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- communication) have obtained evidence for selection against certain Tf genotypes in declining populations of *Clethrionomys* and clining populations of Clethrionomys Peromyscus which have discrete annual and generations in northern Canada. The Charlesworth and Giesel model (23) can apply only to species with overlapping generations.
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of fertility control other than periodic continence, the so-called rhythm method. There are two categories of Catholic women who are classified as conforming to Church doctrine: those who have never used any method of contraception and those whose most recent practice was the rhythm method (7).

### Trend in Catholic Conformity

By linking the 1955 and 1960 Growth of American Family studies with the 1965 and 1970 National Fertility studies, we can observe the trend in Catholic conformity over a 15-year period. Table 1 shows a dramatic change in the adherence of Catholic women to their Church's teaching on birth control. The proportion of Catholic women between the ages of 18 and 39 (8) who use methods of contraception other than rhythm has increased from 30 percent in 1955 to 68 percent in 1970, with the greatest changes occurring in the last 5 years. Between 1965 and 1970, the percentage of Catholic women deviating from official teaching on birth control has risen from 51 to 68 percent. It seems clear that the papal encyclical has not retarded the increasing defection of Catholic women from this teaching.

This trend is even more apparent when the data are examined by the women's age and year of birth across all four studies (vertical comparisons, Table 2). There has been a spectacular increase in nonconformity among Catholic women in the youngest age groups. Among women aged 20 to 24 in the vear of each study, the proportion not conforming was 30 percent in 1955, 43 percent 5 years later, 51 percent by 1965, and 78 percent by 1970. The increase from 1955 to 1970 was almost as great for the next two age groups: from 37 to 74 percent for ages 25 to 29 and from 30 to 68 percent for ages 30 to 34.

# The Revolution in Birth Control **Practices of U.S. Roman Catholics**

Charles F. Westoff and Larry Bumpass

Ever since the 1968 papal encyclical ended the period of ambiguity and speculation about the Roman Catholic Church's position on birth control, there has been considerable interest in how American Catholics would respond to the reaffirmation of the traditional ban on methods of contraception other than the rhythm method. The trend toward nonconformity documented in the 1965 National Fertility Study (NFS) (1), the observed reduction in the rate of unwanted births among all groups, including Catholics, during the 1960's (2), and the sharp decline in U.S. fertility rates all combine to enhance the plausibility of the hypothesis that Catholic couples have increasingly adopted unapproved methods of contraception. An analysis based on reinterviews with Catholic women in the 1965 study supports this view (3).

This report presents data from the 1970 NFS, a probability sample survey in which 6752 ever-married women of reproductive age (under 45) were interviewed across the nation (4). Our analysis is based on currently married, white Catholic women living with their husbands. Data for our subsample of the 1970 NFS are analyzed in conjunc-

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tion with data on comparable women in the 1965 NFS and two earlier U.S. fertility surveys conducted in 1955 (5) and 1960 (6).

#### **Concepts and Measures**

While "current use" is appropriate for describing the contraceptive practices of the population at any given time, "most recent use" is more appropriate for measuring the usual contraceptive practices. At any given time, many couples are not using any method simply because the wife is pregnant, trying to become pregnant, or in postpartum. Others may not be practicing birth control for a variety of reasons such as illness, involuntary sterility, or temporary separation. It is a couple's usual method of contraception that is most relevant to the issue of Catholic conformity. Of course, some couples who are not currently using any method will change methods when they begin practicing birth control again; and to the extent that such changes are away from conformity, as seems most likely, our measure understates the level of nonconformity.

The concept of "conformity" is defined here as following the traditional teaching of the Roman Catholic Church, reaffirmed by the encyclical, which prohibits the use of any method

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Table 1. Percentage of white, married Catholic women age 18 to 39 who have never used any method of contraception or who most recently used rhythm or some other method (1, 5, 6). Data for 1965 differ from earlier data because "sterilization for contraceptive reasons" was not previously included as a form of contraception.

Most	Women per year (%)								
recent method	1955 (N = 787)	1960 (N = 668)	1965 (N = 846)	1970 (N = 1035)					
None	43	30	21	18					
Rhythm	27	31	28	14					
Other	30	38	51	68					

The increase in nonconformity that occurs as women grow older is revealed by the horizontal comparisons in Table 2. For example, of Catholic women born between 1936 and 1940, 43 percent were deviating from Church teaching by age 20 to 24 in 1960, 54 percent by age 25 to 29 in 1965, and 68 percent were not conforming by the time this cohort had reached 30 to 34 years of age in 1970. It is not surprising that women tend to adopt more effective methods as they grow older; as a cohort ages, increasing proportions have had Table 2. Percentage of white, married Catholic women not conforming to Church teaching on birth control. In the 1955 and 1960 studies (on the top and second diagonals, respectively), a women is classified as not conforming to Church teaching if she had *ever* used any method of contraception other than rhythm. In the 1965 and 1970 data (third and bottom diagonals, respectively) the classification relates to the method *most recently* used.

	Age of women (years)								
Year of	20	25	30	35	40				
birth	to	to	to	to	to				
	24	29	34	39	44				
	(%)	(%)	(%)	(%)	(%)				
1916-1920				28	45				
1921–1925			30	46	43				
192 <b>6</b> –1930		37	40	52	50				
1931–1935	30	40	50	50					
1936–1940	43	54	68						
1941–1945	51	74							
19461950	78								

all of the children they want and thus face the risk of unwanted pregnancies. In this light, it is interesting to speculate about the ultimate nonconformity of the youngest women in these studies. Women who were age 20 to 24 in 1970 were already at the 78 percent level, and it seems likely that their birth con-

Table 3. Percentage of white, married Catholic women, by age and education, who have never used any method of contraception or whose most recent method was rhythm or the pill ("College" refers to women who attended or graduated from college).

	Age of women (years)										
Education	Under 45 (%)		Under 3	30 (%)	30 to 44 (%)						
	1965	1970	1965	1970	1965	1970					
		Not con	forming (%)								
College	40	65	42	78	38	53					
Grade 12	47	67	51	76	45	58					
Less than grade 12	57	63	57	73	57	55					
Total	49	65	51	76	48	56					
		Pi	ill (%)								
College	13	29	24	42	6	16					
Grade 12	13	29	24	38	6	20					
Less than grade 12	11	25	23	35	5	17					
Total	12	28	24	38	6	19					
		Ot	her (%)								
College	27	36	19	35	32	36					
Grade 12	34	38	26	38	39	38					
Less than grade 12	45	38	34	37	52	38					
Total	37	37	- 28	37	42	37					
		Rhv	thm (%)								
College	39	19	36	10	41	27					
Grade 12	34	16	31	12	36	20					
Less than grade 12	13	7	11	4	14	9					
Total	28	14	25	10	29	19					
		Ne	one (%)								
College	21	16	22	12	21	21					
Grade 12	19	17	18	12	19	22					
Less than grade 12	30	30	31	23	29	35					
Total	23	19	23	14	23	24					
		Size of	sample (No.)								
College	166	262	59	127	107	135					
Grade 12	548	701	211	351	337	350					
Less than grade 12	369	287	131	121	238	166					
Total	1083	1250	401	599	682	651					

trol practices will become indistinguishable from those of non-Catholics, reaching a maximum of around 90 percent. (The remaining 10 percent will be comprised of those who discover subfecundity before ever having practiced contraception and therefore never use any method as well as a small fraction who use the rhythm method successfully.)

#### Education

In 1965, nonconformity was greatest (57 percent) among Catholic women who had not completed high school and least (40 percent) among those who had attended or graduated from college (1, pp. 198-200) (Table 3). By 1970, this relationship had reversed among younger Catholics, with college women deviating from Church teaching slightly more than women who had not completed high school.

These changes are due to a dramatic increase in nonconformity among the more educated Catholic women, an increase that has taken the form of a marked reduction in reliance on rhythm and a corresponding increase in the use of the pill. The college-educated and the high school-educated are now virtually indistinguishable in terms of birth control practice. The rhythm method is least popular among the least educated women, but the largest proportion of women who have never used contraception are still found in this group.

#### Religiousness

It is important to determine whether the increase in nonconformity between 1965 and 1970 is the result of attrition from the Church in general or simply of rejection of the prohibition against birth control in particular. Our analysis seems to indicate that both trends are occurring: that Catholic women (and presumably men as well) are moving away from traditional formal practice, but, much more important for the increase in nonconformity, that those women who continue such formal practice are increasingly just ignoring Church teaching on birth control.

It should be emphasized that we have not undertaken any extensive or intensive study of the religious practices or attitudes of Roman Catholics in this country. Our conclusions are based on only one index of religious behavior, although a very significant one: the frequency with which a woman receives Holy Communion. We have divided the women into two categories: those who receive Communion at least once a month (the more committed) and those who receive it less frequently (the less committed). Since receiving Communion at least once a month exceeds the minimum obligation (which is once a year), this dichotomy differentiates Catholics who adhere more closely to their faith from those whose attachment is weaker or just nominal.

There has been a decrease in the proportion of Catholic women who receive Communion at least monthly, from 52 percent in 1965 to 44 percent in 1970. Most of this change has been concentrated among the younger women, for whom the proportion receiving Communion monthly or more frequently declined from 52 to 37 percent.

Overall, nonconformity to teachings

on birth control increased 16 percent between 1965 and 1970 (from 49 to 65 percent). If there had been no change in the proportion of women receiving Communion at least monthly, the increase in nonconformity would have been 14 percent. Thus, the change caused by a decline in religious practice is fairly small, amounting to about an eighth of the overall increase in nonconformity. This is true as well among the younger women, whose deviation from Church teaching on birth control has been greatest; only 2 percent of the 24 percent increase in nonconformity is attributable to a decline in religious practice.

Consequently, the primary source of the increase in nonconformity is a willingness to deviate from Church teaching on this particular issue. In 1970, the majority (53 percent) of the more committed Catholic women were deviating from the official position on birth control, a remarkable increase from the 33 percent so classified in 1965 (Table 4). Even more remarkable, and perhaps an indication of changes yet to come, is the increase in nonconformity among the younger, more committed Catholic women: from 38 percent in 1965 to 67 percent by 1970. The increase among older, more committed Catholic women was from 30 to 44 percent.

Among less committed Catholic women there has been an increase in nonconformity only in the younger generation—from 66 percent in 1965 to 81 percent in 1970. Only the older, less committed Catholic women showed no change in conformity over the 5year period: at both times, some twothirds were not conforming to Church teaching on birth control.

The pill has played a major role in the decreasing conformity of the more committed Catholic women. Among women under 30, its use increased from

Table 4. Percentage of white, married Catholic women, by age and frequency of receiving Holy Communion, who have never used any method or who most recently used rhythm, the pill, or other methods.

Most recent method		Age of women (years)												
		Receive Communion at least monthly							Receive Communion less than monthly					
	Under 45 (%)		Under 30 (%)		30 to 44 (%)		Under 45 (%)		Under 30 (%)		30 to 44 (%)			
	1965 (N = 558)	1970 ( <i>N</i> = 554)	1965 ( <i>N</i> = 207)	1970 ( <i>N</i> = 221)	1965 ( <i>N</i> = 351)	1970 ( <i>N</i> = 323)	$     \begin{array}{r}       1965 \\       (N = 525     \end{array}   $	1970 ( <i>N</i> = 706)	1965 ( <i>N</i> = 199)	1970 ( <i>N</i> = 378)	1965 ( <i>N</i> = 331)	1970 (N = 328)		
None	25	23	24	15	25	29	21	17	22	14	20	21		
Rhythm	42	23	38	18	45	27	12	8	12	5	12	11		
Pill	11	26	20	37	5	18	14	30	28	39	6	19		
Other	22	27	18	30	25	26	53	45	39	41	61	48		
Total not conforming	33	53	38	67	30	44	67	75	67	80	67	67		

Table 5. Method of contraception used most recently by married, white non-Catholic (NC) and Catholic (C) women, by age.

	Age of women (years)											
Most recent method		Under	Under 30 (%)				30 to 44 (%)					
	1965		1970		1965 19		70	1	1965		1970	
	NC (N = 2666)	C (N = 1090)	NC (N = 3708)	C (N = 1255)	NC (N = 1038)	C (N = 403)	$\frac{NC}{(N = 1723)}$	C = (N = 602)	NC (N = 1628)	C (N = 687)	$\frac{NC}{(N=1985)}$	C = (N = 653)
Sterilized†	10	4	12	5	5	2	5	2	12	5	19	8
Pill‡	21	12	33	28	37	24	49	38	11	6	19	19
IUD§	1	*	5	6	1	*	6	7	1	*	4	4
Diaphragm¶	12	4	7	4	8	1	3	3	15	5	10	5
Condom	20	14	12	10	17	11	· 10	10	22	15	15	11
Withdrawal	4	6	2	2	3	2	1	1	5	9	2	3
Foam	3	1	6	5	5	2	8	8	2	1	3	3
Rhythm	4	28	3	14	3	25	2	10	5	29	4	19
Douche	5	3	4	3	4	3	2	3	6	3	5	3
Other#	6	5	4	3	6	5	3	4	6	4	4	2
None	13	23	12	19	12	23	9	14	15	23	15	24

\* Less than 1 percent. † Surgical procedures undertaken at least partly for contraceptive reasons. ‡ Includes combinations with any method other than the pill. ¶ Includes combinations with any method other than the pill, ¶ Includes combinations with any method other than the pill, IUD, or diaphragm. # Includes other multiple, as well as single, methods and a small percentage of unreported methods.

20 percent in 1965 to 37 percent in 1970. Almost exactly the reverse obtained for the rhythm method, which declined in use from 38 percent in 1965 to 18 percent in 1970. There was also a significant decrease in the proportion of more committed women in the younger generation who had never used any method (from 24 percent in 1965 to 15 percent in 1970) and an increase in the proportion of those using unapproved methods other than the pill (from 18 to 30 percent). Most of this latter increase was brought about by the adoption of newer methods-the intrauterine device (IUD) and foam. Among older Catholic women, the more committed shifted from rhythm

to the pill, but among the less committed women of this generation the increase in the popularity of the pill was at the expense of methods other than rhythm.

#### The Convergence of

### **Religious Differences**

One consequence of the increasing nonconformity of Catholics in the area of birth control has been to diminish the differences between Catholic and non-Catholic contraceptive practices. In the period between 1965 and 1970, a marked convergence has occurred (Table 5) in the proportion using every method except surgical sterilization. The blurring of the difference between Catholics and non-Catholics is most evident among younger women, which suggests that the differential for all women will diminish even further in the years ahead. It does not seem at all unlikely that by the end of the decade Catholics and non-Catholics will be virtually indistinguishable in their birth control practices. This will occur as the

proportion of Catholics who have never used any method and those who use the rhythm method continues to decline and the proportion using the pill (and perhaps even the more radical procedure of sterilization) increases.

## **Summary and Conclusions**

There has been a wide and increasing defection of Roman Catholic women from the traditional teaching of their Church on the subject of birth control over the past two decades and a resulting convergence of Catholic and non-Catholic contraceptive practices. By 1970, two-thirds of all Catholic women were using methods disapproved by their Church; this figure reached threequarters for women under age 30. Considering the fact that most of the onequarter of young Catholic women conforming to Church teaching had never used any method, the percentage of those deviating may well reach 90 as these women grow older and the problems of fertility control become more important.

Much of this increasing deviation has been among the more educated Catholics, who were formerly the most faithful adherents to Church teaching. The change between 1965 and 1970 was especially striking for Catholic women who had attended college.

Perhaps the most significant finding is that the defection has been most pronounced among the women who receive Communion at least once a month. Even among this group, the majority now deviates from Church teaching on birth control; among the younger women in this group, the proportion not conforming reaches two-thirds.

It seems abundantly clear that U.S. Catholics have rejected the 1968 papal

encyclical's statement on birth control and that there exists a wide gulf between the behavior of most Catholic women, on the one hand, and the position of the more conservative clergy and the official stand of the Church itself, on the other. That many Catholics can continue in their other religious practices and simultaneously deviate on the issue of birth control is an interesting commentary on the process of social change.

Ultimately this crisis of authority will probably be resolved by a change in official teaching, since it seems doubtful that such a major discrepancy can continue indefinitely without other repercussions. At a minimum, the cost to the Roman Catholic Church will be a loss of authority in a major area of life: that of sex and reproduction.

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- because of their sample design. Subse quent tables are based on women under 45.