

DO STATEMENTS ABOUT DESIRED FAMILY SIZE PREDICT FERTILITY? THE CASE OF TAIWAN, 1967-1970

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Abstract—The predictive accuracy of respondents' statements about their future fertility is examined, using interview data from a longitudinal study conducted in Taiwan. Two measures of preference are found to be highly intercorrelated; and regardless of which one is used, Taiwanese women are shown to predict their subsequent fertility at least as well as U.S. women. The preference measures are also predictive of rates of contraceptive use and abortion. While demographic and social characteristics are correlated with fertility in expected directions, statements about wanting more children prove to be highly predictive of subsequent fertility for both modern and less advanced segments of the population.

Whether statements about desired number of children relate meaningfully to reproductive behavior has been the subject of considerable controversy. It seems unlikely that this issue can be settled by theoretical discussion or that evidence from any single developing country at any particular time can be generalized to all developing countries at all times. What is needed is a series of specific studies done over time in various kinds of developing countries, so that there is some basis for assessing the degree to which attitudes about desired numbers of children are related to subsequent behavior under various conditions.

This is one such report for Taiwan on the relation between two fairly widely used measures of whether more children are wanted and other reproductive behavior. This set of data has the advantage of being longitudinal, so that it is possible to relate attitudes expressed at one time (1967) to behavior during a subsequent period. The data are from

a survey of a probability sample of all married women 18-39 years old in Taiwan in 1967 (known as KAP-II) and from reinterviews in 1970 (known as KAP-III). The response rates for the surveys were very high.

We are concentrating here on the simple dichotomy of whether in 1967 the respondent had all the children she wanted, rather than on the *number* of children desired. There are two measures:

- a. Her direct answer to the question: "Do you want more children?"
- b. A comparison of the actual number of living children she had in 1967 and the number of children she said that she would have if she could start married life over and have just the number of children she wanted by the end of the child-bearing period.

The second measure is a comparison of her personal "ideal" and the actual number of living children. These are two different ways of dichotomizing the

sample into those who want more children and those who don't. This dichotomy is especially relevant for Taiwan and for many other developing countries where the practice of birth control tends to be mainly for limiting family size rather than for spacing births. Further, much of the discussion about whether responses about desired family size are meaningful centers on the issue of whether those who say they have as many children as they want behave consistently with that statement, i.e., do they use birth control and do they succeed in preventing additional births?

Reproductive behavior of wives between 1967 and 1970 is strongly related to whether the wives wanted more children in 1967 (by either measure) (see Tables 1 and 2). Among those who wanted no more children, 14 percent had a live birth between 1967 and 1970, compared with 75 percent among those who wanted more. The percentages with a live birth were 18 among those who already had alive all the children they considered ideal for themselves and 69 among those who didn't have alive their ideal number of children. The differences are of the same order of magnitude if we consider

pregnancies rather than live births.

The ability of Taiwanese wives who wanted no more children to avoid additional births or pregnancies compares favorably with the experience of American wives. For example, in a three-year follow-up study in Detroit from 1955-1958 among married women under forty, 17 percent of the wives who originally expected no more children had a birth and 22 percent experienced a pregnancy (Goldberg and Sharp, 1959, p. 378). This compares with 14 percent having another birth and 20 percent having another pregnancy among the Taiwanese wives who wanted no more children. In the Princeton study, which covered three and a half years of experience for women initially at the second parity living in large metropolitan centers of the United States, 26 percent of the women who wanted no more children at the first interview had a pregnancy in the next three and a half years (Westoff et al., 1963, pp. 68-69). For Taiwan, 22 percent of the second-parity women had a live birth, suggesting that the proportion with a pregnancy will be similar to that found in the Princeton study. A more recent three-and-a-half-year fol-

TABLE 1.—Reproductive Behavior between 1967 and 1970 by Whether Wife Wanted More Children and Use of Contraception in 1967

Whether Wife Wanted More Children and Was Using Contraception in 1967	Behavior during Period 1967-1970			Number
	Percent with at Least: 1 Pregnancy	1 Live Birth	Abortions per 100 Pregnancies	
Wife wanted more				
Not using contraception	79.8	77.5	2.4	981
Using contraception	51.2	43.8	11.1	81
Wife wanted no more				
Not using contraception	31.1	23.5	24.9	568
Using contraception	11.2	5.3	51.7	695
Subtotals				
Wife wanted more	77.6	75.0	2.8	1,062
Wife wanted no more	20.2	13.5	32.8	1,263
Not using contraception	62.0	57.7	6.3	1,549
Using contraception	15.3	9.3	38.1	776
Total	46.4	41.6	9.5	2,325

Source: The 1967 and 1970 KAP surveys conducted by the Committee on Family Planning of Taiwan and its predecessor organizations. The 1970 survey involved reinterviews of the women interviewed in 1967.

TABLE 2.—Reproductive Behavior between 1967 and 1970, by Comparison of Wife's Ideal and Actual Numbers of Living Children, by Use of Contraception in 1967

1967 Status		Behavior during Period 1967-1970			
Comparison of Actual and Ideal Number of Children	Use of Contraception	Percent with at Least:		Abortions per 100 Pregnancies	Number
		1 Pregnancy	1 Live Birth		
Actual < ideal	No	78.1	76.1	2.2	920
Actual < ideal	Yes	27.5	23.9	7.5	136
Actual ≥ ideal	No	38.3	30.8	19.2	629
Actual ≥ ideal	Yes	12.8	6.2	51.1	640
Total		46.4	41.6	9.5	2,326

Source: The 1967 and 1970 KAP surveys conducted by the Committee on Family Planning of Taiwan and its predecessor organizations. The 1970 survey involved reinterviews of the women interviewed in 1967.

low-up study of a national sample of fecund once-married white United States Catholics under 45 years of age reports a live birth rate of 19 percent between 1965 and 1969 among those who intended no more children (Wilson and Bumpass, 1973, p. 595). None of these figures are grossly different from the Taiwanese experience. However, the level of contraceptive practice is higher in the United States than in Taiwan, where a high proportion of unwanted pregnancies are aborted by those who want no more children (see Table 1).

Whether the U. S. and Taiwanese samples are as close on birth and pregnancy rates as the previous data suggest must be determined by further analysis which controls on age and stage of childbearing since the samples may differ somewhat on these key variables which affect strength of intentions, exposure to risk, etc. Nevertheless, there appears to be little question that the samples from the two countries are similar, and as we show later, controlling age and parity among the Taiwanese women made relatively little difference in the relation between wanting more children and fertility in the follow-up period.

The most effective rational behavior is displayed by those who wanted no more children and were using contraception in 1967, almost all of whom suc-

ceeded in having no more children. This was the case for 95 percent of those who said they wanted no more children and 94 percent of those who had alive all the children they considered ideal for themselves. This is a remarkably efficient rational regime even for a developed society. Among those who wanted no more children and were using contraception in 1967, only eleven percent became pregnant during the following three years. Only five percent had a live birth, because 52 percent of the pregnancies were terminated by an abortion. Obviously, there were both strong motivation and quite effective action to avoid further childbearing in this group.

Among those who wanted no more children but *weren't* using contraception in 1967, a larger proportion (24 percent) had a live birth in the next three years, but this is still a relatively small number. It was kept at this low level partly by a high abortion rate (25 percent) and partly by the adoption of contraception in the interim. Forty-five percent of those who wanted no more children and weren't using contraception in 1967 were currently using it by 1970. The failure of some of this group to use contraception at KAP-II was partly a result of subfecundity. Among those wanting no more children at KAP-II in

1967, 22 percent of those not using contraception were subfecund.

Among those who wanted more children and weren't using contraception, the great majority (80 percent) had a pregnancy, and 77 percent had a live birth. As compared with this high rate of reproduction, the small number of couples who were using contraception in 1967, although they said they wanted more children, had relatively few pregnancies and births and a relatively high abortion rate. Possibly the fact of use of contraception in 1967 indicates a weaker motivation to have more children. Also, those using contraception had a shorter risk period and a greater opportunity to change their minds about wanting no more children. Among those who wanted more children at KAP-II, 58 percent of those using contraception and 37 percent of those not using contraception said that they wanted no more children by KAP-III.

The strong relation just discussed between attitudes toward additional children and subsequent reproduction is quite similar for the two different criteria of preference (compare Tables 1 and 2). However, the relation is slightly stronger for the dichotomy based on statements about wanting no more children than that based on comparing ideal and actual numbers of children.

That the two preference measures should give similar results is not too

surprising, since for 90 percent of the wives the dichotomies are consistent:

	1967
Consistent	90.3%
Wanted no more and actual \geq ideal	49.6
Wanted more and actual $<$ ideal	40.7
Inconsistent	9.7
Wanted no more and actual $<$ ideal	4.7
Wanted more and actual \geq ideal	5.0

Overall, the consistency of the two measures is so great that, if one of them is more important than the other for discrepant cases, it would be practical to rely on that measure for most subsequent analyses.

If we consider the two measures of preference jointly, whether the wife wanted more children has a stronger and more consistent relation to subsequent behavior for most variables than whether she had more children than she considered ideal. As compared with wives who wanted more children, wives who wanted no more children subsequently had many fewer pregnancies and births and practiced contraception more, regardless of the comparison of actual and ideal numbers of children (Tables 3, 4, and 5). The reverse was *not* uniformly true. Among wives who wanted no more children, those who actually had at least

TABLE 3.—Percentage of Wives Currently Using Contraception by Whether Wife Wanted More Children, by Comparison of Ideal and Actual Numbers of Children: 1967

Whether Wife Wanted More Children in 1967	Comparison of Wife's Personal Ideal and Actual Number of Living Children in 1967		
	Actual $<$ Ideal	Actual \geq Ideal	Total
Wife wanted more	7.4% (946)	9.5% (116)	7.6% (1,062)
Wife did not want more	60.2 (110)	54.6 (1,154)	55.0 (1,263)
Total	12.9 (1,056)	50.4 (1,270)	33.4 (2,325)

Note: Numbers in parentheses in this and all succeeding tables are the numbers of cases on which the percentages are based.

Source: The 1967 KAP survey conducted by the Committee on Family Planning of Taiwan and its predecessor organizations.

TABLE 4.—Percentage of Wives with a Pregnancy between 1967 and 1970 by Whether Wife Wanted More Children and Was Using Contraception in 1967, by Comparison of Wife's Personal Ideal and Actual Numbers of Living Children in 1967

Whether Wife Wanted More Children and Was Using Contraception in 1967	Comparison of Wife's Personal Ideal and Actual Number of Living Children in 1967		
	Actual < Ideal	Actual ≥ Ideal	Total
Wife wanted more			
Not using contraception	81.0% (876)	70.2% (105)	79.8% (981)
Using contraception	49.3 (70)	63.6 (11)	51.2 (81)
Total	78.6 (946)	69.6 (116)	77.6 (1,062)
Wife wanted no more			
Not using contraception	21.4 (44)	32.0 (524)	31.1 (568)
Using contraception	4.6 (66)	11.9 (629)	11.2 (695)
Total	11.3 (110)	21.0 (1,154)	20.2 (1,263)
Total	71.6 (1,056)	25.5 (1,270)	46.4 (2,325)

Source: The 1967 and 1970 KAP surveys conducted by the Committee on Family Planning of Taiwan and its predecessor organizations. The 1970 survey involved reinterviews of the women interviewed in 1967.

the ideal number of children did not have relatively fewer pregnancies or births or practice contraception relatively more. However, with respect to abortion rates, the two criteria of preference yield similar results (Table 6).

We conclude that either measure of preference is strongly related both to current use of contraception and to subsequent reproductive behavior: that is, to pregnancies, births and abortions in

the three years following the expression of the attitudinal preferences. However, since the two measures are highly correlated and since in cases of discrepancies whether the wife said that she wanted more children or not was more consistently predictive of later behavior, it seems safe to use this measure for most analyses where one must be chosen. Indeed, these data indicate that wanting more or no more children consistently is

TABLE 5.—Percentage of Wives with a Live Birth between 1967 and 1970 by Whether Wife Wanted More Children and Was Using Contraception in 1967, by Comparison of Wife's Personal Ideal and Actual Numbers of Living Children in 1967

Whether Wife Wanted More Children and Was Using Contraception in 1967	Comparison of Wife's Personal Ideal and Actual Number of Living Children in 1967		
	Actual < Ideal	Actual ≥ Ideal	Total
Wife wanted more			
Not using contraception	78.8% (876)	66.4% (105)	77.5% (981)
Using contraception	43.6 (70)	45.4 (11)	43.8 (81)
Total	76.2 (946)	64.4 (116)	74.9 (1,062)
Wife wanted no more			
Not using contraception	21.4 (44)	23.7 (524)	23.5 (568)
Using contraception	3.0 (66)	5.6 (629)	5.3 (695)
Total	10.4 (110)	13.8 (1,154)	13.5 (1,263)
Total	69.4 (1,056)	18.4 (1,270)	41.6 (2,325)

Source: The 1967 and 1970 KAP surveys conducted by the Committee on Family Planning of Taiwan and its predecessor organizations. The 1970 survey involved reinterviews of the women interviewed in 1967.

TABLE 6.—Abortions per 100 Pregnancies between 1967 and 1970, by Whether Wife Wanted More Children and Was Using Contraception in 1967, by Comparison of Wife's Personal Ideal and Actual Numbers of Living Children in 1967

Whether Wife Wanted More Children and Was Using Contraception in 1967	Comparison of Wife's Personal Ideal and Actual Number of Living Children in 1967					
	Actual < Ideal		Actual ≥ Ideal		Total	
Wife wanted more						
Not using contraception	2.2	(876)	4.5	(105)	2.4	(981)
Using contraception	5.4	(70)	37.5	(11)	11.1	(81)
Wife wanted no more						
Not using contraception	0.0	(44)	26.0	(524)	24.9	(568)
Using contraception	33.3	(66)	52.3	(629)	51.7	(695)
Subtotals						
Wife wanted more	2.3	(946)	7.2	(116)	2.8	(1,062)
Wife wanted no more	8.3	(110)	34.2	(1,154)	32.8	(1,263)
Not using contraception	2.2	(920)	19.2	(629)	6.3	(1,549)
Using contraception	7.5	(136)	51.1	(640)	38.1	(776)
Total	2.4	(1,056)	27.2	(1,270)	9.5	(2,325)

Source: The 1967 and 1970 KAP surveys conducted by the Committee on Family Planning of Taiwan and its predecessor organizations. The 1970 survey involved reinterviews of the women interviewed in 1967.

more strongly related to subsequent behavior than the measure of desired family size. These results are plausible, since a statement about desired family size if the respondent could start married life over again is likely to be less constrained by existing circumstances than the statement as to whether she now wants more children or not. On the basis of these Taiwanese data we suggest that where a choice must be made, questions about wanting more children are likely to be more useful than questions about ideal family size.

The fact remains that a small minority (14 percent) of the wives who said that they wanted no more children in 1967 did have an additional birth in the following three years. We turn now to a consideration of how some important demographic and social characteristics affect whether those who say they want no more children nevertheless go on to have an additional child. Is what respondents say they want predictive of their fertility or are both their fertility desires and performance just joint reflections of

the other characteristics of the couple?

Whether the wife wanted more children in 1967 is a much more important determinant of whether she had a child in the next three years than the couple's classification on any one of ten demographic and social characteristics: wife's age, duration of marriage, parity, husband's education, wife's work status, husband's employment status, number of modern durable consumer objects owned, family income, plans for children's education, and aspirations to save (Tables 7 and 8). Further, there is no category of any of these other variables in which more than 37 percent of those who originally said that they wanted no more children subsequently had one, and the proportion is over 26 percent only for the two groups just starting married life: married less than five years or wife 18–24 years old. Even in these categories, the proportions having a live birth is 50 percentage points less for those wanting no more children than for those wanting more.

TABLE 7.—Percentage of Wives with a Live Birth between 1967 and 1970, by Selected Characteristics of the Couple in 1967, by Whether Wife Wanted Additional Children in 1967

Characteristics in 1967	Did Wife Want More Children in 1967?				Total	
	No		Yes			
Number of living boys						
0-1	15.1%	(250)	78.5%	(839)	64.0%	(1,089)
2	14.2	(549)	60.0	(159)	24.5	(708)
3 or more	11.8	(465)	64.9	(64)	18.3	(529)
Wife's age						
18-24	37.0	(36)	86.4	(348)	81.8	(385)
25-29	26.4	(216)	80.0	(439)	62.3	(655)
30-34	13.3	(466)	62.6	(195)	27.8	(661)
35-39	7.1	(518)	29.3	(75)	10.0	(593)
Duration of marriage						
Less than 5 years	35.1	(46)	86.6	(545)	82.6	(590)
5-9	25.8	(308)	69.8	(350)	49.2	(657)
10-14	11.3	(345)	63.7	(102)	23.3	(447)
More than 14	6.4	(565)	22.7	(66)	8.1	(631)
Wife's ideal number of children						
1-2	21.6	(91)	75.5	(66)	44.1	(157)
3	14.2	(316)	73.7	(330)	44.6	(646)
4	13.1	(594)	75.0	(519)	41.9	(1,113)
5 or more	10.7	(261)	77.4	(147)	34.8	(409)
Number of live births						
0-1	20.7	(11)	83.2	(376)	81.3	(387)
2	22.0	(70)	74.1	(296)	64.1	(366)
3	16.4	(235)	71.5	(200)	47.7	(435)
4	13.1	(346)	66.4	(119)	26.8	(465)
5	12.3	(260)	56.8	(37)	17.8	(297)
6 or more	10.8	(341)	61.8	(34)	15.5	(375)
Husband's education						
Less than primary grad.	18.2	(260)	74.2	(241)	45.2	(501)
Primary grad.	13.6	(647)	76.6	(515)	41.6	(1,162)
Attended jr. or sr. high	12.1	(160)	79.6	(129)	42.2	(290)
Sr. high grad. or more	8.2	(178)	66.6	(166)	36.4	(345)
Wife's work status						
Not working	17.5	(642)	77.8	(591)	46.4	(1,233)
Working at home	9.6	(532)	73.4	(376)	36.0	(909)
Working away from home	9.4	(74)	64.8	(85)	39.0	(160)
Husband's employment						
Works for himself	13.6	(554)	76.1	(450)	41.6	(1,004)
Works for relatives	16.4	(86)	81.1	(111)	53.0	(197)
Works for others	13.0	(624)	72.6	(499)	39.5	(1,122)
Number of modern durables owned						
0-3	18.4	(355)	74.5	(241)	41.0	(596)
4-5	15.1	(347)	77.3	(340)	45.9	(687)
6-7	12.0	(292)	76.7	(255)	42.2	(547)
8-15	7.0	(252)	70.9	(213)	36.2	(466)

Table 7--Continued

Characteristics in 1967	Did Wife Want More Children in 1967?		
	No	Yes	Total
Total family income per year (NT\$)			
Less than 12,000	20.0 (217)	78.8 (206)	48.5 (423)
12,000-23,999	15.7 (389)	76.3 (348)	44.3 (737)
24,000-47,999	11.3 (453)	72.0 (321)	36.5 (774)
48,000 or more	7.5 (199)	72.5 (178)	38.2 (377)
Total	13.5 (1,263)	74.9 (1,062)	41.6 (2,326)

Source: The 1967 and 1970 KAP surveys conducted by the Committee on Family Planning of Taiwan and its predecessor organizations. The 1970 survey involved reinterviews of the women interviewed in 1967.

While wanting no more children is the most important determinant, some of the couples' other characteristics are significantly related to whether an additional child was born, both for wives who did and didn't want more children in 1967. The proportion having a birth in the fol-

lowing three years is negatively related to wife's age, duration of marriage, parity, number of living sons, ideal number of children, husband's education, number of modern durables owned, and family income. Further, the proportion with a live birth is greatest for those

TABLE 8.—Percentage of Wives with a Live Birth between 1967 and 1970, by Husband's Aspirations for Children's Education and Savings (1969), by Whether Wife Wanted More Children in 1967

Husband's Response in 1969	Did Wife Want More Children in 1967?		
	No	Yes	Total
Plans for children's education and knowledge of costs			
No educational plans for children	20.8% (252)	77.1% (185)	44.6% (438)
Plans for high school or college and estimates costs	8.2 (385)	69.2 (275)	33.6 (660)
Plans for high school or college but no estimate of costs	13.7 (595)	77.5 (585)	45.3 (1,181)
Savings aspirations			
Said unable to save	20.5 (292)	79.8 (214)	45.6 (506)
Spontaneously mentioned aspiring reasons for saving	11.1 (625)	73.7 (532)	39.9 (1,157)
Did not mention aspirations as reasons for saving	12.6 (321)	74.3 (296)	42.2 (616)
Total	13.5 (1,263)	74.9 (1,062)	41.6 (2,326)

Source: The 1967 KAP survey and the 1969 Economic Correlates of Fertility survey. The 1969 survey involved interviews with the husbands of the women interviewed in 1967.

who had no educational plans for their children and least for those who had such plans and knew their costs; greatest for those who said they were unable to save and least for those who spontaneously mentioned aspiring reasons for saving; greatest for wives not working and least for wives working away from home; greatest for husbands working for relatives and least for those working for non-relatives.

All of these differences are in expected, plausible directions. Those who were in the more modern or higher statuses or in later stages of family growth are least likely to have had an additional child, if they said they wanted no more children. In general, the characteristics have similar relationships to additional births for wives who did and wives who didn't want more children. However, a number of the measures of status or modernization have much stronger relationships for those who wanted no more children, e.g., wife's ideal number of children, husband's education, number of modern objects, and total income. This is to be expected where most couples use birth control only to terminate childbearing. In such a situation, the rationalistic characteristics which go with the more modern and higher statuses should have their main effect on the success of those who want no more children. Such an effect is apparent for some characteristics, but the more notable fact is that it is not very powerful. The great majority of even the lower status and less modern couples succeeded in having no more children if they didn't want them.

Nevertheless, it is still meaningful to ask to what extent the difference in subsequent fertility is an artifact of the different demographic and social characteristics of those who did and those who didn't want more children. For example, the great majority (92 percent) of those married less than five years wanted more children, and the great majority (90 percent) of those married more than fifteen

years wanted no more. The different distributions on marriage duration of those who do and don't want more children clearly will explain at least a part of the related differential in subsequent fertility.

Table 9 shows the proportions having a birth, adjusted for the effects of the differential distribution of each characteristic, as between those who did and those who didn't want an additional child. The table shows the proportions who had an additional child among those who did and didn't want more children standardized on the distribution of the total sample for each of the characteristics. Adjusting for the compositional differences has its maximum effect for the two demographic variables, age and

TABLE 9.—Percentage of Wives Who Had an Additional Birth between 1967 and 1970, by Whether Wife Wanted More Children in 1967, Adjusted for the Distribution of Selected Characteristics as between Wives Who Did and Did Not Want More Children in 1967

	Did Wife Want More Children in 1967?	
	No	Yes
Unadjusted percent for whole sample	13.5	74.9
Percent adjusted for compositional difference with respect to:		
Wife's age	19.4	63.0
Duration of marriage	20.1	60.1
Parity	15.9	69.4
Number of living sons	14.1	69.8
Wife's ideal number of children	13.6	75.1
Husband's education	13.6	75.0
Wife's work status	17.7	75.1
Husband's employment status	13.8	74.9
Number of modern durables	13.6	75.1
Family income	13.7	74.6
Plans for education of children	13.5	75.0
Savings aspirations	13.6	75.3

Source: The 1967 and 1970 KAP surveys and the 1969 Economic Correlates of Fertility survey. The 1969 survey involved interviews with the husbands of the women interviewed in 1967, and the 1970 survey involved reinterviews with these women.

duration of marriage, with parity having a lesser effect. About one-third of the gross fertility difference between those wanting and those not wanting more children is attributable to distributional differences in age or duration of marriage, less to parity, and very much less to any of the other variables.

It is sometimes said that knowing the characteristics of couples in developing countries is a better basis for predicting their fertility than expressed attitudes about family size. At least in Taiwan this does not appear now to be the case. Apparently, the demographic transition has proceeded far enough that attitudes toward having more children are highly predictive of subsequent behavior not only for the advanced sectors of the population but also for those who are in the less modern or favored strata as well.

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