TYPE OF MARRIAGE AND FERTILITY IN PUERTO RICO

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Consensual unions represent a sizeable proportion of all marriages in Puerto Rico, as in many other Caribbean and Latin American countries. In Haití, for example, 63 percent of all currently married persons 15 years of age and over were reported to be consensually married in the 1971 census   In censuses taken around 1970, figures of over 45 percent were also reported for Guatemala (51%), El Salvador (50%), Panamá (48%) and the Dominican Republic (47%).   Consensual marriages were less frequent in Chile (5%) and in Argentina (9%) (United Nations, 1976, Table 41).

In Puerto Rico the proportion of consensual unions has declined considerably during the present century.   According to the corresponding censuses, 31 percent of all marriages were classified as consensual in 1910 as compared to eight percent in 1970 (Vázquez, 1978, Table 35). Statistics about illegitimate births confirm this trend, but suggest that the percentage of consensual unions obtained from census data is some-what underestimated (Department of Health, 1977:19).   The sample survey

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utilized in the present study indicates that 13 percent of all currently married women 15-54 years of age were in a consensual union at the time of the interview, as compared with eight percent reported in the 1970 census.

Previous studies regarding the relationship between type of marital union and fertility have not led to a clear understanding, due to the marked variance in conclusions. In the English and French Caribbean, several authors found higher fertility among legally than among consensually married women (Roberts, 1970; Leridon, 1970; Mertens, 1970; Merino, 1970). Studies carried out in several Latin American cities, on the other hand, have yielded opposite conclusions. In Caracas, México City, Panamá City and Río de Janeiro fertility was found to be higher among consensual unions while in Bogotá, Buenos Aires and San José it was found to be lower (Mertens, 1970).

Contradictory data have also been gathered in Puerto Rico. For example, Hatt (1952) found that a high percentage of consensual marriages reduced fertility, Stycos (1955) reported that consensual marriages are associated with increased fertility, and several investigators studying various island communities reported increased fertility with consensual unions for some areas and decreased fertility for others (Steward et.al., 1959). Census data show that women in consensual unions have a higher number of children ever born than legally married women in all age groups. This relationship, which holds true for the census years 1950, 1960 and 1970, cannot be attributed solely to differences in socioeconomis status between

these two groups of women (Vázquez, 1978: 154-155).

Part of the reason for these contradictory findings may rest on the fact that the marital status usually considered in these studies is the one the women had at the time of the interview. Changes in marital arrangements seldom have been taken into account. During her reproductive life a women may engage in more than one type of union. That is, she might change from a consensual union to a legal one or vice-versa. Also, a woman can change from a consensual relationship to a legal one with the same spouse. The data obtained for the present study show that 46 percent of the women who had two or more husbands had combinations of legal and consensual marriages, and 57 percent of those women who began their married life in a consensual marriage converted it into a legal relationship.

The purpose of the present study is to clarify some of the contradictions through a more detailed analysis of the relationships between marriage patterns and fertility in Puerto Rico. In order to account for some of the effects mentioned above, a marriage history and a pregnancy history from 1,475 Puerto Rican women has been utilized as data.

The data were gathered through an islandwide survey in which the sampling frame of the Master Sample Survey of the Department of Health of Puerto Rico was utilized. This quarterly survey, the aim of which is to produce data about the health conditions of the Island's population, includes a representative sample of approximately 750 households (3,000 persons). This survey was initiated in 1963, and all the evidence indicates that the data obtained are highly reliable (Presser, 1974: Appendix A; Department of

Health, 1975: Part III: 19-23).

In order to increase the sample size, the listing of all households in the surveys of January, April and July of 1975 was utilized. In the households included in the list all women of Puerto Rican ancestry (one or both parents born in Puerto Rico) 15 to 54 years of age were interviewed during the months of June and July of 1976. Of the total of 2,028 women interviewed 1,475 were ever-married (currently married, divorced, widowed or separated). These ever-married women comprise the sample of the present study.

In this study a consensual or common-law marriage was defined as a marital arrangement in which a couple begins to live together as husband and wife without the celebration of a religious or civil ceremony. Co-habitation was the criterion for distinguishing consensual-marriage from out-of-wedlock relationships. No consideration was given to the duration of the union as this is not a criterion in the definition of a legal marriage. Precautions were taken to minimize the common errors of misreporting women in consensual unions as single or as legally married and women separated from consensual marriages as single or divorced. Fertility was measured in terms of children ever born to the woman.

GENERAL CORRELATES OF FERTILITY

Most of the well-known correlates of fertility have been clearly confirmed in this study. As expected, fertility is strongly associated with age of women and duration of marriage.[1/] For ever-married women 15 to 54 years

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[1/] For those women who had had two or more marriages it is the sum of the duration of each one.

of age the zero-order correlation coefficients with number of children ever-born were 0.43 and 0.56, respectively. Age of women and duration of marriage are themselves so highly correlated (simple r equals 0.80), that the association between number of children ever born and age of women almost disappears when the effect of duration of marriage is controlled through standardization or partial correlation analysis. For this reason, in the rest of this analysis duration of marriage will be utilized as a control variable while age of the respondent will be dropped.

Another important correlate of fertility is age at first marriage. The earlier the age at first marriage the higher the number of children ever-born, independently of the number of years of married life, as demonstrated by the strong negative correlation shown in Table 1. Women marrying early not only are exposed to the risk of childbearing for a longer period, but also are exposed during the most fecund ages.

The level of fertility also seems to be influenced by the number of husbands. The partial correlation coefficient between number of husbands and number of children ever-born, holding duration of marriage and age at first marriage constant, was 0.13, a coefficient significant at the 0.01 level. Apparently, partners in new marriages want to have their own children independently of the number already borne by the women in previous marriages. This may be a mayor factor on the effect of marital dissolution on fertility, which will be explored later.

TABLE 1

PARTIAL CORRELATION COEFFICIENTS BETWEEN SEVERAL VARIABLES
AND NUMBER OF CHILDREN EVER-BORN HOLDING DURATION
OF MARRIAGE CONSTANT FOR EVER-MARRIED WOMEN AND
MOTHERS 15-54 YEARS OF AGE, PUERTO RICO,
1976

VARIABLES	PARTIAL CORRELATION COEFFICIENTS[a]	
	All Women	Mothers
Age at first marriage	− 0.291	− 0.280
Number of husbands	.184	.191
Years of school completed	− .313	− .330
Women's labor force participation	− .198	− .202
Husband's white collar occupation	− .189	− .191
Income index[b]	− .178	− .197
Rural residence	− .151	− .172
Years of use of all contraceptives	− .245	− .308
Years of use of sterilization	− .257	− .293
Years of use of other methods	.012	.032
Number of cases	1,475	1,369

a/ All coefficients were significant at the 0.01 level, except those
corresponding to years of use of other methods.

b/ The husband's occupation reported in the survey was to assigned
the ratio between the median income for that occupation among
males to the general median income for males as obtained from
the 1970 census data.

Years of school completed seems to be one of the best predictors of

fertility among the several socioeconomic indicators considered. The

zero-order correlation coefficient between these two variables was −0.45, but

when duration of marriage was controlled the correlation coefficient was

slightly reduced to −0.31. The latter coefficient is still highly significant,

however. Women's labor force participation, husband's occupation and

income[1]/ were also significantly correlated with fertility as was rural

residence.

TABLE 2

PARTIAL CORRELATION COEFFICIENTS BETWEEN SEVERAL VARIABLES AND
NUMBER OF CHILDREN EVER BORN HOLDING EXPOSITIONAL VARIABLES
_ AND SCHOOLING CONSTANT FOR EVER MARRIED WOMEN
15-54 YEARS OF AGE, PUERTO RICO, 1976

VARIABLE	PARTIAL CORRELATION COEFFICIENTS HOLDING CONSTANT	
	Expositional Variables[a]/	Expositional Variables and Schooling
Years of school completed	− .241	----
Women's labor force participation	− .153	− .077
Husband's white collar occupation	− .150	− .071
Income index	− .129	− .045[b]/
Rural residence	− .130	− .063
Years of use of all contraceptives	− .243	− .214
Years of use of sterilization	− .260	− .258
Number of cases	1,475	1,369

a/ Duration of marriage, age at first marriage and number of
   husbands.

b/ Significant at the 0.05 level, all other coefficients significant at
   the 0.01 level.

1/ The question about income was eliminated from the questionnaire after
   the pre-test. People were very reluctant to give this information as
   a result of the initiation in Puerto Rico of the Food Stamps Program.
   Thus, an income index was derived from the husband's occupation.
   The husband's occupation reported in the survey was assigned the
   ratio between the median income for that occupation among males to
   the general median income for males as obtained from the 1970 census
   data (U.S. Bureau of the Census, 1970, Table 141).

Contraceptive experience was negatively associated with fertility. However, this association appeared to be mainly due to sterilization, because the correlation between years of use of other contraceptive methods and number of children ever-born was not significant.

The partial correlation coefficients between the socioeconomic indicators considered above and fertility were reduced when all three of the expositional variables (duration of marriage, age at first marriage and number of husbands) were simultaneously controlled. The association between contraceptive use and fertility, however, was not affected. The correlation coefficients between fertility and women's labor force participation, husband's occupation, income and residence were drastically reduced when schooling was introduced as a fourth controlling variable, suggesting that it is the strongest of the fertility correlates among all the socioeconomic variables considered. Again, there was very little effect upon the coefficients related to contraceptive use.

One of the best predicting models of fertility was obtained by combining the effects of the variables duration of marriage, age at first marriage, number of husbands, schooling and years of use of sterilization. The multiple correlation coefficient of these five variables with number of children ever born was 0.68, and the explained variance was 0.46.

TYPE OF MARRIAGE AND FERTILITY

As in most of the studies carried out in Puerto Rico, consensually married women included in the survey had a higher average number of children ever-born than did legally married women (4.15 versus 3.45). When the difference in duration of marriage was controlled through standardization, the

gap between these two groups of women became greater. This means that time exposure is not the explanation for the higher fertility among consensually married women.

Two other expositional variables considered in the analysis of this relationship were age at first marriage and number of husbands, as they are closely associated with both type of marriage and fertility. The median age at first marriage for those who began their married life in a consensual union was 17.3 years as compared with a median of 20.5 years for those who began in a legal marriage. Similarly, the average number of husbands had by women whose first marriage was legal as compared to those whose relationship began as consensual was lower (1.16 vs. 1.36). Standardized averages show that even when these variables are controlled, consensually married women have higher fertility than those legally married.

When years of schooling is coupled with the control variables of age at first marriage or number of husbands, the differences in fertility between consensually and legally married women disappear or are reversed. When standardized for both years of school completed and duration of marriage those consensually married still have a higher fertility than those legally married, but the difference is not large. This suggests that years of schooling is a more important fertility correlate than any of the expositional variables considered, except possibly for duration of marriage.

TABLE 3

STANDARDIZED AVERAGE NUMBER OF CHILDREN EVER BORN BY TYPE
OF PRESENT MARRIAGE FOR WOMEN 15-54 YEARS OF AGE
PUERTO RICO, 1976

STANDARDIZED BY[a]	LEGAL	CONSENSUAL
Duration of first marriage and age at first marriage	3.42	3.82
Duration of marriage and number of husbands	3.46	4.05
Age at first marriage and number of husbands	3.45	4.15
Years of school completed and duration of marriage	3.40	3.72
Years of school completed and age at first marriage	3.57	3.48
Years of school completed and number of husbands	3.57	3.14
Unstandardized	3.57	4.15
Number of cases	1,085	160

a/ The corresponding distribution of all ever-married women included
in the sample was used as the standard population.

From the available data it is impossible to control simultaneously for
more than two variables through standardization, as the number of con-
sensually married women is too small (160 cases). A partial correlation
analysis was therefore used in which whether consensually married or not
served as a dummy (indicator) variable, in place of type of marriage. As
shown in Table 4, the relationship between type of present marriage and
fertility becomes stronger when duration of marriage is considered. However,
the partial correlation coefficient then diminishes progressively as age at

first marriage, number of husbands, and finally years of school completed
are controlled, becoming almost zero. Thus, it may be concluded that
type of current marriage does not exert an independent effect on fertility.
Compared to legally married women, consensually married women tend to
be less educated, to enter marriage at an earlier age, and to have more
unstable unions, and thus more marriages. All of these factors are associated
with high fertility, and probably account for most of the differences between
type of current marriage and fertility.

TABLE 4

PARTIAL CORRELATION COEFFICIENTS BETWEEN CURRENT TYPE OF
MARRIAGE (BEING CONSENSUALLY MARRIED OR NOT) AND
NUMBER OF CHILDREN EVER BORN HOLDING SEVERAL
VARIABLES CONSTANT FOR EVER MARRIED WOMEN
AND MOTHERS 15-54 YEARS OF AGE,
1976

CONTROL VARIABLES[a/]	PARTIAL CORRELATION COEFFICIENTS	
	Currently Married	Mothers
None	0.082	0.084
X_1	.128	.130
X_1 and X_2	.073	.083
X_1, X_2 and X_3	.036[b/]	.041[b/]
X_1, X_2, X_3 and X_4	-.001[b/]	.001[b/]
Number of Cases (excluding separated, widowed and divorced)	1,245	1,160

a/ X_1= duration of marriage, X_2= age at first marriage, X_3= number
of husbands and X_4= years of schooling completed.

b/   Not significant at the 0.05 level; all other coefficients are
significant at the 0.01 level.

It should be kept in mind, however, that the present type of marriage is not necessarily the type of arrangement in which the woman initiated her married life. Among the group of 1,085 women who were legally married at the time of the survey only 879 had begun their married life in a legal marriage; 206 had initiated it in a consensual union which was either converted into a legal marriage later, or dissolved to be followed by a legal marriage. Among those 160 who were consensually married, 113 had begun with a consensual union while 47 had had a legal first marital union.

The data obtained in this survey indicate that the type of first marriage is strongly associated with fertility. The average number of children ever-born to the group of women who began their married life in a legal marriage was 3.08 compared to 4.57 for those whose first marital union was consensual. Furthermore, those women who began in a consensual union which was later converted into a legal one had an even higher average number of children ever born, 4.85. This clearly illustrates the great shortcoming of utilizing the present marital status in analyzing the effect of type of marriage on fertility. In this case, currently legally married women represent an inter-mediate level between the two extreme groups in terms of their fertility.

The difference in the average number of children between those women whose first marriage was consensual and those who began in a legal marriage is maintained even when the averages are standardized by duration of marriage, indicating that time exposure is not the explanation for the higher fertility of consensually married women. The difference in fertility between women who initiated their married life in a consensual union but

later converted it into a legal one and those who remained consensually married all the time apparently is due to differences in time exposure, however. When duration of marriage is controlled through standardization the difference between the two groups disappears (Table 5).

TABLE 5

AVERAGE NUMBER OF CHILDREN EVER- BORN PER WOMAN 15-54 YEARS
OF AGE BY TYPE OF FIRST MARRIAGE, UNSTANDARDIZED AND
STANDARDIZED BY DURATION OF MARRIAGE
PUERTO RICO, 1976

TYPE OF FIRST MARRIAGE	UNSTANDARDIZED	STANDARDIZED BY DURATION OF MARRIAGE[a]	NUMBER OF WOMEN
Consensual, all	4.57	4.46	409
Consensual-Legalized	4.85	4.42	231
Consensual not Legalized	4.20	4.51	178
Legal	3.08	3.09	1,061

a/ The distribution of all ever-married women by years of duration of marriage was used as the standard population.

Although standardization for duration of marriage has little effect on the fertility differences between women with legal first unions and those with consensual ones, standardization for certain other variables does change the relationship. As can be seen in Table 6, the difference is significantly reduced when either age at first marriage or number of husbands is introduced as a control variable. Years of schooling seems to be even more important as an explanatory variable in this relationship, as the difference is considerably

reduced when it is controlled either alone or in combination with any of the above-mentioned expositional variables. In fact, when years of school completed is taken into account simultaneously with number of husbands, the difference in fertility between these two groups of women disappears. The effects of these variables on the relationship between type of first marriage and fertility are similar in direction, but less strong than on the relationship between type of present marriage and fertility.

TABLE 6

AVERAGE NUMBER OF CHILDREN EVER-BORN PER WOMAN 15-54 YEARS
OF AGE BY TYPE OF FIRST MARRIAGE STANDARDIZED BY
SEVERAL VARIABLES, PUERTO RICO
1976

STANDARDIZED BY[a]	TYPE OF FIRST MARRIAGE	
	Legal	Consensual
Duration of marriage	3.07	4.46
Age at first marriage	3.27	3.99
Number of husbands	3.14	4.12
Years of school completed	3.30	3 58
Duration of first marriage and age at first marriage	3.20	4.11
Duration of marriage and number of husbands	3.14	4.30
Years of school completed and duration of marriage	3.25	4.08
Years of school completed and age at first marriage	3.38	3.50
Years of school completed and number of husbands	3.33	3.31
Unstandardized	3.08	4.57
Number of women	1,061	409

a/ The distribution of the total group of ever married women by the
    variable or variables to be controlled for was used as the standard
    population.

A partial correlation may help to clarify these relationship. The simple correlation coefficient between being consensually married in the first marital union and number of children ever born was 0.24. The coefficient increased when duration of marriage is controlled, but decreased progressively as age at first marriage, number of husbands, and finally years of school completed were successively added as control variables. When all these four variables are taken into account still there remains a significant association between type of first marriage and fertility (Table 7). The addition of other

TABLE 7

PARTIAL CORRELATION COEFFICIENTS BETWEEN NUMBER OF CHILDREN EVER-BORN AND TYPE OF FIRST MARRIAGE (BEING CONSENSUALLY MARRIED OR NOT) HOLDING SEVERAL VARIABLES CONSTANT FOR EVER-MARRIED WOMEN 15-54 YEARS OF AGE, PUERTO RICO, 1976

CONTROL VARIABLES [a]	CORRELATION COEFFICIENTS [b]	
	Ever Married	Mothers
None	0.235	0.239
X_1	.258	.260
X_1 and X_2	.178	.184
X_1, X_2 and X_3	.162	.167
X_1, X_2, X_3 and X_4	.106	.106
Number of cases	1,475	1,370

[a] X_1= duration of marriage, X_2= age at first marriage, X_3= number of husbands, X_4= years of school completed.

[b] All significant at 0.01 level.

control variables such a husband's occupation, income and residence does not alter significantly the correlation coefficient. A multiple correlation model including duration of marriage, age at first marriage, number of husbands, years of school completed, and type of first marriage seems to explain 41 percent of the variance of fertility (r= .64). These data indicate that type of first marriage exerts a significant independent effect on fertility whereas type of present marriage does not appear to do so.

It might be assumed that, if being consensually married has a positive effect on fertility than the number of years spent in consensual unions would also have a positive correlation with fertility which, as in shown in Table 8, it does. The number of consensual unions had by a woman also is highly correlated with fertility. With partial correlation analysis, it can be seen that, although controlling for duration of marriage weakens the correlation between years spent in consensual unions and fertility, a significant association remains. In a similar manner, controlling for number of husbands does not weaken the correlation between number of consensual unions had by a women and fertility, but in fact strengthens it. These findings indicate that duration of consensual marriages and number of consensual marriages exert effects over fertility independent from those of duration of marriage and number of husbands. This underscores the usefulness of a marital history over present marital status in predicting fertility.

TABLE 8

PARTIAL CORRELATION COEFFICIENTS BETWEEN CHILDREN EVER-BORN AND
YEARS SPENT IN CONSENSUAL MARRIAGES AND BETWEEN CHILDREN
EVER-BORN AND NUMBER OF CONSENSUAL UNIONS HAD FOR
WOMEN 15-54 YEARS OF AGE, PUERTO RICO
1976

CONTROL VARIABLES[a]	PARTIAL CORRELATION COEFFICIENTS[b]	
	Years Spent in Consensual Unions	Number of Consensual Unions had by Woman
None	0.349	0.196
X_1	.266	.240
X_1 and X_2	.244	.111
X_1, X_2 and X_3	.188	.142
X_1, X_2, X_3 and X_4	.152	.144
Number of cases	1,475	1,475

a/ X_1= duration of marriage, X_2= age at first marriage, X_3= number
of husbands and X_4= years of school completed.

b/ All significant at the 0.01 level.

As it was shown previously that fertility is strongly associated with
used of contraceptives (See Tables 1 and 2), this variable will also be
examined in trying to explain the relationship between type of marriage and
fertility. Legally married women had a slightly greater experience in the
use of contraceptives than those who are consensually married. Among the
former group the proportion of ever-users of birth control methods was
80 percent, as compared with 76 percent for the latter. Similarly, 62 percent
of those legally married were currently using some method (including
sterilization) while among those consensually married the corresponding figure
was 54 percent. In terms of years of use of contraceptives, legally married

women surpassed consensually married women by an average of two years.

TABLE 9

INDICATORS OF CONTRACEPTIVE EXPERIENCE BY TYPE OF FIRST MARRIAGE
FOR WOMEN 15-54 YEARS OF AGE, PUERTO RICO
1976

INDICATOR OF CONTRACEPTIVE EXPERIENCE[a]	TIPE OF FIRST MARRIAGE	
	Legal	Consensual
Percent ever users	80.2	76.5
Percent current users	62.5	54.3
Median years of use	6.9	4.9
Percent with 10 years of use or more	32.6	19.3
Percent sterilized	37.3	33.3
Number of Women	1,061	409

a/ All contraceptive methods, including sterilization.

Female sterilization, the method which apparently has the greatest depressing

effect upon fertility in Puerto Rico (see Tables 1 and 2), had been practiced

by a lower proportion of consensually married women than legally married

women. Thus, consensually married women are not only more exposed than

legally married to the risk of childbearing since they begin their married life

at an earlier age and have a larger number of marriages, but they also make

less effort to avoid conception. All these factors are associated with low

socioeconomic status, especially with a low educational level. As has been

pointed out previously (Vázquez et.al, 1980), so is consensual marriage.

CONCLUSIONS

Some authors such as Hout (1978) have recommended a dynamic

model considering a fertility history in predicting future fertility, but most

reported studies utilize data collected at one point in time reporting the

characteristics of the respondent at that instant.

This study indicates that the utilization of the current or present marital status in the analysis of the relationship between marriage and fertility may lead to erroneous conclusions. Legally married persons at the time of a study, for example, may include not only those who have been in that type of arrangement throughout their lives, but also those who have converted a consensual marriage into a legal one and those who have being engaged in consensual marriages before the last legal one. The data presented here in the case of Puerto Rico demonstrate that these groups differ considerably in terms of their fertility. Where consensual unions are relatively frequent, therefore, such as in Puerto Rico, it is important to obtain marital histories when studying the relationships between type of marriage and fertility.

Our results indicate that consensual marriages are associated with high fertility. This is especially true when the type of first marriage is considered. The number of years engaged in consensual unions as well as the number of such unions had by a woman are also strongly correlated with fertility. The difference in fertility between legally and consensually married women can be explained to a great extent, but not entirely, by differences in age at first marriage, number of husbands, educational level and use of contraceptives, most of which variables have socioeconomic implications.

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