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Revision of Fertility Preference After Achievement of Intended Birth: the Sri Lankan Experience

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Introduction

Once effective methods of fertility limitation become widely available within a population, the impact of fertility intentions on subsequent fertility becomes a matter of both theoretical and practical importance. In many western countries, after the Second World War many demographers investigated the possibility of predicting fertility by supplementing information on past childbearing with information on fertility intentions and plans for future childbearing. [1]

Among the different methods that have been used to make mid-range forecasts of fertility, surveys on fertility intentions seem at first sight to offer the advantage of being simple to estimate the number of children likely to be born, why not ask the people principally interested - women likely to have children - what their intentions are? [2] [3] Longitudinal studies conducted in a number of countries have demonstrated that the reproductive intentions of individual women were strongly predictive of whether or not they had had an additional birth, [4] [5] [6] [7] [8], although this has consistently been observed mostly in societies where contraception is widely practiced.

Sri Lanka with more than 62 per cent of currently married women of reproductive ages relying on contraception in 1987, one of the highest prevalence in Asia, provides a rare opportunity to investigate this proposition with a longitudinal database. Moreover, the 1991 population policy statement of the Sri Lankan government has set a replacement fertility target to be achieved by the end of this decade. [9] An examination of the consistency between the stated fertility intentions and fertility behavior, and how the fertility intentions were revised by women after achieving the intended number of births would be thus useful for demographers and policy planners to monitor, evaluate and forecast reproductive changes in Sri Lanka.

Data and methods

The study analyses data primarily from the 1982 Sri Lanka Contraceptive Prevalence Survey (SLCPS) and the 1985 Sri Lanka Contraceptive Survey (SLCS). The same respondents were interviewed in both the 1982 SLCPS and its follow-up study, the 1985 SLCS. Among the females listed in the household schedules of the 1982 survey there were 4,666 eligible respondents, and of these, 96 per cent (4,500) were successfully interviewed (Table 1). The 1985 follow-up survey (SLCS), was conducted between March and June of that year, on average, three years and two months after the initial survey.

TABLE 1: The two surveys: 1982 SLCPS and 1985 SLCS

	SLCPS (1982)	SLCS (1985)
Sample design	Nationally representative probability sample, two-stage design, 540 census blocks selected	Follow-up same respondents to the 1982 SLCPS
Field work	February-March 1982	March-June 1985
Target population	Ever-married women aged 15-49	Currently married women aged 18-49
Achieved sample	4,500 ever-married women	2,310 currently married women
Response rate	91.2 per cent (household) 96.4 per cent (individual)	76.0 per cent

Source: Department of Census and Statistics (1983, 1987), Sri Lanka.

At the time of the 1985 SLCS the names and addresses (or updated addresses) of women to be interviewed, transcribed from the 1982 SLCPS questionnaires, were provided to the interviewers. However, owing to civil disorder seven districts in the northern and eastern parts of the country were excluded from the 1985 follow-up survey. According to the 1981 population census of Sri Lanka, these seven districts made up only 14 per cent of the total population. As defined by the Department of Census and Statistics, [10] the sample for the 1985 follow-up consisted of all 1982 SLCPS respondents meeting the following criteria: living in the sample districts; married at the time of the 1982 SLCPS and also at the time of the 1985 SLCS; and less than 50 years of age at the time of the 1985 SLCS. The 1985 follow-up study therefore necessarily covers only women who had been married for at least three years and were 18 or more years of age.

Although the 1985 study re-interviewed 2,310 respondents, [11] computer and manual matching of these women with the women who were interviewed during the 1982 survey yielded 2,219 matched respondents. Of these women, the

present analysis is restricted to fecund women only; perceived fecundity (knowing of no physiological reason why they could not have children) was questioned from each of the respondents in the 1982 survey and with the exclusion of 172 women of perceived infecundity from the sample, it reduced to 2,047 cases. Although sterilized respondents (or their husbands) consented to sterilization because they wanted no more children, they were also excluded from the detailed analysis since they were left with no reproductive choice during 1982-85. After separating the sterilized women (and women whose husbands were sterilized) at the 1982 survey, the remaining currently married fecund women (1,554) were considered as "non-sterilized exposed" women.

In the present analysis, whether the respondent wanted more children at Time 1 (1982) is compared as a measure of reproductive intention with reproductive behavior between Time 1 and Time 2 (1985). As common in almost all longitudinal studies, relating the stated reproductive intentions to the subsequent behavior has one limitation. The period of observation was too short to determine whether the couples were going to have an additional child in line with their intentions; in the Sri Lankan case, fertility was observed for only three years and two months, from 1982 to 1985, fertility preferences reported in 1982 refer to the entire remaining reproductive span of the respondents. Even though the longitudinal observational period is too short for a complete evaluation of consistency between fertility intentions and behavior, response consistency on demographic variables of the respondents in the longitudinal sample was found to be high. [12]

Results

Fertility intentions and behavior

At the time of the 1985 follow-up study, the women were asked to report their birth histories from January 1, 1980 to the 1985 survey date: "Please tell me the years and months of birth of children born on or after 1st January 1980". Taking each woman's reproductive performance over this period, the births were divided into two groups; those which took place before the 1982 interview, and those which took place between the 1982 and the 1985 interviews. However, since the reproductive preferences of pregnant women were determined by asking "Do you want to have children in the future (in addition to the one you are expecting)?", births which took place as a result of pregnancies current at the time of the 1982 survey (Time 1) were excluded. On the other hand, women who reported as being pregnant at the time of the 1985 survey (Time 2) were treated as having given birth during the period between the two surveys.

Of the 2,047 fecund women for whom there were longitudinal observations on original intentions and reproduction, 64 per cent said at Time 1 that they did not want any more children, while 36 per cent said they wanted at least one more child (first panel of Table 2). Between Time 1 and Time 2, 62 per cent had not had any additional children while 38 per cent had one or more live births. Among the women who did not want any more children, about 77 per cent had not had any live birth in the interim, but 23 per cent were inconsistent, having had one or more live births between the surveys. Of the 735 women who expressed a desire for more children at Time 1, 64 per cent had one or more children before Time 2 or were pregnant at that date.

Table 2: % distributions of currently married fecund women and non-sterilized exposed women who wanted and did not another child by reproductive behavior during 1982-85

Desire for more children at Time 1 (1982)	Inter-survey live births (1982-85)				
		None	One or more	Total (N)	(%)
All fecund women at Time 1					
Want no more	N	1009	303	1312	64.1
	%	76.9	23.1	100.0	
Want more	N	267	468	735*	35.9
	%	36.3	63.7	100.0	
Total	N	1276	771	2047**	100.0
	%	62.3	37.7	100.0	
Non-sterilized exposed women at Time 1					
Want to more	N	532	287	819	52.7
	%	65.0	35.0	100.0	
Want more	N	267	468	735*	47.3
	%	36.3	63.7	100.0	
Total	N	799	755	1554	100.0
	%	51.4	48.6	100.0	

Source: Longitudinal data tape 1982-85.

* = Only 32 women in the re-interviewed 1982 SLCPS sub-sample were undecided whether to have more children. They were added to the "want more" category.

** = Out of 2,048 total fecund women, 493 were found to be sterilized at Time 1.

As the second panel of Table 2 shows, when only women not sterilized at Time 1 are considered, about 53 per cent did not want any more children while the rest wanted more. Of those who wanted no more children, 65 per cent had not had a

live birth and were not pregnant by the time of the second interview, while the rest had failed to achieve their goals. Exclusion of the sterilized women resulted in an increased level of inconsistency, from 23 per cent to 35 per cent, among women who wanted no more children, but naturally made no difference to the level of inconsistency among those who wanted more. These figures are, of course, in part, functions of the length of the follow-up period. If it had been longer there would have been more opportunity for inconsistency to arise among those who wanted no more children, and for consistency to fall.

Changing nature of fertility intentions

About 90 per cent of the non-sterilized exposed women who wanted to cease, childbearing in 1982 again said in 1985 that they wanted no more children (Table 3). Among those who wanted more children in 1982 less than half wanted to cease childbearing in 1985 while the rest wanted to continue. There was an average interval of three years and two months between the 1982 and 1985 interviews, therefore a net decline in the overall proportions wanting more children from 46 per cent in 1982 to 30 per cent in 1985 was to be anticipated. Women were undecided on whether or not to have another child at Time 1 largely wanted to cease childbearing by Time 2.

TABLE 3: Consistency of reproductive preferences between 1982 and 1985: Non-sterilized exposed women at 1982

Desire for more children in 1982	Desire for more children in 1985 (%)					
	Want more	to	Undecided	Want more	Total	N
Want no more	89.7		0.2	10.1	100.0	785
Undecided	81.3		3.1	15.6	100.0	32
Want more	46.3		0.4	53.3	100.0	689
Total	69.7		0.4	29.9	100.0	1506
N	1049		6	451	1506	

Source : Longitudinal data tape 1982-85

Note : Women who did not respond to the question, "Do you want to have children in the future?" at the 1985 SLCS were excluded (48 cases).

An analysis of changes in reproductive preferences should certainly take into account the fertility of women in the inter-survey period. This is important because women who wanted to have a child at the beginning of the period might have succeeded and then at the second interview, legitimately expressed a wish to terminate childbearing. Another dimension is therefore added to the analysis

of reproductive preferences at Time 1 and Time 2 by controlling for inter-survey live births.

As can be seen from [Table 4](#), two-thirds (498 / 783=64 per cent) of those who said they wanted no more children in 1982 had not had any additional births by 1985. Among those who initially wanted no more children, women who reported a birth may have changed their original preferences or may have had unplanned births. Somewhat surprisingly, 11 per cent of those who originally wanted no more children, but had a birth nonetheless, wanted to have still more children in 1985. However, of those total 783 women who originally intended to cease childbearing, irrespective of whether they had a child or not in the inter-survey period, only 10 per cent (6.1 and 4.0) reported the opposite intention at Time 2.

Table 4: Consistency of reproductive preference between 1982 and 1985 by reproductive behavior during the inter-survey period: Non-sterilized exposed women at 1982

Desire for more children in 1982	Behavior 1982-85 and desire in 1985						Total % (N)
	No live birth 1982-85			One or more live births 1982-85			
	Want no more 1985	Want more 1985	Sub-total % (N)	Want no more 1985	Want more 1985	Sub-total % (N)	
Want no more	90.4	9.6	100 (498)	88.8	11.2	100 (285)	
	<i>57.5</i>	<i>6.1</i>	-	<i>32.4</i>	<i>4.0</i>	-	<i>100 (783)</i>
Want more	27.8	72.2	100 (237)	56.3	43.7	100 (449)	
	<i>9.6</i>	<i>24.9</i>	-	<i>36.9</i>	<i>28.6</i>	-	<i>100 (686)</i>
Undecided	76.5	23.5	100 (17)	92.9	7.1	100 (14)	
	<i>41.9</i>	<i>12.9</i>	-	<i>42.0</i>	<i>3.3</i>	-	<i>100 (31)</i>
Total	70.3	29.7	100 (752)	69.5	30.5	100 (748)	
	<i>35.3</i>	<i>14.8</i>	-	<i>34.7</i>	<i>15.2</i>	-	<i>100 (1500)</i>

Source: Longitudinal data tape 1982-85.

Figures in italics give total row percentages.

As one would expect, among those whose preference had changed from "want more" to "want no more", the majority had experienced at least one live birth during the interim. Of those who wanted more children in 1982 and did not report a birth in the inter-survey period, more-than 72 per cent still maintained that desire in 1985, while among those who had at least one intended birth between 1982 and 1985, 56 per cent had enough children by the latter date (Table 4).

Almost half of those who in 1982 were undecided whether to have additional children reported at least one birth between the two surveys, and of these women 93 per cent wanted to cease childbearing by 1985. Of those who had no births among women originally undecided on their future reproductive behavior, a quarter wanted to have another child by the time of the second survey. Since almost half of them reported at least one live birth between the surveys and over 16 per cent wanted to have at least one additional child at Time 2, their fertility between approximated that of those who wanted more children in 1982 than those who wanted no more children.

Excluding women who were undecided on their future reproduction, 53 per cent (783/1469) of non-sterilized exposed women in 1982 wanted to have no more children, while 28 per cent (412/1469) wanted one more, 14 per cent (203/1469) wanted two more, and a few wanted three or more additional children (Table 5).

TABLE 5: % of women bearing nil, one and two children between 1982 and 1985 by number of additional children wanted in 1982: Non-sterilized exposed women at Time 1

Number of more children in 1982	Fertility between 1982 and 1985				
	None	One	Two or more	Total	N
None	63.5	32.1	4.7	100.0	783
One	40.3	52.7	7.0	100.0	412
Two	28.6	59.1	12.3	100.0	203
Three or more	18.3	67.6	14.1	100.0	71
Total	50.0	43.3	6.7*	100.0	1469**

Source: Longitudinal data tape 1982-85.

* = Only seven women reported three births during the inter-survey periods.

** = All 31 women who were undecided about their future reproduction in 1982 were excluded.

The expectation is that these preferences should be related to subsequent fertility. When inter-survey behavior is considered, more than half of those who wanted one more child, were found to have successfully achieved this target, while less than half had not had a birth. Given the three years and two months inter-survey period, only 12 per cent of those who wanted two more children in 1982 reported having had two or more, while 59 per cent were one child short of their target. Of those women who wanted three or more children in 1982 more than two-thirds had at least one birth by 1985, while only 18 per cent remained without a birth.

Inter-survey fertility was related to reproductive desire, the proportion of women having two or more children increased with the number of children wanted, while the proportion having no birth decreased with this variable. Even though they were far from perfect, it seems reasonable to conclude that reproductive preferences influenced subsequent fertility behavior to a large extent (Table 5).

The final question to be answered is: what proportion of women wanted to cease childbearing by Time 2 after having wanted additional children at Time 1? Of the women who wanted more children at Time 1, over 60 per cent (412/686) wanted only one additional child, while 30 per cent wanted two more children and only 10 per cent wanted three or more (Table 6).

TABLE 6: % of women who changed their desire for wanting more children in 1982 to wanting no more in 1985 by desired additional fertility in 1982 and actual fertility 1982-85: Non-sterilized exposed women who wanted more children in 1982

Number of more children in 1982	Fertility* in the interim (1982 and 1985)				
	None	One	Two or more	Total	N
One	30.7	72.4	69.0	55.3	412
Two	20.7	40.8	60.0	37.4	203
Three or more	23.1*	16.7	40.0*	21.1	71
Total	27.8	55.6	60.9	46.5	686

Source: Longitudinal data tape 1982-85.

* = Fewer than 20 cases.

When overall inter-survey fertility was considered, about 61 per cent of those who had two or more births and 56 per cent of those who had one birth expressed a desire for no more children in 1985, while 28 per cent of those who had not had any birth during the inter-survey period also wanted no more children (Table 6). Of women who wanted only one more child at Time 1, more than half (55 per cent) wished to terminate their childbearing by 1985; when inter-survey fertility was controlled for this group, about 70 per cent of women who had one or two births between 1982 and 1985, and even 31 per cent of those without a live birth, wanted no more children by Time 2. As the number of additional children desired at Time 1 increased, a smaller proportion wanted to cease childbearing at Time 2 because of the truncated nature of the longitudinal period, and this was true even after achieved interim fertility was controlled). In

other words, the length of the inter-survey period had not allowed final fertility goals to be achieved.

Discussion

The strength of the present longitudinal data is that, first, they could be used to examine the predictive power of fertility intentions of Sri Lankan women. Second, the data could be used to examine changes in the fertility intentions of women over a three-year period and could also provide an insight into the effect of intervening fertility on these preferences. Reproductive intentions may be obtained in a number of ways. Whatever the strategy used, however, as a large proportion of women are undecided on their future reproductive intentions, analysis is hampered. Happily, undecided responses have been very few (less than one per cent) in the present sample from Sri Lanka. The high contraceptive prevalence rate in Sri Lanka suggests that women in Sri Lanka tend to have more clearly defined reproductive goals than women in many developing countries, which increases the credibility of their stated fertility intentions.

The definition of inconsistency used in the study in the case of women who wanted no more children is straightforward; they had one or more live births during the inter-survey period or were pregnant at Time 2. Those who wanted more children but did not have them by 1985 may still have had additional children thereafter. However, given the three years and two months period, those who wanted more children but had not had any, and were not pregnant by Time 2, were defined as "inconsistent". Even though the definition is somewhat loose, a similar definition has been adopted in most other studies with longitudinal observational periods of three to four years. [2], [7], [13], [14]

The results reported in this study indicate that the fertility intentions of Sri Lankan women are at least moderately predictive of their future fertility. Including sterilized women, 77 per cent of those who wanted to cease childbearing in 1982, were successful in avoiding an unwanted live birth during the follow-up period, while among those who wanted another child about 64 per cent reported a live birth during that time; 23 per cent in the former category and 36 per cent in the latter category were inconsistent. It should be noted that the inconsistency levels obtained for women who wanted more as well as for those who wanted no more children may, as in other countries, in part reflect genuine plan changes within the follow-up period. Even a study conducted in a developed country such as the United States over a five-year longitudinal period, showed that among those who wanted to cease childbearing, over 12 per cent were inconsistent, and among those who wanted another child 34 per cent were inconsistent. [4]

Since the women were asked in both 1982 and 1985 whether they wanted any more children, it is possible to examine changes in reproductive preferences in the interim period. When fertility preferences are studied for the same group of women at two different time points, however, perfect reliability should not be expected. Depending on the time lag between the first and second interviews, there may be genuine changes in preferences, although on the other hand, it would be surprising if everyone's preferences changed between the two points in time.

Even though some reported inter-survey births, of those who said they wanted to cease childbearing in 1982 about 90 per cent said the same again in 1985. Among those whose preferences changed from "want more" to "want no more", the majority had experienced at least one inter-survey birth. The original reproductive preferences of the women were found to influence subsequent fertility, and this modified their preference at Time 2. Of those who wanted only one additional child at Time 1, about 60 per cent were successful in having that child, and of these women, more than 70 per cent wanted to cease childbearing at Time 2.

About 10 per cent of the women who originally wanted no more children wished to have at least one more child at the second interview. The source of inconsistency among these women may be related to remarriages within the inter-survey period because some may have wanted to have children in their current marriage. Thus, fertility intentions could be viewed as more sequential, allowing for reassessment at any time, [15] and perhaps the level of inconsistency observed in the present study between declared intentions and behavior and subsequent revision of intentions would have been reduced if the husband's fertility intentions had been examined along with the respondent's intentions. [3] It is also possible that some of these women misunderstood the question on reproductive plans in 1982; some may have indicated that they had no immediate interest in having a child rather than that they never wanted one. Moreover, changes in intentions from "want no more" to "want more" might have occurred in response to a child's dying or developing a physical infirmity.

When couples have a preference for the sex of their offspring, the sex composition of children they already have, may influence their decisions about whether or not to have another child and also their reproductive behavior. [15] [16] [17] [18] [19] [20] [21] However, as reported by De Silva, [22] the fertility behavior of Sri Lankan women with no son and with one or more sons suggests that although there is moderate son preference in Sri Lanka, it does not seem to be a sufficiently compelling goal affect subsequent reproductive behavior. Moreover, since over one-quarter of women in the 1982 SLCPs labeled their last pregnancy as unwanted, if women were to implement their fertility intentions

efficiently, their would fall remarkably in the near future. In fact, as noted by Westoff et al, [23] by using the data from the 1987 Sri Lanka Demographic and Health Survey (SLDHS), if Sri Lankan women were to have only wanted births, their total fertility rate would have been at the near replacement level.

Sri Lanka has set itself the target of achieving replacement level fertility, a total fertility rate (TFR) of 2.1 children per woman, by the year 2000 from the 1982 TFR level of 3.4. To achieve this, it requires to increase contraceptive prevalence to 71 per cent among currently married women from the level of 54 per cent in 1982. At the 1987 SLDHS, contraceptive prevalence had increased to 62 per cent and the TFR for the period 1985-87 was only 2.6 children. [9] Sri Lankan fertility seems to be declining faster than anticipated by many researchers [24], and this can even be judged from an examination of the inconsistencies observed between fertility intentions and subsequent behavior.

An earlier longitudinal study conducted in Sri Lanka, 1975-79, shows that among women who wanted to cease childbearing, 38 per cent reported a birth in the interim, while among women who wanted more children 31 per cent did not report a single birth during the same period. In the present study, inconsistencies among the former group were only 23 per cent; thus, the proportion unable to avoid unwanted live births had reduced over time. The inconsistent in the latter group is higher in our study (36 per cent) than that reported in the earlier study. Presumably, among those who wanted additional children many deferred childbearing for longer periods or revised their fertility intentions and even decided to cease childbearing, while seeking better economic opportunities. [25] Increases in the opportunity cost of having children through a narrowing of gender inequalities, especially through increasing female education and employment opportunities, may result in more autonomy for women, leading to further declines in wanted fertility in Sri Lanka.

Summary

Longitudinal data covering an observation period of three years and two months were used to examine, "How reliable the respondent's fertility intentions are as to whether additional children are wanted, and how the intentions are revised after the achievement of intended births." At the individual level fertility intentions were moderately predictive of subsequent fertility; among those who wanted to cease childbearing only 23 per cent failed to avoid unwanted births during 1982-85, while among those who wanted another child, 36 per cent failed to have another child or were not pregnant by 1985.

The level of inconsistency of the former type in Sri Lanka appears to be decreasing while that of the latter type is increasing. The ability to control

unwanted births among Sri Lankan women has increased over time, and at the same time an increasingly large proportion of women were unable to have intended births; this combined to depress fertility. Even though some reported inter-survey births, about 90 per cent of those who said they wanted to cease childbearing in 1982, said the same again in 1985. Among those whose intentions changed from "want more" to "want no more", the majority had experienced at least one inter-survey birth. Although inconsistencies existed, in Sri Lanka, statements on fertility intentions were fairly reliable; the number of additional children wanted in 1982 was related to subsequent fertility, which in turn modified women's intentions in 1985.

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