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EXPERIMENTS IN SOCIAL CHANGE: THE CARIBBEAN FERTILITY STUDIES

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EXPERIMENTS IN SOCIAL CHANGE: THE CARIBBEAN FERTILITY STUDIES

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OVER the past decade two major investigations concerning fertility control among lower income classes have been completed in the Caribbean area—one in the Commonwealth of Puerto Rico, the other in Jamaica. Both are small islands of roughly similar topography, climate and population size; both historically have been colonial-agricultural areas with heavy reliance on African slave labor, and both are currently exhibiting high birth rates and low death rates. Their small size, internal cultural homogeneity, and demographic position made them ideal as laboratories for investigation. Moreover, while the islands are sufficiently similar to make comparison meaningful, they are sufficiently distinct culturally (Spanish *vs.* British) to make comparisons fruitful. Each investigation involved a three stage design moving from relatively broad and unstructured techniques and concepts to highly refined experimental approaches, and from more theoretical to more applied concerns.

Exploratory or Pilot Stage: In Puerto Rico 72 rural and urban couples, and in Jamaica 99 rural and urban wives and a subsample of 53 husbands, were given unstructured interviews ranging in length from two to six hours. Two volumes have resulted from these pilot investigations.[1]

Verification Stage: Based on results from the pilot investigations, larger scale sample surveys were carried out, using shorter interviews with questions more amenable to statistical analysis. In Jamaica an area probability sample of 1,400 currently mated urban and rural women was employed. In Puerto Rico a similar representative sample of the island's household heads was employed for questions on knowledge and use of birth control, but the interview proper was given

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[1] Stycos, J. M.: *Family and Fertility in Puerto Rico* (New York: Columbia University Press, 1955). Blake, J., in collaboration with Stycos, J. M., and Davis, K.: *Family Structure in Jamaica: The Social Context of Reproduction* (Glencoe: Free Press, 1962).

to 888 wives and 322 husbands, drawn from the out patient case loads of health centers and pre-maternal clinics on the island.

Experimental Stage: In an effort to determine whether educational methods can affect knowledge, attitudes, and behavior in the area of family planning, experimental designs were set up. Matched or experimentally varied groups were exposed to varying educational treatments and the results compared with non-treated control groups. In addition to the pre-experimental interviews, Jamaican cases were reinterviewed six weeks, one year, and three years after treatment. Puerto Rican groups were reinterviewed six weeks and one year later. In Puerto Rico pamphlets and group discussion techniques were separately assessed, as well as varying educational contents. In Jamaica, case visits were added as a third educational technique, but the content was roughly identical in all treatment groups. A volume describing the results of the verification and experimental stages in Puerto Rico has been published[2] and a similar one for Jamaica is in preparation.[3]

Finally, in order to establish a kind of base line, a third area has recently been chosen for pilot investigation. This is the island of Haiti, where levels of poverty and illiteracy are considerably higher than in the other two islands. In this instance, entirely different techniques of investigation are being employed in a rural village, combining the methodologies of participant observation and projective testing.[4]

On the basis of the various studies, we can draw up three necessary and three facilitating conditions for effective fertility control.

Necessary Conditions

(1) Ends or values which explicitly favor a family size less than is normally achieved without control

(2) Awareness of the means of achieving family limitation

(3) Acceptability of the known means

[2] Hill, R.; Stycos, J. M.; and Back, K. W.: *The Family and Population Control* (Chapel Hill: University of North Carolina Press, 1959).

[3] For a preliminary report, see Stycos, J. M., and Back, K. W.: *Prospects for Fertility Reduction: The Jamaican Family Life Project* (The Conservation Foundation, 1957). See also, Back, K. W., and Stycos, J. M.: *The Survey Under Unusual Conditions: The Jamaica Fertility Investigation* (Ithaca: Society for Applied Anthropology, 1959).

[4] Since the writer is the only person who participated in all the Caribbean studies reported, the article bears his authorship. Full recognition needs to be given, however, to his colleagues for much of the labor and many of the ideas here expressed—Reuben Hill and Kurt Back in Puerto Rico; Judith Blake and Kingsley Davis for Jamaica, Stage 1; Kurt Back and Don Mills for Jamaica, Stages 2 and 3. The field work in Haiti is being conducted by a Cornell graduate student in anthropology, William Nibbling. The conclusions reached in this paper do not necessarily reflect the views of my colleagues.

Each of these conditions can be seen as varying on a continuum, and both individuals and societies can be assigned a position on any of the three measures. The apparently simple model is complicated by the fact that various combinations of scores could theoretically produce family planning behavior, and by the fact that the scores are probably interrelated. For example, even in the absence of knowledge of all currently popular forms of birth control, if the ends were of sufficient intensity, individuals or groups could resort to infanticide or abstinence from sexual relations, techniques known to all populations but usually disapproved. On the other hand, a highly acceptable and simple method such as an oral pill, especially if sugar coated, might be taken despite quite weak motivation. Moreover, while high motivation might produce a search for knowledge, the simple provision of knowledge might precipitate motivation among peoples who know of very few means of control.

Since populations in underdeveloped areas generally fall toward the negative end of the continuum on our three necessary conditions, we have added three "facilitating" conditions that make adoption of family planning much more likely.

Facilitating Conditions

Distribution of the Means

While methods such as coitus interruptus, abstinence, and to some extent abortion and rhythm are theoretically available to all individuals in all societies, the accessibility of mechanical, chemical and surgical techniques varies enormously from society to society, and between classes and social groups within a given society. Presumably, the less accessible are such techniques, the higher the motivation required to initiate and persevere at effective family planning.

Social Organization

While any number of social organizational characteristics can facilitate or impede adoption of family planning, we refer here mainly to the extent to which the family structure implements the development and sharing of goals and knowledge which its members may possess individually. The degree to which the sexes are segregated both outside and within the family, the patterns of dominance in the household, the stability of conjugal bonds, the norms concerning cross-sex discussion of intimate topics, and the articulation of the family with other social institutions, are among the aspects relevant to the adoption and perseverance of family planning activity.

Salience

Here we refer to the priority of limited family size in a hierarchy of values. It might appear that a high priority is a necessary condition. While this may be the usual case, it is plausible that even among a population where family limitation has very low salience, such methods as reversible sterilization or a periodic injection or oral tablet might be adopted.

As a means of organizing our Caribbean research in summary fashion, we shall more or less impressionistically assign a +, 0, or +0 (indicating a mixed or intermediate situation) to each of the six conditions for each of the three societies studied. As seen below, the Haitian village falls at one end of the continuum, Puerto Rico at the other. However, while Haiti approaches the theoretical limits in one direction, Puerto Rico falls short of the limits in the other direction.

	Haiti	*Jamaica*	*Puerto Rico*
Ends	0	+	+
Awareness	0	+0	+
Acceptability	0	+0	+0
Distribution	0	+0	+
Organizational facilitation	?	0	0
Salience	0	0	0

Jamaica

There is little question that Jamaican women generally prefer small families. When the 1,400 women were asked how many children they would like if they could live their lives over, 76 per cent said four or less children, and only a negligible proportion said this was up to God or fate or that they did not care. Moreover, when asked whether they wanted more children, 80 per cent of those with four or five children and 84 per cent of those with six or more replied negatively.

Nine out of every ten women said they believed there were "people who do something to keep themselves from having too many children," suggesting that the population is aware that human intervention in the course of fertility is *possible*. When it comes to specifying the means, however, it is clear that knowledge is inadequate. For example, 16 per cent of the urban and 40 per cent of the rural women were unable to name a birth control method. Of those who could, a fifth of the responses were either very vague or referred to magical techniques. While *recognition* of methods named or described by the interviewer was higher, it is still the case that only a third of the rural women (but 73 per cent of the urban women) had a good knowledge of even the best

known method, the condom. No female method was well known by more than 10 per cent of the rural women.

The ignorance of techniques is partly due to the lack of contraceptive services. The entire city of Kingston is serviced by one private clinic, and only one parish has a network of rural clinics.

Attitudes toward birth control are mixed. A direct question on general approval or disapproval evokes approval from half, disapproval from just over a third, with the remainder ambivalent or undecided. That this is partly based on ignorance of birth control or unfavorable connotations of the term itself is indicated by the fact that when asked whether they would take a pill once a month to keep from "making a baby" 70 per cent replied affirmatively. Moreover, the greater the knowledge of specific methods of birth control, the more positive the attitude.

In terms of family organization, marital relationships are probably more equalitarian than in Latin societies, and the culture is less restrictive concerning discussion of sexual matters between husband and wife. In this sense, the social organization is favorable to joint planning and responsibility for family limitation. But in a more important sense, the structure inhibits both fertility and fertility control. About three-fourths of Jamaican births occur out of wedlock, a product both of common law and of relatively transitory sex relations which can be termed "visiting." In our sample, 29 per cent of the women were married, 44 per cent were living in common law unions and 27 per cent in visiting relationships. The non-legal relations are quite unstable. Thus, half of the women 35-40 had had three or more unions, and only a quarter had had only one union. Largely as a consequence of non-exposure time between unions, the average woman evidences a considerably lower fertility than would be the case if unions were stable. Moreover, motivation for family planning is greatest among the unmarried couples, since women in this status have some misgivings about bearing illegitimate children, while married women feel that bearing children is especially appropriate to their status. Motivation for family planning is therefore inversely related to the degree of stability of the relationship.

This motivation refers to *women*, however. Males are less concerned about family planning, especially in the least stable relations, partly because they can relatively easily escape the burdens of child support by desertion. Consequently, although the situation is mixed, we have assigned a zero value to family organization because the fluid nature of the unions creates such diverse motivations on the part of male and female that action is generally inhibited.

A good indication of the lack of salience of the whole issue is given by the fact that only 38 per cent of the women report ever having discussed the number of children they want with their mates. Even among those who have had five or more births (and over 80 per cent of these want no more children) only 32 per cent have discussed the matter. Those who want no more children are no more likely to have discussed their concern than those who do.

Obviously it is difficult for the matter to become salient if there is only a vague awareness of the means for solving the problem. In this connection it is of interest that there is a positive correlation between knowledge of birth control and discussion of family size preferences.

In the light of the inadequacy of knowledge, poor family organization, and low salience of family limitation, it is not surprising that only 7 per cent of the rural and 17 per cent of the urban women have ever tried a birth control method.

Puerto Rico

Puerto Rican women favor especially small families. Over three quarters of the women expressed a preference for three or fewer children. When asked whether they wanted more children, less than 5 per cent said they did not care or it was up to God, and after three or four living children about nine out of every ten want no more.

Puerto Ricans are relatively knowledgeable about birth control. As many as a fifth of rural women with no education know six or seven methods. Rural males with no education know an average of 3.3 methods. The condom and sterilization are the best known, diaphragm and jelly the least known. Even here, however, knowledge is surprising. A quarter of all household heads and 17 per cent of rural household heads of no education knew of the diaphragm.

Attitudes toward birth control are generally favorable. When asked, "Who has the right to use birth control?" only 15 per cent of the women said no one or only those whose health is in danger. Two thirds said they would advise their daughters to use birth control, and 85 per cent of those who have never used a method said they would take a contraceptive pill if available.

To a certain extent the superior knowledge and favorable attitudes of Puerto Ricans are due to the fact that a full range of contraceptive materials has been available free in 160 government clinics for the past two decades. Facilities for female sterilization have also been available in public and private hospitals. Indeed, in terms of clinical facilities Puerto Rico has been ahead of most countries of the world.

Nevertheless, the clinics have never been used to any great extent,

and when asked where their wives could obtain free birth control materials, only 22 per cent of the uneducated rural males could answer (the proportion rises to about 70 per cent for those with some high school education). Although 41 per cent have ever used a method, only 19 per cent of the national sample have ever used a mechanical or chemical method. Of those who have ever used birth control, a quarter have used sterilization only. Including sterilization, about a third are currently using some form of birth control. Use of non-surgical methods tends to be erratic and ephemeral.

Thus, despite a desire for small families, relatively good knowledge of methods, favorable attitudes and an excellent public system of clinics, family limitation has not yet "caught on" in the same sense as in modern industrial societies. Presumably this is a matter of "time." Nevertheless, there is reason to believe that the lag between facilities and effective adoption of birth control practices may be to a large extent due to the absence of a family organization conducive to effective family planning, and to the relatively low salience which the issue of family planning has for most Puerto Rican families.

Partly because of taboos on discussion of intimate topics, questions of birth control are infrequently discussed among Puerto Rican couples. The consequences of this are at least twofold. First, in the absence of effective communication each of the mates makes assumptions about the other according to cultural stereotypes. In static cultures this mechanism may be satisfactory; but in a society undergoing rapid change, the stereotypes may be quite out of tune with reality. For example, according to our investigations, husbands attribute more modesty (a cultural ideal) to their wives than their wives actually possess, and wives assume greater virility drives and desire for children than their husbands actually possess.

Second, knowledge about contraception is not pooled. Thus, whereas close to nine out of every ten males learned about a contraceptive method prior to marriage, over 40 per cent of the women learned about their first method some time after their second pregnancy. Comparing over 300 couples, in only a fifth of the instances did the husband and wife know the same number of methods. In a third of the cases the husband knew more methods than his wife, and in about half the instances the wife knew more than the husband. In short, much of the positive attitudes and knowledge which are possessed by Puerto Ricans individually fail to affect behavior because they are not exchanged in a group situation—in particular within the conjugal relation.

Perhaps another reason for this is that the whole issue of family planning does not yet have high salience for Puerto Ricans. While

birth control is both possible and permissible within the culture, it is not culturally *prescribed.*[5] Thus, while facilities are present and attitudes are generally favorable, there is no institutional pressure or even encouragement to use such facilities. And while Puerto Ricans generally prefer small families, there are also cultural values which emphasize the contrary. As a result we find a high proportion who can agree with a statement favoring small families, but also agree with its exact opposite. Without strong institutional supports, the issue does not become salient until specific individual pressures make it so. Such pressures occur only after the couple has had several children. Thus, for families in which the household head is 40 or older and has ever used birth control, the practice was not initiated until after an average of 3.6 pregnancies for those with less than nine years of education, and after 2.9 for those with nine or more years of school. But without prior experience with birth control and without institutional reinforcement, contraceptive practices then tend to be erratic, ineffective, and consequently, shortlived. In this context, the unusual popularity of female sterilization in Puerto Rico is explicable; but a large proportion of these occur beyond the point at which a major impact on the birth rate could be made. Sixteen per cent of the women in a national sample of households were found to be sterilized, and this accounted for half of all methods currently in use. Sterilized women who have been married for ten or more years had had an average of 6.6 pregnancies in their last union. About half of the sterilized women had had prior contraceptive experience. The low salience produces late starting, which produces the need for an easy but foolproof method.

Experimental Programs

From our experimental programs we can learn the extent to which educational techniques can precipitate contraceptive behavior among more or less "ready" populations such as Puerto Rico and Jamaica. In both instances the programs were remarkably successful considering the brief educational exposure. In Puerto Rico 42 per cent of those given pamphlets and 31 per cent of those who attended group meetings had used birth control six weeks after treatment. Although the impact was considerably less six weeks after treatment in Jamaica, after nine months 40 per cent in the urban areas and 21 per cent in the rural areas had used birth control. A number of general conclusions can be drawn from these studies.

[5] See Back, K. W.; Hill, R.; and Stycos, J. M.: "Population Control in Puerto Rico. The Formal and Informal Framework." *Law and Contemporary Problems,* Summer 1960.

(1) Such short exposure programs are effective in precipitating contraceptive behavior among a substantial minority, but are less successful at maintaining it. Of those who had started contraception in Puerto Rico six weeks after the program, about half had discontinued a year later. In Jamaica a fifth of the urban and close to a third of the rural users had stopped using a year after treatment.

(2) Almost *any* stimulus which makes the issue salient and puts it in a public context of approval by respected groups will precipitate use among that minority psychologically ready. This conclusion is supported by at least two facts: (a) Pamphlets are about as effective as the more intensive group or individual case approach. In Jamaica, none of the three methods was markedly more successful than others, and in Puerto Rico, pamphlets were somewhat more successful than group methods in getting people to start practicing contraception. (b) Even the control groups responded positively, presumably as a consequence of the interviews alone. In Puerto Rico a quarter of the control group and in Jamaica a fifth of the control cases started birth control subsequent to one or two interviews. Despite the objectivity of the interviews, six out of every ten women in the Puerto Rican control group (as opposed to eight out of every nine in the treatment groups) said they had benefited from the interviews, and of these a quarter said they had learned about birth control methods and close to half said the interview made them think about having a small family. The interviewers were well educated and middle class, the respondents poorly educated and lower class. The mere fact of such "authorities" raising questions about birth control and family size, we believe, increased the salience of the issue and gave it some institutional support.

(3) For *sustained* contraceptive behavior, and perhaps for reaching the large hard core who do not respond at all, more intensive type programs would seem required. It is of interest in this connection that in Puerto Rico while pamphlets were somewhat more effective in getting families started, group meetings were more effective in sustaining contraceptive practice, once it had begun. In Jamaica, although meetings were somewhat more successful among the initially most favorably disposed cases, among others no method was outstanding.

What practical conclusions stem from these findings?

(1) Pamphlet materials have far more efficacy than previously supposed among populations possessing a certain degree of literacy and predisposition to family limitation. Indeed they are *particularly* effective among such populations since they are not already saturated with other printed media. Thus, in Puerto Rico, 83 per cent of the women who received the pamphlets reported that they had read them,

and recognition tests largely support the validity of their statements. In Jamaica, all the urban women and eight of every nine rural women reported reading them. Most of the remainder said they had the pamphlets read to them.

(2) Group meetings, in addition to their great expense in time, personnel, and money, suffer the great disadvantage of attracting only the most highly motivated. In Puerto Rico, despite very great efforts at insuring attendance, only 16 per cent of the women and eight per cent of the men attended all three meetings. Fifty-nine per cent of the women and 40 per cent of the men attended at least one of the three. In Jamaica, where only one meeting was held, 46 per cent of those invited attended. I would propose that these limitations be turned to advantage. Pamphlets can easily be distributed to the entire population. Meetings should be employed *only* for the opinion leaders in the community, for those most highly motivated, and for those already practicing contraception. The meetings could then serve a dual function—to *sustain* and *reinforce* by means of explicit group and institutional support, the motivation and behavior of those already started, and to form a small, highly motivated elite which could stimulate others in the community by means of the normal person-to-person channels of verbal communication.

(3) *We do not know* what, if anything, is especially effective in motivating the hard core which failed, by and large, to respond to any of our educational treatments. Even the intensive case visit approach did not appear especially effective. In the absence of further research I would recommend two minor and one major course of action. First, that this group be reached by means of pamphlet materials; second, that where feasible such materials stress sterilization, abortion, coitus interruptus and oral tablets. By and large, however, the group which represents from half to three quarters of the populations, should be *ignored* in any explicit fashion, the principal ammunition being directed at opinion leaders and "contraceptive leaders."

Haiti

The immensity and impracticality of other alternatives is vividly illustrated by our case materials on Haiti, a culture which we have scored "0" on each of the six necessary conditions for family limitation. The community selected for study is a rural village of about 350 families located about 75 miles from the capital city of Port au Prince. Virtually all of the population engages in farming. From a census of the community we selected a 10 per cent sample of households, and interviewed both husband and wife where possible. The present sam-

ple of 60 respondents contains 28 men and 32 women. Just under half have never been to school, a quarter have had between one and six years of education, and the balance more than six years of schooling.

As far as we can determine, there is no cultural ideal concerning the appropriate number of children. When asked, "What do you think is the best number of children for a person in your circumstances to have?" ten per cent could not answer the question and another 75 per cent said this was entirely up to God. Such responses as the following were common:

"I would be happy with ten if God gave me ten, but I would be happy with three if God gave me three."

"If I have ten I will say thank you. If He gives me only four or five I will say thank you too; and if He gives me none I will say thank you."

Not only does there seem to be almost a complete absence of standards for ideal family size, but the very concept of differential family size appears to be of extraordinarily low salience. In order to test salience, four photographs of Haitian lower class families varying in numbers of children (either three or six children) and in economic status (very poor and moderately poor) were presented in four sets of two. In each instance the respondent was asked to list the differences between the two photographs. In each of the four paired comparisons one family had three children and the other had six.

Not a single respondent pointed out the size difference of all four sets, nor did anyone point this out in three of the four instances. Eight per cent observed the difference in two out of four comparisons, 40 per cent noted the size in one instance, and *in just over half of the cases the different family size was not noted in any of the four comparisons.*

When asked which man or woman they would rather be in each of the four comparisons, from 17 to 23 per cent could not choose. Of the balance, the highest preference for the small family occurs when the small family is relatively well to do and the large family very poor. Even here, *only half* chose the small family. When both families are poor, the larger is selected in 62 per cent of the cases. In the other two instances (both families well to do; small family poor, large family well to do) the larger family was overwhelmingly preferred, but *not* by reason of its size. Only about a quarter of the cases preferring the large family cited its size, the remainder giving a variety of reasons for their preference. In short, family size seems virtually irrelevant to most members of this sample.

It comes as no surprise that when asked why one family had few children and the other many, 72 per cent said such things were determined by God or chance, and when asked specifically whether the

families themselves could have done anything to affect their numbers, 65 per cent replied negatively and 10 per cent said they did not know.

A further key to the Haitian situation is provided by another question: "Why was one family better off than the other?" Seven per cent said they did not know, and 70 per cent said it was sheer luck of good fortune sent by God.

When one's general lot in life is determined by vague forces extraneous to the individual, and when numbers of children are viewed in the same context, there is simply no solid foundation on which to build a program of family limitation. The only hope lies in raising educational levels and economic opportunities to a certain minimum point at which self-improvement seems both possible and desirable. Indeed, it is precisely at this point that general programs are most needed and make most sense. At one end of the continuum, population control programs are impracticable, at the other end largely unnecessary. Societies such as Puerto Rico and perhaps Jamaica are in the intermediate stage, where educational levels and economic development have reached a point at which educational programs in the family planning sphere can help to precipitate *some* of the necessary conditions, but do not have to work in a complete vacuum. *Without* such programs, these societies may eventually reduce their fertility to modern levels; but our Caribbean studies indicate that such natural processes will be tortuous, slow and uncertain.

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