INFLUENCES AFFECTING FERTILITY IN URBAN AND RURAL LATIN AMERICA

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One of the most challenging tasks of social science in the second half of the twentieth century is the study of relevant sociological phenomena using modern tools of social survey research in developing areas. Human fertility in Latin America is precisely a case in point. To gain a deeper insight into the dimensions of human fertility in its Latin American setting, the Latin American Demographic Center (CELADE) is carrying out a series of studies in which the modern tools of social survey research are being applied. Besides giving a brief overview of these efforts, the aim of this paper is to compare some preliminary results of recent surveys on fertility in rural and small urban areas with those of previous surveys, which concentrated on the fertility of large urban centers. First some broad methodological considerations will be given followed by a description of the sites where the surveys were performed. Subsequently, the influence of several demographic and sociological variables on fertility will be compared for the large urban and rural-small urban areas.

GENERAL METHODOLOGICAL NOTES

Methodologically, the series of studies undertaken by CELADE to obtain a greater understanding of some of the dimensions of human fertility in Latin America may be characterized by the following properties.

The Studies are Cumulative

The first fertility survey undertaken by CELADE, and probably the first in the Latin American region, was undertaken in Santiago, Chile, in 1959.[1] This preliminary study, based on interviews with 1,970 women from 20 to 50 years of age, was followed by a large-scale comparative study of urban fertility using an amplified questionnaire in seven Latin American cities. The surveys for these cities, also covering a sample of 2,100 to 2,500 women 20 to 50 years old in each city, were conducted between the end of 1963 and the end of 1964.[2] Later, other Latin American countries studied their urban fertility using as basic documents those prepared by CELADE for the seven cities studied.

Because urban fertility is only part of overall Latin American reproductive behavior, a project was designed to study rural and small urban fertility as well. A preliminary survey in a rural area in the neighborhood of Santiago, Chile,[3] was followed by a fully organized program to study rural and small urban fertility (heretofore summarily referred to as rural fertility study) in the context of Latin American culture. The cumulative nature that is characteristic of the whole series of fertility studies directed by CELADE has been more formally integrated in the planning design of the rural fertility study, which has been divided into three temporal sequences. The first sequence is essentially a phase of pretesting all the different tools used in the survey: sample design, questionnaire, coding system and instructions for field directors, interviewers and coders. The first phase, however, has been conceived on a larger scale than is usually the case for pilot surveys. For this phase six samples of women between 15 and 49 years old were chosen from three Latin American countries and from 200 to 350 women were interviewed in the two sites in each country. As a consequence, besides its methodological objectives, the study also yielded some substantive results a few of which will be touched upon in the following parts of this paper where comparisons will be made with some of the results of the aforementioned study of urban fertility.

The second phase will be on a scale similar to that of the urban fertility study; several more countries will participate and the sample will be representative of a large part of the rural and small urban areas of these countries. In the third phase, again following the pattern of the urban fertility study, it is hoped that several other countries will join and study their rural and small urban fertility patterns using the research tools developed by CELADE.

The questionnaire used in the rural fertility study differs in two

important respects from the one used in the urban surveys. First, the former is a questionnaire especially adapted to women with low education in rural and small urban areas of Latin America. Care has been taken to use as simple language as possible and to phrase the questions mainly in terms of the spheres of interest of such women. Secondly, the questionnaire integrates several new features, partly the results of the experience of the urban fertility study and partly the result of developments in similar studies elsewhere in the world.

The rural fertility study also incorporates a recommendation of the Committee on Comparative Studies of Fertility and Family Planning of the International Union for the Scientific Study of Population. The recommendation is that two series of information on fertility and on some socioeconomic variables be obtained. One set of information is gathered by detailed interviewing through the questionnaire for the women falling into the sample. The other information is obtained in a more succinct way from all the women in households within the sample areas and age limits. This allows for comparisons between women in the sample and those of a larger population. It will also serve to indicate whether the collection of data can be improved through the use of more elaborate means in the questionnaire. Finally, it permits the calculation of some fertility measures based on a larger number of women than those contained in the sample. The data examined here refer only to those obtained through the questionnaire.

The Studies are Comparative

Probably never before in the short history of human fertility survey research has fertility been studied in such a systematically comparative way. The comparative element does not consist of a loose coordination of somewhat different modes of fertility research in Latin America. Rather, it is a well planned effort to bring different Latin American research institutes together under the guidance and supervision of CELADE through regular organized sessions, methodological publications, continuous correspondence and personal visits of CELADE staff members, as well as through the use of the same basic sample design, identical questionnaire and coding systems with concomitant instructions to study human fertility in their respective countries. With these basically identical research tools, an effort is made to analyze fertility behavior and structure in a series of Latin American countries that can be plotted on different points along a scale of socioeconomic development, thus allowing at the same time the

study of differential fertility in and between these countries as well as a transversal study of the demographic transition in Latin America.

The Contents of the Studies are Polyvalent

Were it not for the fact that actually several fertility surveys in Latin America have been executed that are weak in the measurement of their most basic dependent variables, it would scarcely need stressing that extreme care is used to obtain accurate demographic information on the level of fertility. It is obtained not only by the use of a carefully designed pregnancy history especially adapted for women with little or no education, but also by making the field director and his interviewers and coders sensitive to the various imperfections of this instrument as known from previous experiences. Similar care is taken to obtain accurate information on infant mortality and spontaneous and induced abortions. However, it is readily admitted that careful measurements of abortion, especially induced abortion, need special survey methods.[4] Furthermore, it is recognized that fertility may be pictured as a complex knot in which the cords of sociological, psychological, ecological and economic variables are closely intertwined and knitted together. In an effort to at least partially untie this complex knot, the questionnaire is intended to integrate the search for the influence of sociological, psychological, ecological and economic factors. No claim is made that all independent variables have been included; neither is it claimed that those that have been included are measured in the proper way. Due to the rather undeveloped state of the social sciences in Latin America, CELADE very often was obliged to experiment and to develop measures of variables that are not directly under the realm of demography. This is especially true for the measurement of communication patterns and of attitude variables such as traditionalism and religiosity, and of such socio-economic variables as occupation, income and consumption.

This paper will not touch all these variables. It will be limited to some of the intermediate variables affecting fertility patterns as they were defined by Davis and Blake several years ago.[5]

THE AREAS UNDER COMPARISON

The data used for comparative purposes in this paper thus refer to the two series of fertility studies previously mentioned: the comparative study of urban fertility in seven Latin American countries

and the first phase of the rural fertility study in three Latin American countries. First the areas of the urban fertility study will be briefly indicated. Second, due to the fact that this paper contains the first information ever published on the rural fertility studies, a more elaborate description will be given of the areas where the rural fertility surveys have been performed. Since Chile has been included in the first phase of the rural fertility study, occasional comparisons will be drawn with the results of the previously mentioned fertility study of Santiago in 1959.

Areas of the Urban Fertility Study

The cities under study differ not only in their general socioeconomic context, belonging as they do to countries of different socioeconomic development and cultural background. They differ also in their internal ecological organization. Three of the seven cities are the largest ones of the region (Buenos Aires, Mexico City and Rio de Janeiro). Two are medium-sized capitals (Bogotá and Caracas) and the remaining two belong to the category of small cities (Panamá and San José, in Costa Rica).

Areas of the Rural Small-Urban Fertility Study

The principle in selecting the areas for the pilot surveys in the rural fertility study was to choose in Colombia, Chile and Mexico two areas of quite different or even opposite socioeconomic and cultural characteristics so as to submit the research tools to very diverse conditions, expecting at the same time to find some fertility differentials between the two areas in each country. Most of the areas described below consist of an urban and a rural sector. Normally, the urban part possesses some of the amenities of modern life such as electricity, water and sewage system. The rural sectors generally do not have any of these facilities.

Colombia. Two distinct geographical areas with significant differences regarding level of general development, type of activities, ethnic composition, family structure, influence of religion, communication facilities, proximity to a large city and other features were selected for the surveys. One area belongs to what is usually designated as the "Caribbean region," with cattle raising and a more diversified subsistence agriculture as predominant activities of the population. The influence of the Catholic Church is weak in this region. Consensual unions are frequent and sexual mores are rather free. The bulk of the

population consists of Mulattoes, although some settlements have a mixture of Indians and whites as well. The sites selected in this region were located in the municipalities of Turbana and Calamar in the Department of Bolívar, at a distance of between 55 and 105 kilometers from Cartagena, a city of about 250,000 inhabitants. Some of them are connected with Cartagena by roads accessible only during the dry season. To designate these sites the name of Cartagena will be used in this paper.

The other area is Neira, located in the Colombian Andes in the Department of Caldas, at an altitude of about 2,000 meters above sea level and about 20 kilometers from Manizales, a city of almost the same size as Cartagena. The activities of the area are primarily monocultural and are related to coffee, which is the backbone of Colombia's economy. Racially the mestizo type dominates. Catholicism is much stronger in this area. Consensual unions are much less frequent, and sexual life adheres more to strict rules. While people in the rural areas around Cartagena are living in concentrated settlements, the population of Neira outside the urban core is well dispersed over very mountainous land, which presented many difficulties for the interviewers.[6]

Chile. Although the population and culture of Chile are much more homogeneous than those of either Colombia or Mexico, a similar effort was made to select two areas with very diverse characteristics. One is a municipality (Mostazal, in the province of O'Higgins) comprising a small town and its surroundings in the relatively rich central valley where the agricultural exploitation takes place primarily in large holdings and which has received some modernizing influences. The town with some incipient industrial activity is located near the Pan American highway and on the railway 63 kilometers south of Santiago, the nation's capital. Mostazal also lies 22 kilometers from a medium-sized city that is the center of an area of importance, both in terms of its mineral resources (the world's largest covered copper mine is located here) and its agricultural and cattle raising activities.[7]

The second site is in a rather remote area (Cauquenes and Chanco, in this paper referred to as Cauquenes) in the province of Maule, which is located in the coastal mountains of Chile away from the Pan American highway and about 400 kilometers from Santiago. While the previous area is more or less representative of average rural Chile, this area is among the poorest in Chile. Agricultural activities conducted here in a poorly irrigated, hilly terrain are much more traditional and are developed primarily in medium- and small-size

holdings. The city of Cauquenes, with an important wine industry and other activities of secondary importance, is the capital of the province. As in Colombia, the spatial settlement structure of this area is very different from that of Mostazal. In Mostazal, the rural settlements are concentrated in several clusters mostly corresponding to the different "fundos," as the big agricultural holdings are called in Chile. In Cauquenes-Chanco the dwellings are dispersed over hilly terrain and often lack the most essential means of communication.

Mexico. In a typology defining seven possible stages of economic development, one of the two sites selected in Mexico (San Juan de Guelavía and Teotitlán, here called Guelavía, in the province of Oaxaca) belongs to the very low category, and the other (Pabellon de Arteaga in the province of Aguascalientes) to the medium high. In the area of very low development, the population is predominately of Indian origin and is engaged primarily in subsistence agriculture. Cultural and social structure still are very traditional. A substantial proportion of the population speaks only Zapoteco, an Indian language, and religion is a mixture of Catholicism and pagan rites. The area is also of a rather high altitude (1,600 meters above sea level) and is located 25 kilometers from Oaxaca, a city of about 75,000 inhabitants.

The more developed area, in addition to an agricultural structure more related to exports from the area, also engages in industrial and

TABLE I. NUMBER OF WOMEN INTERVIEWED, URBAN AND RURAL AREAS

Large Urban Areas			*Rural-Small Urban Areas*		
	Women Interviewed		*Total Population*	*Percentage Rural*	*Women Interviewed*
Buenos Aires	2,136	Chile			
Rio de Janeiro	2,512	Cauquenes-Chanco	38,151	53.2	331
Panamá	2,222	Mostazal	9,656	48.2	281
Caracas	2,087	Colombia			
San José	2,132	Cartagena	7,594*	46.7**	196
Bogotá	2,259	Neira	4,147	56.2	176
México	2,353	México			
Santiago	1,970	Guelavia-Teotitlan	5,541	100.0	136
		Pabellón	10,031	38.2	229

* Estimate.

** Proportion rural as obtained in the survey.

Sources: Entidades de Población: O'Higgins, and Entidades de Población: Maule, Santiago, Dirección de Estadística y Censos, Chile, 1960; VIII Censo General de Población: Estado de Oaxaca, Tomos I y II, Dirección General de Estadística, Secretaría de Industria y Comercio México, 1964; also, data furnished by the Departamento Administrativo Nacional de Estadística.

commercial activities. While Guelavía is not provided with any of the amenities of modern life, the urban part of Pabellón de Arteaga has electricity, some telephone installations, banks and schools. Its establishment is associated with the construction of one of the important irrigation dams of Mexico, and because of this, it has received an important modernizing influence. Pabellón is served by the railway that connects it with Mexico City, Juarez City and Torreon. It is located two kilometers from the Pan American highway.[8]

The number of women interviewed in the different sites is given in Table 1. For the places of the rural fertility study, besides the number of women, the total population of the area is given together with the proportion rural when this was available. In comparing the results of the rural fertility study four limitations should be kept clearly in mind. First, the urban fertility data are based on a definite survey while the first phase of the rural fertility study is essentially a pilot undertaking, which will serve as a basis for a definite study. Second, and for the same reason, the sample size used in the first phase of the rural fertility survey is much smaller than that for the urban. Third, although the urban fertility is representative only of a major city, it nevertheless is representative of a large part of the urban areas of

TABLE 2. LIVE BIRTHS FOR ALL WOMEN INTERVIEWED

	Large Urban Areas			*Rural-Small Urban Areas*			
				Unstandardized		*Standardized*	
	Unstandardized	*Standardized (by Buenos Aires age distribution)*		*(Including age group 15-19)*	*(Excluding age group 15-19)*	*(by Cauquenes age distribution)*	*(by Buenos Aires age distribution excluding age group 15-19)*
	(1)	*(2)*		*(3)*	*(4)*	*(5)*	*(6)*
Buenos Aires	1.49	1.49	Chile				
Rio de Janeiro	2.25	2.48	Cauquenes	3.05	3.85	3.05	4.24
Panamá	2.74	3.14	Mostazal	3.48	4.29	3.66	4.98
Caracas	2.97	3.42	Colombia				
San José	2.98	3.28	Cartagena	3.71			
Bogotá	3.16	3.64	Neira	3.71			
México	3.27	3.79	México				
Santiago	2.38	2.51	Guelavia	3.80	4.40	3.58	4.88
			Pabellón	4.16	5.21	4.50	6.03

the particular countries, since these cities present an important proportion of the total urban area. As may be concluded from the previous description, an effort has been made in the rural fertility study to select areas with different characteristics. But it is evident that these samples cannot be considered as representative of the whole rural areas of the particular countries. Fourth, the surveys of urban and rural fertility have been performed at different points in time.[9]

LEVEL OF FERTILITY AND AGE DIFFERENTIALS

From Table 2, where average numbers of live births for all women interviewed in the several sites of the urban and rural fertility studies are shown, three conclusions may be drawn. First, important differences occur in urban fertility, which to a certain extent may be correlated with the general socioeconomic and cultural context of the respective countries in which the cities are located. The level of fertility in Mexico City, the highest as measured by the average number of live births, is more than twice that of Buenos Aires, the city with the lowest level of fertility.

Second, as for rural fertility, differences seem to exist in the rural small-urban fertility levels of various Latin American countries. Chile has the lowest level followed by Colombia and then Mexico, which has the highest average number of live births of the places included in the survey. The range of variation, however, is not as wide as for the cities. This may be because the first phase of the rural fertility study covers only a very limited part of Latin America or because the degree of homogeneity of rural small-urban fertility is higher than is the case for the urban, presumably because the different cities have been subject to different degrees of modernization. Although the two localities in Colombia have exactly the same average number of live births, about the same amount of differences occurs in this index for the two places selected in Chile and Mexico. Contrary to what would have been expected, the sites in Chile and Mexico presenting the higher figures are those communities that on most accounts have been receiving more modernizing influences.

The third and probably the most important aspect for the purposes of this comparison, is that the differences between urban and rural-small urban fertility are relatively significant as measured by the average number of live births. In comparing the figures of the urban and rural fertility studies, it should be taken into account that

TABLE 3. AGE DISTRIBUTION AND AVERAGE NUMBER OF LIVE BIRTHS FOR ALL WOMEN INTERVIEWED

Large Urban Areas

Age Groups	Buenos Aires		Rio De Janeiro		Panamá		Caracas		San Jose		Bogotá		Mexico		Santiago	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
Total	100.0	1.49	100.0	2.25	100.0	2.74	100.0	2.97	100.0	2.98	100.0	3.16	100.0	3.27	100.0*	2.38
20–24	13.5	0.36	21.4	0.69	26.5	1.18	25.1	1.15	20.6	1.18	23.2	1.07	23.9	1.08	17.4	0.84
25–29	13.8	0.99	17.6	1.83	19.9	2.33	20.8	2.48	19.9	2.26	22.6	2.46	20.7	2.68	19.4	1.93
30–34	18.0	1.53	18.0	2.57	16.2	3.48	16.6	3.74	18.3	3.22	18.4	3.85	17.6	3.66	18.3	2.67
35–39	19.0	1.76	15.9	2.80	14.9	3.82	14.2	4.25	16.9	4.07	15.7	4.61	14.3	4.70	14.7	3.15
40–44	17.2	1.95	11.7	3.52	11.3	3.72	10.4	4.03	11.9	4.22	10.8	4.79	11.9	5.19	14.6	2.84
45–49	15.2	1.90	11.4	3.00	9.1	3.74	10.7	4.23	10.5	4.17	8.2	4.27	9.3	4.62	15.4	3.16
50	3.3	1.96	4.0	3.06	2.1	3.46	2.1	3.21	1.9	3.71	1.2	4.89	2.3	3.83		

Rural-Small Urban Areas

	Chile						Colombia						Mexico					
	Cauquenes			Mostazal			Cartagena			Neira			Guelavia			Pabellón		
	A(1)	A(2)	B	A(1)	A(2)	B	A(1)	A(2)	B**	A(1)	A(2)	B**	A(1)	A(2)	B	A(1)	A(2)	B
Total†	100.0	100.0	3.06	100.0	100.0	3.50	100.0	100.0	4.89	100.0	100.0	6.10	100.0	100.0	3.81	100.0	100.0	4.16
15–19	18.1		0.03	21.1		0.15	23.2		1.50	24.5		1.60	14.1		0.23	21.6		0.35
20–24	19.3	23.5	1.24	19.7	24.8	1.86	18.0	23.5	2.28	16.7	22.2	2.87	13.3	15.5	1.40	15.0	19.1	2.12
25–29	15.0	18.3	2.22	13.8	19.9	2.64	17.0	22.1	4.16	15.0	19.8	4.85	21.5	25.0	3.06	17.2	21.9	4.03
30–34	12.8	15.7	3.33	12.0	15.5	4.66	12.4	16.1	5.43	13.8	18.3	7.20	22.2	25.9	4.43	18.9	24.1	4.72
35–39	12.8	15.7	4.95	14.3	15.9	5.86	13.4	17.5	6.91	15.6	20.6	7.65	14.1	16.4	5.65	11.9	15.2	7.67
40–44	12.2	14.9	5.70	10.0	15.1	6.65	10.3	13.4	7.95	9.6	12.7	10.27	7.4	8.6	5.13	7.0	9.0	8.50
45–49	9.8	11.9	7.31	9.1	8.8	7.30	5.7	7.4	7.91	4.8	6.4	5.00	7.4	8.6	6.50	8.4	10.7	8.05

A: per cent distribution; A(1): per cent distribution including age group 15-19; A(2): per cent distribution excluding age group 15-19; B: live births per woman.

* Base of percentage includes category "age unknown."

** Figures refer to live births per woman ever pregnant.

† Differences in this and subsequent tables with figures of Table 2 arise from excluding from the total women who did not answer.

the former, in contrast with the latter, do not include women 15 to 19 years of age and do include women of age 50. This tends to exaggerate the urban average number of live births thus reducing the difference with the rural, as reflected in the figures of Columns (1) and (3) of Table 2.

Only in the unlikely case that the average number of live births for age group 15 to 19 and for age 50 would be the same as the overall figure, would the comparison be straightforward. The rural-urban differences are thus larger than may be deduced from Columns (1) and (3) of Table 2. However, even disregarding this influence, for all but one location, Cauquenes in Chile, all the figures for the rural areas have higher values than the cities. If the average numbers of live births for the rural areas are calculated omitting age group 15 to 19 so as to make them more directly comparable to the urban figures, the rural-urban fertility difference looms even larger (column (4) of Table 2). If the figures for the rural areas are compared with the urban figures for the respective countries they are always higher. The fact that rural-urban fertility differences in Latin America are obtained using survey methods confirms their existence as shown when child-woman ratios are calculated from census data obtained from urban and rural areas.[10]

The age distribution may exert a considerable influence on the overall level of fertility. How the influence is exercised depends on the particular measure of fertility used. When using average number of live births as a measure of fertility and comparing the fertility of a population with a younger age distribution with that of an older population, this measure will tend to reduce the difference in fertility level. This is opposite to what would happen if birth rates or fertility rates would be used to measure fertility. This may be easily seen when comparing in Table 2 the standardized figures, especially those standardized with the age distribution of Buenos Aires as the standard population, with the unstandardized figures. The average number of births increases for all places when using the age distribution of Buenos Aires as a standard. Table 3 clearly shows that the age distribution of Buenos Aires is strikingly older than for the remaining cities with the exception of Santiago, which is somewhat between Buenos Aires and the other large urban areas. The same is true when the comparison is made with the rural-small urban areas. But except for Buenos Aires and Santiago, it cannot be said that the age distribution of the women interviewed in the rural areas is generally

younger than in the urban areas. The rural areas in Mexico, especially Guelavía, even have an older age distribution than does Mexico City.

It may thus be concluded that had fertility rates been available, differences in them would generally be due only in a minor degree to differences in age distribution. That a real difference is seen in fertility independent of the age distribution between the urban and the rural-small urban areas is evident when comparing the age-specific average numbers of live births for the corresponding areas. The difference becomes particularly impressive when concentrating on the values for age groups 40 to 44 and 45 to 49, which may be considered as measures of completed fertility. All the available values for the rural areas, even those of Cauquenes, which has the lowest overall average number of live births for the rural areas, are substantially higher than those for Mexico City, which, among the large urban areas, has the highest figures for those age groups.

NUPTIALITY PATTERNS AND LEVEL OF FERTILITY

The distribution and average number of live births by marital status are given in Table 4. It should be noted that the table for the large urban areas is not strictly comparable with the one for the rural-small urban areas on two accounts. As indicated before, the rural-small urban samples include age group 15 to 19, which was excluded from the urban fertility study, and it excludes women of age 50, who were included in the urban surveys. This, of course, inflates the proportion single in the rural fertility study as compared with the urban areas. Second, the categories of marital status used differ somewhat. For the rural surveys, a distinction is made between "civil marriage only" or religious marriage regardless of whether a civil ceremony was performed. These groups were thought to be different in some of their sociological characteristics, especially in regard to the role of religion in the life of these women. Due to the very low percentages of separated and widowed from either legal or common-law marriage and of divorced in the rural surveys, the figures were collected into one category entitled "Remaining Categories" in Table 4.

In the cities, the differences are not large in the proportions single. The rural areas show more variation. It ranges from a percentage of 38.6 in Cauquenes, the lowest rural fertility, to 13.3 in Guelavía, which has the second highest fertility level. The incidence of common-law marriage is rather high in Panama and Caracas,

TABLE 4. PER CENT DISTRIBUTION AND AVERAGE NUMBER OF LIVE BIRTHS, BY MARITAL STATUS

	Large Urban Areas															
	Buenos Aires		*Rio de Janeiro*		*Panamá*		*Caracas*		*San Jose*		*Bogotá*		*Mexico*		*Santiago*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*
Total	100.0	1.49	100.0	2.25	100.0	2.74	100.0	2.97	100.0	2.98	100.0	3.16	100.0	3.27	100.0	2.38
Single	19.7	0.02	19.2	0.05	17.2	0.27	16.1		24.8	0.40	19.2	0.14	19.8	0.09	23.6	0.33
Married	73.9	1.83	64.4	2.72	41.1	3.14	51.2	3.24	55.6	3.92	63.8	3.96	61.1	4.10	61.7	3.11
Common-law marriage	0.9	1.79	5.5	3.18	26.7	3.61	15.0	4.45	7.4	3.83	4.5	3.60	7.5	4.40	3.6	2.33
Divorced, separated or widowed from legal marriage	4.8	1.82	10.0	3.04	6.5	2.78	8.5	3.80	7.2	3.85	8.1	4.17	7.3	3.64		
Separated or widowed from common-law marriage	0.7	3.86	0.5	1.58	8.5	3.05	9.1	3.44	5.0	2.80	4.4	3.10	4.3	3.37	10.9	2.70
Not specified			0.4	1.82			0.1	3.00							0.2	

	Rural-Small Urban Areas											
	Chile				*Colombia*				*Mexico*			
	Cauquenes		*Mostazal*		*Cartagena*		*Neira*		*Guelavia*		*Pabellón*	
	A	*B*	*A*	*B*	*A*	*B**	*A*	*B**	*A*	*B*	*A*	*B*
Total	100.0	3.04	100.0	3.47	100.0	4.89	100.0	6.14	100.0	3.80	100.0	4.16
Single	38.6	0.22	33.7	0.16	23.6		31.1	1.00	13.3	0.06	22.3	0.29
Civil marriage only	8.2	4.37	11.8	4.45					7.4	1.00	1.8	5.50
Religious marriage	46.2	4.78	48.0	5.34	38.5	4.51	61.1	6.35	69.6	4.90	67.2	5.32
Common-law marriage	4.0	5.08	3.9	3.82	25.1	5.69	5.4	4.63	3.7	3.40	3.1	4.86
Remaining categories	3.0	6.00	2.6	6.71	12.8	4.44	2.4	5.75	6.0	3.00	5.6	4.92

A: Per cent distribution; B: live births per woman.

* Figures refer to live births for women ever pregnant.

medium in Mexico City, San José and Rio de Janeiro, and on the low side in Bogotá, Santiago and Buenos Aires. For the rural areas, with the exception of Cartagena, the proportion in common-law marriage, contrary to what would have been expected, is low. The area of Cartagena belonging, as does Panamá City, to the Caribbean culture, has a proportion in common-law marriage that is about the same as Panamá City. A word of caution should be added when studying the proportion of single, consensually married and other marital categories for Latin America. Although much care is applied in the efforts to obtain information on marital status, no doubt the proportion single in varying degrees also includes women who presently have or have had a more or less stable relationship with a man.

The incidence of civil marriage only has some importance in Chile, probably a reflection of the more secular nature of the Chilean society, which has an impact even in rural areas. In Colombia, "civil marriage only" is practically nonexistent. This could probably be explained by the fact that a religious ceremony is usually performed in the case of a legal marriage. In Mexico, Pabellón has a low percentage of women reporting "civil marriage only", but Guelavía has a larger one, a result that again appears inconsistent with the higher degree of secularization one would have expected in the more developed site.

Regarding fertility differences based on marital status, the most important question is whether fertility differentials exist between consensually married and legally married (either religious, civil or both) women and, if so, in what sense they are different. No definite conclusion can be drawn from Table 4 to substantiate the nature and direction of the differential. Differences in opposite directions are found, and, even so, some are not large. For consensually married women live births per woman are lower than for legally married women in Buenos Aires, Santiago, Bogotá and San José. But the number of live births per consensually married woman is higher in Rio de Janeiro, Mexico, Caracas and Panamá. If any tentative conclusion may be drawn it is that fertility for the consensually married tends to be higher in those cities with a more sizable proportion of common-law marriage. Neither do the rural areas show a clear-cut relationship. All that may be concluded is that for the further study of this relationship two additional methodological requirements should be fulfilled. Proportionally larger samples of consensually married are needed, and a typology is required that differentiates between various kinds

of common-law relationships. As yet this category has been treated too monolithically in most research on this topic in Latin America.

Two basic dimensions of nuptiality are the age at first marriage and the proportion remaining definitely single. It is clear that, other factors being the same, both these dimensions can have a considerable influence on the level of fertility. Median age at first marriage for the different sites is given in Table 5 and proportion definitely single in Table 6. Buenos Aires and Santiago, with a median age at first marriage or union of 22, are clearly differentiated from the other cities, which have median ages ranging from 20.1 in Rio de Janeiro to 18.3 in Caracas. This is probably due to the fact that Santiago and, especially, Buenos Aires, belong to countries that were in the past more developed than the others and also have been more open to influences from Western Europe where age at marriage in the last 100 years has never been as low as in some of the other Latin American cities.

TABLE 5. MEDIAN AGE AT FIRST MARRIAGE OR UNION FOR LEGALLY OR CONSENSUALLY MARRIED WOMEN

Large Urban Areas	*Median Age*	*Rural Areas*	*Median Age*
Buenos Aires	22.1	Chile	
Rio de Janeiro	20.1	Cauquenes	20.9
Panamá	18.9	Mostazal	20.3
Caracas	18.3	Colombia	
San José	19.9	Cartagena	17.6
Bogotá	19.4	Neira	18.8
México	18.7	México	
Santiago	22.0	Guelavía	17.1
		Pabellón	18.1

TABLE 6. DISTRIBUTION OF SINGLE WOMEN AGED 35 AND OVER

Large Urban Areas	*Age Groups*				*Rural and Small Urban Areas*	*Age Group*
	35-39 %	*40-44* %	*45-49* %	*35-49* %		*35-49* %
Buenos Aires	11.8	9.2	9.5	10.3	Chile	
Rio de Janeiro	7.1	3.4	5.6	5.5	Cauquenes	10.5
Panamá	6.0	5.2	5.4	5.6	Mostazal	10.0
Caracas	6.1	8.7	7.5	7.3	Colombia	
San José	14.2	13.7	18.8	15.3	Cartagena	7.0
Bogotá	8.5	10.7	10.2	9.6	Neira	6.0
México	6.6	5.4	4.5	5.6	México	
Santiago	12.1	9.4	11.6*	11.0**	Guelavía	
					Pabellón	4.8

*45-50
**35-50

Although median age at marriage for the rural areas in Chile is higher than for most of the cities, it is definitely lower than for Santiago. Likewise, in the rural areas of Colombia and Mexico, median age at first marriage or union is lower than in the large urban centers. Lower age at first marriage thus seems to be a factor accounting to a certain extent for the existing fertility differences between urban and rural areas. The same cannot be said of the proportion definitely single, which is measured by percentages single in age groups 35 and over. In the rural areas the three groups comprising ages 35 to 49 have been collapsed into one age group since the five-year age groups between 35 and 49 include too few cases to be meaningful. Proportions of definitely single between urban and rural localities are not dissimilar inside the respective countries so they cannot be considered an important factor in explaining differentials between the urban and rural-small urban areas. However, these differences in the proportions definitely single are somewhat more helpful in explaining variations in fertility between cities and even more so between rural areas. The rank order of the proportion definitely single follows roughly the rank order of the average number of live births. For the cities the relation is less clear-cut. The high proportion definitely single for San José is suspicious. It certainly includes a portion of women who are not single. If San José is omitted, Buenos Aires and Santiago, with proportions of about 12 per cent, differ from the other cities, which have proportions ranging from six per cent for Panamá City to 8.5 per cent for Bogotá.

EDUCATION AND FERTILITY DIFFERENCES

That a substantial difference exists in the educational level of the interviewed women between the urban and rural-small urban areas scarcely needs comment after a quick inspection of the proportions with no education in Table 7. Only one rural locality, Neira, has a relatively low proportion for this category. The proportion without education is even smaller than for Bogotá. One can speculate on this low value. The region apparently is well provided with a rather ample school system developed with the support of the coffee growers. It might also be due to selectivity in the sample as a consequence of a deviation from the general sample scheme. In contrast with the other areas where no previously prepared population lists were used, in rural Neira lists of households were obtained from the electricity

TABLE 7. DISTRIBUTION AND AVERAGE NUMBER OF LIVE BIRTHS BY EDUCATION*

Large Urban Areas

	Buenos Aires		*Rio de Janeiro*		*Panamá*		*Caracas*		*San Jose*		*Bogotá*		*Mexico*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*
Total	100.0	1.49	100.0	2.25	100.0	2.74	100.0	2.97	100.0	2.98	100.0	3.16	100.0	3.27
No education	1.9	3.14	10.2	4.68	1.2	3.44	16.7	4.56	2.9	5.09	9.8	5.01	11.9	4.72
Some primary education	29.5	2.10	34.9	3.02	20.5	3.68	35.7	4.08	42.2	4.96	39.1	4.28	36.2	4.94
Complete primary education	38.4	1.72	21.4	2.80	24.9	3.53	23.7	3.15	22.6	3.76	20.2	3.86	22.0	4.03
Some secondary education	14.0	1.76	23.4	2.20	33.4	3.08	16.7	2.73	25.6	2.93	25.1	3.56	20.2	3.56
Complete secondary education	9.8	1.48	7.2	2.09	10.5	2.64	3.7	2.59	0.2	2.38	3.8	3.18	4.0	3.56
Some university education	6.4	1.91	2.9	2.17	9.5	2.44	3.5	2.56	6.5	2.76	2.0	3.18	5.7	3.03

Rural and Small Urban Areas

	Chile				*Colombia*				*Mexico*			
	Cauquenes		*Mostazal*		*Cartagena*		*Neira*		*Guelavia*		*Pabellón*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*
Total	100.0	3.03	100.0	3.48	100.0	4.91	100.0	6.13	100.0	3.80	100.0	4.16
No education	20.2	4.86	18.7	4.81	32.5	5.68	8.4	5.83	37.5	4.69	18.1	5.54
Some primary education	48.3	3.40	51.8	3.89	47.4	4.36	61.6	6.71	61.0	3.35	67.8	4.38
Complete primary education	13.1	1.26	13.3	2.49	13.4	4.58	11.4	5.67	0.8		8.4	1.89
Some secondary education	14.4	1.21	14.4	1.38	6.7	5.25	15.0	3.50	0.7		3.5	0.25
Complete secondary education	4.0	1.69	1.8	2.00			3.6	5.00			2.2	1.00

A: Percentage distribution; B: Live births per woman.

* Santiago is not included because of differences in the educational classification used.

company. Although this region has a remarkable electricity net, which carries electricity even to far out-of-the-way places high in the mountains, and although an effort was made to add to the lists all households without electricity, it is possible that some of these were missed and they contain precisely a higher proportion of women without education. Another possibility is that due to the very difficult terrain, interviewers tended to avoid remote dwellings.

All the other rural areas have high proportions of women without education. This is true even for the rural-small urban areas of Chile, a country that has a substantially higher literacy rate than most of the other Latin American countries. Guelavía in Mexico and Cartagena in Colombia have the highest proportions of women without education. These are probably the two least developed areas included in the study. They are, however, not the places with the highest average number of live births. Similar differences in educational level between urban and rural-small urban areas are reflected in the proportions for the other educational categories. Although sizable proportions of the women in the cities have had contact with secondary education, in the rural areas these proportions are low.

No other socioeconomic variable shows such clear-cut negative relation to fertility as does education. This relationship shows clearly in the urban as well as in the rural-small urban areas. Except for a few minor fluctuations, which are probably due to sample variations and insufficient number of cases, the relation is a straightforward negative one. It does not, however, seem to be a straightforward linear relation. Somewhere at the primary level, especially at the completed primary level, a large decrease in fertility occurs; differences for the secondary and higher levels are much less marked. Some cities even show a slight upturn at the university level. Whether this is genuine or due only to sample fluctuations cannot be decided here.

Are factors intervening that could explain the negative correlation between education and fertility? Age and age at first marriage immediately come to mind. To be completely clear about the influence of education on fertility the cross tabulations between education and fertility should be controlled for age of the woman and for age at first marriage or union. Due to the fact that level of education is a dynamic factor changing over time, it is possible that proportionally more young people are concentrated in the higher educational groups with the consequence that their average number of live births cannot be as high as for women with lower education, who would be more con-

centrated in the older age groups. On the other hand, it should not be forgotten that the group with university education (which is practically absent in the rural-small urban areas) normally contains women above a minimum age, which could inflate somewhat their average number of live births. Age at marriage is another variable that on many occasions has been shown to be positively related to education and that could thus influence fertility negatively. Nevertheless, it is difficult to accept the fact that education would be negatively related to fertility exclusively through the aforementioned intervening variables. In almost every fertility study where such tabulations have been controlled for age or age at first marriage, it has been possible to show that education exercised an independent influence on fertility.

Educational level thus can be considered as an important variable influencing the level of fertility in Latin America. In explaining the rural-urban differences in fertility the differential distribution of the women by education is an important explanatory variable. But if the series of cities is taken alone or if the series of rural-small urban locations is considered alone, differences in the educational composition between the various survey sites are in a minor degree correlated with the overall fertility level. The sharp decline in fertility at the elementary school level may have some important implications for those considering population policies in Latin America. In the event that this decline could be considered general over Latin America, universality of complete elementary education or its equivalent could bring about some important changes in the level of fertility. At the same time, it would show that no sophisticated education is required of women to bring about changes in their fertility behavior.

OCCUPATION OF HUSBAND AND LEVELS OF FERTILITY

To study the relationship between fertility and socioeconomic status an entire gamut of indicators can be used. Unfortunately, most of these indicators are not suitable for developing countries. In the fertility studies the classical ones have been retained although very often some innovation had to be made to measure them in the proper way in the environment of Latin America. These are education, income and occupation of husband and wife. Education of the wife has been shown to have a strong negative relation to fertility. Income is a much more difficult variable to handle when comparing countries. It definitely becomes difficult to measure in underdeveloped rural

TABLE 8. DISTRIBUTION AND AVERAGE NUMBER OF LIVE BIRTHS BY OCCUPATIONAL STATUS OF HUSBAND FOR LEGALLY OR CONSENSUALLY MARRIED WOMEN

	*Large Urban Areas**													
	Buenos Aires		*Rio de Janeiro*		*Panamá*		*Caracas*		*San Jose*		*Bogotá*		*Mexico*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*
Total	100.0	1.82	100.0	2.73	100.0	3.20	100.0	3.50	100.0	3.87	100.0	3.93	100.0	4.12
Higher non-manual	11.6	1.87	11.0	2.34	12.8	2.62	12.6	2.90	9.0	2.97	12.8	3.98	14.6	3.38
Lower non-manual	42.5	1.71	24.3	2.16	11.2	2.97	19.9	3.06	27.2	3.43	20.9	3.81	24.4	3.71
Manual	45.9	1.91	64.7	3.13	76.0	3.36	67.5	3.81	63.8	4.28	66.3	4.09	61.0	4.57

	Rural and Small Urban Areas											
	Chile				*Colombia*				*Mexico*			
	Cauquenes		*Mostazal*		*Cartagena*		*Neira*		*Guelavia*		*Pabellón*	
	A	*B*	*A*	*B*	*A*	*B***	*A*	*B***	*A*	*B*	*A*	*B*
Total	100.0	4.76	100.0	5.09	100.0	5.07	100.0	6.25	100.0	4.47	100.0	5.34
Traditional	8.9	4.71	1.1	3.50	1.6	5.00	1.8	7.50	40.0	4.20	2.4	8.00
Lower level agricultural	49.2	5.29	44.4	5.60	57.0	5.26	61.8	6.52	55.5	4.74	68.9	7.88
Upper level agricultural	6.8	4.69	12.8	5.04	2.5	8.00	0.9	6.00			2.5	4.50
Upper level white collar	3.1	3.00	1.7	3.67							0.6	4.00
Lower level white collar	4.2	2.88	5.6	4.60	1.7	5.50	5.5	4.00			7.3	2.25
Services	7.9	4.47	6.7	5.08	18.2	5.36	15.5	6.08	0.9	6.00	4.3	5.14
Skilled laborer	11.5	3.09	16.7	4.30	5.8	3.86	5.4	5.17	2.7	3.67	5.5	2.33
Unskilled laborer	7.9	5.87	10.5	4.63	11.6	3.79	8.2	7.00	0.9	1.00	7.9	5.00
No occupation	0.5	8.00	0.5	11.00	1.6	4.00	0.9	2.00			0.6	7.00

A: Percentage distribution; B: Live births per woman.

* Comparable figures for Santiago are not available.

** Figures refer to live births per woman ever pregnant.

regions where wages are often not paid completely in money. An effort was made to measure income in terms of consumption of the household. The results obtained have not been satisfactory. The discussion thus will be limited here to fertility in its relation to the occupational status of the husband. Since only a minority of the women are working, it is not useful to measure socioeconomic status by wife's occupation.

For the urban surveys, the occupational information was coded in six different occupational categories, which afterwards were collapsed into three classes: higher non-manual, lower non-manual and manual. These are shown in Table 8 together with the average number of live births for each group. The proportion of higher non-manual with a value of about ten per cent does not differ markedly from one city to the other. This may be an indication that for a metropolitan center to function it needs a certain minimum proportion of people in this group and that the minimum is not too different from city to city. The percentages for lower non-manual and manual set Buenos Aires aside from the other cities. In Buenos Aires about the same proportion of people is in the lower non-manual as is in the manual group. In all the other cities of Table 8, a substantially higher proportion is in the manual group as compared with the lower non-manual group. This difference is probably due to the existence of a fully developed middle class in Argentina. On the whole, fertility tends to decrease as occupational level of the husband rises, although the differences are not as pronounced as for education.

It is evident that the occupational classification used in the urban surveys cannot be applied in the rural-small urban setting. Since the methodology to measure occupational structure in rural areas of underdeveloped countries is itself underdeveloped, a classification scheme was used that purported to differentiate between lower and higher level agricultural occupations and at the same time to set apart from the more modern those traditional occupations that tend to disappear with industrialization and modernization. In such a way an occupational classification of eight categories was obtained, which will be discussed briefly:

1. Traditional occupations. In this category all traditional occupations that tend to disappear with modernization and that were not directly agricultural were classified. Examples are hand weavers, charcoal-makers, and so on.

2. Low-level agricultural occupations. Agricultural workers, sharecroppers and peons were classified together with small landowners in this category.
3. High-level agricultural occupations. This category comprises owners and administrators of large agricultural holdings and also agricultural laborers who have more prestige than do those of the previous category, such as supervisors and tractor drivers.
4. Upper-level white-collar occupations are occupations that require advanced training and that entail much responsibility and a high level of prestige, such as physician, nurse, accountant and secondary schoolteacher.
5. Lower-level white-collar occupations are those that require a certain level of training, but not as much as in the previous category. Office workers, primary schoolteachers and policemen are included here.
6. Skilled labor includes those occupations that will not disappear with the progress of modern life.
7. Service workers include shopkeepers, salesmen, waiters and so forth.
8. Unskilled labor is, again, related to sectors that will not disappear with the progress of modern life.

The percentage distribution by these occupational classes is given in Table 8. The predominance of agriculture as the main source of individual income is clearly reflected in these figures. In Chile, the proportions in the low-level agricultural category are somewhat under 50 per cent. In all the other locales they are over 50 per cent. If the two agricultural categories—low and high level—are combined, the proportions everywhere are well over 50 per cent. The proportions in traditional occupations not directly related to agriculture are low. The differences between the various sites may be a reflection of reality, but could be due to differing coding procedures since it is not always easy to specify an occupation as traditional and at the same time to distinguish it from the agricultural occupations.

As may be expected from the description of the localities, the proportions in upper-level white-collar occupations are low. In the samples for Guelavía and the two Colombian localities not a single person is in this group. In fact, it has a small importance only in Chile. The small, proportion of upper-level white-collar occupations in Mostazal

may reflect the fact that it has received more modernizing influences than have most of the other localities. The slightly higher proportion for Cauquenes than Mostazal may be due to the fact that the city, as capital and urban core of the province of Maule, has some importance. The proportion in the services should again be carefully interpreted since it is almost certain that in Colombia, part of this group would probably have been coded more accurately in the traditional sector. The remaining proportions comprise the skilled and unskilled laborers and range from 27 per cent in Mostazal to three per cent in Guelavia, Mexico, indicating the rather low level of any industrial development these regions have received. One must also remember that many of these occupations are related to road building, repair shops, garages and similar functions, which, although not bound to disappear with economic development, do not reflect the existence of real modern industry.

From the previous discussion it may be concluded that this distribution to a certain extent gives a picture of one of the most important dimensions of these localities: the occupational structure of their populations, albeit imperfect mostly due to uncertainty in the interpretation in the coding. This occupational classification, however, is not aimed primarily for use as an economic indicator, but as a means of encountering the occupational fertility differentials that may exist. In this connection, besides the aforementioned difficulty in coding the occupational distributions with the consequent possibility of blurring any real differences in fertility, the other major difficulty is that about 50 per cent or more of the population is located in the lower-level agricultural group so that the other categories very often have insufficient numbers from which to draw any conclusions. Taking these limitations into consideration, it may be said that the agricultural category, especially the lower level one, tends to have a higher average number of children. Keeping the same limitations in mind, the remaining categories seem to have lower average numbers of children although it is far from a perfect trend.

WORK OF THE WOMEN AND FERTILITY LEVEL

Table 9 shows that the proportion of women working is not too different for the series of seven cities and ranges between 30 and 40 per cent. At the same time this table clearly establishes a trend toward higher average number of live births for the nonworking women, which, of course, may be due partially or wholly to intervening factors such

TABLE 9. DISTRIBUTION AND AVERAGE NUMBER OF LIVE BIRTHS BY WORKING CONDITION OF WOMEN

*Large Urban Areas**

	All Women		*Working Women*		*Nonworking Women*	
	A	*B*	*A*	*B*	*A*	*B*
Buenos Aires	100.0	1.49	38.2	1.01	61.8	1.78
Rio de Janeiro	100.0	2.25	30.7	1.79	69.3	2.47
Panamá	100.0	2.74	38.1	2.96	61.9	3.48
Caracas	100.0	2.97	31.7	2.21	68.3	3.33
San José	100.0	2.98	39.5	1.92	60.5	3.68
Bogotá	100.0	3.16	39.0	2.36	61.0	3.68
México	100.0	3.27	34.6	2.46	65.4	3.72

Rural-Small Urban Areas

	All Women		*Working Women in the Home*		*Working Women Outside the Home*		*Working Women Inside and Outside the Home*		*All Working Women*		*Nonworking Women*	
	A	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*	*A*	*B*
Chile												
Cauquenes	100.0	3.06	17.8	3.41	9.0	2.28			26.8	3.03	73.2	3.06
Mostazal	100.0	3.46	15.5	3.19	8.7	3.50	0.4	2.00	24.6	3.28	75.4	3.52
Colombia**												
Cartagena	100.0	4.84	33.3	5.63	8.2	4.31	0.5	6.00	42.0	5.40	58.0	4.30
Neira	100.0	6.16	10.2	6.30	7.0	2.25	0.6		17.8	5.14	82.2	6.34
Mexico												
Guelavia	100.0	3.79	14.8	3.80	4.5	5.00	3.7	6.00	23.0	4.39	77.0	3.61
Pabellón	100.0	4.16	7.9	2.00	10.2	2.13	2.2	4.40	20.3	2.33	79.7	4.63

A: Percentage distribution; B: Live births per woman.
* Comparative figures for Santiago are not available.
**Figures refer to live births per woman ever pregnant.

as age, marital status, education or to selective factors such as spinsterhood, childlessness or lower fertility. For the rural sites the localities in Mexico and Chile have proportions centered around or in the 20 to 25 per cent range. The Colombian localities with a percentage of 17 in Neira and 42 in Cartagena, are at the low and high ends of the scale for working women. Again, one should be careful in accepting these figures at their face value.

Since it is known that many of the women working do so at home in traditional occupations, the questionnaire required that the women be asked whether they were working inside or outside the home or both. With one exception, Pabellón, many more women are working inside the home than outside. Those who work in both places represent very small proportions. No clear-cut difference exists in fertility between working and nonworking women. In the two Chilean places nonworking women have somewhat higher fertility, but the differences are so small as not to have any significance. In Mexico and Colombia, the differences are larger, but in both countries opposite trends are found for the two sites within the countries. Neither can anything systematic be concluded from the comparison of the women working inside and outside the house. Only in Colombia is the relation clear cut in the sense that women working outside the home have lower fertility. It may thus be tentatively concluded that the occupations in which women of rural-small urban areas work are still too much linked to traditional modes of life to have any significant unidirectional influence on fertility.

THE USE OF FAMILY PLANNING

An important problem is whether family planning practices play a role in the fertility differentials between urban and rural-small urban areas. In Table 10, percentage distributions are given according to the number of methods ever used. The same table also gives the proportion of women who have never used family planning methods. Generally, these proportions are much higher in the rural-small urban areas than in the large urban centers. Mostazal's proportion of "never users," which is the lowest among the rural localities, is still higher than the proportion for Mexico City, which has the highest proportion among the cities. The interview records for one rural locality, Guelavía in Mexico, do not indicate even one user. That the cities differ from the rural-small urban areas not only in the proportion of nonusers,

TABLE 10. DISTRIBUTION OF LEGALLY OR CONSENSUALLY MARRIED WOMEN BY NUMBER OF SCIENTIFIC FAMILY PLANNING METHODS EVER USED

Number of Methods	*Large Urban Areas**						
	Buenos Aires	*Rio de Janeiro*	*Panamá*	*Caracas*	*San Jose*	*Bogotá*	*Mexico*
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
None	21.7	49.0	52.6	42.7	37.0	61.3	63.8
One	40.1	33.8	23.4	25.0	31.7	19.2	20.3
Two	24.8	12.2	14.8	20.8	18.1	12.0	9.2
Three	9.1	3.7	5.2	8.8	9.8	4.6	4.4
Four or more	4.3	1.3	4.0	2.7	3.4	2.8	2.3

	Rural-Small Urban Areas					
	Chile		*Colombia*		*Mexico*	
	Cauquenes	*Mostazal*	*Cartagena*	*Neira*	*Guelavia*	*Pabellón*
Total	100.0	100.0	100.0	100.0	100.0	100.0
None	90.1	67.0	87.2	76.0	100.0	95.0
One	6.6	18.8	7.4	18.3		2.3
Two	1.5	7.3	2.7	4.8		0.9
Three and more	1.9	6.9	2.7	1.0		1.8

* Figures for Santiago are not available.

TABLE 11. PROPORTIONS OF LEGALLY OR CONSENSUALLY MARRIED WOMEN EVER USING FAMILY PLANNING, BY EDUCATION

Level of Education	*Large Urban Areas**					
	Buenos Aires %	*Rio de Janeiro* %	*Caracas* %	*San Jose* %	*Bogotá* %	*Mexico* %
Total	78.3	57.8	60.0	65.6	39.8	43.2
No education	42.9	39.6	35.5	45.4	14.5	12.4
Some primary education	75.6	47.7	53.5	54.2	28.6	28.7
Complete primary education	81.9	61.6	70.8	69.8	40.1	86.2
Some secondary education	75.4	70.1	76.9	79.0	59.1	57.6
Complete secondary education	83.4	73.9	66.7	66.7	74.5	65.4
Some university education	72.3	73.5	77.8	81.0	73.9	59.7

	Rural-Small Urban Areas					
	Chile		*Colombia*		*Mexico*	
	Cauquenes	*Mostazal*	*Cartagena*	*Neira*	*Guelavia*	*Pabellón*
Total	10.0	33.3	11.5	17.5		5.0
No education	3.2	25.0	8.3			2.4
Some primary education	5.6	30.2	10.7	12.9		3.9
Complete primary education	20.0	48.1	20.0	20.0		25.0
Some secondary education	30.6	48.0	33.3	47.6		

* Figures for Panama and Santiago are not available.

but also by a more sophisticated use of family planning methods appears from the remaining distribution by number of methods in the same table. In all the cities at least 15 per cent or more have used two or more methods, but for the rural localities only Mostazal with a percentage of 14.2 has a relatively high figure, although it is still well below most similar figures for the urban areas. The other rural areas have figures that barely reach five per cent for the proportion of women ever having used more than one method. Thus a real difference exists between the urban and rural-small urban areas, which should have an effect on fertility.

To a certain extent a higher use of family planning methods also runs parallel with lower fertility, taking the cities or the rural areas alone. The relation, however, is not perfect. Cauquenes, which has the lowest average number of live births, nevertheless has a proportion of nonusers that is higher than the figures for Cartagena and Neira. It should be stressed that the measure used is a very imperfect one. It takes into account neither the differences in efficiency between the methods nor the regularity with which they were used and the extent of time over which they have been used.

Because a strong negative relation has been found between education and fertility, the proportions of ever-users have been calculated for the different educational levels (Table 11). An examination of this table shows that the decrease in fertility with higher educational level is in no minor degree due to a larger use of family planning methods among those who have a higher level of education. Although in some cases the tendency is for family planning practices to increase at the primary and especially the completed primary level, this is not as universal as the decrease in fertility, especially in the rural areas.

CONCLUSION

In this paper an effort was made to unravel some of the cords of the complex knot of fertility. Some of the strings thus discovered seem to be important ones such as those of age at marriage and, especially, education and family planning practices. Others do not seem to lead very far either because they are not important variables in explaining fertility differentials between the rural-urban areas (age distribution, work of the woman) or because they probably have not been measured in a fully adequate way (occupation of husband). The second phase of the rural fertility study should study in greater depth

the relations of these and other variables with rural-small urban fertility. In a later paper attention will be directed to the more social-psychological factors, such as attitudinal and motivational structures of the interviewed women as they are translated into fertility ideals and as they are related to fertility and the various family planning practices.

REFERENCES

[1] Tabah, L. and Samuel, R., Chile: Resultados preliminares de una encuesta de fecundidad y de actitudes relatives a la formación de la familia, Santiago, Chile, CELADE A/26.

[2] For further details in the urban fertility surveys *see*: *The Programme of Comparative Fertility Surveys being conducted by the Latin American Demographic Centre,* United Nations document E/CN.9/AC.6/R.24; Miró, C. A. and Rath, F. J. C. M., Preliminary Findings of Comparative Fertility Surveys in Three Latin American Cities, *Milbank Memorial Fund Quarterly,* 43, 36-62, October, 1965, Part 2; and Miró, C. A., Some Misconceptions Disproved: A Programme of Comparative Fertility Surveys in Latin America, *in* Berelson, B., *et al.,* FAMILY PLANNING AND POPULATION PROGRAMS, Chicago, The University of Chicago Press, 1966.

[3] La fecundidad rural en Latinoamérica: una encuesta experimental para medir actitudes, conocimiento y comportamiento, *Demography,* 2, 1965.

[4] CELADE is developing at present a program of comparative studies of induced abortion in three Latin American cities (Bogotá, Buenos Aires and, Panama). *See*: Requena, M., Programme of Comparative Studies of Induced Abortion and Usage of Contraceptives in Latin America, January, 1967.

[5] Davis, K. and Blake, J., Social Structure and Fertility: An Analytical Framework, *Economic Development and Cultural Change,* 4, April 1956.

[6] The pilot surveys in Colombia have been conducted as a cooperative program with the Asociación Colombiana de Facultades de Medicina. The directors of studies were Abel Dueñas in Cartagena, and Nelson Lenis Nicholls in Caldas.

[7] Maps and other informative material prepared by Ligia Herrera for her doctoral dissertation, La Región de San Francisco de Mostazal; Un Ensayo de Análisis Geográfico Regional con fines de Planificación, Santiago, University of Chile, were used in the preparation of the report prior to the selection of Mostazal as a site for the study and for the design of the sample later on.

[8] The pilot surveys in Mexico have been conducted as a cooperative program with El Colegio de México and the Instituto de Investigaciónes Sociales of the Universidad Nacional Autónoma de Mexico. The director of the studies was Raúl Benítez Zenteno, who also directed the Mexico City survey.

[9] The program of comparative fertility studies has been conducted with the financial support of the Population Council. The University of Cornell International Population Program collaborated in the early phases of the urban surveys series. The Community and Family Study Center of the University of Chicago has provided the tabulations for these surveys and is actively participating in the rural-small urban study, having facilitated the services of James Peterson for programming the tabulations with Data-Text, which have been used in this paper, and others that will serve as a basis for evaluation of the pilot surveys and for further planning. Albino Bocaz from CELADE staff was responsible for the design of the samples used both in the urban as well as in the rural fertility surveys.

[10] Carleton, R. O., Fertility Trends and Differentials in Latin America, *Milbank Memorial Fund Quarterly,* 42, 15-31, October, 1965, Part 2.