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THE ROLE OF FAMILY PLANNING AVAILABILITY AND  
ACCESSIBILITY IN FAMILY PLANNING USE IN  
DEVELOPING COUNTRIES

by

James W. Brackett  
Chief  
Demography Division  
Office of Population  
Bureau for Development Support  
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**The views expressed in this paper are the author's and not  
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## Introduction

The modern concern for excess fertility in the developing countries evolved in the 1950's and 1960's as it became increasingly obvious that rapid population growth was seriously hampering development and eroding the already meager standards of living in many developing countries. The situation in the developing countries prior to the introduction of large national family planning programs is partially revealed by Knowledge, Attitude, and Practice (KAP) surveys of the period: Roughly half of the women and men interviewed stated that they did not want any more children. Yet, knowledge of family planning methods, both modern and traditional, was low.<sup>1</sup> Contraceptives were sometimes available, but availability tended to be limited to the elite who had access to private medical care. Condoms were sold commercially, but the distribution systems were limited. The developing countries rarely had the medical personnel and health infrastructure which would permit them to provide family planning services with the degree of physician involvement found in the developed countries.

National leaders were not accustomed to talking about family planning and were often concerned that pursuing a policy of providing family planning services would stir up religious or ideological groups and give the political opposition an issue. While such concerns were not baseless, there are many examples of country leaders and officials of donor organizations using the specter of widespread opposition as an excuse for inaction. There was also a lack of conviction on the part of some officials that excess fertility was a problem.

As significant funding for international population programs first became available in the latter half of the 1960's, many theories arose about the best approach to reduce fertility, including which technologies to use, how to organize and manage family planning programs, the degree of medical control, and even whether family planning programs were necessary. One view was that a substantial demand for family planning already existed which could be satisfied through the provision of family planning information, services, and supplies. Another was that little or no demand for family planning existed and that people would not use family planning until they had better education, improved employment opportunities for women, higher incomes, etc.

There have been many attempts to understand the factors which impact upon family planning use and on fertility. Most of these attempts have concentrated on an examination of differential levels of fertility or contraceptive use by various socio-economic background variables. They have largely ignored the question of whether couples have access to family planning, presumably because the authors thought everyone knew about and had access to family planning or that it was not an important variable impacting upon the other background variables. Where family planning availability was taken into account, the writers have often been forced to use general impressions of the level of availability, strength of programs, extent of coverage, etc. because hard information on availability was lacking.<sup>2</sup> Data on actual availability of family planning information, services, and supplies and on what people know about where to obtain family planning are needed to adequately study the determinants of fertility.

## Scope of the Paper

The purpose of this study is to examine survey data on perceived availability of contraceptives and on a number of socio-demographic factors to seek interrelationships between family planning use and these factors. The socio-demographic factors used are some of those mentioned as impacting upon individual couples' decisions to use family planning. The paper first looks briefly at contraceptive use according to whether or not the respondents knew a source for family planning information, service, or supply to determine whether there are situations where large numbers of couples who do not know any place to obtain family planning are using family planning. If contraceptive use were independent of the availability of modern methods of family planning, one might expect to find some place where large numbers of couples without access to modern methods are using traditional methods. The paper then examines differential levels of contraceptive use by various socio-demographic background variables for women who report knowledge of a family planning outlet. Limiting the analysis to women who report knowledge of an outlet should provide better insights into the real effects of the various socio-demographic background variables.

The data used in this examination come from two large survey projects, the World Fertility Survey (WFS) managed by the International Statistical Institute, and the Contraceptive Prevalence Studies (CPS) managed by Westinghouse Health Systems. WFS data were used for nine countries: Colombia, Indonesia (Java and Bali), Kenya, South Korea, Malaysia, Mexico, Pakistan, Panama, and the Philippines. CPS data were used for four countries: Costa Rica, South Korea, Mexico, and Thailand. Thus, for two countries, South Korea and Mexico, data from both survey programs were used.

## Family Planning Availability

Modern family planning ordinarily requires some source of information, service, or supply. Therefore, couples without such knowledge would not be able to use modern methods regardless of any other factors which might impact upon use. For the IUD and sterilization, referred to in this paper as "clinic" methods since they normally require the involvement of medical personnel, the user may not necessarily know where to obtain the services when interviewed some time after receiving an IUD or sterilization. The service unit from which the respondent received the service may no longer exist or may have been a temporary facility, such as a mobile clinic. For the pill, condom, injection, and foam, there is a recurring need to obtain new supplies and the need to know an outlet is important if the couple is to continue to use the method. Hence the term "supply methods." The source of supply may be known to either the husband or wife. Traditional methods such as withdrawal, rhythm, and douche do not require a family planning outlet, although some clinics do teach the rhythm method, and there is a need for couples to learn traditional methods from some source if they are to use them. Numerous surveys dating from the 1950's to the present time demonstrate that knowledge of traditional methods among couples in many developing countries is limited.

There have been previous attempts to collect information on family planning availability. For example, AID contracted with Westinghouse Health Systems in 1971 to carry out an inventory of contraceptive production, marketing, and distribution through the private sector in selected LDCs.<sup>3</sup> Information on

the public sector was sometimes available from administrative records, but there were no comprehensive assessments of the extent to which family planning facilities were actually in place, and no studies of whether people knew where to obtain family planning.

The World Fertility Survey (WFS) which began in 1972 offered an excellent opportunity to collect information on both actual and perceived available as well as many of the factors which were traditionally associated with fertility. WFS planned to obtain information from individual respondents about their fertility and family planning behavior as well as their socioeconomic and demographic characteristics. Information could also be collected on respondents' knowledge of family planning facilities. WFS also planned community surveys or "modules" which would collect information on such community facilities as schools, health services, transportation, communication, electric power, etc. This module clearly lent itself to collecting information on family planning availability, and in fact the manual on the Community Module did provide for collection of information on family planning facilities.<sup>4</sup>

Only a few of the earlier WFS surveys collected information on availability, however. Those that did usually had a general question on the individual questionnaire: "Do you know where you can go to get family planning advice or supplies?" Respondents who said "yes" to this general question were asked a variety of others. Some surveys asked type of place, e.g., clinic, pharmacy, hospital, retail shop. Some asked distance, some travel time, and some means of transportation. In a few cases data were collected on various costs associated with going to the outlet, e.g., transportation, baby sitting, and family planning services and supplies.

In order to refine the questions on availability to collect information which would contribute to a fuller understanding of the role of family planning availability in contraceptive use, pilot surveys were carried out in 1976 in India, Panama, and Turkey. These pilots demonstrated that the distance question was of little value because many respondents had no way to know the number of miles or kilometers they had to travel to get to a particular place. They had less trouble with travel time because even if they had never been to the family planning outlet, they may have been to some other facility in the area.<sup>5</sup>

The pilot surveys asked respondents whether they knew an outlet for each family planning method, travel time to the supply point, etc. The pilot surveys also had questions on household availability, that is, whether the respondents had any pills, condoms, etc., in their homes. Based on the results of these pilots, WFS modified its questionnaire to include method-specific availability questions on four methods: pill, condom, IUD, and female sterilization. The Philippine survey, analyzed in this paper, represents one which used the revised questionnaire.

The Contraceptive Prevalence Studies (CPS) program was able to build on the experience of the WFS. All of the CPS surveys included questions on availability of each method, usually including abortion. The CPS model question asks "Do you know where you or your spouse (boyfriend) can get (Method)?" For each "yes" response to this question, the respondent is asked "If you wanted to get (Method), what place would you go to?"<sup>6</sup> Respondents are also asked how much the method costs, means of transportation, travel time, and whether they consider the place to be convenient or not. CPS and WFS asked respondents who were currently using methods requiring an outlet where they or their husbands go to get the method.

TABLE 1.-- DISTRIBUTION OF CONTRACEPTIVE USERS BY KNOWLEDGE OF FAMILY PLANNING OUTLET AND TRAVEL TIME TO OUTLET

Country, Date, and Survey	All Users	Do Not Know Outlet	Know Outlet			
			Total	Travel Time		
				Less Than 30 Minutes	30 Min or More	Not Stated
South Korea, CPS, 1978	100.0	0.1	99.9	86.0	12.4	1.5
Thailand, CPS, 1978	100.0	0.4	99.6	76.8	22.2	0.6
Costa Rica, CPS, 1978	100.0	1.5	98.5	75.0	21.6	1.9
South Korea, WFS, 1974	100.0	3.8	96.2	52.1	39.1	5.0
Philippines, WFS, 1978	100.0	6.4	93.6	71.5	21.8	0.3
Malaysia, WFS, 1974	100.0	7.9	92.1	59.7	32.4	na
Mexico, CPS, 1978	100.0	9.6	90.4	77.8	12.6	na
Indonesia, WFS, 1976	100.0	10.7	89.3	na	na	na
Colombia, WFS, 1976	100.0	14.6	85.4	56.0	27.4	2.0
Mexico, WFS, 1976	100.0	18.1	81.9	47.5	32.6	1.4
Kenya, WFS, 1978	100.0	18.3	81.7	20.5	61.2	na
Panama, WFS, 1976	100.0	19.5	80.5	na	na	na

na Not Available

The WFS has used a community module in a number of countries to obtain information on actual availability, but analyses of these data are just beginning. To date, the CPS has not used a community module.

Very little methodology has been developed to analyze data on availability of family planning. Additional effort by those with varied experiences in family planning program management and in the methodology of data analyses is required to perfect an adequate analytical frame. Only one previously published work, a paper by German Rodriguez,<sup>7</sup> deals with the availability data on an international comparative basis. At least three of the WFS country reports had some data on availability and all of the CPS country reports give attention to this subject. In addition one Ph.D. dissertation deals with the subject of availability in a single country.<sup>8</sup> Further work is underway at the University of Chicago and at the University of Michigan.

#### The Relationship of Family Planning Use to Knowledge of and Travel Time to Family Planning Outlets

The relation between knowledge of family planning availability and family planning use can be seen from the data in Table 1. In three countries, South Korea, Thailand, and Costa Rica, almost all of the users knew an outlet. In three others, the Philippines, Malaysia, and Mexico, ninety percent or more of the users knew an outlet, and Indonesia fell just short of ninety percent. Kenya and Panama, which fall at the bottom of the table, show eighty percent of the family planning users as knowing an outlet. Pakistan was excluded from the table because the availability questions were not comparable to those used in the other countries (see discussion later in this paper).

TABLE 2.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO KNEW A FAMILY PLANNING SOURCE AND TRAVEL TIME TO OUTLET

Country Date and Survey	Percent currently married women using contraception			
	Total	Know Outlet		Do Not Know Outlet
		Travel Time		
		Less Than 30 Minutes	30 Min. or More	
Costa Rica, CPS, 1978	67.5	68.8	63.0	(13.7)
Panama, WFS, 1976	59.9	na	na	38.2
Colombia, WFS, 1976	55.2	57.2	51.4	18.3
Thailand, CPS, 1978	52.9	56.6	44.8	(10.7)
South Korea, CPS, 1978	50.7	52.0	46.9	(3.4)
Mexico, WFS, 1976	50.3	52.4	48.6	10.8
Indonesia, WFS, 1976	47.6	na	na	6.7
Mexico, CPS, 1978	47.4	51.4	32.2	15.5
Philippines, WFS, 1978	43.9	47.2	36.0	9.9
Malaysia, WFS, 1974	39.3	42.3	34.7	10.9
South Korea, WFS, 1974	39.0	41.2	36.9	9.4
Kenya, WFS, 1978	13.0	15.5	12.3	2.1
Pakistan, WFS, 1975a	7.7	na	na	4.4

na Not available

a For Pakistan the data relate to women who had met a family planning worker only

Numbers shown in ( ) were based on fewer than 20 cases

For all but one of the countries for which data on travel time to a family planning outlet were available, a significant majority of the users lived within half an hour travel time of an outlet. Eighty-six percent of the contraceptive users in South Korea could reach a family planning outlet in less than 30 minutes, as could 78 percent of those in Mexico, and 77 percent of the users in Thailand. Kenya was the exception. Only 20 percent of family planning users in Kenya lived near an outlet. Kenya's outlets tend to be far apart. The average land area per clinic was 1,127 sq. km. for all of Kenya, but this average masks wide variations. In the North East province each clinic served an average of 32,475 sq. km. The population density in this province is quite low and no doubt accounts for the low density of clinics. The average land area covered by clinics in other provinces did not indicate that residents of these provinces were well served by family planning.<sup>9</sup> Clearly most Kenyans would need to travel great distances to obtain family planning services.

Data for the two countries for which we have two surveys show an increase over time in the proportion of users who knew an outlet. The increase is no doubt related to the fact that the network of family planning outlets was expanded between the dates of the two surveys and couples who previously had no access to modern family planning methods gained that access. The "substitution" effect may be operating, that is, persons who were using methods which did not require access to a family planning facility earlier may have taken advantage of the newly available family planning facility to switch to more effective methods.

TABLE 3.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO DID NOT KNOW A FAMILY PLANNING OUTLET BY TYPE OF METHOD USED

Country and Survey	Percent currently married women				
	Not Using Method	Using Any Method	Using Supply Method	Using Clinic Method	Using Traditional Method
Panama, WFS, 1976	61.8	38.2	7.1	22.1	9.1
Colombia, WFS, 1976	81.7	18.3	7.3	2.2	8.8
Mexico, CPS, 1978	84.5	15.5	6.6	5.4	3.6
Costa Rica, CPS, 1978	86.3	(13.7)	(1.4)	(0.0)	(12.2)
Thailand, CPS, 1978	89.3	(10.7)	(0.0)	(0.0)	(10.7)
Malaysia, WFS, 1974	89.1	10.9	1.6	2.8	6.5
Mexico, WFS, 1976	89.2	10.8	4.0	1.9	4.9
Philippines, WFS, 1978	90.1	9.8	0.4	1.1	8.4
South Korea, WFS, 1974	90.6	9.4	2.5	5.6	1.3
Indonesia, WFS, 1976	93.3	6.7	2.1	(0.4)	4.2
Pakistan, WFS, 1975 <sup>a</sup>	95.6	4.4	1.8	1.5	1.1
South Korea, CPS, 1978	96.6	(3.4)	(0.0)	(1.9)	(1.5)
Kenya, WFS, 1978	97.9	2.1	(0.2)	(0.3)	1.6

Numbers shown in ( ) were based on fewer than 20 cases

Women who report knowledge of a family planning source are substantially more likely to be using family planning than women who do not know a source (see Table 2). Nearly 68 percent of the Costa Rican women who reported knowledge of an outlet were using contraception. The use rate for Paramanian women who knew an outlet was nearly 60 percent. Three other countries reported use rates above 50 percent and three others above 40 percent. The lowest use rates were reported for Kenya and Pakistan. The use rates for women who did not know an outlet for family planning were markedly lower. Only one country, Panama, reported use rates above 20 percent. For three countries, the number of respondents using contraception among those who did not know an outlet were too few to provide statistically reliable data. As will be seen later, the vast majority of women in these three countries knew an outlet.

In Indonesia the use rate among those who reported knowledge of a family planning source is seven times that for women who do not know a source. In Kenya women who knew an outlet were six times more likely to be using contraception than women who did not know an outlet. The lowest ratios were found in Panama and Pakistan, 1.5 and 1.7, respectively. In Panama nearly 60 percent of those who knew an outlet were using contraception compared with 38 percent for those who did not know a source. The high rate of use for the latter group may be partially due to the large number of couples protected by sterilization. There is also a fairly high level of use of traditional methods. The use of supply methods by women who report that they do not know a source was surprising high (7 percent). Comparable levels of use of supply methods were found in Mexico and Colombia (see Table 3). The pattern is not found outside Latin America. For Costa Rica, the other Latin American country in the study, the sample contained too few women who did not know a source to provide meaningful data.

TABLE 4.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO KNEW A FAMILY PLANNING OUTLET BY TYPE OF METHOD USED

Country and Survey	Percent of currently married women				
	Not Using Any Method	Using Any Method	Using Supply Method	Using Clinic Method	Using Traditional Method
Costa Rica, CPS, 1978	32.5	67.5	37.8	21.0	8.7
Panama, WFS, 1976	40.1	59.9	25.9	26.5	7.6
Colombia, WFS, 1976	44.8	55.2	23.2	18.5	13.5
Thailand, CPS, 1978	47.1	52.9	28.1	20.8	4.0
South Korea, CPS, 1978	49.3	50.7	11.9	26.5	12.3
Mexico, WFS, 1976	49.7	50.3	25.6	15.4	9.3
Indonesia, WFS, 1976	52.4	47.6	26.4	14.3	6.9
Mexico, CPS, 1978	52.6	47.4	23.1	16.2	8.2
Philippines, WFS, 1978	56.1	43.9	10.8	9.7	23.5
Malaysia, WFS, 1974	60.7	39.3	24.4	4.9	9.9
South Korea, WFS, 1974	61.0	39.0	21.2	14.2	3.5
Kenya, WFS, 1978	87.0	13.0	6.2	3.2	3.5
Pakistan, WFS, 1975 <sup>a</sup>	92.3	7.7	5.0	(0.2)	2.6

a For Pakistan the data relate to women who had met a family planning worker only

Numbers shown in ( ) were based on fewer than 20 cases

There is no immediate explanation for the pattern. Latin men may be obtaining some of the contraceptives which women in other regions normally obtain. There could also be some cultural bias in reporting sources of supply.

For Pakistan the data used are contacts with family planning workers rather than knowledge of outlets. Some Pakistani women did have access to family planning clinics and shops selling contraceptives which could increase use among those with no contact with family planning workers. Moreover, family planning workers had rather infrequent contacts with prospective users and often had limited contraceptive supplies. Thus, respondents who report having had a contact with a field worker may not have real access to contraceptives.

To some extent the level of use among those who know a family planning source is related to the length of time the program has been in place in specific countries, the geographic dispersment of outlets, and the overall quality of services. The highest use rates are found in Costa Rica, Panama, and Colombia, all of which have long histories of family planning dating back to the 1960's. Thailand, South Korea, Indonesia, and Malaysia report use rates of around fifty percent for those who know an outlet. These countries also have fairly long histories of family planning activity.

Rather low use rates are found for those reporting knowledge of a family planning source for Kenya and Pakistan. These countries also have long histories of family planning programs but the quality of services has been low. For example, as indicated above, the network of clinics in Kenya is quite sparse. In addition, about one third of the clinics in Kenya are part time. Of the 176 part time clinics operating at the end of 1978, 54 operated on a weekly basis

and 112 on a monthly basis. Some women who visited clinics were sent away because there were no trained staff to serve them.<sup>10</sup> The necessity to travel great distances -- often to find the clinic closed or to be sent away -- would serve to discourage use. As discussed later, Pakistan relied heavily upon field motivators whose contact with the population was erratic.

The survey data pose an interesting paradox. Logically, one would assume that women who knew a source of supply for family planning would use modern means (i.e., supply or clinic methods) rather than traditional methods. However, the data show a higher use rate for traditional methods for those who report knowing an outlet than for those who do not know a source (see Table 4). For most countries the use rate for traditional methods is two to five percentage points higher for respondents who know an outlet. Perhaps the publicity associated with the family planning programs increased awareness about family planning. Another possible explanation is that couples who are motivated to use family planning are more likely to know an outlet. This possibility will be dealt with later.

The Philippines deserves special mention. Nearly 24 percent of those who knew an outlet were using traditional methods. This represents well over half the contraceptive use. In the Philippines, rhythm is offered as a method in some clinics. Thus, women may be using what to them is a "clinic" method. Virtually all the Philippine respondents who report knowing an outlet knew where to obtain modern methods. Thus, the decision to use rhythm was either a personal choice by the user or a decision made after consultation with clinic personnel or a priest.

#### The Interaction of Contraceptive Use, Perceived Availability, and Various Background Variables

The level of use of contraception among those who know a family planning source may be influenced by a number of factors. When family planning is first introduced into an area, some time is needed to arrange for the facilities, advertise the fact that services and supplies are available, initiate information programs, and begin providing services. No family planning network can possibly provide coverage for all potential users immediately. Several years may be required to fully implement the program and an additional period to "catch-up" with the demand. The countries for which data are included in this paper are at various stages of implementation and maturity. The programs also vary in their efficiency.

The WFS and CPS survey programs provide data on a number of background variables, and it is possible to investigate how these variables interact with perceived availability of family planning to affect contraceptive use. The variables chosen for investigation in this paper are age, sex composition and size of family, infant and child mortality, urban-rural residence, education, husband's occupation, desire for last pregnancy, desire for future births, and desired timing for next child. Cross tabulations for a number of other variables were made and are included in a set of tables under separate cover. Not all countries collected data on all the variables and for a few countries data on some variables could not be used, either because the data were not included on the data tape received by AID or because of technical problems in reading the tapes.

TABLE 5.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO KNEW A FAMILY PLANNING OUTLET BY NUMBER OF LIVING AND DEAD CHILDREN

Number of Living Children, Date, And Survey	Percent currently married women using contraception			Differences	
	Number of Dead Children			(0)-(1)	(0)-(2)
	0	1	2 or More		
<b>FEWER THAN THREE LIVING CHILDREN</b>					
Thailand, CPS, 1978	47.0	53.6	(35.7)	-6.6	(11.3)
Indonesia, WFS, 1976	35.2	36.4	36.4	-1.2	-1.7
Kenya, WFS, 1978	9.4	(7.6)	(3.3)	(1.8)	(6.1)
South Korea, CPS, 1978	38.0	35.0	(35.3)	3.0	(2.7)
South Korea, WFS, 1974	27.2	23.5	(27.7)	3.7	(-0.5)
Mexico, CPS, 1978	41.9	37.7	(33.3)	4.2	8.6
Philippines, WFS, 1978	36.4	31.9	(14.9)	4.5	(21.5)
Panama, WFS, 1976	52.4	47.8	(70.0)	4.6	(-17.6)
Malaysia, WFS, 1974	31.6	26.3	(6.9)	5.3	(24.7)
Colombia, WFS, 1976	51.8	45.5	(47.6)	6.3	(4.2)
Mexico, WFS, 1976	46.2	39.6	(47.4)	6.6	-1.2
Costa Rica, CPS, 1978	60.7	(46.7)	(77.8)	(14.0)	(-17.1)
<b>THREE OR MORE CHILDREN</b>					
Panama, WFS, 1976	65.6	64.1	50.7	1.5	14.9
Indonesia, WFS, 1976	65.6	64.1	50.7	1.5	14.9
Malaysia, WFS, 1974	46.3	43.9	28.5	2.4	17.8
Costa Rica, CPS, 1978	76.4	72.5	60.8	3.9	15.6
Mexico, WFS, 1976	56.4	50.4	39.9	6.0	16.5
Kenya, WFS, 1978	18.8	10.7	9.0	8.1	9.8
Philippines, WFS, 1978	51.6	42.7	36.5	8.9	15.1
Mexico, CPS, 1978	56.3	46.3	32.3	10.0	24.0
South Korea, WFS, 1974	49.8	39.3	36.3	10.5	13.5
Colombia, WFS, 1976	63.1	50.1	46.5	13.0	16.6
South Korea, CPS, 1978	62.5	49.3	38.4	13.2	24.1
Thailand, CPS, 1978	63.5	49.8	43.9	13.7	19.6

Numbers shown in ( ) were based on fewer than 20 cases

The "Differences" columns show the differences between use rates for women who have not experienced the death of a child and those who have experienced one or two or more deaths

Without exception contraceptive use was markedly higher among those respondents who reported knowledge of a family planning source than among those who did not report knowledge of an outlet. For many of the variables, contraceptive users among those who did not know an outlet were too few to permit derivation of statistically reliable percentages. For that reason and because the effect of the various background variables can be measured more easily when availability is controlled for, the following analysis is limited to those respondents who knew an outlet.

## Infant and Child Mortality

One argument often heard is that couples who have experienced the death of one or more of their children will not be interested in using contraception until they compensate for the loss of those children. The WFS and CPS data do show an association between contraceptive use and whether or not women have experienced the death of one or more of their children. For most countries use rates are lower for women who have experienced the death of one or more of their children (see Table 5). However, Indonesia showed no variation in contraceptive use among women who had fewer than three children regardless of whether the women had experienced 0, 1, or 2 or more deaths. South Korea also displays little or no variation for women with fewer than three children, although the number of women who had experienced two or more deaths was too small to be statistically meaningful. With the exception of Costa Rica for which there were too few cases to provide statistically reliable rates, the maximum difference for other countries between the use rates for women with fewer than three living children who had experienced the death of one of their children and those who had no dead children was 6.6 percentage points. Little can be said about women who had experienced two or more deaths because the numbers of cases are too few.

For women with three or more children, four countries show differences of less than five percentage points and three others differences of between 5 and 10 percentage points. The largest difference was just under 14 percentage points in the Thailand CPS.

The differences between use rates for women with two or more dead children and those with none are considerably larger, the range being from about 10 to 24 percentage points. Women with a given number of living children who have experienced the death of a child are likely to be older than women with the same number of living children who have not experienced a death. For higher parity women this factor would push many of the women into the less fecund upper range of the reproductive ages where contraceptive use is traditionally lower. Clearly, controls for age need to be introduced.

## Living Sons and Daughters

Son preference is also often mentioned as a factor which influences contraceptive use. Couples in some countries are said to have such a strong preference for male children that they will not use contraception until they have one or more sons. The data in Table 6 are laid out in a fashion which permits the study of the possible effect of son preference. Since the rows show the number of sons in the family and the columns the number of daughters, the series of diagonals running from the lower left to the upper right are for families with the same number of living children. The left-most cell on the diagonal shows the contraceptive use rate for families with sons only. Each move upward and to the right on the diagonal represents a one child shift in the sex composition toward girls. The top cell on the diagonal shows the use rate for a family with only female children.

The WFS and CPS data show only one country, South Korea, where the sex composition of the children in the family has a definite and marked impact on contraceptive use. The pattern is found in both WFS (1974) and CPS (1978) data. Among South Korean women with two living children, the CPS found that the contraceptive use rate was 63 percent when both children were boys, 57 percent when there were one boy and one girl in the family, and only 33 percent when both children were girls.

TABLE 6.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO KNOW  
A FAMILY PLANNING SOURCE, BY NUMBER OF LIVING SONS AND DAUGHTERS

(Percent currently married women using contraception)

	Number of Daughters				Number of Daughters			
	0	1	2	3 or More	0	1	2	3 or More
Number of Sons	<u>Colombia, WFS, 1976</u>				<u>Malaysia, WFS, 1974</u>			
No Sons	16.5	53.4	63.0	69.8	7.9	32.0	34.2	42.0
One Son	54.5	62.3	57.0	58.9	32.0	38.5	39.1	41.9
Two Sons	58.7	73.1	66.2	51.5	42.5	51.5	52.0	47.6
3 or More Sons	56.4	60.9	54.3	51.0	40.6	46.4	39.3	41.9
	<u>Costa Rica, CPS, 1978</u>				<u>Mexico, CPS, 1978</u>			
No Sons	25.5	63.9	63.8	84.8	13.6	38.1	54.0	64.4
One Son	59.4	77.1	78.4	76.2	38.1	56.9	61.8	45.4
Two Sons	68.9	80.2	77.6	67.4	40.5	62.2	58.4	44.5
3 or More Sons	66.1	81.4	78.7	65.7	56.2	55.9	52.3	41.1
	<u>Indonesia, WFS, 1976</u>				<u>Mexico, WFS, 1976</u>			
No Sons	(5.0)	33.3	55.9	54.7	14.8	36.9	50.0	44.2
One Son	34.0	49.2	56.0	60.1	50.3	63.2	52.6	58.9
Two Sons	46.0	52.7	59.4	54.6	51.5	60.8	58.0	52.0
3 or More Sons	57.8	58.1	60.2	55.7	63.3	56.5	53.3	44.4
	<u>Kenya, WFS, 1978</u>				<u>Panama, WFS, 1975</u>			
No Sons	(5.2)	(3.2)	(12.5)	(13.6)	22.9	51.2	56.6	57.4
One Son	(7.8)	(8.4)	(8.9)	13.5	50.7	65.6	66.7	59.3
Two Sons	(20.5)	14.5	(11.9)	13.4	63.4	65.6	68.9	68.8
3 or More Sons	(15.6)	16.8	15.6	17.1	70.7	67.9	59.9	61.3
	<u>South Korea, CPS, 1978</u>				<u>Philippines, WFS, 1978</u>			
No Sons	7.5	13.4	32.8	39.0	(4.8)	34.2	39.5	42.2
One Son	22.5	56.9	66.9	58.6	30.3	50.4	48.7	48.1
Two Sons	62.8	71.2	65.3	49.3	50.6	53.1	52.6	51.4
3 or More Sons	69.1	51.9	43.5	38.0	48.2	55.3	48.5	39.0
	<u>South Korea, WFS, 1974</u>				<u>Thailand, CPS, 1978</u>			
No Sons	(7.5)	10.7	18.5	26.2	15.0	47.6	64.0	54.7
One Son	16.7	41.3	38.1	39.3	45.7	65.4	61.5	59.2
Two Sons	57.2	55.4	55.4	48.3	50.8	68.5	61.1	53.0
3 or More Sons	54.8	50.3	36.9	38.6	60.3	60.5	53.8	47.6

Numbers shown in ( ) were based on fewer than 20 cases

TABLE 7.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO KNEW A FAMILY PLANNING OUTLET BY DESIRE FOR FUTURE BIRTHS~

Country, Survey, and Date	Percent currently married women using contraception			
	Wanted No More Children	Wanted More Children		
		Total	Within Next Two Years	In Two Years or More
Costa Rica, CPS, 1978	75.2	40.9	50.8	66.0
Panama, WFS, 1976	70.4	54.0	na	na
Indonesia, WFS, 1976	65.6	38.3	na	na
South Korea, CPS, 1978	61.3	13.8	9.1	31.1
Colombia, WFS, 1976	60.5	53.8	na	na
Thailand, CPS, 1978	59.5	40.9	20.8	53.7
Philippines, WFS, 1978	57.4	35.9	na	na
Mexico, WFS, 1976	57.4	51.2	na	na
Mexico, CPS, 1978	51.6	43.9	29.0	52.2
South Korea, WFS, 1974	50.1	14.9	na	na
Malaysia, WFS, 1974 <sup>a</sup>	47.0	39.3	30.7	66.7
Kenya, WFS, 1978	24.3	11.2	na	na
Pakistan, WFS, 1975	11.4	(3.0)	na	na

na Not Available

a For Malaysia the precoded responses to the question on timing of the next birth was "As soon as possible" and "After some delay"

Numbers shown in ( ) were based on fewer than 20 cases

For one child families the differences in contraceptive use rates between couples with a son and those with a daughter are generally slight. Nine of the twelve surveys in table 6 show differences of less than five percentage points and two others show differences of between 5 and 10 points. Mexico's WFS (1976) reported the largest difference, 13.4 percentage points. The Mexican CPS (1978) showed identical use rates for one child families regardless of the sex of the child.

For families with two children, four surveys reported higher use rates when both children were girls than when both were boys. The differences range from four to 13 percentage points. The remaining eight surveys reported higher use rates for all boy families than for all girl families. For five of these the differences were less than 10 percentage points and one other was 11 points. Both Korean surveys show large differences, 30 points for the CPS and 39 for WFS.

For the three child family both Korean surveys continue to show the largest differences between all boy and all girl families, about 30 percentage points for both. Among the remaining 10 surveys, two, Costa Rica CPS and Colombia WFS, show use rates for families in which all the children are girls 18.7 and 13.4 percentage points higher, respectively, than use rates for all boy families. Two other surveys, Mexico WFS and Panama WFS show use rates for families in which all the children are boys 19.1 and 13.3 percentage points higher than those for all girl families. The remaining countries reported differences of less than 10 percentage points.

For many countries the data show the highest use rates for families with children of both sexes. For the two child families, five countries reported higher use rates for couples with one son and one daughter, although for some countries the differences are not large. For three child families, six surveys show the highest use rate for couples with two boys and one girl.

### Fertility Preferences

WFS and CPS included a variety of questions relating to fertility preferences, including whether the respondent had wanted the last child, whether she wants any more children, and, for those who wanted more, when she wishes to have the next one. None of the surveys contained all of these questions, but for South Korea all were included in either CPS or WFS.

The degree to which a woman's statement that she does not want another child can be taken as an indication of demand for family planning has been questioned. The data from the two survey programs show that without exception, the contraceptive use rate was higher among women who did not want any more children than among women who wanted more children. Moreover, in several countries a large share of those couples who are using family planning have chosen sterilization, a method which would not be selected by couples unless they are sure of their desire not to have additional children.

Seventy-five percent of the women who did not want more children in Costa Rica were using contraception as were 70 percent of those in Panama, 66 percent of those in Indonesia, 60 percent of those in Colombia, South Korea, and Thailand, and just under 60 percent in the Philippines and Mexico (see Table 7). In Kenya where family planning services are not as accessible as in the above countries, the use rate was nearly 25 percent. These rates range from about 45 percentage points (Korea) to six percentage points (Colombia and Mexico) more than the use rates for women who wanted more children.

The survey data also show that women who want more children are using contraception for childspacing. More than half the women who wanted more children were using contraception in three countries and four more countries reported use rates of more than one-third. For Mexico, the CPS reports lower use rates for women who knew an outlet than did the WFS. Had WFS data for Mexico been used, four countries rather than three would have use rates above 50 percent.<sup>11</sup>

The low level of contraceptive use for childspacing in South Korea appears to be due to the fact that an overwhelming majority (78 percent) of Korean women interviewed in the CPS did not want any more children. Of the little over one-fifth who did, most wanted a child within the next two years. Many apparently are not using contraception because they want to become pregnant. The use rate for those who wanted a child within the next two years was 9 percent compared with 31 percent for those desiring a child in two years or more. The high level of abortion in South Korea may also affect the rate of contraceptive use for childspacing.

For the other four countries for which data on desired timing of the next birth were available, use rates for those who desire to wait before having their next child are well above 50 percent, the range being from 66 percent in Costa Rica to 52 percent in Mexico. For those who want a child within the next two years, half of the Costa Rican women were using contraception, 30 percent of those in

**TABLE 8.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO KNEW A FAMILY PLANNING OUTLET BY DESIRE FOR LAST PREGNANCY**

Country, Date, and Survey	Percent currently married women using contraception	
	Did Not Want Pregnancy	Wanted Last Pregnancy
	Panama, WFS, 1976	64.7
Colombia, WFS, 1976	57.5	55.5
Indonesia, WFS, 1976	57.3	48.3
South Korea, WFS, 1974	50.7	49.4
Philippines, WFS, 1978	48.6	43.7

Mexico and Malaysia, and 20 percent of those in Thailand. These women evidently are not firm in their decision to have another child or wish to wait a few more months before conceiving.

Women who report that their last child was unwanted presumably are highly motivated to use family planning so they will not run the risk of having a second unwanted child. For the five countries for which data are available on whether the last child was wanted, use rates for women who knew an outlet ranged from 65 percent for Panama to 49 percent for Philippines. These rates are only slightly higher than those for women who wanted the last child. They are lower than rates for women who stated that they did not want any more children. The age factor may be important since women who did not want their last child may be somewhat older and thus less in need of family planning (see table 8).

#### Urban-Rural Residence

Another oft repeated assumption is that rural women are less likely to use family planning than urban women, presumably because the agricultural life-style is more conducive to childbearing than an urban life-style and because children provide a source of labor on the farm. Among the 13 surveys listed in Table 9, three reported use rates of 50 percent or more for rural women who knew a family planning source, three others reported rates of 40 percent or more, and three reported rates of 30 percent or more. In comparison, nine surveys show use rates of 50 percent or more for urban women who knew an outlet and two others show rates of 40 to 50 percent.

For most of the surveys rural rates were lower than urban. However, for seven of the 13, differences were 10 percentage points or less. The two Mexican surveys found the largest urban-rural differences, about 20 percentage points. Malaysia reported a 16 percentage point difference, three other countries reported differences of about 12 points. These differences are narrowed somewhat when controlling for travel time to an outlet.

#### Husbands' Occupation

Husband's occupation is a measure of social status in the community as well as the economic circumstances of the family. Occupation is also associated with education. The occupation categories varied somewhat from country to country but normally included a range from unskilled workers to professionals which

TABLE 9.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO KNEW A FAMILY PLANNING OUTLET BY URBAN-RURAL RESIDENCE AND TRAVEL TIME TO FAMILY PLANNING OUTLET

Country, Survey, and Date	Total		Travel Time to Outlet						
	Percent		Less Than 30 min.		30 min. or more				
	using con- traception	Differ- ence							
	Urban (1)	Rural (2)	(3)= (1)-(2)	Urban (4)	Rural (5)	(6)= (4)-(5)	Urban (7)	Rural (8)	(9)= (7)-(8)
Indonesia, WFS, 1976	46.8	48.0	-1.2	na	na	na	na	na	na
South Korea, CPS, 1978	50.5	51.4	-0.9	51.6	54.3	-2.7	47.9	45.9	2.0
Costa Rica, CPS, 1978	70.1	64.6	5.5	70.9	65.0	5.9	62.2	63.2	-1.0
South Korea, WFS, 1974	42.1	36.2	5.9	43.8	36.5	7.3	38.7	35.9	2.8
Panama, WFS, 1976	63.4	54.1	9.3	na	na	na	na	na	na
Pakistan, WFS, 1975	14.0	4.7	9.3	na	na	na	na	na	na
Kenya, WFS, 1978	22.0	11.6	10.4	21.8	12.3	9.5	22.2	11.5	10.7
Colombia, WFS, 1976	58.0	46.0	12.0	58.0	50.0	8.0	58.3	44.6	13.7
Thailand, CPS, 1978	60.4	48.0	12.4	62.5	51.0	11.5	51.4	41.7	9.7
Philippines, WFS, 1978	51.9	39.2	12.7	52.0	42.6	9.4	51.5	34.6	16.9
Malaysia, WFS, 1974	50.0	34.0	16.0	51.2	36.0	15.2	46.5	31.6	14.9
Mexico, WFS, 1976	54.9	35.1	19.8	54.9	37.9	17.0	55.8	34.0	21.8
Mexico, CPS, 1978	53.2	31.6	21.6	na	na	na	na	na	na

na Not Available

follows internationally accepted standards. Table 10 includes data for five countries, two in Latin America and three in Asia. For four of these countries there are two agricultural occupations, "agricultural" and "farmer". Indonesia had only one farm occupational category, "agricultural".

TABLE 10.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED WOMEN WHO KNEW A FAMILY PLANNING OUTLET BY HUSBAND'S OCCUPATION

Country, Survey and Occupation	Total			Less than 30 min. Travel Time			Country, Survey and Occupation	Total			Less than 30 min. Travel Time		
	Percent Using Contraception	Differences		Percent Using Contraception	Differences			Percent Using Contraception	Differences		Percent Using Contraception	Differences	
		Row to Row	Cumulative		Row to Row	Cumulative			Row to Row	Cumulative		Row to Row	Cumulative
Colombia, W.S., 1976							Indonesia, W.S., 1976						
Clerical	71.6	3.0	3.0	70.7	6.0	6.0	Professional	55.0	6.5	6.5	na	na	na
Professional	68.6	9.5	12.5	64.7	2.0	2.0	Agricultural	48.5	3.9	10.4	na	na	na
Sales	59.1	2.2	14.7	62.7	6.6	14.6	Sales	44.6	2.9	13.3	na	na	na
Skilled	56.9	3.7	18.4	56.1	1.4	16.0	Manual	41.7	-	-	na	-	-
Services	53.2	0.0	18.4	54.7	3.6	19.6	Malaysia, W.F., 1974						
Unskilled	53.2	4.3	22.7	51.1	2.8	22.4	Professional	53.1	3.2	3.2	54.1	1.7	1.2
Farmer	48.9	7.7	30.4	48.3	2.3	24.7	Sales	49.9	0.5	3.7	52.9	0.3	1.5
Agricultural	41.2	-	-	46.0	-	-	Clerical	49.4	2.0	5.7	52.6	-1.9	-0.4
Mexico, C.P.S., 1978							Malaysia, W.F., 1974						
Manager	68.2	4.7	4.7	69.5	3.6	3.6	Services	(47.4)	5.6	11.3	(54.5)	10.9	10.5
Admin. Personnel	63.5	0.7	5.4	65.9	2.2	5.8	Hotel	41.8	1.1	12.4	43.6	0.9	11.4
Professional	62.8	6.5	11.9	63.7	4.6	10.4	Housekeeping	41.8	1.1	12.4	43.6	0.9	11.4
Sales	56.3	6.1	18.0	59.1	7.2	17.6	Production	40.7	2.6	15.0	42.7	3.5	14.9
Services	50.7	2.2	20.2	51.9	1.1	18.7	Labourers	38.1	5.0	20.0	39.2	4.0	18.9
Agricultural	48.0	21.1	41.3	50.8	24.0	42.7	Farmer	33.1	8.0	28.0	35.2	10.2	29.1
Farmer	26.9	-	-	26.8	-	-	Agricultural	25.1	-	-	25.0	-	-
Philippines, S., 1978							South Korea, F.S., 1974						
Clerical	55.8	3.5	3.5	57.9	3.1	3.1	Professional	50.9	5.0	5.0	50.2	3.6	3.6
Professional	52.3	1.2	4.7	54.8	3.3	6.4	Sales	45.9	2.0	7.0	46.6	1.1	4.7
Sales	51.1	1.8	6.5	51.5	1.7	7.6	Clerical	43.9	3.0	10.0	45.5	4.4	9.1
Services	49.3	1.4	7.9	50.3	2.1	9.7	Services	40.9	3.1	13.1	41.1	2.8	11.9
Skilled	47.9	2.1	10.0	48.2	2.0	11.7	Skilled	37.8	2.3	15.4	38.3	0.4	12.3
Unskilled	45.8	2.9	12.9	46.2	7.6	19.3	Unskilled	35.5	0.0	15.4	37.9	0.4	12.7
Household	(42.9)	5.7	18.6	(38.6)	-2.2	17.1	Farmer	35.5	8.1	23.5	37.5	16.6	29.3
Farmer	37.2	1.7	20.3	40.8	2.3	19.4	Agricultural	27.4	-	-	(20.9)	-	-
Agricultural	35.5	-	-	38.5	-	-							

na Not Available

Numbers shown in ( ) were based on fewer than 20 cases

NGO  
**TABLE 11.-- CONTRACEPTIVE USE AMONG CURRENTLY MARRIED  
 WOMEN WHO KNEW A FAMILY PLANNING OUTLET BY LEVEL OF EDUCATION**

Country and Survey	Percent currently married women using contraception			Difference:	
	No Education	Less Than 4 Years	4 Years or More	(3)-(1)	(3)-(2)
	(1)	(2)	(3)	=(4)	=(5)
Thailand, CPS, 1978	53.9	47.3	54.2	0.3	6.9
South Korea, WFS, 1974	36.4	40.1	39.8	3.4	-0.3
Indonesia, WFS, 1976	45.6	46.4	50.5	4.9	4.1
Kenya, WFS, 1978	10.2	8.5	16.3	6.1	7.8
Panama, WFS, 1976	51.6	52.8	61.0	9.4	8.2
Costa Rica, CPS, 1978	58.8	66.4	68.6	9.8	2.2
South Korea, CPS, 1978 <sup>a</sup>	40.5	49.6	53.6	13.1	4.0
Malaysia, WFS, 1974	30.6	38.2	44.1	13.5	5.9
Colombia, WFS, 1976	42.1	48.0	61.1	19.0	13.1
Mexico, WFS, 1976	35.8	43.3	56.0	20.2	12.7
Mexico, CPS, 1978	30.1	35.9	56.5	26.4	20.6
Philippines, WFS, 1978 <sup>a</sup>	17.4	33.6	47.2	29.8	13.6

<sup>a</sup> For South Korea WFS and the Philippines the education groups are Less than 5 years and 5 Years or more

The last two columns in the table show differences between various education groups: Col. 4 indicates the degree to which use rates for women with 4 or more years of education exceed those for women with no education; Col. 5 indicates the difference in use rates for women with 4 years of more of education and those with less than 4 years

For all of the countries except Indonesia the use rates for women who knew a family planning outlet were lowest for the agricultural categories and highest for clerical, professional, and managerial personnel. The spread in use rates in individual countries ranged from 20 to 40 percentage points. For non agricultural occupations the spread is narrowed considerably, ranging from about 10 percentage points in the Philippines to 18 percentage points in Colombia and Mexico. Still, the use rates for women whose husbands were employed in agriculture were fairly high, above 40 percent in Colombia and Indonesia and for agricultural workers in Mexico. The Philippines reported use rates above 35 percent and Malaysia reported a use rate for Farmers of 33 percent. The lowest rates were for farmers in Mexico and agricultural workers in Malaysia, both about 25 percent. Use rates for professional and clerical occupations ranged from about 50 percent to 70 percent.

### Education

It has been suggested that primary education for girls would greatly increase the motivation for small families and presumably the contraceptive use rate. WFS and CPS data do show a positive association between education and contraceptive use for women who knew a family planning outlet. For three of the surveys the differences between the use rates for those with no formal education and those with four or more years of education was less than five percentage points and for three others between 5 and 10 percentage points (see Table 11). Those countries with the largest differences tend to have quite

TABLE 12.-- CONTRACEPTIVE USE AMONG CURRENTLY  
MARRIED WOMEN WHO KNEW A FAMILY PLANNING OUTLET BY AGE

Country & Survey	Less Than 25 Years	25 to 34 Years	35 to 44 Years	45 Years and Over
Costa Rica, CPS, 1978	59.6	71.9	72.5	57.6
Colombia, WFS, 1976	50.6	60.9	57.7	29.5
Panama, WFS, 1976	49.3 <sup>a</sup>	62.4	64.1	55.6
Mexico, CPS, 1978	43.9	54.6	46.2	20.0
Thailand, CPS, 1978	43.1	59.8	58.2	36.3
Mexico, WFS, 1976	42.2	56.6	53.1	23.3
Indonesia, WFS, 1976	38.0	53.0	52.2	31.1
Philippines, WFS, 1978	33.8	47.5	50.3	24.9
Malaysia, WFS, 1974	33.3	43.7	43.9	22.9
South Korea, CPS, 1978	18.1	55.1	63.4	22.0
South Korea, WFS, 1974	15.4	39.6	51.7	17.7
Pakistan, WFS, 1975	(2.7)	8.7	11.2	(6.5)
Kenya, WFS, 1978	9.5	13.4	16.4	12.2

a The Panama WFS did not interview women under 20 years of age. Thus, the age group "Under 25 Years" refers to ages 20 to 24 years only. Numbers shown in ( ) were based on fewer than 20 cases

small numbers of women who have not attended school. For example, in the Philippine survey only two percent of the respondents who knew an outlet had no formal education, for Mexico about 11 percent had no formal education, and in Colombia and South Korea about eight percent. Of those countries falling in the bottom half of the table, only Malaysia had a high percentage who had not attended school (28 percent).

The largest difference in use rates between those who had attended school but had not completed the fourth grade and those with four or more years of education was 20.6 percentage points for the 1978 CPS survey in Mexico. This difference is considerably greater than that for the 1976 WFS survey in Mexico. The reason may be that between the dates of the two surveys, the Mexican family planning program expanded rapidly, particularly into rural areas where education levels are low. Thus, the lower use rate among Mexican women with less than four years of education in 1978 may be due to the fact that the program had not yet had time to serve adequately the population in the areas recently covered by the program.

#### Age

The pattern of contraceptive use by age shows -- as expected -- somewhat lower rates for the younger ages (under 25 years) with peak rates at ages 25 to 34 and 35 to 44 years. Use rates are lower for women 45 years old and over. For most countries in the study, use rates were about the same for women 25 to 34 and 35 to 44. The exceptions are South Korea where the peak occurs at ages 35 to 44 and Mexico where the peak is at 25 to 34. The Philippines has a slightly higher rate for the 35 to 44 age group while Colombia has a slightly higher rate for the 25 to 34 age group (see table 12).

TABLE 13.-- PERCENT CURRENTLY MARRIED WOMEN WHO REPORT KNOWLEDGE OF A SOURCE OF SUPPLY FOR FAMILY PLANNING BY TRAVEL TIME TO SOURCE

Country, Survey, and Date	Do not Know Source	Know Source		
		Total	Travel Time	
			Less than 30 Minutes	30 Minutes or More
South Korea, CPS, 1978	1.1	98.9	85.2	13.6
Thailand, CPS, 1978	2.2	97.8	70.5	25.8
Costa Rica, CPS, 1978	6.8	93.2	69.6	21.9
South Korea, WFS, 1974	14.0	86.0	40.1	36.9
Philippines, WFS, 1978	23.4	76.6	54.4	21.8
Malaysia, WFS, 1974	23.5	76.5	46.0	30.4
Mexico, CPS, 1978	24.6	75.4	59.9	15.5
Panama, WFS, 1976	27.6	72.4	(a)	(a)
Colombia, WFS, 1976	34.0	66.0	42.3	23.1
Indonesia, WFS, 1976	46.0	54.0	(b)	(b)
Mexico, WFS, 1976	50.7	49.3	27.7	20.3
Kenya, WFS, 1978	57.8	42.2	8.8	33.4

a For Panama WFS did not include a question on travel time

b For Indonesia travel time was asked only for users

Costa Rica and Panama have the highest use rates for women 45 years and over: 56 - 58 percent. This is most likely associated with the high level of use of sterilization. Couples who elected sterilization earlier would still be "using" sterilization at the end of the reproductive period and would be so recorded in a survey even though they had been using another method, they would have discontinued use because they no longer needed it.

Use rates for younger women in the Asian countries were significantly lower than those for younger women in the Latin American countries. This pattern is probably due to the practice which appears to be much more common among Asian couples than couples in Latin America of having their children relatively soon after marriage and then using family planning as a means of terminating child bearing. South Korea reported a particularly low level of use among women under 25 years old compared with the level for other age groups in South Korea and with rates for the same age group in other countries.

#### Levels of Perceived Availability

Knowledge of a source of supply for family planning varied widely among the eleven countries covered in this paper. In South Korea, Thailand, and Costa Rica almost all respondents reported knowledge of some source of family planning information, services, or supply. For four other countries, the Philippines, Malaysia, Mexico, and Panama, about three-fourths of the women reported knowing an outlet as did two-thirds of the Colombian women and just over half of the women in Indonesia. Kenya, with perceived availability at 42 percent, ranked last among the ten countries in Table 13.

A strict comparison between Pakistan and the countries in Table 13 is difficult. At the time of the survey much of Pakistan was covered by the Continuous Motivation Scheme (CMS) whereby male-female teams were assigned specific territories where they were charged with the responsibility of visiting each eligible couple to motivate them to use family planning, to provide them with some types of contraceptives, and to refer them to a clinic for other types. Superimposed on this system were agents (e.g., shopkeepers) who were supposed to sell contraceptives at a highly subsidized price (the equivalent of U.S. 2.5¢ for a month's supply).

The Pakistan survey asked all respondents whether they had ever met any family planning personnel. However, only women who had never used family planning were asked whether they knew a family planning outlet. Respondents who had ever used family planning were assumed to know an outlet. The Pakistan data (expressed as percent of currently married women) are as follows:

	Percents
Met family planning personnel and knew outlet	10.4
Met family planning personnel, did not know outlet	15.4
Knew outlet, had not met family planning personnel	12.5
Had not met family planning personnel but had used family planning	5.7
Maximum potential perceived availability	44.0

Thus, despite the large program effort over many years in Pakistan, the level of perceived availability may be lower than that in Kenya. The CMS approach called for all couples in the area covered by the scheme to be visited four times per year. Yet only one woman in four said she had ever met any family planning personnel. As part of the inundation scheme, Pakistan had planned to provide contraceptives through thousands of outlets spread all over the country. Here again, only one woman in four reported knowing a family planning outlet.

#### Travel Time

Accessibility to family planning, at least as measured by travel time, varied even more than did knowledge of an outlet. About 85 percent of the women in South Korea and about 70 percent of those in Thailand and Costa Rica reported knowing an outlet less than half hour travel time from their homes, compared with only nine percent in Kenya. The Panama survey did not collect data on travel time and Indonesia did so only for family planning users. In Indonesia village headman and family planning field worker are listed among the sources of supply. Five percent of the Indonesian women reported knowledge of both a field worker/ headman and another outlet (e.g., clinic) while nearly eight percent reported field worker/headman only. Knowledge of an outlet only far exceeded the other categories (41 percent).

Theoretically, having a family planning worker visit individual couples would provide the maximum accessibility since couples would not need to go anywhere. This would be true, of course, only if the family planning worker

visited the couple often enough to keep them supplied with contraceptives and if they actually have contraceptives to hand out. In Pakistan field workers failed to visit most of the couples completely and did not visit those that they did visit very often. Only 17 percent of the respondents in Pakistan reported having had a family planning visit within the last year.

In Kenya family planning outlets are not very numerous and some of those that are available are closed much of the time or do not have contraceptive supplies when prospective users visit them. Obviously where people must travel a great distance, often to find the family planning facility closed or out of supplies, family planning is not very accessible.

Travel time is not the only consideration in measuring accessibility, of course. Mode of transportation, cost (including cost of transportation and baby-sitting as well as cost of the contraceptive service or supplies), hours of service, and adequacy of supplies at the outlet are among the factors which may be important in the decision-making of a prospective family planning user. Clearly a reliable outlet with hours tailored to the schedule of the prospective users and located at not too great a distance from the residence of the prospective user is more likely to be used than a facility with minimum hours of service located some distance from the potential user.

#### Change in Availability

For two countries, Mexico and South Korea, it is possible to observe changes in availability of family planning over time, using data from the WFS and CPS. The percents of currently married women who report knowing a family planning source from these two survey programs are:

	South Korea	Mexico
WFS	86.0 (1974)	49.3 (1976)
CPS	98.9 (1978)	75.4 (1978)

In both countries perceived availability increased between the two surveys. Some of the increase might be due to differences in the manner in which the availability questions are handled. CPS had more questions on availability than WFS, including questions on individual methods. Some respondents may well respond negatively to a single general question but positively to at least one of a series of more specific questions.

There are sound reasons to believe that availability did increase significantly. Mexico's family planning program has been particularly vigorous during the last several years. Program outlets have expanded rapidly, and the sharp increase in perceived availability is quite plausible. In both countries contraceptive use increased markedly.

#### Interaction of Background Characteristics and Perceived Availability

As shown above, contraceptive use was markedly higher among women who knew a family planning outlet than among women who did not. This fact may be interpreted to mean that an essential element in a fertility reduction program is to extend family planning information, services, and supplies more fully to the population. But it may also be argued that those couples who want to limit their fertility will seek out family planning services while those who are not so motivated will not. Thus, the reason for the low level of contraceptive

use among those who do not know a family planning outlet -- and in fact the reason they do not know a family planning source -- may be that they do not wish to limit their fertility. A good way to test this assumption would be to match respondents' stated knowledge of family planning outlets with what is actually available in place in the community. For some countries community data were collected by WFS which should permit such comparisons. However, time did not permit the use of these data in this paper.

The level of family planning knowledge reported by the respondents in the surveys is in general agreement with what is known about the structure of the family planning programs in the respective countries. However, since it was not possible to compare actual and perceived availability, there is a need for some objective test for bias in knowledge of outlets. Some of the background variables may provide at least a partial check on bias.

Actual availability is likely to vary geographically, e.g., outlets may be more available in some regions than in others or in urban areas more than in rural (or vice versa). Thus, variables that are not affected by geography but which may affect motivation for small families would be the ones examined.

The structure and policies of the programs may impact differently upon different groups. Some programs have tended to focus more on termination of childbearing when couples have the number of children they want or the number program policy presumes they should have before being provided contraception. Others have encouraged couples to space their children and some have emphasized the desirability of some delay after marriage before having the first child. Some programs have tended to ignore teenagers even where teenage pregnancies are common place.

#### Number of Living Sons and Daughters

Number of living children may vary from one geographic area to another since women in some parts of the country have higher fertility than those in other regions. Program policies might also affect contraceptive use from one parity to another. However, the number of boys and girls in families of a given size should not be affected by the place of residence of the mother and only rarely by program policy.<sup>12</sup> Moreover, son preference is often mentioned as a factor in a couple's fertility decisions.

Perceived availability does not appear to be greatly affected by the sex composition of the children in families of any given size. Except for Colombia and Pakistan, the percentage reporting knowledge of an outlet among women with only one child was essentially identical regardless of the sex of the child. In Colombia nearly 70 percent of the women with a male child reported knowledge of an outlet compared with 61 percent of those with a female child. The reverse pattern is found in Pakistan where 17 percent of the women with a male child reported having met a family planning worker compared with nearly 24 percent of those with a female child. For the two child family there was also relatively little variation. The maximum shift in knowledge of an outlet among two child families with the various combinations of boys and girls was 7.6 percentage points between families with two boys and those with one boy and one girl in the 1978 Mexican survey (see Table 14). For families with three or more children there is a slight tendency for knowledge levels to be lower for all-girl families as compared with all-boy families, but the pattern

TABLE 14.-- PERCENT CURRENTLY MARRIED WOMEN WHO REPORT KNOWLEDGE OF FAMILY PLANNING SOURCE BY NUMBER OF LIVING SONS AND DAUGHTERS

Number of Sons	Number of Daughters					Number of Daughters			
	0	1	2	3 or More		0	1	2	3 or More
<u>Colombia, WFS, 1976</u>					<u>Mexico, CPS, 1978</u>				
No Sons	52.7	61.1	73.0	57.3	69.0	75.1	79.8	72.0	
One Son	69.8	69.9	67.7	73.1	72.2	85.6	76.4	74.4	
Two Sons	74.2	67.1	63.6	60.9	78.0	79.0	76.7	78.3	
3 or More Sons	76.4	67.5	67.9	61.6	76.8	77.4	74.6	70.2	
<u>Costa Rica, CPS, 1978</u>					<u>Mexico, WFS, 1976</u>				
No Sons	87.3	94.9	94.9	95.8	33.3	48.2	56.8	50.7	
One Son	91.6	96.3	92.5	94.4	50.0	60.1	54.5	52.7	
Two Sons	98.1	96.4	97.4	96.8	57.5	60.3	54.5	47.5	
3 or More Sons	88.1	93.5	88.7	90.4	54.5	45.0	45.9	44.7	
<u>Indonesia, WFS, 1976</u>					<u>Pakistan, WFS, 1975</u>				
No Sons	32.1	47.9	57.0	55.7	18.8	23.6	20.8	20.2	
One Son	47.8	60.1	64.1	56.5	17.4	26.7	25.2	27.2	
Two Sons	60.2	63.2	58.1	60.0	24.0	31.7	25.9	34.1	
3 or More Sons	68.3	54.4	60.7	61.4	28.0	30.9	30.9	30.5	
<u>Kenya, WFS, 1978</u>					<u>Panama, WFS, 1976</u>				
No Sons	22.6	36.1	45.5	38.8	68.2	78.4	78.4	75.6	
One Son	39.2	42.6	40.9	43.7	78.2	77.1	76.2	72.9	
Two Sons	38.6	49.1	47.2	43.9	73.8	71.8	75.7	66.7	
3 or More Sons	51.8	49.4	46.2	44.8	81.4	75.7	67.2	61.0	
<u>South Korea, CPS, 1978</u>					<u>Philippines, WFS, 1978</u>				
No Sons	96.6	99.0	99.3	99.6	65.5	79.6	74.3	83.5	
One Son	97.9	99.5	99.9	98.6	75.9	79.6	82.1	78.4	
Two Sons	99.5	99.5	98.4	98.2	80.2	84.0	77.9	76.7	
3 or More Sons	99.2	98.4	99.2	97.0	78.8	75.0	75.8	71.6	
<u>South Korea, WFS, 1974</u>					<u>Thailand, CPS, 1978</u>				
No Sons	67.9	79.6	85.0	79.2	96.4	98.4	98.0	100.0	
One Son	80.5	87.6	91.1	87.0	98.4	99.2	98.8	97.9	
Two Sons	90.5	91.2	88.9	83.1	98.3	98.2	99.1	96.6	
3 or More Sons	93.8	87.4	86.0	82.8	96.3	99.3	97.3	94.4	
<u>Malaysia, WFS, 1974</u>									
No Sons	56.3	82.2	85.6	76.2					
One Son	80.4	82.1	77.3	73.4					
Two Sons	81.4	77.3	77.3	76.2					
3 or More Sons	73.0	80.9	73.1	78.8					

TABLE 15.-- PERCENT CURRENTLY MARRIED WOMEN WHO REPORT KNOWLEDGE OF A FAMILY PLANNING OUTLET BY AGE

Country and Survey	Under 25 Years	25 to 34 Years	35 to 44 Years	45 Years and Over
South Korea, CPS, 1978	98.7	99.6	99.1	95.7
Thailand, CPS, 1978	98.5	99.0	97.6	93.1
Costa Rica, CPS, 1978	92.0	96.9	93.3	81.4
Malaysia, WFS, 1974	81.0	84.4	74.4	52.2
South Korea, WFS, 1974	76.1	90.1	87.0	70.0
Philippines, WFS, 1978	75.0	81.9	76.6	62.1
Panama, WFS, 1976	74.7 <sup>a</sup>	78.5	68.8	52.0
Mexico, CPS, 1978	74.7	81.8	73.2	55.3
Colombia, WFS, 1976	61.5	70.9	66.1	52.0
Indonesia, WFS, 1976	50.5	63.6	52.5	33.3
Mexico, WFS, 1976	44.2	58.0	48.6	31.0
Kenya, WFS, 1978	39.2	48.7	38.9	33.6

a The Panama WFS did not interview women under 20 years of age. Thus, the age group "Under 25 Years" refers to ages 20 to 24 years only.

is mixed. For South Korea, one of the two countries for which we had two surveys, the CPS showed virtually everyone as knowing a family planning outlet regardless of the number of boys and girls in the family while the WFS showed an almost 15 percentage point difference between families with 3 or more boys and those with 3 or more girls. On the basis of these findings it does not appear that son preference impacts significantly on knowledge of family planning outlets.

#### Age

An almost universal pattern is for knowledge of family planning outlets to be somewhat lower for younger women (under 25 years), to peak at ages 25 to 34, and to trail off thereafter with the lowest point reported for women 45 years old and over where the need for family planning is lowest (see Table 15). The exceptions to this pattern are the CPS surveys in South Korea and Thailand where virtually everyone reported knowledge of an outlet. Even here, however, there is a slight downturn in knowledge of family planning outlets for the age group 45 years and over. The differences between the levels of knowledge for the age group under 25 years and the age group 25 to 34 years is generally not large. The largest differences were in the 1974 WFS survey in South Korea (though by 1978 the difference had vanished), the 1976 WFS survey in Mexico (though here too the difference was greatly reduced in the 1978 CPS), Indonesia, and Kenya. The level of knowledge may be lower among teenagers, and in fact that may account for much of the difference between the levels for under 25 years and 25 to 34 years.

TABLE 16.-- PERCENT CURRENTLY MARRIED WOMEN WHO REPORT KNOWLEDGE OF A FAMILY PLANNING OUTLET BY URBAN-RURAL RESIDENCE

Country and Survey	Total			Less Than 30 Min. Travel Time To Outlet		
	Urban	Rural	Urban Minus Rural	Urban		Urban Minus Rural
				Urban	Rural	
South Korea, CPS, 1978	99.1	97.9	1.2	90.2	67.1	23.1
Thailand, CPS, 1978	98.6	97.2	1.4	79.4	65.6	13.8
South Korea, WFS, 1974	86.5	84.0	2.5	58.5	33.7	24.8
Indonesia, WFS, 1976	56.9	52.6	4.3	na	na	na
Costa Rica, CPS, 1978	95.8	90.3	5.5	87.1	52.9	34.2
Malaysia, WFS, 1974	81.5	74.9	6.6	61.3	39.6	21.7
Kenya, WFS, 1978	50.2	41.2	9.0	26.6	6.5	20.1
Philippines, WFS, 1978	88.9	70.8	18.1	83.3	41.1	42.2
Panama, WFS, 1976	81.5	60.9	20.6	na	na	na
Mexico, CPS, 1978	83.4	59.7	23.7	na	na	na
Colombia, WFS, 1976	78.8	42.5	36.3	60.9	10.7	50.2
Mexico, WFS, 1976	66.4	26.4	40.0	41.1	9.8	31.3

na Not Available

#### Urban-Rural Residence

The survey data show that for more than half of the countries covered in this paper, rural women knew outlets for family planning almost as much as urban women. Included among these were such countries as South Korea, Thailand, and Costa Rica where nearly everyone reported knowledge of an outlet and Indonesia where the family planning program has been particularly strong in rural areas. The largest differences were found in the 1976 WFS surveys in Mexico, Colombia, and Panama, and the 1978 WFS in the Philippines (see Table 16).

While rural women may know an outlet for family planning, the outlets they know about tend to be farther away than outlets known to urban women. For example, 90 percent of the urban women interviewed in the 1978 CPS in South Korea reported knowing an outlet less than 30 minutes travel time from their homes but only 67 percent of the rural women were that near an outlet. Very large differences were found in Colombia where 60 percent of the urban but only about 10 percent of the rural women lived within half hour travel time of an outlet. In the Philippines 83 percent of the urban but only 41 percent of the rural women lived within thirty minutes of an outlet. These data suggest that a part of the observed differences in contraceptive use for urban and rural women is due to the unavailability or inaccessibility of family planning in rural areas.

Clearly, attention needs to be given to increasing the availability and accessibility of family planning in rural areas. Rural couples are often poor. They often do not have access to public transportation and thus have difficulty getting to public facilities which are not within walking distance. But population densities are often low while the cost of providing clinic facilities is high. Community based distribution systems are proving successful in providing services to rural populations at reasonable costs, and it seems likely that such services will become increasingly common in the future. Clinic facilities will continue to be needed to provide those family planning methods which require substantial involvement of medical personnel (e.g., sterilization) and to provide back-up for any problems which may arise in the community distribution systems, but much of the family planning can be provided outside the clinics.

## Discussion and Conclusion

The WFS and CPS data for the eleven countries analysed in this paper do not show any place where there is substantial use of traditional methods of family planning among women who did not know a source of supply for family planning. Only two surveys (Costa Rica CPS and South Korea WFS) reported use rates for traditional methods above 10 percent for women who did not know an outlet and in both surveys the number of cases was quite small. In Costa Rica only about seven percent of the women interviewed stated that they did not know an outlet. The South Korean WFS reported 14 percent as not knowing a source. In general surveys carried out over the last several decades have found that knowledge of the traditional methods commonly known by European (e.g., withdrawal and rhythm) is low in Asia and Africa and somewhat higher in Latin America. Thus, if there is a country where large numbers of couples without access to modern methods of family planning are using traditional methods, that country seems likely to be in Latin America.

A large percentage of women who knew an outlet for family planning services were using family planning in nine of the eleven countries covered in this paper. For most of these nine, family planning users who knew an outlet were using modern methods, although in the Philippines where rhythm is promoted through the family planning program, traditional methods accounted for more than half of the contraceptive use. In the other two countries (Kenya and Pakistan) use rates are quite low. As indicated earlier in the paper, the family planning programs in these two countries were characterized by inadequate and/or poor quality service which would tend to discourage use.

The data show an association between family planning use and some of the variables which are mentioned as impacting upon motivation for small families, but the association varies in strength and there are often circumstances which diminish the importance of the differences. For example, most of the countries with the largest differences in contraceptive use between women with four or more years of education and those with no formal education have relatively few women who have not attended school. These women are likely to possess some other background characteristic which may be more important in explaining their lower level of contraceptive use than their lack of education. For example, they are likely to be older than women who have attended school and thus in less need of family planning. Moreover, the numbers are so small as to have little affect on overall national use rates.

In Mexico the level of contraceptive use among women with less than four years of education who know an outlet declined between 1976 and 1978. The Mexican family planning program has expanded rapidly in recent years and much of the expansion has been in rural areas where the level of education is low. One indication of the expansion is the fact that knowledge of family planning outlets in rural areas increased from 26 percent in 1976 to 60 percent in 1978. Some time will be required for the program to be in a position to meet the potential demand for family planning in the areas only recently covered by the program.

Except for South Korea, son preference does not seem to be a significant factor in the level of contraceptive use.

For several developing countries family planning services are available to substantially all the population, although the service facilities are not always conveniently located, particularly in rural areas.

Contraceptive use rates in a few developing countries are at or near levels found in developed countries. As a result, fertility levels have dropped significantly and the down trend in fertility seems likely to continue.

Most of the countries which have not yet initiated policies and programs to control fertility are in Africa. Since Kenya is the only African country for which we currently have either WFS or CPS data, there is an inadequate statistical basis for judging what might happen in this region. Kenya reported the lowest percentage of women wanting no more children (17 percent) of any survey to date. The Kenya survey also reported a level of contraceptive use higher than that reported for Pakistan. The Kenya survey documented the fact that family planning services were limited and that the use rate for those who knew an outlet was 13 percent. The use rate for urban women who knew an outlet was 22 percent while 24 percent of the women who knew an outlet and did not want anymore children were using contraception. These findings are not very different from those found in Asian and Latin American countries in the late 1960's.

Evidence that family planning availability can make a significant difference in contraceptive use and fertility reduction provides encouragement that population pressures in the developing countries can be eased sufficiently to permit an acceleration of progress toward attaining national development goals. An important contribution to success in reducing fertility is the availability of sufficient resources to permit the full extension of family planning information, services, and supplies.

#### A Note on Methodology

The task of preparing this paper was made more difficult by the fact that the data upon which the paper is based were not available in tabular form for any country. Moreover, considerable time and effort were required to obtain the data tapes. Both WFS and CPS have agreements with each country governing the use of data tapes and the agreements vary from country to country. The effort to assemble the data began in March 1979. The last tape was not received until near the end of February 1980, just before the announced deadline for the papers. This was due partly to delays at WFS headquarters in finishing the standard recode tapes, partly due to the time required to communicate with the individual countries to gain permission to use the tapes, and partly due to the desire to use data from the most recent surveys. Of the nine WFS countries selected for coverage in the paper, data tapes for all but one were provided for use in Washington. One country would not agree to release of the tape but did agree that WFS could do the needed tabulations. For the four CPS countries the tapes had not yet been fully documented for easy use at the time they were needed. Thus, Westinghouse Health Systems did the tabulations. Since Westinghouse is located near Washington, this arrangement worked fairly well.

There are a number of approaches to investigating the manner whereby knowledge of a source for family planning information, services, and supplies interact with various socio-economic and demographic variables to influence contraceptive use. This paper opted for a fairly simple approach, namely cross tabulations of contraceptive use by type of method, knowledge of family planning outlet, travel time to the outlet, and single background variables, e.g., education, number of dead children, fertility preferences, etc. During the

experimental phase leading up to the preparation of the paper, cross tabulations were prepared involving several background variables as well as information about respondents' perceptions of the accessibility of family planning such as means of transportation to family planning outlets, costs associated with going to the outlet, and waiting time. Such variables as attitudes of relatives, whether the couple lived with parents, and attitudes regarding desired numbers of children at time of marriage were also examined. Further work in these areas should be fruitful and it is hoped that others will join in a fuller exploitation of the data.

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The number of people who contributed to this paper is quite large. Those responsible for collecting the data in the thirteen surveys covered are obviously due very special mention. The staff of the WFS Headquarters were most helpful in providing data tapes and tabulations, explaining anomalies in the data, and providing background on the various surveys. A special note of appreciation is due Luis Pineta of the WFS computer staff for many long hours worked to produce tabulations.

The tabulations of WFS data in Washington were prepared by the Population Reference Bureau and Georgetown University. Mary Kent of the PRB staff was particularly helpful. Westinghouse Health Systems did the tabulations for the CPS.

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## FOOTNOTES

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11. Mexico's family planning program has been expanding rapidly into new territory. Perceived availability increased from 49 percent in 1976 to 75 percent in 1978. Program effort in the newly opened areas had not had time to catch up with the demand by the time the CPS was carried out.
12. Some programs have followed policies which restrict contraceptive availability to couples with some prescribed number of sons but this is probably a practice more of the past than the present.