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ABSTRACT

This monograph focuses on men's potentially positive role in family planning. In addition, it identifies reasons why so few organized family planning programs have targeted men as clients and why men have so often played a peripheral or negative role in family planning. The document is presented in seven chapters. Chapter I introduces the topic and relates the involvement of men in family planning to social and economic development, men's self-interest, public health, and men's role in the family and in society. Chapter II relates reproductive biology to the macho myth and explains how large families often mean higher social status in developing countries. Chapter III compares traditional methods of male and female contraception. Chapter IV discusses recent research on the male birth control pill. Chapter V presents an overview of family planning programs for men in developing and developed nations. Chapter VI explores considerations upon which couples and societies base their choices regarding family planning. Major considerations include effectiveness, side effects, availability, cost, and safety. The final chapter suggests how men can play a more responsible role in family planning. Changes necessary to bring about increased male responsibility include more support for male contraceptive research and male birth control programs, more liberal approaches by businesses and marketing companies toward contraception, and expanded school and community sex education programs. (DB)

Men and Family Planning

Bruce Stokes

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Introduction

Men are the forgotten sexual partner. Nearly a half billion men have little or no access to birth control services and few contraceptive options. Despite the fact that conceiving a child always involves two people, society often ignores the interest men have in planning their families. Male contraceptives are treated as second-class birth control methods: stores persist in hiding them under counters and in many countries their advertisement is banned. Until recently, there has been little research into new male methods of birth control. With sex education usually oriented toward women, men often have a poor understanding of anatomy and contraception. And few organized family planning programs have targeted men as clients.[1]

Men's potentially positive role in family planning has so often been neglected because of the negative attitudes many men hold toward birth control. In the industrial world, men frequently use the availability of effective female contraceptives as an excuse for not using any birth control themselves. In the Third World, some men still insist on having the sole right to decide whether and when to have a child; many deny their wives access to contraception because they fear it will encourage promiscuity. And everywhere there are men who oppose birth control and women's changing roles in society because it takes from them their power to father an unlimited number of children and seems to leave them with a diminished position in the family.

Society can ill afford to have men play this peripheral or negative role in family planning. The world faces the daunting prospect of supporting 10 to 12 billion people by the middle of the next century unless birth rates fall rapidly. More than half the world's couples do not use contraception, and they are concentrated in the poorest parts of the Third World. Many of these societies are patriarchal, and men still dominate family decisions. The ultimate success of birth control programs in these countries may rest on the availability and use of effective male contraceptives and the involvement of men in family planning programs.

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Even in those nations where contraceptive use is widespread, problems with unplanned pregnancy persist, especially among the young and the poor. Nearly 13 million teenagers become parents each year; many are unmarried and unprepared for parenthood. Surveys in developing countries indicate that many couples have larger families than they want, even if they are using contraception.[2] Reducing the number of these unplanned pregnancies will depend in part on men supporting the use of both male and female contraceptives.

A new role in family planning is also in men's own self-interest, because men, like women, have a stake in the future of their families. With the escalating cost of raising children—now conservatively estimated to be more than $134,000 over 18 years in the United States—people in many societies cannot afford to support large families.[3] And to take full advantage of job and educational opportunities, men the world over need to be able to space and limit the births of their children.

The health of both men and women will improve if men play a greater role in birth control. There is clear evidence now of various health risks posed by women's prolonged use of oral contraceptives or an intrauterine device (IUD).[4] Condoms, however, relieve women of these problems without creating a health problem for men. Increased reliance on condoms could also help curb the spread of sexually transmitted diseases; the major female contraceptive methods, on the other hand, do nothing to prevent the spread of gonorrhea. In addition, there is growing concern about possible declines in male fertility and the rising incidence of testicular cancer. The upgrading of male reproductive research and the opening of male birth control clinics could shed new light on men's reproductive health problems and provide men with much-needed health services.

Until two decades ago, most couples used male contraceptive methods, if they used any at all. With the introduction of the pill and the IUD, female birth control methods soon became dominant. Now the pendulum seems poised to swing back, and men and women may soon share more of the responsibility for contraceptive use. In the United States, condom sales are already on the increase. Several Asian countries have expanded their vasectomy programs and recent progress in making the operation reversible bodes well for vasectomy's future acceptance. A male contraceptive pill may be on the market by the end of the century. And male family planning programs have struck a responsive chord in the United States as well as in parts of the Third World.

These changes hold the promise of men participating more actively in family planning. By using effective male contraceptives, by supporting women in their choice of birth control, and by taking on additional family and childrearing responsibilities, men can assume a larger share of the burdens of contraception and the joys of having children. This will create not only a new role for men in family planning, but also a new role for men in the family and in society.

Biology and the Macho Myth

The roles men and women can play in family planning are, at the most basic level, the product of human biology. Women have more of a stake in birth control because it is they, not men, who get pregnant. Women bear the physical and emotional strain of carrying a pregnancy for nine months; if they live in the Third World, they also face a substantial risk of dying in childbirth. Men, in contrast, share none of the burdens or health problems of pregnancy and childbirth.

In addition, the different nature of male and female fertility influences the type of birth control men and women can use. Women's fertility is cyclical: one egg is produced each month and women can normally conceive on only a few days around that time. Men begin producing millions of sperm each day at about the age of 15 and are fertile from then on. So while it is prudent to use birth control whenever one is sexually active, strictly speaking women need only protect themselves during certain days of the month. Men, on the other hand, need to take definite precautions at all times. These biological differences also have important implications for the development of a male pill. Chemically stopping the periodic production of one egg may prove to be easier than halting the ongoing creation of sperm.

The method of birth control men and women use also reflects their current contraceptive options. Among conventional methods—those that physically block the passage of sperm or chemically inactivate

the sperm in the vagina—men's only choice is the condom, while women can choose between the diaphragm, the cervical cap, spermicidal suppositories, tablets, and foam. Sterilization is available for both sexes. The main difference between male and female birth control is the absence of a semipermanent, fully reversible male method. Women can prevent pregnancy for a defined period of time by taking the pill or using an IUD and then regain their fertility when they want. Without a male pill, men do not have that option.

Yet reproductive biology and available contraceptive options are insufficient explanations of the limited and often negative role many men play in family planning today. These practical constraints merely define the outer limits of men's involvement in birth control. Within these limits, men's use of contraception and their cooperation with their partners in planning or preventing pregnancies is often determined by what society expects of them. Few cultures assume that men will take the primary responsibility for birth control or that they will support women in their choice of a contraceptive. And in few societies are men expected to share equally the tasks of child-rearing.

This narrow perspective of the role men can play in family planning—and in the family in general—is largely the product of a simplistic male stereotype. In this traditional view, the typical man wants a large family to prove his masculinity. He is not in favor of family planning and he is unwilling to use birth control when it is available. This stereotypical "macho" man has neither concern for the well-being of his partner nor interest in his own reproductive health and does not foresee any problems posed by rapid population growth. In all cultures, this profile fits some men. But it does not fit all men.

Recent studies in the United States indicate that men have much more interest in family planning and willingness to practice it than they are given credit for. In Merced County, California, interviews with 1,200 teen and adult men in 1978 found that four out of five favored birth control. Half the adolescents and three-quarters of the adults thought that responsibility for birth control should be shared by both men and women. Many favored small families and most wanted sex education in the schools. Other American studies of smaller groups of people and a national survey of British men found similar atti-

"Recent studies indicate that men have much more interest in family planning and willingness to practice it than they are given credit for."

Yet the picture of a concerned and committed partner in family planning painted by these surveys contrasts with the way many men act. In most cases, they rely on their partners to use birth control. Few have attempted to develop an equal relationship with women or to play a more active role in family planning. As many women have wryly pointed out, men's hearts may be in the right place, but when dealing with sexual matters, men are often far less mature than women.

A 1978 study of Mexican men by the Population Council reached somewhat similar conclusions. On balance, men held attitudes favoring large families while women held attitudes favoring small ones. Most men viewed their wives as objects—as mothers of their children, as housewives, and as a means of sexual satisfaction—rather than as companions or social equals. They regarded their own sexual pleasure as more important than the satisfaction of their wives.[6]

This one-dimensional image misses much of the texture of the Mexican male ego, however. Most of the men surveyed by the Population Council rejected machismo behavior in other men, especially the attitude that having a large family makes someone feel more manly. The vast majority of those interviewed also believed that "in general, one should limit the number of children," citing the economic benefits of smaller families as well as a concern for the future welfare of their existing children. Similarly, a World Health Organization study of men in Fiji, India, Iran, Korea, and Mexico found that men in a variety of social and cultural settings had a degree of interest in family size and spacing that belies their poor reputation.[7]

The attitudes toward family planning held by men in many parts of the Third World are often attributed to cultural or religious traditions different from those in the West. It is true that many of these societies are pronatalist. Women do not have equal status with men, and males are often not held accountable for their acts. Yet no major culture or religious tradition—be it Catholicism in Latin America, Islam in the Middle East, or tribal cultures in Africa—encourages men to be irresponsible, to have more children than they, their wives, and their community can support.

So there is no simple explanation of men's seemingly contradictory views on family planning. Their attitudes when surveyed suggest

they understand the burden that large families pose for their spouses and their neighbors. But their actions suggest that their feelings often rule their reason. Having a small family strips men of the social status that supposedly comes with fathering many children. Some men fear that women who use the pill or an IUD will be too independent: will they still be certain that they are the fathers of their wives' children? Moreover, public sentiment suggesting women have a right to control their own fertility and to be something more than wives and mothers can be threatening. Many men may feel they are losing their role as the head of the family. So they dig in their heels and they refuse to cooperate in family planning matters, even though they may acknowledge that taking responsibility for birth control would be in their own and their family's best interests.

And poverty, not male chauvinism, often shapes men's attitudes. It is no coincidence that in the United States, where the standard of living is high, vasectomies are popular and condom use is increasing. Economic status within society is also a determinant of men's attitudes and behavior. Among black Americans, men with higher incomes and a better education are more supportive of family planning than are those who are less fortunate. Middle- and upper-income Mexican men are more concerned about the impact of repeated childbearing on their wives' health than are men with low incomes. And studies in Ghana suggest that increased job opportunities and educational achievement motivate men to want smaller families.[8]

The "macho man," then, is half myth and half reality. Men's supposedly strong negative feelings about contraception and their desires for large families often contain a mass of contradictions or are the product of forces beyond their control. Yet the very passion of these feelings suggests men are concerned about the family planning decisions that affect their lives and their posterity.

In attempting to broaden men's role in family planning, there is nothing society can do about human biology. And, unfortunately, the mere availability of a male pill one day will not necessarily alter men's attitudes. Society can, however, refuse to be satisfied with stereotypical male behavior and can encourage men to assume greater responsibility for birth control and a more positive role in family planning.

Male Contraception: Traditional Methods

Of the more than 250 million people in the world currently using some method of birth control, about one out of three rely on male contraception. This portion has steadily decreased in recent years as the pill, the IUD, and female sterilization have become widely available. Yet male birth control is anything but obsolete. Some 37 million men use condoms, about 35 million have had vasectomies, and millions more rely on withdrawal. By comparison, each of the major female methods has 50 to 65 million users worldwide. (See Table 1.) This pattern of male and female contraceptive use suggests that couples are attracted to the most effective family planning methods, most of which are for women.[9]

Table 1: Estimated Number of People Using Major Birth Control Methods, 1980

Method	Number
	(millions)
Female Methods	
Sterilization	65
Oral Contraceptives	58
Intrauterine Device	52
Male Methods	
Condom	37
Vasectomy	35

Source: Agency for International Development.

The extent of men's use of birth control at any one time is somewhat overstated by these world totals. Couples often rely on male and female methods simultaneously, such as the condom and foam. Others alternate contraceptives, sometimes using a diaphragm and other times a condom. As a result, an accurate count of couples who rely only on male methods may never be available.

Figures such as these mask a curious geographic split in male and female contraceptive use around the world. The small number of

n the Third World who use birth control overwhelmingly
nale methods, despite the fact that male methods have been
ger and often are simpler and cheaper. Most of the people
on male contraception live in industrial countries. One out
nericans, one out of two Italians, and four out of five Japa-
male method of birth control regularly. (See Table 2.)[10]

Male Contraceptive Practice in Selected Countries Among Couples of Reproductive Age

	Withdrawal	Condom	Vasectomy	Total
		(percent)		
978)	17.6	5.0	.1	22.7
ain (1976)	6.0	16.0	6.0	28.0
6/77)	29.0	16.0	—	45.0
77)	5.1	78.9	1.3	85.3
972)	30.0	10.0	—	40.0
ates				
oles (1976)	2.0	7.2	10.5	19.7
ents aged 15-19	18.8	23.3	—	42.2
)				

npiled by the author from various national surveys.

contraceptives preferred by couples also seems to vary from
n country. In Yugoslavia and Czechoslovakia, for example,
l is still the most frequently used means of preventing a
France and Italy, it is second only to the pill in popularity
arried couples. Yet withdrawal is seldom the method chosen
ird World. Probably no more than 2 to 3 percent of Asian
urrently practicing family planning rely on it and only 4 to
of Latin American couples.[11]

enjoy their greatest popularity in Japan, where 79 percent
d couples rely on them or have done so in the past, often
ction with the rhythm method. Condoms are also quite
n the United Kingdom and Sweden, but are little used in
loping countries. Vasectomies, on the other hand, are wide-
both the United States and India. More than 10 percent of

"One out of five Americans
and four out of five Japanese
use a male method of
birth control regularly."

all married American men of reproductive age have been sterilized. And since 1966 more than 20 million Indian men have had vasectomies. Elsewhere, the operation is relatively rare.[12]

A closer look at each of the major male methods sheds some light on cultural and geographic differences in birth control use. Withdrawal, technically known as coitus interruptus, is one of the oldest means of family planning, male or female. The Book of Genesis refers to Onan, who spilled his semen on the ground. Mohammed, the founder of Islam, spoke favorably of withdrawal, although he prohibited its use unless the woman gave her consent.[13]

Throughout its long history, coitus interruptus has been a much maligned means of preventing births. It has the highest failure rate of any major method of contraception. In addition, the interruption of sexual activity necessitated by withdrawal can markedly diminish the physical pleasure of both partners. It also requires the man to be responsible at the moment his resolve may be the weakest, and asks the woman to place her full trust in that resolve.

Yet withdrawal costs nothing, it involves no creams, pills, or devices that can be inadvertently forgotten when going away for a weekend, and it does not require a medical prescription. Moreover, withdrawal's demographic record as a family planning method is noteworthy. The falling birth rates in nineteenth century Europe, and more recently in Eastern Europe, were in large part the result of coitus interruptus backed up by abortion. When practiced in conjunction with other more effective methods or when combined with periodic abstinence during a woman's most fertile periods, withdrawal can indeed be a successful means of birth control. In societies where men feel they must initiate and control contraception and in poor societies or among disadvantaged groups where there is little access to other means of contraception, coitus interruptus can be a useful initial family planning method.

But because reliance on withdrawal has led to unplanned pregnancies and provides no protection against venereal disease, there is a long history of efforts to develop a male sheath. Crude sheaths of thin bark or mats of woven leaves were common in many cultures and may date back to ancient Egypt. The first description of a sheath similar to the modern condom is found in the sixteenth-century writ-

"The condom has experienced something of a revival and Americans bought about a half billion of them in 1980."

ings of Gabriel Fallopius, an Italian anatomist after whom the fallopian tubes are named. He claimed a sheath of fine linen worn on the penis during intercourse would prevent the transmission of venereal disease. Only later, sometime during the seventeenth century, did men begin to use lamb's cecum, a portion of the intestine still used in natural lambskin condoms, as a means of preventing pregnancies. Within 100 years, these condoms were reportedly available in all the finer houses of prostitution in Europe. With the vulcanization of rubber in the mid-nineteenth century, it became possible to have an effective male contraceptive for the masses. Even then, condom use was not widespread until World War I, when millions of veterans who had been given prophylactics in the army as protection against venereal disease continued to use them once they got home.[14]

Like withdrawal, the condom has seldom been treated seriously as a contraceptive. The historical association with venereal disease has long linked the condom with "illicit sex." A gentleman would use one with a prostitute but certainly not with his wife. For many people, this stereotype persists today. In an era when the pill and the diaphragm are the topics of dinner conversation, the condom remains a furtive family planning method and the butt of endless jokes.

Yet the data on condom usage belie this image. Until the mid-sixties the condom was the principal method of birth control in the United States. With the advent of the pill and the IUD, condom sales fell from about 400 million in 1961 to about 300 million in 1975. By the mid-seventies, only 7 percent of all married couples and a somewhat larger portion of unmarried couples were using condoms. Since then, however, the condom has experienced something of a revival and Americans bought about a half billion of them in 1980.[15]

A consideration of who uses condoms dispels another myth—that condom use is confined to teenagers, poor people, and minorities. National surveys conducted periodically by the U.S. National Center for Health Statistics indicate that whites are much more likely than blacks to use condoms, and that affluent couples use them more often than poor couples. In addition, the condom is far more popular among people over 35 years of age than among those under 24.[16]

There are several possible explanations for these findings. First, many older couples may never have switched to the pill or an IUD. A disproportionate number of poor and black women attend government-supported family planning clinics that currently stress female contraceptive methods. Moreover, these women can least afford an unplanned pregnancy, so they may opt for the most convenient and effective birth control methods, which again are normally those for females. And males among disadvantaged groups, especially teenagers, are probably less motivated than older, affluent, well-educated men to take the initiative in family planning matters.

The predominance of the condom in Japan is intriguing. The portion of people using this method has risen almost continuously over the last quarter-century. Surprisingly, the condom is liked best by young Japanese, who might be expected to show greater interest in more sophisticated female contraceptive methods. Biannual surveys taken for the past two decades by the Mainichi Newspapers suggest Japanese husbands assume greater responsibility for contraceptive decision making than men in other industrial countries. Women who have been surveyed report overwhelmingly that their husbands are cooperative when it comes to using contraception.[17] Certainly, the condom could not be so widely used in the absence of a male commitment to family planning.

Yet the popularity of the condom in Japan may be less a reflection of an enlightened Japanese male consciousness than it is a response to various practical and cultural considerations.[18] Men's concern for family planning has certainly not carried over into a demand for vasectomies, which are still relatively rare, or into interest in a male pill. And condoms are readily available in Japan, while the pill is still technically illegal and the IUD is difficult to obtain. Contraception is an intensely private matter to the Japanese and condoms can be bought in relative anonymity from door-to-door saleswomen. Moreover, Japanese women apparently feel some cultural inhibitions about contraceptive methods that require surgery, the use of chemicals, or the insertion in their bodies of foreign objects. Finally, in the context of male-dominated Japanese sexual politics, use of the condom may well be a sign of female passivity rather than male responsibility, an extension of the general acceptance of men controlling women's fate. Nonetheless, the extent of condom use in Japan and the rapid fall in the Japanese birth rate since World War II are ample proof that culturally appropriate male contraceptive methods can be extremely popular and provide effective family planning.

The nature of the condom, however, may in the long run be its biggest drawback. At least since Casanova's day, men have complained that condoms reduce sexual sensation. Many couples object to interrupting sexual activity to put on a condom. In a study in Tokyo, one-third of the wives questioned and nearly two-thirds of the husbands expressed dissatisfaction with this method. Thinner condoms and ones made of different materials could remedy some of these problems. Couples can also make putting on a condom part of their normal sexual foreplay. And, as researchers who have studied human sexuality often point out, the pleasure connected with sexual activity stems more from the attitude of the two people involved than it does from penile sensation, so condom use does not have to inhibit sexual fulfillment.[19]

To improve condoms, a tough elastic membrane that could transmit heat and tactile stimulation is needed. Judith Bruce and S. Bruce Schearer of the Population Council argue that "with adequate investments in basic materials research and development, radically new types of condoms that would transmit sensation to a far greater degree could probably be developed."[20] It is also possible that by the end of the century a more effective spermicide-coated condom or a contraceptive film that would cover the tip of the penis could be available. These innovations will undoubtedly make the condom a more attractive contraceptive option.

The number of condom users is certain to increase in the years ahead. Commercial condom distribution is expanding, especially in the Third World. Concern about the health effects of women's use of the pill or the IUD will lead many couples to rely on the condom, often in conjunction with other female methods. The rising incidence of venereal disease is already encouraging many individuals who have several sexual partners to protect themselves by using condoms. And teenagers throughout the world are being encouraged to use the condom because it is a convenient birth control method for people who have unplanned sexual encounters.

In the last decade, the most dramatic change in male contraceptive use has been the threefold increase in the number of vasectomies. This simple operation involves an incision in the scrotum to cut or block the vas deferens, the two tubes that carry semen from the testes to the penis. In the United States, as recently as the early sixties only a few thousand vasectomies were performed annually. Then a rash of adverse publicity appeared about the health effects of oral contraceptives about the same time that a number of popular magazines published articles allaying some of men's fears about sterilization. All this coincided with efforts on the part of many women to encourage greater male responsibility in fertility control. The result was a quantum leap in the number of vasectomies. (See Table 3.) In 1971, the first year for which estimates exist, over 700,000 American men had vasectomies. By the end of the decade nearly six million men had been sterilized, and more couples relied on male than on female sterilization as their method of birth control.[21]

Table 3: Estimated Number of Male and Female Sterilizations in the United States Through 1979

Year	Male	Female
	(thousands)	
pre-1971 total	1,425	1,325
1971	701	178
1972	554	358
1973	432	445
1974	515	580
1975	504	596
1976	507	538
1977	437	657
1978	461	690
1979	435	486
Total	5,971	5,853

Source: Association for Voluntary Sterilization.

At the beginning of the seventies, the number of vasectomies far exceeded the number of female sterilizations because of a backlog of demand. Then simpler surgical techniques for female sterilizations were developed that made them slightly more convenient than the operation for men. Now vasectomies account for less than half of all sterilizations in the United States. Still, each year more than 400,000 American men take complete responsibility for birth control by having a vasectomy.

In the United States, vasectomies are primarily a white, middle- and upper-class phenomenon. In 1976, for example, contraceptive sterilization was actually more popular among affluent males than among affluent females, but the ratio of female sterilizations to vasectomies was 15 to 1 among poor blacks and more than 3 to 1 among poor whites.[22] One explanation for these discrepancies is that poor and minority men lack access to vasectomy information and services.

Outside the United States, India was one of the first countries to use vasectomies in its national family planning program, and with dramatic success. Some observers ascribe the popularity of vasectomy to Hindu culture. For many Indians, there is great virtue in celibacy, in part because it is believed that men enhance their strength and power by withholding their sperm. Sterilization, many men presumably think, confers the same benefits without having to forgo sexual relations.

The vast majority of Indian sterilizations have been voluntary. But in 1976 the government made sterilization the cornerstone of a crash campaign to slow the Indian birth rate. Within 12 months, six million vasectomies were performed along with about two million female sterilizations. Police and administrators at times coerced people into having a sterilization merely to meet local quotas. Opposition to these heinous practices finally helped overturn the government. Nevertheless, by 1979-80 interest in this male birth control method had revived and about 460,000 Indian men voluntarily had vasectomies.[23]

The experience with compulsory sterilization in India has once again raised the issue of vasectomy's unhappy history. The first male sterilizations were performed at the turn of the century in misguided efforts to discourage masturbation or to prevent procreation by the mentally ill, the retarded, or those with hereditary diseases. Later, experiments by the Nazis to limit the reproduction of "undesirable groups" further discredited contraceptive sterilization. The accusation that ostensibly voluntary sterilization activities are veiled efforts to rob men of their reproductive freedom haunts many vasectomy programs. The deeply felt fear among some black Americans that government-funded sterilization programs are really attempts at black genocide has apparently kept some men from turning to this method of contraception and may inhibit the government from actively promoting vasectomies in minority communities.

"Studies suggest that as members of the American postwar baby boom complete their families, as many as 30 percent of the men will choose to be sterilized."

In addition, many men have sincere personal anxieties about sterilization. They mistakenly worry that after the operation they will lose interest in sex and no longer be able to have an erection or ejaculate. The future popularity of vasectomy could hinge on overcoming sterilization's shady past and on helping men deal with their fears.

A more difficult problem may be the growing uncertainty about the operation's long-term physical side effects. Vasectomies do not affect metabolism, testicular function, or hormone levels. When sperm can no longer move through the vas deferens, however, they often pass into the blood stream. Since sperm are foreign to the blood, they stimulate an immune reaction in many men. The health consequences of the presence of sperm antibodies in the blood over a long period of time are unknown. Studies of sterilized monkeys suggest a link between vasectomies and hardening of the arteries, but studies of men with vasectomies have yet to turn up any similar evidence of cardiovascular changes. There are enough men now who have had vasectomies to provide an adequate base for epidemiological study; only further research will determine whether they have a higher incidence of health problems in old age.[24]

Probably the main objection most people have to vasectomy is that the operation is permanent. Although some studies suggest that most vasectomies can be reversed through microsurgery, the technique has been tried on a relatively small number of men. Moreover, the procedure is complicated and expensive, so it is unlikely that adequate reversal facilities will soon be widely available, especially in the Third World. Researchers are now trying to design a plug or a valve to implant in the vas deferens that would make reversal easier. Studies are also under way with a chemical sterilization by injection. But it will be years before any of these methods are available, if ever. For the time being, men contemplating sterilization must consider the decision a permanent one.[25]

The number of men who have had vasectomies is likely to increase substantially by the end of the eighties. China and several other countries in Asia and Latin America are expanding their male sterilization programs. Studies by Charles Westoff and James McCarthy of Princeton University suggest that as members of the American postwar baby boom complete their families, as many as 30 percent of the men will choose to be sterilized.[26] In addition, once poor and minority Amer-

icans have the same access to sterilization services as affluent white males do, many more may choose to have a vasectomy. If an inexpensive and easy means of reversing vasectomies can be developed, the number of men willing to have the operation could soar.

The Male Pill

Traditional male contraceptive methods give men only two real birth control options. They can choose withdrawal and the condom, which are at times cumbersome and are less effective than the most modern female methods, or they can choose to be sterilized, forgoing the opportunity to have children in the future. Men have long needed an intermediate option, a family planning method that is safe, effective, convenient, and reversible—a male contraceptive pill that, taken daily, weekly, or monthly, could suppress sperm production.

Research on the male pill has largely focused on altering the level of hormones that affect the production of sperm. In both men and women, the hypothalamus, a vital regulatory center at the back of the brain, secretes a hormone called the luteinizing hormone-releasing factor (LRF). When this substance reaches the pituitary gland it triggers the production of a follicle-stimulating hormone (FSH) and a luteinizing hormone (LH). In men, the blood stream carries these two key hormones to the testes, where LH stimulates the production of testosterone, the major male sex hormone, which in conjunction with FSH causes the production of sperm. Without adequate amounts of LH and FSH, sperm production, and thus fertility, will drop.[27]

Initial male pill studies concentrated on inhibiting the creation of FSH and LH in the pituitary gland. The pituitary has a finely tuned sensitivity to the level of sex hormones in the body. The gland shuts off production automatically, like a room temperature control, when there are enough hormones in the blood and starts to produce them again when the supply runs low. This is essentially the principle that the female oral contraceptive is based on. Some of the first experiments with men thus involved giving them the female hormone estrogen, because men produce some of their own estrogen and doctors were relatively confident it was safe. Although moderate doses of estrogen did stop sperm production effectively, they also caused men to lose some of their sexual desire and to develop enlarged breasts and higher voices.[28]

Another avenue researchers followed involved giving men large doses of testosterone, which they found suppressed LH and FSH production while compensating the body for the testosterone not being produced by the testes. Unfortunately, taking massive quantities of testosterone can lead to weight gain and acne and may cause harmful metabolic disorders. Moreover, the most effective testosterone contraceptive must be administered regularly by injection, a highly impractical means of birth control, especially in the Third World.[29]

The most extensive hormonal research has involved giving men doses of testosterone in conjunction with another hormone, progestin. Progestin suppresses natural testosterone and sperm production, while the administered testosterone helps maintain male physical characteristics. The method has proved unreliable, however, because it does not reduce sperm counts to zero. Recovery of fertility after the treatment is discontinued can take as long as 12 to 18 months. Substantially higher doses of progestin might be more effective in suppressing fertility but researchers fear it could lead to lowered sexual desire and some health problems, and that it could become even more difficult to restore sperm counts.[30]

Because of the difficulties both men and women experience with hormonal contraceptives, recent research has focused on altering the level of LRF produced by the hypothalamus, which would reduce sperm production without some of the side effects of taking hormones. Scientists were originally stymied in their investigations until 1971, when Andrew Schally and Roger Guillemin discovered the structure of the LRF molecule, for which they received the 1977 Nobel Prize for medicine. Their work meant that analogues of LRF could be produced that are more powerful than the natural substance, and that they can be taken in pill form. Paradoxically, taking heavy doses of LRF does not increase male fertility, as might be expected. Rather, the pituitary gland is overstimulated and rapidly loses its ability to produce normal amounts of LH and FSH. Early experiments indicate that, fortuitously, the secretion of these two key hormones declines at different rates, so that a man becomes infertile while maintaining sexual desire and secondary male sexual characteristics. So far, there

do not seem to be any major health problems connected with taking LRF. While LRF appears to be a promising avenue of research, studies have been conducted with only a handful of men to date and work is far from complete.[31]

The ideal male contraceptive would decrease sperm count while leaving testosterone at normal levels. A substance called inhibin, which is produced naturally in the body, may ultimately make this possible. Inhibin seems to have a negative feedback control on the brain: once enough FSH has been produced it blocks further production without affecting LH. Unfortunately, inhibin's structure is not yet fully understood and thus it cannot be synthesized. In addition, while doses of inhibin seem to affect FSH production in animals and young men, researchers are not yet sure that it will stop sperm production in mature men.[32]

The Chinese are currently testing a new male pill made of gossypol—a derivative of cottonseed oil—that may turn out to be the wild card in male contraceptive research. There is no simple medical explanation of gossypol's contraceptive action, although it probably interferes with sperm maturation. It is not a hormone, however, and thus has none of the hormonal side effects that have presented problems with some other contraceptive pills.

The effects of gossypol were first noticed in the late fifties, when doctors were struck by the number of childless marriages in Jiangsu Province in eastern China. Yet local women who married outside the region had families of normal size, while outsiders who married local men were often childless. Researchers discovered that the diets of the childless couples included great quantities of cottonseed cooking oil. An oral contraceptive using gossypol was then developed, and tests have been conducted with more than 4,000 men, in some cases for as long as eight years, making it the world's most extensive male pill experiment to date. The *Chinese Medical Journal* reports that "side effects are mild and of low incidence." Yet visitors to China who have talked with some of the men in the program say that many report feeling unusually weak, which may be the result of a lowering of their bodies' potassium level. Some men have been unable to regain their fertility once they stopped taking the pill. Western scientists have long considered gossypol to be a toxic substance, based on experience with cottonseed meal as a dietary supplement for both humans and animals. Gossypol tends to accumulate in the body, which means even small doses could eventually cause health problems.[33]

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In spring 1980, Chinese health officials approved more refined testing of gossypol. Experiments with animals are also under way in the West, but it may take as long as a decade to determine whether it is safe and effective. Meanwhile, the Chinese have told World Health Organization officials that they are trying to develop a combination gossypol pill that could be taken by either a man or a woman for alternate periods of time, thus sharing any health risks.[34]

The scientific caution surrounding the use of gossypol extends to the testing of all male pills. Once scientists understand how to inhibit sperm production or maturation, the battle will be only half won. The U.S. Food and Drug Administration and its counterparts in other countries will require exhaustive tests before a pill can reach the market. "We want to go very slowly," said male contraceptive researcher Samuel Yen of the University of California at San Diego. The female oral contraceptive "was applied very rapidly, and later we found a series of very serious complications."[35]

This caution is certainly justified. Men should not be encouraged to ingest randomly chemicals that could be a serious threat to their health. Extensive testing of pills with large numbers of men over several years are needed to assess fully any potential side effects. It may turn out that no male oral contraceptive is worth the health risk.

Yet a distinction must be drawn between the serious health problems that might be connected to the male pill and the physical side effects of its use, such as weight gain and acne, that are really marketing concerns. Many women experience minor discomfort in connection with oral contraceptives but still choose to take the pill because of its effectiveness and convenience. By the same token, many men who are interested in an effective, reversible family planning method would be willing to tolerate some side effects.

Why, two decades after the development of the female pill, is there still no male pill? Contraceptive researchers respond that there is little understanding of the male reproductive system. Moreover, they claim that halting male sperm production, which is continuous and involves up to one billion sperm a day, is biologically more difficult than halt-

ing a woman's monthly ovulation of one egg. Yet Colombian physician Luz Helena Sanches, a woman, maintains "there is no proof that our biological systems or our hormones are either more or less complicated than those of males."[36] There is honest disagreement on this point. Researchers' arguments would be more credible, however, if male and female contraceptive research had been pursued with equal diligence.

Unfortunately, this has not been the case. R. J. Ericsson, an early pioneer in male reproductive studies, points out: "Male contraceptive research has a dismal past. It is almost an illegitimate specialty within reproductive biology. For the most part, the brightest workers avoid it and those who do work in the area are looked on as rather strange fellows."[37] When Ericsson wrote these words in 1972, governments and pharmaceutical companies were concentrating on low-risk, quick-return research on well-known female methods that offered the promise of cheap, marketable contraceptives in a short period of time.

This bias was not so much the result of conscious sexism as it was the product of the historical predisposition of researchers, who were usually men, to focus contraceptive studies on women's reproductive systems. It dates back to family planning pioneer Margaret Sanger, who encouraged doctors to develop female contraceptives to help women gain control over their fertility. Scientists and officials in foundations and government agencies who doled out research funds were only too happy to follow this lead. Their narrow perspective was shortsighted at best and chauvinistic at worst.

Recently the contraceptive research field has begun to change. In the last few years, great strides have been made in basic male biological research. The U.S. National Institutes of Health and the World Health Organization have both embarked on male contraceptive development programs. Yet the prospects for a male pill remain uncertain. In the past, unrealistic optimism has often been based on the results of research with animals or a few dozen men. Now, until extensive clinical tests have been completed, most scientists are wisely unwilling to predict if and when a male pill will be on the market. The growing interest in a reversible, nonpermanent male contraceptive for men, the encouraging preliminary research work, and the range of options now being investigated all suggest that testing can proceed without further delay. If all goes well, according to Bruce Schearer of the Population Council, it is technically feasible that a male pill could be available by 1990. It is even more likely that one will be in use by the end of the century.[38]

Whether it's 10 or 20 years before a male pill is on the market, its potential popularity is difficult to assess. Surveys of American men indicate that nearly half would consider using an oral contraceptive.[39] Yet men are notorious for not following through on their expressed interest in family planning. Perhaps one indicator of the actual demand for a pill is the six million men who have had vasectomies in the US, many of whom might have preferred to maintain their reproductive options for a little while longer. Ultimately, however, the mere availability of a new male contraceptive technology will not change men's role in family planning. The provision of a male pill must be part of a whole range of male birth control services.

Family Planning Programs for Men

Despite the fact that men have practiced birth control for years, they have generally been excluded from organized family planning programs. Birth control clinics have all but hung out "For Women Only" signs. Of the people who visit clinics in the United States, less than 1 percent each year are men.[40] Few men feel comfortable walking into a waiting room where they are the only male and where the decor, the pictures on the wall, and the literature on the tables are all designed with women in mind. "The only place I feel more ill at ease is in a beauty shop," observed one man after his first, and presumably last, visit.

This female bias in formal family planning programs began with the first birth control clinics, which were established in Great Britain by Marie Stopes and in the United States by Margaret Sanger. These two pioneers were concerned with the suffering of women who had too many children too close together. They lived in an age when women had few family planning options other than dangerous illegal abortions. So it was only natural that Stopes and Sanger championed women's role in family planning.

The assumptions that shaped exclusively female family planning services have finally begun to change. Today, women argue that men should share the nuisance as well as the health risks of contraception. And some men have suggested a holistic approach to family planning, one that would include a range of male reproductive health services. Family planning officials and governments now have little excuse for writing off half the world's contraceptive audience.

To date, however, only a small number of male family planning programs have emerged. Some provide traditional clinical reproductive health services. Others concentrate on increasing the availabilty of condoms. The most innovative programs attempt to reshape men's attitudes toward family planning and a range of related issues. There are not yet enough projects to draw definite conclusions, but existing efforts offer insights into some of the difficulties and the advantages of involving men in planning the number and spacing of their children.

In the early seventies, Planned Parenthood of Essex County, New Jersey, was one of the first family planning agencies to acknowledge that men as sexual partners have a right to reproductive services. They began their program by working with the Newark school system and other social agencies. Specially trained male educators talked with men about their relationships, encouraged them to be more open with their partners about sex and reproductive issues, and challenged them with new attitudes about women and family planning responsibility. A countywide condom distribution program was established. As the project developed, the organizers discovered that poor, young men in Newark had no place to go for a checkup when a sexual or urinary problem arose. So in 1975, Planned Parenthood opened a men's family planning clinic one evening a week. Clients receive a medical/sexual exam, which includes a blood pressure check, urinalysis, and a gonorrhea smear, if necessary. Men can obtain condoms or contraceptive foam and can be referred for infertility testing or a vasectomy. In the first three years over a thousand men visited the facility, some of them several times.[41]

By 1977, the Office for Family Planning in what is now the U.S. Department of Health and Human Services decided to fund 20 pilot family planning projects for men, mostly clinic-based, in order to define the need for separate services and to discover how to meet that

"In the male-dominated society of Danfa, men turned out to be much more conscientious birth control users than women."

need. In general, these male family planning clinics have provided effective health care services. One evening at Planned Parenthood's clinic in Washington, D.C., for example, doctors examining 17 clients discovered one case of high blood pressure, two heart murmurs, and a case of prostitis, all among young men who might have otherwise never visited a doctor. But the usefulness of these clinics as birth control facilities is still in doubt. There is no hard evidence of declines in teenage pregnancy or venereal disease. The Office for Family Planning argues that the pilot projects have not demonstrated the need for special birth control services for men and it has therefore discontinued support for special men's programs after only three years' experience.[42]

This is not really surprising since attendance at most clinics has been sparse. Unlike women, men have not been trained to recognize the need for periodic reproductive health examinations. The principal male family planning methods—the condom and withdrawal—do not depend on a prescription or a medical checkup. The growing popularity of vasectomies and the likely development of a male pill suggest that in the future men may have a greater need for clinics. But for the time being, if men will not come to clinics, clinics will have to go to men.

In the early seventies, the Ghanaian Government attempted to bring clinic services to rural populations by organizing mobile family planning teams in the Danfa region north of the capital city of Accra. These clinics traveled from village to village providing birth control services. Their work was supplemented by the staffs of maternal-child health centers and by village-based primary health care workers.[43]

Although the project started out as a traditional, female-oriented program, it soon became more of a male effort when nearly half the clients were men. In the male-dominated society of Danfa, men turned out to be much more conscientious birth control users than women. They also proved to be better family planning advocates. More men than women tried to persuade their friends to use contraception. And men who chose a birth control method either for themselves or for their partners reported that their partners had fewer pregnancies than the women who participated directly in the program.

Before the project, women in Danfa had an average of eight children. Now contraceptive use in the region has increased and fertility is falling in some areas. An evaluation of the program by the School of Public Health at the University of California at Los Angeles suggests that at least one-half the fertility reduction in Danfa is related to male acceptance of birth contol.[44]

The success of the Danfa program has several explanations. According to the mores of the area, men have some financial and social responsibility for children born out of wedlock. Thus the use of condoms permits some premarital or extramarital sexual activity without subsequent obligations. Moreover, educational and work opportunities for men are increasing in the area. Men, like women, seem to want smaller families when it is clear this will improve their opportunities for a better life for themselves and their families.

When the men of Danfa were asked to explain for themselves why they chose to practice contraception, their responses showed a remarkably unselfish concern. The most common reason given was the improvement and preservation of the health of their children. Men were also concerned with protecting their wives' health and with making it easier to educate their existing children.[45]

The Danfa program demonstrates that medically oriented male family planning programs can increase men's use of contraception. In fact, the men in Danfa preferred visiting the mobile clinics to buying their condoms in a store. Nevertheless, as long as male family planning programs are tied to formal health services they will be limited by the clinics' mobility, by the cost of providing services through highly trained personnel, and by the stigma often attached with visiting a doctor. The greatest opportunity for increasing male use of birth control lies outside the clinic, in the community.

One encouraging example of such a nonmedical approach is an experiment that took place in Dillon County, South Carolina, which in the mid-seventies had some of the highest rates of venereal disease and out-of-wedlock births in the state. To combat this problem the local health department decided to encourage more men to use contraceptives. Male health educators toured the county on motorcycles carrying pamphlets and condoms in their saddlebags. Wherever men congregated–in workplaces, in bars and poolrooms, on street corners, and at gas stations–the educators stopped to talk, counseling individuals and groups, distributing contraceptives when appropriate, and making referrals for venereal disease and other health problems. Within three years the program reached two-thirds of the male target audience at least once. The results were striking. While the out-of-wedlock birth rate increased throughout the state, it dropped in Dillon County, especially among nonwhites, who made up most of the target population. In addition, there was a sharp increase in the number of venereal disease cases treated by the county health department, presumably as a result of the VD referral efforts.[46]

The distribution of free condoms by trained counselors is an effective way to involve men initially in family planning. But it is an expensive and time-consuming process. Most nations have scant resources for such efforts. Reaching a broad segment of the male population on a sustained basis requires the integration of condom distribution into commercial marketing networks. Even in the poorest parts of the world most people shop at neighborhood stores or are visited daily by itinerant vendors. By using these commercial outlets to sell condoms at subsidized prices–an approach known as social marketing–family planning programs have been able to increase contraceptive use and broaden male involvement in family planning.

In India and Sri Lanka, sites of the oldest social marketing programs, a visitor to even the smallest village is likely to see striking but tasteful advertisements for condoms on the doors of greengrocers and tea shops. Condoms are marketed with a flair previously reserved for selling soap or candy. Brightly colored packaging and catchy brand names dispel the condom's staid medical image. These marketing innovations seem to have spurred condom purchases. In India, sales grew from less than 25 million in the late sixties to 160 million in 1978-79. In Sri Lanka, condom sales leapt from about a half million in 1972 to nearly six million in 1978.[47]

It is sobering to realize, however, that even these strikingly successful condom promotion programs have reached only a small portion of the men of reproductive age. Assuming that each couple uses 100 condoms a year, social marketing programs in Sri Lanka have provided a year's protection from unplanned pregnancy for just 3.2 percent of the couples in that nation. The mere commercial availability of condoms can increase male birth control use only slowly: it involves

little long-lasting family planning motivation and largely serves those who are already interested in using contraceptives. Getting men to think positively about birth control and encouraging them to put those attitudes into practice will ultimately rest on a more comprehensive change in male consciousness.

Much of what men learn about their bodies, about sex and reproduction, about contraception, and about how to relate to women comes from discussions and interactions with friends, particularly as they are growing up. For generations, this learning process has perpetuated male stereotypes. Today, some family planning programs are attempting to use this powerful educational force to help men break out of old molds. In southern Nigeria, for example, the Lagos Family Health Clinic formed a Fathers' Club in 1974. The group meets one evening a month and is run by elected representatives of the members. It provides a forum for health education, helping men understand the link between family planning and the well-being of their wives and children. In any one year, about 20 percent of the fathers in the area attend a club meeting, enough to create a small group in the community that influences other men to be favorably disposed toward family planning.[48]

In China, birth control has become the responsibility of small groups of men and women in factories, neighborhoods, and villages throughout the country. Following government guidelines, the groups decide on the number of children that should be born each year and then allocate the births to eligible couples. No longer can men force their wives into one pregnancy after another, to the detriment of the women's health. Self-criticism and peer pressure encourage men to consider the interests of their wives, their children, and their community when making family planning decisions.[49] Although male birth control methods are so far not actively encouraged in most areas, this may begin to change when and if the gossypol pill becomes more widely available and as taboos about vasectomy break down.

Whether in Nigeria, China, or the United States, it is important to shape men's attitudes toward family planning when they are young. Family planning programs rooted in teenage society can ensure that the young have contraceptive responsibility commensurate with their sexual maturity. One teen sex education program in London, called Grapevine, trains young volunteers to work with people their own age–mostly men–in coffee bars, in pubs, and on the streets. These counselors are information resources for their friends, so that street-corner sex education–still the way many people learn the facts of life–is more accurate. They discuss sexuality, sex roles, and sexual responsibility. Grapevine volunteers distribute condoms to those requesting them and refer interested young people to teen clinics where medical advice and contraceptives are available. The aim of the project is to counteract misinformation and to encourage sexually active adolescents to carry on mature, caring relationships.[50]

"The condom, when used in conjunction with a spermicide, is just as effective as the diaphragm, the IUD, or the pill."

The involvement of men in family planning is certainly not new. India has had an official vasectomy program for two decades. What is new today, however, is the realization on the part of some governments that a range of birth control services for men should be available. While particular experimental male projects may have varying degrees of success, this underlying commitment to greater male involvement in family planning suggests that one day men will have contraceptive and reproductive health programs comparable to those now provided for women.

Couples and Societies Making the Choice

The choice of a birth control method–whether it is by an individual couple selecting a contraceptive or by an organized family planning program deciding what services to provide–is based on a variety of considerations. Invariably, the first question men and women ask themselves is which method will most effectively delay or prevent pregnancy. People often quickly reject all male means of family planning as ineffective. Yet the condom, when used in conjunction with a spermicide, is just as effective as the diaphragm, the IUD, or the pill. And vasectomy provides just as much protection from unplanned pregnancy as female sterilization does.

Much of the confusion about contraceptive effectiveness comes from a misunderstanding of the difference between a contraceptive's hypothetical effectiveness, based on perfect use of the method, and its practical effectiveness, which takes into account human errors such as forgetting to take the pill or failure to use a condom each and every

time. Thus, oral contraceptives for women are advertised as 99 percent effective because one woman in a hundred is likely to get pregnant using the method for a year.[51] (See Table 4.) In actual use by American women, however, oral contraceptives are only 90 to 96 percent effective. The condom, by comparison, is hypothetically effective 97 percent of the time and practically effective 90 percent. In everyday use the condom is 95 percent effective when used with a spermicide. Male pills are not yet generally available, so their reliability is difficult to judge, but the Chinese report that their gossypol pill is at least as effective as female oral contraceptives.

Table 4: Effectiveness of Nonpermanent Male & Female Contraceptive Methods

Method	Theoretical Use	Actual Use	Estimated Unplanned Pregnancies Between Ages 15 and 44
	(percent)		(number)
Female Oral Contraceptive (various types)	98.5-99.7	90-96	1-3
Intrauterine Device	97-99	95	1-2
Diaphragm	97	83	5
Male Oral Contraceptive (Chinese gossypol pill)	99.9	–	–
Condom with Spermicide	99+	95	1-2
Condom	97	90	3
Withdrawal	91	75-80	6-8

Source: *Contraceptive Technology* and the *Chinese Medical Journal*

Even these comparisons of contraceptive effectiveness are deceptive, however. The fact that condoms are 90 percent effective does not mean that couples using them risk having one unplanned pregnancy in every ten intercourses. It means that among 100 couples having intercourse 100 times a year each (10,000 intercourses), there will be ten unplanned pregnancies. For the individual couple using a condom, this means one failure in every 1,000 intercourses, or an unplanned pregnancy once every ten years. By comparison, a couple relying on the most effective female oral contraceptive could expect an unplanned pregnancy once every 25 years. These figures are of course averages and not a prediction of the actual number of pregnancies a couple using a particular method will experience. But they do suggest that couples who only want to delay or space their pregnancies can effectively do so by using condoms. Couples wishing to avoid pregnancy altogether may prefer to choose the pill or IUD if they are young, or sterilization if they are older.

Contraceptive effectiveness is often as much a function of who uses it as it is of the method. Studies indicate that urban, reasonably affluent, well-educated, and presumably highly motivated couples use the condom more effectively than do rural people, minorities, the poor, the less-educated, and those who lack a strong desire to control their fertility. Indeed, men often make more effective contraceptive users than women. In the Danfa region of Ghana, for example, men use condoms and contraceptive foam with a 96 percent effectiveness. By comparison, women in that area using the pill or an IUD are only 81 percent effective in avoiding pregnancy.[52]

People should not shy away from using a condom because it is slightly more fallible than the pill or the IUD, for the ultimate effectiveness of birth control depends on what it is used for and how it is used. Studies indicate all methods are more effective if they are used to avoid rather than to delay a pregnancy.[53] Moreover, couples are human, they are consumed by passion, they can be forgetful, and they take inexplicable risks. These human frailties, more than technological considerations, often spell the difference between contraceptives. If a couple decides they want the man to take responsibility for birth control, male methods can be made to work for them.

Many couples understandably weigh the effectiveness of the birth control method they are considering against the health risks connected with its use. Recent research findings indicate oral contraceptives are linked with various circulatory problems, especially among older women who smoke. Use of the IUD may cause pelvic infections that sometimes lead to sterility. In light of these concerns, the condom or the diaphragm, often used in conjunction with a spermicide, is an increasingly attractive contraceptive option: neither poses a threat to the health of its user. A comparison of the relative health risks of various contraceptive methods must of course also take account of any deaths associated with pregnancy, childbirth, or abortion when

"If a male pill becomes available, it makes sense for men to accept the health risks of chemical contraception because women bear the full risks of childbirth."

contraceptives fail. Studies by Christopher Tietze of the Population Council indicate that, short of sterilization, the condom or the diaphragm, backed up by legal abortion performed early in pregnancy, is the safest means of family planning.[54]

In the best of all possible worlds, couples would choose a birth control method solely on the basis of effectiveness and safety. But in the real world, the cost and availability of contraceptives are also a consideration. A study done in Western Europe by the International Planned Parenthood Federation in the late seventies found that the average yearly cost of using condoms or the pill was about the same. The IUD, assuming it remained in place for several years, was much less expensive. Surveys in the United States by the Association for Voluntary Sterilization show that a vasectomy is slightly cheaper than a female sterilization if both are done as outpatient procedures, although it is only one-fourth the cost of a female operation that has to be done in a hospital.[55]

These comparisons do, however, mask some bias against male contraceptives. In many European countries with national health services, female contraception is free or subsidized, while condoms must be purchased at retail prices. Similarly, in the United States women can obtain a range of subsidized services—from pills to sterilization—from government or privately funded clinics. Men must generally bear their contraceptive expenses themselves.

In most countries male contraceptive methods are readily available. Anyone can practice withdrawal. Condoms, unlike the pill or the IUD, do not need a medical prescription. Most towns large enough to have a hospital have a doctor who can perform a vasectomy. Yet some nations restrict adolescents from buying condoms or limit the locations where they can be sold. It is still difficult, if not impossible, for a young man in many parts of West Africa to obtain a condom. And for men living in rural areas and in many parts of the Third World, the absence of medical facilities or at least trained medical paraprofessionals continues to be a major obstacle to having a vasectomy.

Individual circumstances will also often determine whether someone uses a male or a female contraceptive. Men and women with sporadic sexual encounters or numerous partners may find the condom to be most convenient. Both the diaphragm and the condom may be best for people in stable relationships who are highly motivated to avoid pregnancy and willing to put up with some inconvenience. The pill or an IUD is often appropriate for young, sexually active women and for some women in the Third World.

Many couples may want to alternate the use of male and female contraceptives, sharing the burdens associated with almost any form of birth control and spreading the responsibility for initiating its use. When a couple has decided to have no more children, it may be equitable for the man to have a vasectomy, especially if the woman has borne the brunt of the responsibility for birth control up until that time. And, if a male pill becomes available, it makes sense for men, especially in the Third World, to accept the health risks of chemical contraception because women bear the full risks of childbirth.

The choice of contraceptive method and when to use it are decisions made by individual couples. But society has a stake in those decisions because the choice of a particular birth control method can have an impact on fertility patterns. The declining birth rates in Western Europe, the United States, and parts of the Third World testify to the effectiveness of the pill and the IUD, the contraceptives many couples use to limit the number of their children. However, the impact widespread male birth control use can have on family size has been little studied and is the subject of considerable speculation.

The demographic impact of vasectomies is probably the easiest to judge. While in theory people decide to be sterilized once they no longer want children, in practice sterilizations can have a substantial impact on the birth rate because they ensure against accidental pregnancies. By one estimate, American couples would have had more than 400,000 unwanted births between 1971 and 1973 alone if the men had not obtained vasectomies. Studies in India and the Philippines support these findings and suggest that the average vasectomy prevents between two and three births.[56]

It is far more difficult to assess the number of births averted through condom use. Sterilizations are permanent, but a condom can be used one night and not the next. Moreover, a couple can use condoms in conjunction with foam or in combination with the rhythm method, making it impossible to attribute an avoided pregnancy solely to the condom. It is probably safe to assume, however, that the 500 million

condoms used each year in the United States prevent several hundred thousand pregnancies. Certainly the 50 percent decline in the Japanese birth rate since World War II can be traced in part to widespread condom use.

As societies wrestle with how best to cope with population problems, they will repeatedly be faced with the question of whether to spend scarce resources on male or female family planning programs. It is too soon to assess the cost-effectiveness of male birth control programs. Most exist only as pilot projects and are less than a decade old. Moreover, many efforts to foster the use of male contraceptives and to encourage men to act responsibly toward their sexual partners are not discrete projects but part of broader family planning programs involving both men and women.

The per capita cost of clinical services for men in the United States is roughly comparable to those for women. Condom distribution programs, however, are much more cost-effective than clinic-based services. In Dillon County, South Carolina, for example, it cost about $36 to provide a man with a year's supply of condoms. If his partner had instead gone to the local birth control clinic for pills or an IUD, it would have cost the county $69. Although the individual costs are lower in the Third World, the difference between clinic and nonclinic services persists. In India, enough condoms were distributed in 1978-79 to provide more than one million couples with a year's protection at a cost of $1.67 per couple. Pill and IUD programs are slightly more expensive.[57] These comparative costs indicate that the promotion of male methods is an efficient way for society to allocate family planning resources.

But when couples and societies choose contraceptives, it need not be an either-or decision. Male and female birth control methods complement each other. A couple may initially decide to rely on the pill because of its convenience and effectiveness, then switch to the condom and diaphragm because of their safety as the woman gets older, and ultimately decide on a vasectomy for the man once they are sure they want no more children. By providing a range of contraceptive options, both male and female, governments can be assured that the cumulative impact on fertility patterns is far greater than if people's choices are limited to one or two methods.

A woman in the central highlands of Guatemala once told an interviewer that the way for women to avoid pregnancy was for men "not to bother them."[58] Her effective, if impractical, solution reflects the experience of many women: men cannot be trusted to be careful and considerate, so women must fend for themselves, to the point of denying their own sexuality in order to protect themselves from unwanted pregnancies. Yet women should not have to carry this burden alone. With society's support and encouragement, men can play a more responsible role in family planning.

More support for male contraceptive research and male birth control programs is the top priority. Of about $34 million spent worldwide in 1979 to develop new birth control technologies, 71 percent was for new female methods; only 6 percent was devoted to testing new male methods. The remainder went to developing methods that might be applicable to either or both sexes. Furthermore, public agencies spent $10 million in 1977 to test the safety and effectiveness of existing female oral contraceptives and the IUD but nothing to study the condom. A total of only $155 million was spent on all male and female reproductive and contraceptive research in 1979.[59] Such paltry investments—which when adjusted for inflation are lower than in 1971—offer little chance of radical advances in male birth control technology.

There are similar disparities in funding for family planning services. The situation in the United States is a case in point. In 1979, the U.S. Department of Health and Human Services provided only $750,000 for male birth control clinics out of a total family planning budget of $242 million, and even that support has now been dropped.[60] Only limited amounts are targeted for adolescent men's programs, and existing male clinics will have to compete with women's clinics for funding. Some countries, like India, have better records than the United States does in supporting men's programs, but many governments spend nothing on male birth control services.

This is not to say that there must be parity in funding levels. Women bear the risk of pregnancy, so it is only fair that most research and

"New funding of men's programs should complement rather than compete with resources for women's programs."

program activities focus on their needs. There is a demonstrated demand for publicly funded birth control services for women, while the level of demand for male services is not yet clear. In addition, more female than male contraceptive methods are now undergoing clinical testing because the store of basic knowledge about female reproduction is greater. Since clinical testing is the most expensive aspect of contraceptive development, expenditures for female methods are naturally higher. Over time, however, funding for men's programs should be increased to allow more basic research on male reproductive health, to speed development of a male pill, to expand clinical testing, and to perfect a reversible sterilization operation for men. Increased subsidies for the distribution of condoms and new monies for male and couple-oriented family planning programs would be a worthwhile investment of public funds. This new funding of men's programs should be part of a much-needed general increase in financial support for population activities, so that it would complement rather than compete with resources for women's programs.

Beyond an expansion of funding, organized family planning programs need to venture into new surroundings and provide new services that involve more men. Workplace clinics that also provide reproductive health care testing and screening are particularly appropriate in industrial settings where men are exposed to toxic substances that may affect fertility. Adolescent projects linked with schools, sports teams, and community groups would give sexually active young men convenient access to health and birth control services. If the few men's clinics that already exist in the United States would regularly provide sperm testing, a comprehensive picture of national trends in male fertility could be developed. The services provided at women's birth control facilities can also be expanded to include vasectomies for their clients' partners. And if the male pill becomes available, both men's and women's clinics should begin to provide periodic checkup services to ensure that men are not having any unhealthy side effects from oral contraceptives.

In the long run, the logical focus of organized family planning efforts is on couples, not exclusively on men or exclusively on women. Once experimental male clinics in an area have stimulated men's interest in family planning, the programs should be integrated with existing services for women. For this to happen successfully, some clinic personnel will need retraining to overcome years of working only with women, an experience that has frequently led to negative staff attitudes about the role any man can play in family planning. Men also have special needs that the staff at clinics must be attuned to: male clients are often initially interested in sexual counseling, for example, and only secondarily interested in family planning. Birth control programs have traditionally divorced sexuality from contraceptive use, something men are unlikely to accept.

Reaching the 500 million potential condom users around the world is a marketing challenge that requires business to shed its conservative approach to contraception. There is no reason, for example, why condoms should be sold only in pharmacies. One-third of the condoms used in England are sold by barbers, while in Sweden department store sales are very successful.[61] Condoms are now openly displayed in some American supermarkets but they should also be available at newsstands and through vending machines at discos, pool halls, and bowling alleys—indeed wherever men tend to congregate. Neighborhood vendors—such as door-to-door cosmetic salespeople—are perfect retailers for a range of male and female contraceptives. Such developments would be hastened by governments lifting restrictions on the advertising of condoms and creating an assured market through the purchase of substantial quantities of condoms for distribution to members of the army, to government employees, and to clients of public family planning programs.

New male birth control methods and programs, though important, cannot increase male involement in family planning if men have little understanding of reproduction and hold on to traditional negative attitudes about family planning. Both boys and girls would benefit from expanded school-based sex education courses that focus on male and female reproductive biology, contraceptive use, and sexual health. Broader family life education programs that discuss men as partners in family planning, as the secondary rather than the sole breadwinner, or as housekeepers can expose young people to a variety of roles for men. In the developing world, including sex education in basic literacy efforts helps people learn to read and write as they learn about their bodies, about birth control, and about relationships with the opposite sex.

Sex education is too important, however, to be confined to schools. Information about sexuality and contraception should be included in

the programs of organizations like the Boy Scouts, neighborhood centers, church youth groups, and the youth branches of political parties. Of course, the most important source of information and value formation about sexuality is often the family. Many parents shy away from sex education because they are ignorant themselves or feel uneasy about discussing such matters. Involving parents whenever possible in the sex education programs in schools, churches, and community groups would help people overcome these inhibitions and ensure the family's place in the formation of their children's sexual values. Moreover, if the armed services and men's social organizations begin their own educational efforts for adult males, society will not have to wait for the next generation to come of age before men take greater responsibility for family planning.

Expanded family planning services and better education are the foundation of a new role for men, but ultimately men will change their ways only if society expects more of them. In the United States, for example, three-quarters of the men who legally owe child support never pay it.[62] Stringently enforcing child support laws will make men feel more directly the economic costs of having children. And eliminating the legal distinctions between children born in and out of wedlock would equalize rights of inheritance and support.

At the same time, the state and private businesses should support men who do act responsibly with regard to family planning and childrearing. Health insurance plans, for one, should fully reimburse men for all reproductive health services, including the purchase of condoms or the cost of a vasectomy. Labor laws and contracts that permit paternity leave or shorter workdays for fathers would enable men to assume more fully their childrearing obligations.

Religious doctrine and cultural traditions should be interpreted to encourage men's use of contraception. The Koran, for example, has traditionally been read as banning sterilizations because they are a permanent "mutilation" of the body. But once a reversible vasectomy is readily available, a reinterpretation of the Koran could permit the operation.[63] And the traditional association in many cultures between virility and large families could be turned on its head to equate sexual prowess with contraceptive responsibility. In those parts of the world where the community or the state already play a significant role in childrearing, peer pressure can make men aware of the impact of their childbearing decisions on the other members of their communities.

At the most personal level, a more equitable sharing of the burden of family planning rests on better communication between men and women, so that couples can openly discuss sexual feelings, contraceptive choices, and childbearing plans. Although this is not a problem that can be solved by specific public policies, it is one that would benefit from delicate public support. Government and community leaders can often lead the way. The Chinese, for example, found that once local Communist party officials in parts of Sichuan province decided to have vasectomies, other men in the area became interested in sterilizations.[64] The role of the media is pivotal in this process. The legitimization in magazines and on radio and television soap operas of men using a condom or having a vasectomy can create a positive image of men who take an active role in childrearing and who share other family responsibilities.

Communication between sexual partners is built on trust. As men change their attitudes toward family planning, many women may need to rethink some of their own attitudes, for, paradoxically, feminism can come in conflict with greater male involvement in birth control. Women, at least in industrial countries, have long struggled to gain the control they now have over their fertility. The use of modern female contraceptives has been a cornerstone of this movement. At the same time, some women have loudly demanded that men take more responsibility for contraception and that a male pill be developed. But as men finally assume a more active role in family planning, individual women are going to be asked to trust someone who says he has had a vasectomy or has taken his birth control pill. Many may find they are reluctant to once again place their fate in a man's hands. In casual sexual relationships women may always want to take sole responsibility for protecting themselves against unplanned pregnancy. But in ongoing relationships, building the trust to share this burden will be an integral part of creating a new role for men in family planning.

Notes

1. Author's estimate of 500 million men with little or no access to family planning based on International Planned Parenthood Federation's 1976 Survey of Unmet Needs in Family Planning as reported in *People* (London), Vol. 5, No. 3, 1978.

2. Alan Guttmacher Institute, *11 Million Teenagers* (New York: 1976); Sir Maurice Kendall, "The World Fertility Survey: Current Status and Findings," *Population Reports*, July 1979.

3. Judy Mann, "Cost of Child-Rearing: Not Quite Sky-High," *Washington Post*, October 24, 1980.

4. Erik Eckholm and Kathleen Newland, *Health: The Family Planning Factor* (Washington, D.C.: Worldwatch Institute, January 1977).

5. Ernest Feigenbaum, "Males and Family Planning: An Attitudinal Survey of 1200 Teen and Adult Males in Merced County," Merced County Health Department, California, unpublished, 1978; Louis Keith *et al.*, "Attitudes of Men Toward Contraception," *Arch. Gynaekol.*, 220, 1975; Ann Cartwright, *How Many Children?* (London: Routledge & Kegan Paul, 1976); Ann Cartwright, *Parents and Family Planning Services* (New York: Atherton Press, 1970).

6. The Population Council, *Family Planning in Mexico* (New York: December 1979).

7. *Ibid.*; Andrew Davidson, University of Washington, private communication, October 16, 1980.

8. B. D. Misra, "Correlates of Males Attitudes' Toward Family Planning," in Donald Bogue, ed., *Sociological Contributions to Family Planning Research* (Chicago: University of Chicago Press, 1966); Population Council, *Family Planning in Mexico;* School of Public Health, *The Danfa Comprehensive Rural Health and Family Planning Project, Ghana: Final Report* (Los Angeles: University of California, September 30, 1979).

9. R. T. Ravenholt and J. Joseph Speidel, Office of Population, U.S. Agency for International Development, private communications, November 6, 1980.

10. Henri Leridon, "Contraceptive Practice in France in 1978," *Family Planning Perspectives*, May/June 1979; Italian and Polish figures from Philip Kestelman, "Contraception in Europe," *IPPF Europe Regional Information Bulletin*, January 1979; Population Problems Research Council, *Summary of Fourteenth National Survey on Family Planning* (Tokyo: Mainichi Newspapers, 1978); Karen Dunnell, *Family Formation 1976* (London: Her Majesty's Stationery Office, 1979); Kathleen Ford, "Contraceptive Use in the United States, 1973-1976," *Family Planning Perspectives*, September/October 1978; Melvin Zelnick and John F. Kantner, "Sexual Activity, Contraceptive Use and Pregnancy Among Metropolitan-Area Tennagers: 1971-1979," *Family Planning Perspectives*, September/October 1980. Each of these surveys varies slightly. All but the American and the French ones permitted more than one response, so the totals exceed 100. The Japanese, Polish, and American samples were of married women of reproductive age. The French and British surveys were of all women of reproductive age. The Italian survey was of all people age 18 to 64. All surveys reflect current contraceptive use except the Japanese study, which involved current or ever-used contraceptive methods.

11. World Fertility Survey, "First Country Reports," London, 1980.

12. Kestelman, "Contraception in Europe"; Ford, "Contraceptive Use in the United States"; author's estimate based on Datta Pai, "Trends in the Indian Sterilization Program," in Marilyn E. Schima and Ira Lubell, eds., *Voluntary Sterilization: A Decade of Achievement* (New York: Association for Voluntary Sterilization, 1980).

13. D. M. Potts, "Coitus Interruptus," *Clinical Proceedings, IPPF South-East Asia & Oceania Congress*, undated.

14. Isabel A. Dalsimer, P. T. Piotrow, and John J. Dumm, "Condom—An Old Method Meets A New Social Need," *Population Reports*, December 1973; Michael Castleman, "Uncovering the Condom Comeback," unpublished, 1980.

15. Castleman, "Uncovering the Condom Comeback"; Ford, "Contraceptive Use in the United States."

16. Ford, "Contraceptive Use in the United States."

17. Population Problems Research Council, *Summary of Fourteenth National Survey*.

18. Samuel Coleman, "The Cultural Context of Condom Use in Japan," *Studies in Family Planning*, forthcoming.

19. Tokyo study cited in Coleman, "Cultural Context of Condom Use in Japan"; Michael Castleman, "The Consumers Guide to the Condom Comeback," *Medical Self-Care*, June 1980.

20. Judith Bruce and S. Bruce Schearer, *Contraceptives and Common Sense: Conventional Methods Reconsidered* (New York: The Population Council, 1979).

21. No accurate data exist for the number of sterilizations in the United States. These estimates are from the Fact Sheet, Association for Voluntary Sterilization, New York, July 1979 and from Miriam Ruben of the Association, private communication, November 3, 1980.

22. Ford, "Contraceptive Use in the United States."

23. Cynthia P. Green, "Voluntary Sterilization: World's Leading Contraceptive Method," *Population Reports*, March 1978; Ministry of Health and Family Welfare, *Monthly Bulletin on Family Welfare Statistics*, New Delhi, March 1980.

24. "Five-Year Study Finds Vasectomy Does Not Alter Hormone Levels," *Family Planning Perspectives*, September/October 1979; Dr. Robin Hoult, "Vasectomy May Clog Up Your Veins," *New Scientist*, June 26, 1980; Ira S. Richards, "Biomedical Update," *AVS News*, September 1980; S. Bruce Schearer, Population Council, private communication, November 3, 1980.

25. Sherman J. Silber, "Vasectomy and Reversal of Vasectomy," in Schima and Lubell, *Voluntary Sterilization: A Decade of Achievement*; Lois E. Bradshaw, "Vasectomy Reversibility—A Status Report," *Population Reports*, May 1976.

26. Various articles in Schima and Lubell, *Voluntary Sterilization: A Decade of Achievement*; Charles F. Westoff and James McCarthy, "Sterilization in the United States," *Family Planning Perspectives*, May/June 1979.

27. William J. Bremner and David M. de Kretser, "Contraceptives for Men," *Signs: Journal of Women in Culture and Society*, Vol. 1, No. 1, 1975.

28. S. Bruce Schearer, "Pharmacologic Approaches to Contraception in Men," *Drug Therapy*, January 1977.

29. William J. Bremner and David M. de Kretser, "The Prospects for New, Reversible Male Contraceptives," *New England Journal of Medicine*, November 11, 1976.

30. S. Bruce Schearer *et al.*, "Hormonal Contraception for Men," *International Journal of Andrology*, Supplement 2, 1978.

31. John Benditt, "Current Contraceptive Research," *Family Planning Perspectives*, May/June 1980.

32. Bremner and de Kretser, "Contraceptives for Men"; Don W. Fawcett, "Progress in Male Contraception," *Comment on Research/Action About Wo/Men*, October 1977.

33. "Gossypol–A New Antifertility Agent for Males," *Chinese Medical Journal*, November 1978; "Gossypol, A New Contraceptive for Men," *Research in Reproduction*, May 1979; Pi-chao Chen, Wayne State University, private communication, October 21, 1980; Sheldon Segal, Rockefeller Foundation, private communication, November 10, 1980.

34. Sheldon Segal, Rockefeller Foundation, private communication, November 10, 1980; William M. Wiest, Reed College, private communication, September 17, 1980.

35. Yen quoted in Victor Cohn, "Tests Near on Contraceptive for Males," *Washington Post*, January 31, 1980.

36. Sanchez quoted in "Doctors Clash Over Lack of Male Birth Control Pill," *World Population News Service Popline*, August 1980.

37. Ericsson quoted in Lawrence Diller and W. Hembree, "Male Contraception and Family Planning: A Social and Historical Review," *Fertility and Sterility*, December 1977.

38. S. Bruce Schearer, Population Council, private communication, October 22, 1980.

39. Various studies cited in Keith *et al.*, "Attitudes of Men Toward Contraception."

40. U.S. House of Representatives, Select Committee on Population, *Fertility and Contraception in the United States*, as cited in "The Men's Letter," National Institute for Community Development, Arlington, Va., May 1979.

41. Planned Parenthood–Essex County, "Men Emerging Now," Newark, N.J., 1979.

42. Gary Simpson, Planned Parenthood of Metropolitan Washington, private communication, August 19, 1980; Clark Gordon, Office for Family Planning, U.S. Department of Health and Human Services, private communications, August 14 and November 6, 1980.

43. School of Public Health, *The Danfa Final Report*.

44. Peter Lamptey *et al.*, "An Evaluation of Male Contraceptive Acceptance in Rural Ghana," *Studies in Family Planning*, August 1978; "Ghana: Half the Fertility Reduction in a Rural Area is Due to Acceptance by Men of Family Planning," *International Family Planning Perspectives*, March 1979.

45. School of Public Health, *The Danfa Final Report*.

46. Suzanne Geist Black and Nicholas A. Mescia, "Innovative Approach to Male Family Planning: A Success Story," presented to the American Public Health Association Annual Conference, Chicago, Illinois, November 19, 1975.

47. Diana L. Altman and Phyllis T. Piotrow, "Social Marketing: Does It Work?," *Population Reports*, January 1980.

48. Anna Bamisaiye, Cecile de Sweemer, and Olikoye Ransome-Kuti, "Developing a Clinic Strategy Appropriate to Community Family Planning Needs and Practices: An Experience in Lagos, Nigeria," *Studies in Family Planning*, February/March 1978.

49. Pi-chao Chen, "On the Chinese Model of Group Planning of Birth," presented to the Conference on IEC Strategies: Their Role in Promoting Behavior Change in Family and Population Planning Programs, Honolulu, December 1-5, 1975.

50. Janet Evanson, *Grapevine* (London: Family Planning Association, December 31, 1974).

51. Robert A. Hatcher *et al.*, *Contraceptive Technology 1980-1981* (New York: Irvington Publishers, 1980); "Gossypol–A New Antifertility Agent for Males." These estimates are based on various studies of women who wanted no more children.

52. School of Public Health, *The Danfa Final Report*.

53. B. Vaughan *et al.*, "Contraceptive Failure Among Married Women in the United States, 1970-73," *Family Planning Perspectives*, November/December 1977.

54. Christopher Tietze, John Bongaarts, and Bruce Schearer, "Mortality Associated with the Control of Fertility," *Family Planning Perspectives*, January/February 1976.

55. IPPF Europe Regional Office, London, private communication, October 8, 1980; Miriam Ruben, Association for Voluntary Sterilization, private communication, November 3, 1980.

56. Westoff and McCarthy, "Sterilization in the United States"; Ira Lubell and Ruth Frischer, "Sterilization Demand Exceeds Facilities," in *Voluntary Sterilization* (Washington, D.C.: Population Crisis Committee, Autumn/Winter 1976).

48 57. Gary Simpson, Planned Parenthood of Metropolitan Washington, private communication, November 6, 1980; Black and Mescia, "Innovative Approach to Male Family Planning"; Altman and Piotrow, "Social Marketing."

58. "Conception, Contraception and Abortion in Santa Maria Cauque," *Pan American Health*, Vol. 9, No. 7, 1977.

59. Linda Atkinson *et al.*, "Prospects for Improved Contraception," *Family Planning Perspectives*, July/August 1980; Bruce and Schearer, *Contraceptives and Common Sense*.

60. Clark Gordon, Office for Family Planning, U.S. Department of Health and Human Services, private communication, November 6, 1980; Patrick Sheeran, U.S. Department of Health and Human Services, private communication, November 6, 1980.

61. Dalsimer, Piotrow, and Dumm, "Condom—An Old Method Meets a New Social Need."

62. Spencer Rich, "Few Absent Fathers Pay Support," *Washington Post*, July 2, 1979.

63. Andrew Wiley, Office of Population, U.S. Agency for International Development, private communication, October 8, 1980.

64. Pi-chao Chen, Wayne State University, private communication, October 21, 1980.

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