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Impact of Child Mortality on Family Size Desires and Family Planning Practice among White-Collar Workers

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Introduction

High family size desire and low acceptance of family planning constitute, the two main factors underlying the high fertility of the Indian population. Excessive loss of children in early childhood in rural areas is considered to be contributory to both of the above factors. The primary purpose of this paper is to investigate the impact of child mortality on completed family size desire and current use of family planning methods among white-collar workers of Lucknow city, who constitute the educated and relatively enlightened section of the urban population.

Hypotheses and Data

The study has been conducted within the framework of the child survival hypothesis, which states that "experience with or fear of child mortality may lead parents to have additional births either to 'replace' those who have actually died or as an 'insurance' against expected deaths" [1], [2]. In view of this, three hypotheses have been tested. The first states that for 'replacing' dead children, a smaller proportion of couples with child mortality experience cease to want additional children at each birth order than corresponding proportions who have not experienced any child loss. The second hypothesis is that to 'insure' against possible deaths, couples with child loss experiences would desire a larger number of surviving children in their completed families as compared to those with no such experience. And finally, that on account of 'child replacement' and 'child insurance' motivations, smaller proportions of couples with an experience of child loss in the early stage of childbearing would tend to practice family planning throughout their reproductive life than corresponding proportions who have not had such an experience.

The analysis is based on the data collected from a fifty per cent sample of currently married white-collar workers working in the Uttar Pradesh Government Secretariat in Lucknow city, the capital town of the state during 1982-83, in connection with a survey of fertility and family planning among white-collar workers [3]. For a more realistic assessment, only the data collected from 1085 workers who had at least one living child was utilised for the analysis.

Since completed family size desire including lack of desire for additional children at a particular stage of the reproductive cycle is also influenced by socioeconomic factors, the influence of these factors has been controlled in order to isolate the impact of child loss. Among them, religion and caste status of the workers, education of wife and per capita family income were found to exert important influences on family size desires and family planning acceptance [3], and hence have been controlled by classifying workers into these groups for the analysis. In addition, the current age of the wife, which influences the use of family planning methods, has been controlled for studying the impact of child loss during the first two live births. However, in order to get a sufficient number of observations in each cell, as far as possible, closer socioeconomic categories and current ages of wife have been combined. As the hypothesis states that a larger proportion of couples without child loss experience would not desire additional children compared to their counterparts with such experience, the difference in proportions has been tested using a one-sided test. Likewise, the difference in proportions using family planning and the difference in the mean number of children desired in a completed family, have also been tested in the same way.

Results and Discussion

Lack of desire for additional children

The impact of child mortality on lack of desire for additional children was analysed by parity for testing the 'child replacement' hypothesis. Table 1 presents the results of this analysis.

Table 1: Distribution of couples desiring no more children by child loss experience

Parity	% couples with no child mortality experience	% couples with child mortality experience	Significance of difference in proportions	
			Z value	Level of significance

1 and 2	53.4(388)	30.0(40)	2.82	P < .01
3	90.5(210)	56.3(32)	5.19	P < .001
4	96.7(122)	87.5(48)	2.29	P < .05
5 or more	99.1(112)	94.7(132)	1.92	P < .05

Figures in brackets denote number of couples.

Table 1 reveals that at each parity, the proportion of couples desiring 'no more' children is significantly higher among couples with no experience of child loss as compared to those who had such experience, thereby supporting the 'child replacement' hypothesis.

An analysis of the impact of child loss on non-desire for additional children was conducted for different socioeconomic groups to ensure that the differences between the two groups of couples (with and without child loss experience) at different parities, are controlled for the effect of socioeconomic status. This has been presented in Table 2.

Table 2: Distribution of couples desiring no more children by parity, child loss experience and socio-economic status

A. Religion				
Parity	Hindus		Muslims	
	No child loss experience	With child loss experience	No child loss experience	With child loss experience
1 and 2	53.2(353)	33.4(36)	48.3(29)	0.0(4)
3	91.1(192)	64.0(25)	81.3(16)	33.3(6)
4	96.4(112)	88.9(45)	100.0(8)	50.0(2)
5 or more	98.9(92)	94.9(118)	100.0(20)	92.9(14)
B. Caste status				
Parity	High caste Hindu		Middle and low caste Hindu	
	No child loss	With child loss	No child loss	With child loss

	experience	experience	experience	experience
1 and 2	59.4(271)	50.0(24)	33.0(82)	0.0(12)
3	93.2(146)	75.0(16)	84.8(46)	44.4(9)
4	96.6(89)	96.6(29)	95.6(23)	75.0(16)
5 or more	100.0(76)	96.8(95)	93.8(16)	91.3(23)
C. Education of wife				
Parity	Below high school		High school and above	
	No child loss experience	With child loss experience	No child loss experience	With child loss experience
1 and 2	49.1(106)	21.7(23)	54.9(282)	38.9(18)
3	88.5(96)	55.6(18)	92.1(114)	57.2(14)
4	93.6(63)	86.2(29)	100.0(59)	89.5(19)
5 or more	98.5(68)	93.9(99)	100.0(43)	96.9(32)
D. Per capita monthly family income				
Parity	Rs. 300 and below		Rs. 301 and above	
	No child loss experience	With child loss experience	No child loss experience	With child loss experience
1 and 2	47.8(238)	0.0(18)	63.4(153)	54.5(22)
3	87.3(150)	50.0(24)	98.3(60)	75.0(8)
4	96.8(92)	81.2(32)	96.7(30)	100.0(16)
5 or more	98.8(81)	93.9(99)	100.0(31)	97.0(33)

Figures in brackets denote number of couples

The results show that in each socioeconomic group and at each parity, a larger proportion of couples with no experience of child loss do not want additional children compared to those with such experience, except in a few cells where the number of observations is too small. These findings reveal a positive impact of child loss on desire

for additional children in each socioeconomic group as a result of the 'child replacement' motivation.

Completed Family Size Desire

The second aspect of the desire for additional children is desired completed family size, which is derived by adding the desire for additional children to the number of surviving children. It was hypothesised that for 'insuring' the survival of an adequate number of children to outlive them, couples with experience of child loss would desire a larger number of surviving children as compared to those with no such experience. Table 3 presents the analysis of the impact of child loss on desired completed family size desire.

Table 3: Distribution of respondents by mean desired completed family size by child loss experience

Child loss experience	Number of couples	Desired completed family size		Significance of difference in means	
		Mean	SD	T value	Level
0	834	3.17	1.42		
1 or more	252	3.73	1.54	5.36	P < .001

As Table 3 shows, couples who have suffered child loss want a significantly larger number of surviving children in their completed families than do those who have not known any child loss, in order to 'insure' the survival of an adequate number of children till their old age (for they are apprehensive of future child loss). The findings then provide evidence for the 'child insurance' hypothesis.

When controlled for socioeconomic status of the couples, the mean number of children desired in completed families was consistently larger for couples with child loss experience in each socioeconomic group, with the only exception of the highest per capita income group of Rs. 401 and more (Table 4).

Table 4: Distribution of couples by mean desired completed family size and by child loss experience and socio-economic status

Characteristics	Couples with no child loss experience		Couples with child loss experience	
	No. of cases	Mean desired family size	No. of cases	Mean desired family size
<i>Religion</i>	747	3.13	224	3.71
Hindus	70	4.12	22	4.68
Muslims				
<i>Caste status</i>	580	3.15	164	3.65
High caste Hindu	90	3.00	29	3.69
Middle caste Hindu	77	3.16	31	4.06
Lower caste Hindu				
<i>Education of wife</i>	142	3.50	81	4.08
Below primary	192	3.77	86	3.85
Primary & middle	276	3.09	59	3.60
High school and intermediate	220	2.55	24	2.72
Graduate and above				
<i>Per capita family income</i>	258	3.51	89	4.13
Rs. 200 and below	295	3.19	86	3.98
Rs. 201-300	138	2.96	36	3.56
Rs. 301-400	137	2.80	40	2.78
Rs. 401 +				

The results thus provide evidence that 'child insurance' motivation is operative in almost all the socio-economic groups among white-collar workers.

Current practice of family planning

Due to the operation of 'child replacement' and 'child insurance' motivations, couples who have experienced child loss in the early stages of childbearing are hypothesised to practice family planning in smaller proportions than are those who have had no such experience. Since the use of family planning varies by the age of the wife, the impact of child loss at the first two live births has been analysed in two age groups, namely the

prime reproductive age group of below 30 years and the advanced age group of 30 years and above.

The findings as presented in Table 5 reveal that in all cases, couples with early experience of child loss practice family planning in significantly smaller proportions than do those without such experience. This difference, even in the 30 + age group, suggests that couples who have suffered the loss of children in their early childbearing years, remain apprehensive of child loss in the future, which prevents them from readily accepting family planning even after their desired number of children have been born.

Table 5: Impact of child loss experience of couples on family planning practice

Age of wife (years)/ child loss experience first two live births	Number of cases	Percent current users	Difference in proportions	
			Z value	Level of significance
<i>Below 30</i>	316	71.8	2.64	P < .01
Without child loss experience	49	53.1		
With child loss experience				
<i>30 and above</i>	585	76.6	4.50	P < .001
Without child loss experience	131	57.3		
With child loss experience				
<i>All ages</i>	901	73.5	4.74	P < .001
Without child loss experience	184	56.0		
With child loss experience				

Table 6 gives these findings after controlling for the socio-economic status of the couples, again distributed into two age groups of under and over 30 years.

Table 6: Percentage of couples practicing family planning by child loss experience in first two live births by socio-economic status

Characteristics	Couples with no child loss	Couples with child loss
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	experience		experience	
	Number	% FP users	Number	% FP users
Religion				
<i>Hindus</i>	288	71.5	41	53.6
Below 30 years	518	73.8	124	57.2
30 or more years				
<i>Muslims</i>	28	75.0	7	71.4
Below 30 years	54	59.3	10	60.0
30 or more years				
Caste status				
<i>Hindu high</i>	175	73.7	17	58.8
Below 30 years	447	74.3	105	56.2
30 or more years				
<i>Hindu middle</i>	63	69.9	11	45.5
Below 30 years	38	76.3	7	57.2
30 or more years				
<i>Hindu low</i>	50	66.0	13	46.1
Below 30 years	33	93.9	12	66.7
30 or more years				
Education of wife				
<i>Below high school</i>	128	66.4	34	52.9
Below 30 years	229	75.4	92	58.7
30 or more years				
<i>High school or more</i>	188	75.5	15	53.3
Below 30 years	335	74.6	42	52.4
30 or more years				
Per capita family income				

<i>Rs. 300 and below</i>	258	70.5	42	54.8
Below 30 years	346	82.6	84	63.1
30 or more years				
<i>Rs. 301 and above</i>	55	80.0	9	33.3
Below 30 years	239	62.4	51	47.1
30 or more years				

It is clear that at all socio-economic levels except one, in which the number of observations are too small, a markedly lower proportion of couples with child loss experience practice family planning than do those without any such experience. The differential is generally larger in the 30 + age group, suggesting that early experience of child loss makes couples so uncertain about the survival of all their children that even at later ages, they avoid family planning irrespective of the socio-economic level to which they belong.

Conclusion

In sum, the analysis of the impact of child loss on family size motivation brings out that white-collar workers in general, as well as at each socio-economic level, faced with the experience of child loss, move to higher birth orders for 'replacing' their dead children in larger proportions than do those without such experience. Likewise, couples, total as well as at each socioeconomic level, except the highest per capita income, with child loss experience, desire more children in their completed families for 'insuring' the survival of an adequate number to adulthood compared to those who have no child loss experience. And finally, early experience of child loss has a negative influence on current use of family planning irrespective of the age group of the wife as well as socio-economic level of the white-collar worker. In the early ages (below 30), this negative impact appears to be the result of both 'child replacement' and 'child insurance' motivations and at later ages (30 and above), by which time the required number of children are expected to have been produced, this negative impact appears to be solely the result of the 'child insurance' motivation.

The findings of the study reveal that even among white-collar workers, who constitute an educated and relatively enlightened class, the incidence of child mortality exercises a positive impact on family size desires and a negative influence on the use of family planning devices. The findings point to the urgency of controlling infant and child

mortality to facilitate the acceptance of small families and to remove a big obstacle to the success of the family planning programme in the country. For the purpose, serious implementation of infant and child health care programmes is urgently needed.

Referenes

1. United Nations: Family Building by Fate or Design, United Nations, New York, 1987.
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