit family size, couples had a greater probability of satisfying their sex preferences; this may have weakened the son preference effects and led researchers to conclude that son preference effects on fertility were small. In contrast, when fertility is controlled voluntarily, gender preferences may play an important role in determining fertility. En subsequent field studies, the sex composition of living children as a measure of gender preference has been found the most important determinant of contraceptive use (Paju and Bhat, 1995).

Arnold (1992), examining DHS data for 44 countries including India, suggested that a strong preference for sons is associated with reduced levels of contraceptive use, increased fertility and a skewed sex distribution of children. At another level, many analyses of district-level data have indicated that son preference (e.g. female bias in terms of higher female mortality) is one of the most significant predictors of fertility, besides female education (Dreze and Murthi, 2001).

An important aspect related to this is that the use of different methods may have led to inconsistent conclusions about sex preference effects on contraception. The objectives are: to explore differentials in son preference in terms of the effect of sex composition of living children on contraception in India, Bangladesh, Nepal, and Pakistan. And, what are the factors

for the son preference and its contribution to the impact of sex preference on contraception and fertility?

Data Source and Methodology:

For the fulfillment of this study the Demographic Health Survey (DHS) of countries like India (2015-16), Pakistan (2012-13), Bangladesh (2014) and Nepal (2011). The surveys covered a nationally representative sample of 124365 for India, 17527 for Bangladesh, 12557 Nepal and for 13359 Pakistan' ever-married women in the age range 15-49 years age group. The analysis of sex preference effects on the current use of contraceptive method covers currently –married women. We employed logistic regression model to study the influence of sex preference using sex composition of living children in relation to the effect of development factors like education, mass-media etc. on contraceptive use. The SPSS20 program has been used for the analysis.

The numbers of living sons and daughters have been included as predictors in the models in order to capture the sex preference effects on contraceptive use. The numbers of currently surviving sons and daughters have been used in the models of current use of contraception. The differences in odds ratios and the incidence rate ratios for the number of surviving sons in relation to the number of surviving daughters are taken as the effects contributed by son preference.

Women's social status measures (education and employment), cultural factors (caste, religion, and place of residence) and demographic covariates (age and age at marriage) have been included in the models. A dummy variable has created for the study of predictors of son preference and use of contraception.

Results:

Son Preference preferences:

Table 1 present the shows the sex preference among married women aged 15-49 years by background characteristics in India, Bangladesh, Nepal, and Pakistan from the Demographic health surveys. On the Current age of the respondent, In India, women among currently married whose age group are 15-24 years more preferring for girls and among age group 35-49 years showing highest (25.8%) percent of boys preferred. This type of pattern found in all the four countries; India, Bangladesh, Nepal, and Pakistan. This pattern clears the phenomenon that women among higher age group are more preferring for a boy child. And, women among lower age group are more preferring for girls in India and Nepal but Bangladesh and Pakistan show

different pattern that in higher age group women (35-49 yrs.) are more preferring for girls than other age groups.

On the age at marriage background: The table shows that in all four countries, women whose marriage was happened before attended her age 15 years were more preferred for boys. And whose marriage was occurred after the attaining their age 18 years shown that they are less preferring for boys than whose marriage was happened before her age 18 years. But, Pakistan country didn't show much difference in the different group of age at marriage. Place of residence plays a significant role in the demographic pattern of any countries. It shows that in rural areas the sex preference for boys is more in rural areas than urban areas in all the four countries. And the level of boys preferred is higher in Pakistan and lower in Bangladesh rural areas.

On the characteristics of women's education: the table shows that women among who do not have any education and primary level education preferring more boys and less preferring bays among women who have secondary and higher level education in all four countries. In Pakistan country, there is not much difference found in boy's preference among the different level of women education not found much. In India and Bangladesh, it has found that women with higher education are more preferring for girls than lower education. And, the difference between the boys preferred and girls preferred was found lesser among women who have a higher level of education. On the wealth index groups of women, it has found that women among poorer and poorest wealth index are more preferring for boys and less preferring for girls than women who belong to the richest or richer wealth quintile where the difference between the sex preferences is less. Many studied found that in lower wealth quintile they are more preferring for boy child and they want more support from the boy child for the economic perspective.

On the characteristics of Ideal Number of children reported by women: Those women who reported one child as ideal size, they are more preferring boys than girls in all four countries. The preference of boys or girls is come down at when they are reporting two children as ideal size. It shows that in all countries in 'even' ideal size the preference for particular boys and girls are declining and in 'odd' ideal size of children showing a higher level of boy's preference and lower for girl's preference.

Table 2 shows the result of logistic regression model of son preference among currently-married women, predictors of current age, age at marriage, place of residence, caste/ethnicity, religion, household structure, women's education level, wealth index, exposure to mass-media,

currently working status of women, parity of women's and number of child loss of women for each country.

We assess sex preference effects by examining differentials in odds ratios for sex preference by current age of women. The result shows that compared with all economic and social status measures, the variable of a number of child loss and household structure, wealth index of women are the largest predictive effect on son preference across in India and rest all countries. The odd ratio for the education level of women on son preference shows that as well as education increases the son preference is declining in all countries. The exposure to mass-media shows the predictive effect on son preference in all countries. It shows that women who have exposure to mass-media shows the decline of son preference compared to women who don't have any exposure to mass-media in all countries but for Nepal, it shows a most decline of son preference among women who have exposure to mass-media. The number of child loss of women also explained as predictive effect of the son preference, women whose number of child loss are one child and more than two children are more chance to prefer for son child compared to women whose no death of any child in India, Bangladesh, Nepal with highly significant level. Pakistan the exceptional country in the effect of a number of child loss on son preference.

Use of contraception:

Table 3 shows the use of contraceptive method among currently married women aged 15-49 years by sex composition of a living child, parity of women, and a number of child loss in India, Bangladesh, Nepal, and Pakistan. The result shows that among women who don't have any living children are the highest level that they are not using any contraception method in all four countries. It shows that the use of contraceptive method for limiting is more used among women who have 'at least 1 son and 0 daughter' and 'at least 1 son and 1 daughter' than women among who don't have any living child and '0 son and at least 1 daughter' and the spacing method are more used by women among who have 'at least 1 son and 0 daughter' and 0 sons and at least 1daugher' than women among who have 'at least 1 son and 1 daughter' and 'no child'. It may be because of that at this child sex composition level theirs desired sex composition of their children has not fulfilled and they are waiting for their sons in India and Nepal. This pattern does not found in Bangladesh and Pakistan countries.

On the parity of women, most of the most not using any contraceptive method among 0 parity women. And, the 'zig-zag' pattern found in the use of the contraceptive method for spacing and limiting by parity of women. It shows that in 'even' number the use of the contraceptive

method for limiting and for spacing are lower and higher among women who are 'odd' number parity in all four countries. The same 'zig-zag' pattern found in the Number of child loss variable. For India, it found that 42% women are using for limiting as highest among women whose one child death occurred and lowest (18.3 %) level found among women whose child death occurred six and more than that. The same pattern found in all these countries.

T**able 4** shows the Logistic regression analysis for the use of the contraception by background characteristics among currently married women 15-49 years in India, Bangladesh, Nepal, and Pakistan from the DHS Surveys. The sex composition of the living children variable has the largest predictive effect on the use of contraception in all four countries. It has shown that in India, and Bangladesh, the use of contraception among women who have 'at least 1 son and 1 daughter' have the highest effect (44 times odds ratio in India, 11.14 times in Bangladesh) with highly significant comparatively to the other sex composition in both countries. The increase in the odd ratio for women who have 'three and above living children' 1.4% times in India, 1.08 % times in Bangladesh, 0.81 % times in Nepal, and it has a decline in Pakistan (-0.12%). The increased in the odd ratio for women's higher education level in all four countries. It shows that the level of women education and use of contraception have a positive association. The use of contraception is increasing with increasing the level of women education in all four countries, the highest odd ratio for women who have higher education and using contraception are 3.03% times in India, 2.76% in Nepal, 2.71 in Pakistan and 1.89% in Bangladesh.

The partner's occupation also has the significant effect on the use of contraception. The increase in the odd ratio for women' partner occupation to the use of contraception in all countries compares to the not working of women's partner. The odds ratio for women whose partner are working in the agriculture sector is more likely to use contraception to the women's partner who are not working (7.62% times in Nepal and 0.3%times in Bangladesh.). In other countries like India, Pakistan, Nepal and Bangladesh, the odds ratio for women's partner who is working in the service sector have the highest odd ratio(1.47 % times in Bangladesh, 1.06 in Pakistan and 1.04 % in India). The exposure to mass-media has the highly significant effect on the use of contraception by currently married women among 15-49 years. In the India, the odds ratio for women who have exposure to mass media is 1.84 % times in Pakistan followed by 1.74 % in India and 1.66 % times in Nepal. The exposure to mass-media plays a significant role in the use of contraception in all four countries.

Discussion and Conclusion:

This analysis indicates that the actual sex composition of children (in particular where women have at least 1 son and 1 daughter) compared with developmental (education level of women) indicators has the largest influence towards increasing contraception. Country-wise, this effect of sex preference on contraception is the largest in the Nepal, followed by the Bangladesh, and lowest in the Pakistan. Arnold et al. (1998) concluded the regional pattern indicates that there is a close correspondence between the degree of son preference and its effects on contraception. This supports the conclusion found in many other studies that son preference is the most important determinant of contraception.

As the strong effect of the number of living sons on the current use of contraception suggests, the most common way of achieving the desired sex composition is by increasing the overall parity in correspondence with differential stopping behavior. Arnold (1998) argued that there is a possibility that parents achieve their goal for a number of sons and daughters by sheer biological chance, even where sex preference is strong. This means that couples have clearly adopted differential stopping behavior to achieve their sex composition, as Clark (2000) concluded in her analysis. Biologically the sex of the baby is a random event, with a 0.513 probability of having a boy and a sex ratio at birth of about 1.05 (Clark, 2000). Sex-selective abortion and excess female child mortality are also additional factors, but differential stopping behavior is an important route in achieving the desired sex composition of children.

We find that development factors also have very substantial counteracting effects on the regional influence of culture on sex preference effects. The results indicate a reduction in son preference effects on contraception with increasing levels of women's education and household economic status. The effects of son preference on the current use of contraception are several times higher for illiterate women and women living in economically better-off households where the wealth index is richest, compared with those women with higher level education. Thus, in addition to the above findings, which are also confirmed by Clark's (2000) analysis that son preference is lower among educated women, urban women. Our results relating to economic status effects indicate that increasing household economic status has a negative influence on son preference effects. There are possibly several underlying reasons why household economic status is significantly associated with sex preference effects on contraception. One possibility is that, like education, the economic status may also lead to modernity and exposure to information through the mass media. These may, in turn, facilitate the removal of extreme cultural barriers and an egalitarian effect on the position of women. Household economic status may not be directly related to women's autonomy, but as some

evidence relating to this in the introductory section showed, household economic status tends to facilitate the receipt of messages about fertility choices (messages of family planning). However, two other field-based studies have suggested that economic progress may be positively associated with many aspects of women's status or autonomy, but may not be correlated in the same way with all aspects of women's status and demographic behavior (Panda, 1994).

In summary, women's education and exposure to the mass media are two important developmental indicators that display highly significant positive relationships with contraception. The mass media is a new route of social learning and demographic change, and emphasis on it represents a departure point from earlier studies, which have concluded that besides son preference and child mortality, female education is the most important predictor in Bangladesh, India, Nepal, and Pakistan.

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Tables and Graphs

Table 1: Showing the sex preference among currently married women aged 15-49 years by background characteristics in India, Bangladesh, Nepal, and Pakistan from Demographic Health Surveys**.**

	India			Bangladesh			Nepal			Pakistan		
Background Characteristics	Girls Preferred	Boys Preferred	N	Girls Preferred	Boys Preferred	N	Girls Preferred	Boys Preferred	N	Girls Preferred	Boys Preferred	N
Current Age												
15-24	3.7	16.1	45557	2.0	6.7	5213	2.4	14.2	5040	1.8	28.4	2682
25-34	3.5	22.1	37743	2.9	10.3	6379	1.4	23.3	3820	2.3	31.3	5162
35-49	3.3	25.8	37548	3.1	14.9	5958	1.5	34.2	3769	3.0	32.5	5448
Age at Marriage												
Less than 15	2.6	30.3	17237	2.5	12.7	6336	1.2	39.8	1743	3.1	34.5	1013
15-18	2.5	29.7	10277	2.7	10.1	8886	0.9	29.3	4074	2.0	34.6	4389
Above than 18	3.7	18.5	43025	3.2	8.1	2327	2.0	19.0	4117	2.7	29.0	7891
Place of Residence												
Urban	4.2	14.2	41092	2.9	8.6	4987	3.1	13.7	1811	3.4	26.5	4459
Rural	3.2	24.5	79757	2.6	11.7	12562	1.6	24.5	1081 9	2.0	33.6	8834
Caste/Ethnicity												
SC & ST/Punjabi(P)	5.0	24.6	37457	NA	NA	NA	NA	NA	NA	3.3	30.2	5136
OBC/Saiaikhi(P)	2.7	22.0	39216	NA	NA	NA	NA	NA	NA	1.9	29.0	2026
OTHERS	2.9	16.7	38691	NA	NA	NA	NA	NA	NA	2.0	32.8	6131
Religion												
Hindu	2.6	20.7	89380	2.0	11.9	1465	1.9	20.6	6754	NA	NA	NA
Muslim/ Buddhist(N)	3.0	25.0	14550	2.8	10.5	15796	1.1	46.9	1489	NA	NA	NA
Others	8.7	19.1	16772	1.0	19.7	289	1.9	18.3	4387	NA	NA	NA
Education Level												
No education	2.6	32.7	42281	2.9	16.0	4322	1.2	39.7	5024	2.3	35.2	7544
Primary	3.4	21.7	18095	2.6	11.8	5111	1.3	20.1	2204	1.7	28.0	2126
Secondary	4.0	13.5	50173	2.5	7.7	6608	2.5	8.8	4423	3.4	25.6	2372
Higher	5.0	8.1	10292	3.0	6.4	1509	3.4	6.6	979	3.4	23.6	1251
Wealth Index												
Poorest	2.7	34.2	16980	2.9	12.3	3301	1.0	32.7	2110	1.1	40.9	2538
Poorer	2.7	27.7	20432	2.1	13.4	3336	0.8	29.0	2388	1.7	32.8	2609
Middle	3.2	21.8	25211	2.4	10.6	3486	1.4	26.5	2592	3.0	29.8	2647
Richer	3.9	17.4	27284	2.4	10.1	3691	1.7	19.1	2710	2.4	29.4	2728
Richest	4.5	11.9	30938	3.5	8.1	3735	3.8	10.9	2829	4.1	24.0	2770
Currently Working												
Not working	3.5	19.9	76005	2.9	10.9	11723	1.9	23.0	5046	2.5	31.3	9775
Working	3.6	22.9	44601	2.3	10.6	5822	1.8	22.8	7585	2.6	31.2	3495
Ideal Number of Children												
<=One Children	9.1	19.8	12792	9.2	24.2	1126	7.8	17.6	1792	11.0	23.1	182
Two Children	0.6	3.5	71538	0.4	0.9	12915	0.3	4.0	7985	0.2	6.9	1932
Three Children	8.8	78.4	22462	12.3	59.2	2386	2.4	94.3	2251	5.8	74.4	2120
Four Children	0.9	10.6	10877	1.1	5.2	1001	0.6	15.1	518	0.6	9.9	5319
Five Children	22.9	64.6	1950	16.0	50.6	81	5.8	88.5	52	7.2	75.9	1269
More than six children	8.7	27.6	1179	2.7	21.6	37	12.5	34.4	32	2.2	35.9	2428
Total	**3.5**	**21.0**	**120798**	**2.7**	**10.8**	**17546**	**1.8**	**22.9**	**1263 0**	**2.5**	**31.0**	**13250**

Source: DHS for all countries,

Table2: Logistic regression analysis of son preference among married women age grouped 15-49 years, by background characteristics in selected countries.

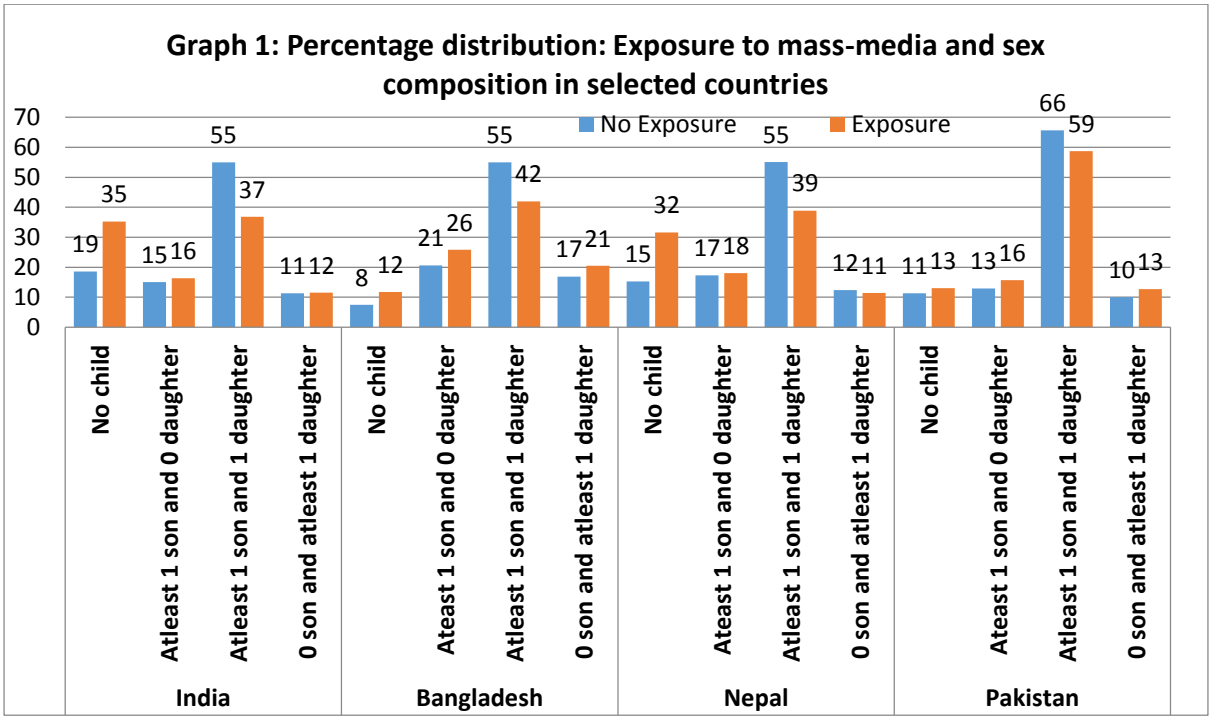
Background Characteristics	India		Bangladesh		Nepal		Pakistan	
	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
Current Age (15-24®)								
25-34	-0.08**	0.918	0.20*	1.222	-0.149	0.862	0.056	1.058
35-49	-0.11***	0.893	0.22*	1.247	0.015	1.015	0.16*	1.183
Age at Marriage (Less than 15®)								
15-18	0.026	1.027	0.019	1.019	-0.14*	0.864	-0.112	0.894
Above than 18	-0.07**	0.926	-0.063	0.939	-0.26***	0.767	-0.28***	0.755
Place of Residence (Urban®)								
Rural	0.193***	1.214	0.12*	1.135	0.016	1.016	-0.082	0.921
Caste/Ethnicity (SC & ST1/Punjabi4®)								
OBC1/Saiaikhi4	-0.029	0.971	-	-	-	-	-0.51***	0.596
OTHERS	-0.10***	0.897	-	-	-	-	-0.174***	0.84
Religion (Hindu1/Muslim2/Hindu3®)								
Muslim1/Hindu2/Boddhist3	0.06*	1.064	0.20*	1.224	-0.49***	0.61	-	-
Others	-0.28***	0.755	0.62*	1.874	-0.029	0.971	-	-
Household Structure (Nuclear®)								
Non-Nuclear	0.13***	1.14	-	-	-	-	-	-
Respondent Education (No education®)								
Primary	-0.27***	0.762	-0.13*	0.87	-0.49***	0.611	-0.024	0.976
Secondary	-0.45***	0.635	-0.36***	0.694	-0.85***	0.425	-0.083	0.92
Higher	-0.67***	0.507	-0.44**	0.642	-1.14***	0.319	0.123	1.13
Wealth Index (Poorest®)								
Poorer	-0.11***	0.893	0.082	1.085	-0.132	0.876	-0.102	0.903
Middle	-0.23***	0.794	0.083	1.087	-0.23**	0.793	-0.19**	0.823
Richer	-0.30**	0.735	0.04	1.04	-0.34***	0.707	-0.22**	0.798
Richest	-0.424***	0.654	0.046	1.047	-0.52***	0.594	-0.46***	0.627
Exposure to Mass-media (No®)								
Yes	-0.14***	0.863	-0.078	0.925	-0.43***	0.645	-0.17***	0.839
Currently Working Status(No®)								
Yes	-0.10***	0.897	-0.16**	0.847	-0.21***	0.803	-0.28***	0.753
Respondent Parity (Zero Parity®)								
First Parity	0.22***	1.254	0.28*	1.329	0.041	1.041	0.22**	1.251
Second Parity	0.09*	1.097	0.37**	1.453	0.23*	1.269	0.24**	1.281
Third Parity	0.86***	2.367	0.79***	2.222	1.00***	2.721	0.44***	1.562
Fourth Parity	0.61***	1.844	0.68***	1.987	0.80***	2.239	-0.027	0.974
Fifth and Above	0.77***	2.166	0.95***	2.596	0.90***	2.47	0.044	1.045
Loss of Child (No Death®)								
One Death	0.18***	1.197	0.061	1.063	0.087	1.091	-0.14*	0.862
Two or more deaths	0.20***	1.227	0.31**	1.364	0.34***	1.407	-0.117	0.889
Constant	-1.4***	0.245	-1.98***	0.137	-1.244	0.288	-1.223	0.294

*** P < .001 ** P < .01 * P < .05; '®' is the reference category

Note: 1: India, 2: Bangladesh, 3: Nepal and 4: Pakistan

Table 3: **Showing the use of contractive method among currently married women aged 15-49 years by background characteristics in India, Bangladesh, Nepal, and Pakistan from Demographic Health Surveys.**

	India				Bangladesh				Nepal				Pakistan			
Background	**Not Using**	**Using Limiting Method**	**Using Spacing Method**	**N**	**Not Using**	**Using Limiting Method**	**Using Spacing Method**	**N**	**Not Using**	**Using Limiting Method**	**Using Spacing Method**	**N**	**Not Using**	**Using Limiting Method**	**Using Spacing Method**	**N**
Sex Composition of Child																
No child	98.1	0.2	1.7	39151	75.1	0.2	24.7	1814	96.3	0.4	3.3	3823	99.1	0.0	0.9	1695
At least 1 son and 0 daughter	42.4	34.2	23.4	20147	39.1	3.7	57.2	4174	49.6	23.5	26.9	2255	69.6	4.4	26.0	1989
At least 1son and 1 daughter	32.7	49.3	18.0	50856	34.9	9.2	55.9	8169	40.9	33.2	25.9	5025	56.7	13.4	29.9	8083
0 son and at least 1daughter	60.4	15.7	23.9	14212	44.2	2.2	53.6	3371	67.6	3.6	28.8	1452	80.4	0.7	18.9	1592
Parity of Respondent																
0	98.1	0.2	1.7	39151	75.1	2.0	22.9	1814	96.3	0.4	3.3	3823	99.1	0.0	0.9	1695
1	66.1	5.8	28.1	16415	45.0	0.8	54.2	4194	69.1	1.7	29.2	1829	82.9	0.3	16.8	1805
2	32.5	43.9	23.6	26500	32.0	4.9	63.1	5100	45.2	23.2	31.6	2718	66.3	1.8	31.9	2039
3	27.7	57.3	15.0	20167	32.7	11.2	56.1	3342	35.5	42.3	22.2	2005	59.2	9.3	31.5	2009
4	31.6	53.6	14.8	11463	42.1	10.1	47.8	1727	38.7	40.8	20.5	1146	53.2	15.0	31.8	1885
5	47.6	36.7	15.7	10671	47.0	11.0	42.0	1351	49.0	26.3	24.7	1034	55.8	17.6	26.6	3926
No of Child Loss																
No Death	60.3	25.1	14.6	105145	40.8	5.0	54.2	14539	64.5	16.2	19.3	10728	68.3	7.2	24.5	10180
One Death	43.3	42.5	14.2	13386	44.6	7.9	47.5	2302	48.6	30.0	21.4	1324	66.5	11.3	22.2	2066
Two or more Death	47.6	39.7	12.7	3882	52.3	11.7	36.0	520	53.1	29.7	17.2	350	64.3	14.2	21.5	703
Three Death	52.2	34.1	13.7	1210	66.7	9.2	24.1	120	51.0	23.1	25.9	104	52.1	23.4	24.5	239
Four Death	63.8	25.8	10.4	461	51.5	6.1	42.4	33	62.5	12.5	25.0	40	68.0	13.6	18.4	105
Five Death	65.7	20.9	13.4	172	14.3	28.6	57.1	7	75.0	12.5	12.5	8	72.2	11.1	16.7	35
Sixth and Above Deaths	70.6	18.3	11.1	109	83.3	0.0	16.7	6	66.7	33.3	0.0	3	60.0	8.6	31.4	31
Total	**58.0**	**27.5**	**14.4**	**124365**	**41.9**	**5.6**	**52.5**	**17527**	**62.4**	**18.1**	**19.5**	**12557**	**67.4**	**8.7**	**23.9**	**13359**


Graph 1: Percentage distribution: Exposure to mass-media and sex composition in selected countries
No Exposure
Exposure
70
60
50
40
30
20
10
0
19 35
15 16
55 37
11 12
8 12
21 26
55 42
17 21
15 32
17 18
55 39
12 11
11 13
13 16
66 59
10 13
No child
Atleast 1 son and 0 daughter
Atleast 1 son and 1 daughter
0 son and atleast 1 daughter
India
Bangladesh
Nepal
Pakistan

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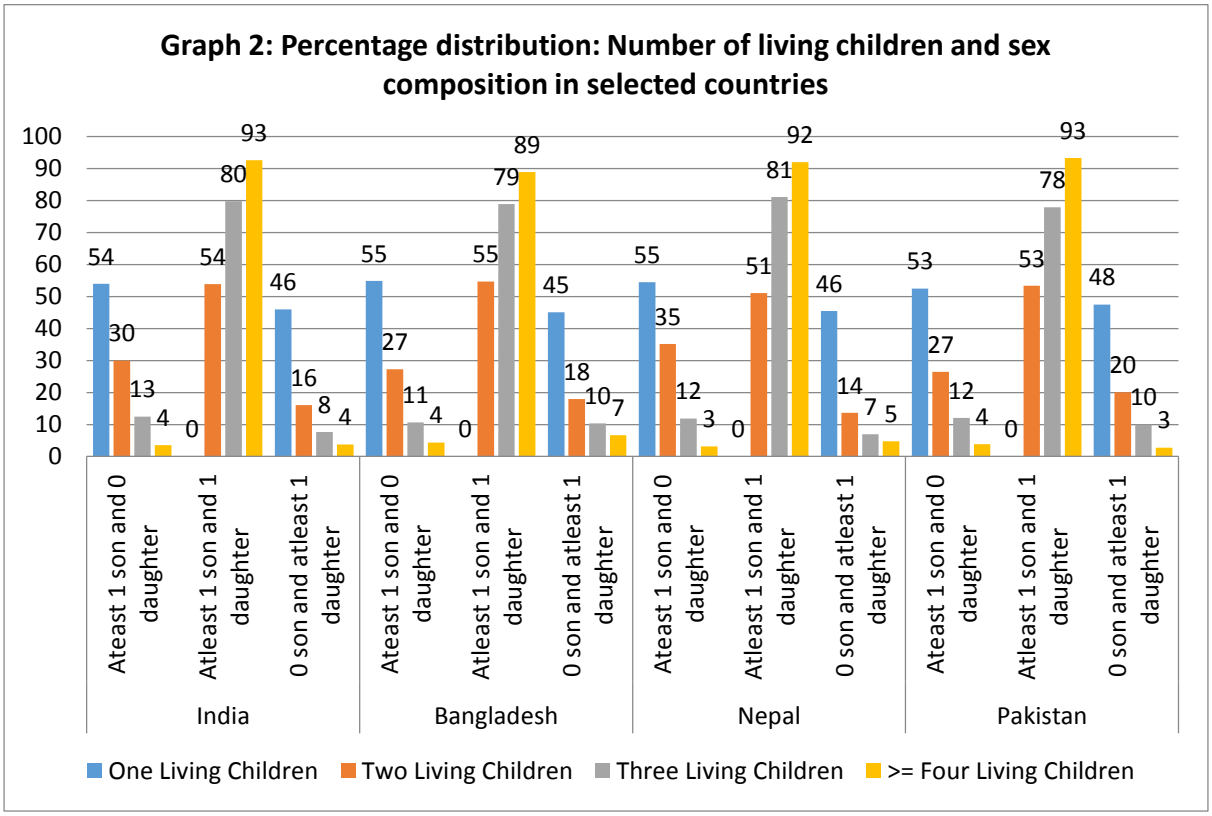
Graph 2: Percentage distribution: Number of living children and sex composition in selected countries
100
90
80
70
60
50
40
30
20
10
0
54 30 13 4
0 54 80 93
46 16 8 4
55 27 11 4
0 55 79 89
45 18 10 7
55 35 12 3
0 51 81 92
46 14 7 5
53 27 12 4
0 53 78 93
48 20 10 3
Ateast 1 son and 0 daughter
Atleast 1 son and 1 daughter
0 son and atleast 1 daughter
India
Bangladesh
Nepal
Pakistan
One Living Children
Two Living Children
Three Living Children
>= Four Living Children

Table4: Logistic regression analysis for the use of the contraception by background characteristics among women 15-49 years in India, Bangladesh, Nepal, and Pakistan from the DHS Surveys

	India		Bangladesh		Nepal		Pakistan	
Sex Composition	**B**	**Exp(B)**	**B**	**Exp(B)**	**B**	**Exp(B)**	**B**	**Exp(B)**
No child®								
At least 1 son and 0 daughter	3.83***	46.1	2.27***	9.69	4.18***	65.6	3.88***	48.57
At least 1 son and 1 daughter	3.80***	44.94	2.41***	11.14	4.01***	55.21	3.84***	46.56
0 son and at least 1 daughter	3.18***	24.21	2.06***	7.92	3.45***	31.78	3.51***	33.46
Ideal Number of Children(<=One Children®)								
Two Children	-0.44***	0.64	-0.34***	0.71	-0.24**	0.78	0.25	1.29
Three Children	-1.03***	0.36	-0.68***	0.5	-0.45***	0.63	0.05	1.06
Four Children	-1.43***	0.24	-0.95***	0.39	-0.80***	0.45	-0.16	0.85
Five Children	-1.68***	0.18	-0.87***	0.42	-1.27**	0.28	-0.41*	0.66
More than six children	-2.11***	0.12	-1.47***	0.23	-0.81*	0.44	-0.79***	0.45
Number of Living Children (No Child®**)**								
One Living Children	-1.56***	0.21	-0.69*	0.5	-2.41***	0.09	-0.74*	0.48
Two Living Children	-0.17***	0.84	-0.08	0.92	-1.04***	0.35	-0.27	0.77
Three and above Living Children	0.35***	1.43	0.08	1.08	-0.22	0.81	-0.12	0.89
Number of Child Loss (No Death®)								
One Death	0.00	1	-0.24***	0.78	-0.11	0.9	-0.06	0.94
Two or more Death	-0.12***	0.88	-0.46***	0.63	-0.3	0.74	-0.16	0.85
Three Death	-0.25***	0.78	-0.90***	0.4	-0.16	0.85	0.02	1.02
Four Death	-0.75***	0.47	-0.46	0.63	-0.58	0.56	-0.29	0.75
Five Death	-0.72***	0.48	0.1	1.11	-1.64	0.19	-0.33	0.72
Sixth and Above Deaths	-0.97***	0.38	-1.86	0.16	-1.16	0.31	0.45	1.57
Education Level (No education®)								
Primary	0.34***	1.42	0.26***	1.3	0.05	1.06	0.50***	1.66
Secondary	0.53***	1.71	0.41***	1.51	0.32***	1.39	0.58***	1.79
Higher	1.10***	3.03	0.63***	1.89	1.01***	2.76	0.99***	2.71
Working Status (Not Workig®)								
Working	0.20***	1.22	0.15***	1.17	0.08	1.09	-0.01	0.99
Partner Occupation (Not Working®)								
Agriculture	0.03	1.03	0.36	1.44	2.03***	7.62	-0.22	0.8
Service	0.04	1.04	0.38*	1.47	1.71***	5.54	0.06	1.06
Labour and Other	0.07	1.07	0.12	1.13	1.54***	4.69	-0.06	0.94
Mass Media Exposure (No®)								
Yes	0.55***	1.74	0.06	1.06	0.50***	1.66	0.61***	1.85
Constant	-1.09	0.34	-0.61	0.54	2.81	16.69	-2.28	0.1

Note: *** P < .001 ** P < .01 * P < .05;

® 'is the reference category'