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REVIEW DRAFT

CULTURE, MIGRATION, AND FERTILITY IN PERU

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CULTURE, MIGRATION AND FERTILITY IN PERU

Recent analyses of fertility in Peru have revealed an apparently anomalous relationship between fertility levels and stage of economic development among the provinces and departments of Peru.[1] Specifically, fertility was found to be moderately positively related to urbanization, literacy and speaking of the Spanish language only.[2] The fertility of mothers (as measured by children ever born) was especially closely related to the language variable. The incidence of motherhood, however was higher in the non-urban, Indian areas.

There are at least two possible interpretations of the fertility difference between the Spanish and Indian cultural areas in Peru. One of these is that the lower fertility of Indian areas is an unintended consequence of some set of social and cultural arangements that differs from that found in the Spanish culture area. The other interpretation suggests that it is the result of consciously motivated behavior intended to reduce or limit the number of offspring. The test of which of these interpretations, or both or neither, is correct has been difficult because of the lack of relevant data, especially for the Spanish speaking area. A considerable

number of anthropological studies of Indian communities is available and a much smaller number of studies of Spanish speaking Mestizo communities. Based upon a review of these studies Professor Stycos has suggested the following as a possible interpretation of the lower fertility of Indian areas.

> (1) "In Indian communities pre-marital relations and pregnancy as a result of such unions results in little social disapproval.
>
> (2) In Indian communities marital relationships are relatively unstable.
>
> (3) In the light of the liberal attitudes toward sex and illegitimacy, it is not unlikely that cohabiting relationships in Indian communities are contracted fairly late."[3]

Therefore, "the permissiveness about sexual relations encourages Indian couples to delay the establishment of cohabiting marital arrangements longer than is characteristic for Mestizos, and the cohabiting relationships once entered into are less stable than those entered by Mestizos."[4] Granting for the moment the truth of the interpretation it is likely, as Stycos has suggested, that economic development accompanied with integration of the Indian population into the national culture would have the effect of raising national fertility rates by bringing the Indian areas up to the level of the Spanish speaking sector of the population.

The whole argument gathers added force when we note that a similar situation occurs in Jamaica where the unstable,

transitory nature of the sexual and marital relationships of lower class groups results in reduced fertility due to "lost time" between unions and the high percentage of unions that involve a visiting rather than a cohabiting relationship.[5]

Some evidence suggests, at least on the surface, that the hypothesized lower stability of unions in Indian areas is nonexistent. First, the rate of consensual unions is higher in the non-metropolitan Spanish speaking areas and, second, the illegitimacy rate is higher than in Indian areas.[6] It is not surprising to find that both high consensual union rates and high illegitimacy rates occur together since all births to consensual unions are illegitimate regardless of the stability or length of the union. Without further information it is not logically correct to say that high rates of consensual union and the accompanying high rates of illegitimacy imply high instability of marital behavior. It is logically possible for consensual unions to be as stable or even more stable than legal marital unions in the sense of being free from permanent dissolution of the union. In fact, one recent paper suggests that youthful legal marriages may be more unstable than youthful consensual unions. In the case of premarital pregnancy where the man involved will not accept even a consensual union with the girl, the parents

force, by legal means, a legal marriage which breaks up soon after the birth of the child.[7] Secondly the difference in stability of legal as compared to consensual unions may be different in the two culture areas.

Focusing attention upon labor force participation, another report finds that about one-third of the variance in fertility (completed fertility of mothers) is explained by the sex ratio for the reproductive years and female labor force participation while another one-third is "due" to speaking the Spanish language.[8] Labor force participation, which is higher in the Indian areas, was found to have more effect in reducing marital fertility than in reducing marriage.[9] Therefore, the author suggests, if employment reduces fertility by reducing family size among married women rather than in delaying marriage some method of birth control may be in use in the Indian area.[10]

> Taken as a whole the findings do not rule out the possibility that the lower fertility of the Indian-speaking areas is due to involuntary causes. However, in the opinion of the writer, they give sufficient encouragement to the idea that some form of voluntary birth control may exist in the Indian-speaking areas of Peru.[11]

Heer does not suggest however, that modern contraceptives are used but, rather, abortion, coitus interruptus, and lengthy post-partum taboos are offered as methods that may be in use.[12]

The social and economic development of Peru has for centuries been forced to obey some, perhaps broad, but nevertheless rigid limits set by the two most imposing characteristics of the country. These are (1) the startling contrasts in altitude and topography between the western coastal strip and the high mountain area (almost two-thirds of the country's population is located in the mountains): and (2) the sometimes equally startling contrasts in culture between the Spanish speaking creole primarily coastal sector and the primarily mountain dwelling Indian cultures. The limitations of climate, topography, and communication, set by these have resulted in a number of social indicators of development being closely related to them. Urbanization has been primarily confined to the coast, large scale agriculture is now confined mainly to the coast, industry other than mining is virtually limited to coastal locations, good educational facilities are mainly confined to the coast.

It would be a mistake, however, to imply that the entire mountain area is homogeneously Indian or homogeneously underdeveloped. Two of the four largest cities in the country, Arequipa and Cuzco, are located at over 2,500 meters of altitude. The country is becoming culturally integrated at a faster rate than is usually acknowledged. Virtually all primary education is in Spanish and however inadequate it

may be it has the result of removing the language barrier to integration of the country. When the Cornell Peru Project first began work in Vicos in 1951 only a handful of young adult men could speak Spanish; now most children of school age or higher and most young adults are able tc use Spanish. There is a very large proportion of the Peruvian population partially or completely bilingual in Spanish and an Indian language. (The two main Indian languages are Quechua, the language of the Incas, and Aymara. 1961 census data on language are not yet available).

Migration has been a major force in the cultural integration of Peru. At least ten per cent of the populations of 50 per cent of the major administrative units are in-migrants from other administrative units. On the otner hand all but four of these divisions have lost more than ten per cent of the surviving people born there. A recent monograph has discussed in considerable detail the integrative effects of migration in Peru.[13] Approximately 2/3 of the population of the Lima metropolitan area are in-migrants, most of them (about 2/3) from the Andean area of the country (this is to some extent obvious since about 2/3 of the Peruvian population lives there).[14] In addition other indices of culture could be used such as clothing, chewing coca, food and drink, house type and self-identification. Large proportions of the Indian

population of Peru have made one or more steps along the road to assimilation into the national culture and society. That section of the population probably is much more important in determining social patterns at the present time in Peru than the "pure types" because of its larger size. The purpose of the analysis to be presented in the remainder of this paper will be (1) to assess the applicability of Stycos' formulation to a preliminary analysis of some data gathered in Peru in 1964-65; (2) to note its role in producing the Indian-nonIndian fertility differential; (3) to assess briefly the use of birth control among our samples and (4) discuss the role of migration in the reduced fertility of Indian areas.

Marital Behavior and Fertility

The data presented in this paper were gathered during 1964-65 in several Peruvian communities. One set of respondents consists of all currently mated women aged 15-39 from four highland communities in a single administrative district of the Department of Lima. The completion rate has not been completely analyzed as yet but with 81 completed interviews there was only one refusal. A rather large number of women were not available for interviewing because of the nature of the residence pattern in this area. Many families do not live in the village itself but out on their land up to 20

miles from the nuclear settlement. This is the only source of loss of respondents. Since the field work usually was spread over a two week period most persons who had been absent returned to the community sometime during the period.

The situation with the barriada was complicated in that there were two barriada associations in approximately the same location, one of these groups accepted the study but the other did not. Due to some physical interpenetration of the two groups it was not possible to separate completely the two entities. The results of the interviewing using the entire area as a base is given below. It should be noted, however, that the completed interviews are all from the cooperating group and that most of the refusals and "not at homes" are from the other group:

Eligible couples	100
Completed	44
Refusals	6
Not at home after at least three call backs	42
Sick	4
Husband on extended absence	4

The data on husbands are not reported in this paper but both husband and wife were interviewed with the same schedule plus a special marital history schedule for the wife only. This accounts to some extent for the high number of "not at homes" since we required both husband and wife at the same time.

Most of the "not at homes" represent subtle refusals on the part of the people in the non-cooperating barriada. We often knew that the husband was home but just refused to come to the door and had his wife tell us that he had not returned from work.

For the out-migrants from one of the mountain communities, of 24 couples known to be eligible (one or more of the couples born in the particular community and the wife aged 15-39) 19 were interviewed, 3 refused because they thought we were collecting fines for the home community; the three men had been owing fines for non-compliance with work obligations for the privilege of using communal land in the home community. Two couples were not interviewed due to the husband's absence.

There may have been some couples not known to us since our source of names was the parents or brothers of the couples who were still living in the community. There may have been some who were born in the community but who now have no remaining relatives.

The extent to which stable permanent unions are established later in Indian groups as compared to Spanish speaking respondents can be assessed to some extent by reference to Tables A and B. Indian women are compared with more mestizoized[15] women by two different measures of "Indianness." In Table A the measure of Indianness is a simple scale made up of the

responses to three questions; language used at home, language known by respondent and self-identification as Indian or not.[16] In Table B we have utilized language used at home as the measure of culture. In the first case the samples are divided into those with scores of three or more and those with scores less than three while in the second they are broken down into those using only Spanish at home and those using Quechua only or a mixture of Quechua and Spanish. Comparisons are made separately for three groups; (1) the Lima shantytown residents (barriada); (2) the mountain indigenous community residents and the out-migrants from one of the communities found to be living in coastal cities.

The evidence indicates that first sexual relation occurs at a younger age among Indian women in the barriada (17.0) than among women with low Indianness scores (18.5). The difference for the mountain women is in the same direction but is extremely small.

Among both barriada women and the mountain women the age at commencement of first union is delayed longer for the Indian women after first sexual experience (line 2 in Tables A and B). There seems to be little or no gap between the age at first sexual experience and the beginning of the first union among the less Indian women. This may suggest that those who more likely would know the chastity norms would

report behavior in conformity with them; we have little to go on in assessing the accuracy of reporting of these events and can only report a subjective feeling that suggests it is unlikely that a strong differential in reporting of these ages would have occurred. In general the Indian women have a lower mean age at first union than non-Indian women but the gap between first union and first sexual relation is greater for Indian women. (A problem with the interpretation of the time lag between first sexual experience and first marital union is that the former is based on median rather than means because of the coding employed.)

Mean age at commencement of current union, further indicates a longer delay among the Indian women and here the age at current union is higher among the non-Indian women. The relation is not clear for the mountain group, being reversed when language is used as the Indian variable. Mean age at commencement of current union is 20 and 21 respectively for the non-Indian women and the Indian women in the mountain group in Table A, while the ages are 22 and 21 in Table B. In Table A for barriada residents the Indian women formed their current unions at an average age of 22 as compared to 20 for non-Indian women while in Table B the same figures are 21 and 20, thus Indians commenced their current union from one to two years later than the other women.

We get a picture somewhat consistent with Stycos' formulation where sexual experience is initiated well before establishment of a marital union by the more Indian women, due perhaps to weaker chastity norms. The delay in establishment of a marital union may be partly due to less pressure and less need to form a more stable cohabiting relationship. Figures for current union suggest that Indian women delay even more in establishing a more or less permanent union. This result is not due to higher frequency of multiple unions among the Indian. (See Table D.)

The data from Table B have been broken down by age in Table C where each group is presented for women aged 15-29 and those aged 30-39. Turning first to the younger respondents we find that the age at first sexual relation is lower for Indian women for both barriada and mountain groups and the same delay is seen for establishment of first union though the differences are somewhat smaller. The higher age at establishment of current union (which, it will be remembered, was higher for Indian women in the barriada but the reverse in the mountain group when language was used as the Indianness measure [Table B]) can be seen to be a result of very high ages at current union for the older Indian barriada women and the older non-Indian mountain women. Virtually no differences occur in mean age at commencement of current union nor for the delay from first union for the younger women.

In addition to the confusing patterns as to age at commencement of current union among the older women, the age at first sexual experience seems to be lower among the barriada Indian women (18.0) than among the Spanish speaking (19.5) but no difference appears for the mountain women. The pattern of longer delay in establishing first union for Indian women occurs for the barriada women but not for the mountain respondents where we find a mean age of 24 at commencement of first union for the Spanish speaking women.

A rough standardization for age by averaging the means for the two age groups which amounts to direct standardization with two age groups and an equal number in the two cells of the standard population was performed and the results presented at the bottom of Table C. These data present essentially the same picture as the unstandardized data.

Though based upon relatively small differences in mean ages of 1 or 2 years and quite small cell frequencies a pattern may be discerned of relatively less stable marital behavior among the Indian women. Sexual experience is begun earlier and cohabiting relationships are established if not later at least with longer delays from the beginning of sexual experience.

To be consistent with the hypothesized pattern this behavior should lead to reduced fertility, but, it does not

seem to result clearly in postponement of the first child. Line 4 of Tables A, and B indicate that for the barriada women, the first birth seems to occur around one year earlier for the Indian women than for non-Indian respondents while for the mountain respondents (Table B) there is no difference and the difference is in the opposite direction for the mountain Indian women in Table A. On the other hand, the first birth occurs at a greater delay after first sexual experience. It appears that the earlier sexual experience of the Indian women does not result in great effects upon ages at other shifts in the life cycle, if sexual initiation occurs earlier in one group while first union, current union and first birth occur at more or less the same ages it follows logically that delays will be greater. This may suggest either (1) that the data errors discussed earlier are responsible in that the difference between Indian and non-Indian age at first sexual relation may not be a real one or (2) it may suggest that sexual norms are more relaxed among Indian families but that norms relating to cohabitation itself are essentially similar (though with some differences, of course).

Tables D and E present data relating in various ways to the relative stability of marital behavior. Pre-marital pregnancy[17] does not seem to have an obvious logical connection

with marital stability. Pregnancy not followed by marriage might indicate more accurately instability of marital institutions than premarital pregnancy followed by marriage or cohabitation. There might even be grounds for the idea that high proportions of women pregnant at time of marriage or commencement of cohabitation would indicate relative stability of marital sexual institutions.[18] At any rate, percentages of women pregnant upon commencement of cohabitation appear to be higher among Indian women for both barriada and mountain women in both Tables D and E. The differences seem to be substantial (one of the more striking differences reported in this paper). In Table D for barriada women, 44 per cent of Indian but only 25 per cent of non-Indian women were premaritally pregnant. The percentages are respectively 10 and 20 for mountain women. As can be seen in line two of Tables D and E the percentage of women who were in consensual unions, that is, not married by civil ceremony was somewhat higher among the Indian women though not extremely so, even being reversed for the mountain women in Table E.

Somewhat surprisingly the proportions with multiple unions was slightly higher among the non-Indian women ranging from 3 to 7 percentage points difference only, and with a reversal again for the mountain women in Table E.

Thus, the Indian women exhibit what we have somewhat loosely been calling an unstable marital pattern while the

proportion of non-Indian women with multiple unions is if anything higher than that of the Indian women.

Though mean age at first birth varies relatively little between Indian and non-Indian women, greater differences in number of live births appear. For the barriada group, mean live births is 4.8 for non-Indian and 3.1 for the Indian women while among the mountain residents live births are 2.6 and 4.2 respectively for non-Indian and Indian women. The data in Table G offer, however, some explanation. Live births for the younger women in both barriada and mountains are virtually the same. For the older women, the Spanish speaking barriada women and the Quechua speaking mountain women have considerably higher mean live births than the remaining women. This may be due to the fact that these two groups of women are relatively older than the Quechua speaking barriada residents and Spanish speaking mountain women.

The fertility differential found in the ecological analyses of Heer and Stycos is partially borne out in our admittedly small and not necessarily representative samples. For the Lima barriada women in Table F we find that women with high Indian scores have fewer live births than the women with lower Indian scores (3.1 compared to 4.8) and the same is true when the measure used is language (Table G) where the

mean live births are 3.2 and 4.6 for Quechua speaking and Spanish speaking respectively. When exposure to risk of childbearing is controlled (number of years since commencement of first union) live births per 100 years of exposure is again lower for the Indian women in both Table F and Table G.

Among the mountain women, however, the more Indian group has higher fertility in every case. Turning to the migrant women (who it will be remembered are not the only migrants in the study but are the out-migrants from one of the mountain communities who were residing in coastal cities), the barriada women are primarily in-migrants from mountain areas of the country (only 10 of 41 were born on the coast). We see a pattern similar to that of the barriada group, the Indian women having lower fertility than the non-Indian women.

To summarize, it appears that on an individual basis (which would not necessarily be expected to correspond to data relating to communities or administrative divisions) we find a pattern of marital behavior somewhat similar to that suggested by Stycos in that sexual experience is begun earlier and cohabiting relationships established somewhat later among the Indian women. The latter finding, however, is due primarily to the behavior of older women and relatively no difference is found among the younger women. This

pattern was found most clearly among the barriada women and less clearly among the mountain women and the migrant women. As to the possible effect of this pattern upon fertility we find that Indian fertility appears to be lower only among the barriada women and the migrant women (though the Indian cell of the migrants consists of only 5 women). Among the mountain respondents where the pattern of marital behavior does not appear we also do not find the lowered fertility of the Indian segment.

Migration and Fertility

A soon to be published study of migration and fertility in Puerto Rico[20] found that fertility was substantially lower for migrants than for non-migrants regardless of marital status or rural-urban-metropolitan residence. The finding was the same for residence five years ago and for birth place as the measures of migration.

Our study presents a somewhat different picture in Peru. The index of migration (see Table H) is not directly comparable. The coastal born respondents in terms of the Peruvian coast are not migrants. Six of them are, however, in-migrants to the city of Lima from nearby small cities. The return migrants represent women who have temporarily worked on the coast, who received their education on the coast, or who lived

on the coast while their husbands were working there, primarily as seasonal agricultural laborers. The in-migrants are made up primarily of women who have moved to one of the communities to marry. Movement among the four communities within the municipality studied was included as in-migration.

The coastal-born women consist of two groups, women born in the Lima metropolitan area and women who have moved in from nearby small cities. The mountain-born Lima residents include persons born in both urban and rural areas of the Peruvian highlands (including the 19 born in the four communities under study).

The data do not suggest any strong differences among the various migrant categories (see Table H) Migrants' and non-migrants' mean live births do not differ among the various categories of migrancy for the mountain women, nor do live births per 100 exposed years differ greatly. Migrants may have slightly higher rates than non-migrants. On the other hand, the less migrant coastal-born and coastal-resident group may have somewhat higher fertility than the in-migrant mountain born respondents. It can be seen that although mean live births is identical in these two groups, the mountain born have been exposed relatively longer (10 compared to 9 years average exposure).

One objection to the lower fertility of the non-migrants and the mountain born Lima residents could be based on a

suspicion that these groups may more readily admit early consensual unions than the remaining women and thus "appear" to have longer exposure to pregnancy than the other groups which have concealed this information.

The relationship of culture to migration presented in Table I is an interesting one though not surprising. The coastal-born respondents are, as expected, essentially not Indian; most of them were born in cities or large towns and currently reside in Lima or nearby towns. The similarity in proportions with high Indian scores between mountain-born Lima residents and the mountain community residents is not surprising since most of the mountain-born coastal residents were born and reared in very similar geographical and cultural circumstances. The lower Indian scores of the in-migrants to the mountain communities probably are due to a lowered likelihood that lower status Indian men would find a wife outside the community. The more modernized men speaking Spanish and wearing western clothes would be more likely to search outside the community for a wife and would most likely marry women on the same social and economic level. This implies a selection out of the migration process of the Indian women.

Summary and Conclusions

This paper is a preliminary attempt to test whether differing marital behavior between the two main social groups of Peru can account for the unusual finding that fertility was found to be lower in the areas of Peru with highest proportions of persons speaking an indigenous language. Since the Indian cultural and social patterns represent a lower level of economic development, the expected negative correlation between development and fertility appears to be false in Peru. We have pointed out that because of the nature of ecological correlations it is not necessarily true that just because fertility is lower in Indian speaking areas the Indians are having fewer children. It may be that the very process of culture change or the taking on of the Spanish-speaking national culture pattern is responsible for the decreased fertility of the Indian areas, that is, the groups with the lowered fertility may be the bilingual, bi-cultural groups and persons and not the "pure" Indians at all.

The hypothesis offered by Stycos that permissive sexual norms permit Indian groups to establish stable cohabiting unions later than the non-Indian groups is supported to some extent by our data, but based upon small frequencies and small differences. The hypothesis was supported among the Lima Barriada residents and not for the mountain

communities. That Indian unions once established are less stable than non-Indian unions was not supported by our data: greater proportions of the non-Indian respondents had experienced more than one marital union.

The low fertility of the Indian groups was only found to occur among the barriada residents, and not for the women of the highland communities, which may lend some support to the connection between this pattern of sexual permissiveness and fertility since the lowered fertility was not found where the behavior pattern was not found, while lower fertility did occur in the barriada where there was some support for the sexual permissiveness hypothesis.

We did not have extensive data on use of contraceptive techniques, except for answers to the question whether the respondent was "doing anything to prevent her last pregnancy when she became pregnant." It was found that higher proportions of Indian women admitted using some measure to prevent the last pregnancy. It is expected, however, that this question is particularly susceptible of differential reporting accuracy in that the Spanish-speaking modernized women are more likely to know the religious position on birth control and more likely to feel the necessity of demonstrating that they "are on the right side" to the middle class Catholic interviewers. At any

rate, only 4 women out of 53 Indian women admitted using measures to control conception. This does not preclude the use of abortion which occurs after conception, nor the successful prevention of conception (the question is worded in such a way that contraceptive failure is needed for a "yes" answer). From unstructured interviewing of key informants it is known that abortion and even infanticide are practiced in the mountain communities, most often, cases are recounted of young girls who became pregnant before marriage and wanted to cover up the fact. (The behavior was naive since they usually provoked or attempted to provoke the abortion after the pregnancy was well advanced and known to much of the community.) The method mentioned was usually taking herbs (unspecified), and jumping off a high wall with the legs spread wide. The few cases of infanticide are more likely the result of disturbed behavior while the abortion is probably fairly widespread and more or less institutionalized. These are impressionistic data and of course offer no information on relative incidence among the two cultural groups.

We have used the terms "Indian" and "non-Indian" rather simplistically. We almost always refer to two groups of people, both of which are relatively culturally mixed with a preponderance of one cultural influence or the other in

each category. One of the reasons for the small differences between the two groups indicated by our data is the fact that the dichotomy between the two was imperfect. Another problem in the interpretation of our data was the fact that we compared, within communities, the more and the less Indian individuals. The analysis of the census data by Heer and Stycos was on another level and made comparisons more on the level of comparisons between our barriada respondents and our mountain respondents, comparisons which we were unable to make since our unit of analysis is the individual and not communities or areas.

As to the effects of migration, we found some evidence that indicates that fertility is lower for persons migrating from the highlands to the coast, but that this group has surprisingly similar scores on the scale of Indian cultural traits. Fertility does not, however, seem to vary appreciably by migration among the residents of the mountain communities. An interesting selective factor seems to be operating in the in-migration to these communities of women with quite low scores on our scale.

Table A. Marital Cycle Variables By Culture and Residence.

Indianness Score	Lima Barriada		Mountain Comm.		In-Migrants	
	<3	3+	<3	3+	<3	3+
1. Median age at first sexual relation	18.5 (15)	17.0 (24)	19.1 (31)	18.7 (50)	19.0 (14)	20.7 (5)
2. Mean age at first union	19 (16)	18 (25)	19 (31)	20 (49)	19 (14)	20 (5)
3. Mean age at current union	20 (16)	22 (21)	20 (31)	21 (45)	20 (13)	20 (5)
4. Mean age at birth of first child	20 (14)	19 (22)	20 (26)	21 (48)	21 (13)	22 (5)

Table B. Marital Cycle Variables by Language and Residence

Language	Lima Barriada		Mountain Comm.	
	Span	Quechua	Span	Quechua
1. Median age at first sexual relation	18.8 (17)	17.0 (23)	19.0 (28)	18.8 (53)
2. Mean age at first union	19 (18)	18 (23)	20 (28)	19 (53)
3. Mean age at current union	20 (17)	21 (19)	22 (28)	21 (48)
4. Mean age at birth of first child	20 (16)	19 (21)	21 (23)	21 (51)

Table C. Marital Cycle Variables by Language, Residence and Age

Language	Lima Barriada Span	Lima Barriada Quechua	Mountain Communities Span	Mountain Communities Quechua
Age 15-29				
1. Median age at first sexual relation	17.5 (7)	16.7 (16)	19.0 (20)	18.2 (21)
2. Mean age at commencement of first union	18 (7)	18 (16)	19 (20)	18 (21)
3. Mean age at commencement of current union	20 (7)	20 (14)	20 (20)	20 (21)
4. Mean age at birth of first child	18 (6)	19 (15)	20 (15)	20 (19)
Age 30-39				
1. Median age at first sexual relation	19.5 (10)	18.0 (7)	19.0 (8)	19.3 (32)
2. Mean age at commencement of first union	19 (11)	18 (7)	24 (8)	20 (31)
3. Mean age at commencement of current union	20 (10)	27 (5)	25 (8)	21 (28)
4. Mean age at birth of first child	22 (10)	19 (6)	23 (8)	21 (32)
Age standardized				
1. Mean age at commencement of first union	18.5	18.0	21.5	19.0
2. Mean age at commencement of current union	20.0	23.5	22.5	20.5
3. Mean age at birth of first child	20.0	19.0	20.5	21.5

Table D. Marital Stability Variables by Culture and Residence

Indian Score	Lima Barriada		Mountain Comm.		In-migrants	
	<3	3+	<3	3+	<3	3+
1. Percent pregnant at marriage	25 (16)	44 (25)	10 (30)	20 (50)	21 (14)	0 (5)
2. Percent married civilly	44 (16)	40 (25)	71 (31)	60 (50)	79 (14)	60 (5)
3. Percent with multiple unions	19 (16)	16 (25)	16 (31)	10 (50)	0 (14)	0 (5)

Table E. Marital Stability Variables by Language and Residence

Language	Lima Barriada		Mountain Comm.	
	Span	Quechua	Span	Quechua
1. Percent pregnant at marriage	22 (18)	52 (23)	11 (27)	24 (52)
2. Percent married civilly	61 (18)	57 (23)	32 (28)	38 (53)
3. Percent with multiple unions	29 (18)	22 (23)	15 (26)	8 (53)

Table F. Fertility by Culture and Residence

Indian Score	Lima Barriada <3	Lima Barriada 3+	Mountain Comm. <3	Mountain Comm. 3+	Migrants <3	Migrants 3+
Mean live births	4.8 (16)	3.1 (25)	2.6 (31)	4.2 (50)	3.6 (14)	3.4 (5)
Births per 100 years exposure[1]	41 (16)	36 (25)	33 (31)	41 (50)	34 (14)	29 (5)

1. Number of years since commencement of first union.

Table G. Fertility by Language and Residence

Language	Lima Barriada Span	Lima Barriada Quechua	Mountain Comm. Span	Mountain Comm. Quechua
Mean live births	4.6 (18)	3.2 (23)	4.2 (28)	5.4 (53)
Age standardized live births	4.1 (18)	3.7 (23)	3.0 (28	3.9 (53)
Births per 100 years exposure	40 (18)	37 (23)	35 (28)	39 (53)

Table H. Fertility by Migration Status

Mountain Communities	Mean live births	Live Births per 100 years exp.	Mean Exposure years
Non-migrants (29)	3.7	37	9.9
Return Migrants (21)	3.6	39	9.3
In-migrants (31)	3.7	40	9.1
Coastal Residents			
Coastal born (14)	3.9	41	9.4
Mountain born (45)	3.9	38	10.1

Table I. Indian Socres and Age of Migrants and non-Migrants

Mountain Communities	Percent with scores 3+	Mean age
Non-migrants	67	29
Return migrants	67	29
In-migrants	53	29
Coastal Residents		
Coastal born	0	29
Mountain born	64	29

NOTES

* A Research Associate in the Cornell University Department of Anthropology, the author collected the data in this paper as part of the Department's Andean Indian Community Research and Development Program under the University's Contract AID/la-206 (Regional) with the Bureau for Latin America, and analyzed them as part of the Department's Comparative Studies of Cultural Change project under the University's Contract AID/csd-296 with the Office of Technical Cooperation and Research, Agency for International Development. His research was conducted as part of the program of the Cornell Peru Project, a joint organization of the Department and the then-Peruvian National Plan Plan for the Integration of the Aboriginal Population, now the Peruvian Indian Institute. The author bears sole responsibility for tne conclusions presented, which in no way reflect the policies or opinions of any supporting agency.

1. J. Mayone Stycos, "Culture and Differential Fertility in Peru," Population Studies, XVI (March 1963), pp. 257-270; and David M. Heer, "Area Differences in Fertility in Andean Countries," Population Studies, XVIII, (July 1964) pp. 71-84.

2. Stycos, p. 260.

3. Ibid., p. 265.

4. Ibid., p. 266.

5. Judith Blake, Kingsley Davis and J. Mayone Stycos, Family Structure in Jamaica. Glencoe, Illinois: The Free Press, 1961, pp. 246-50.

6. Heer, p. 75.

7. C. S. Rosenthal, "Lower Class Family Organization on the Caribbean Coast of Colombia," Pacific Sociological Review, (Spring 1960), pp. 13-14.

8. Heer, p. 78.

9. Heer, p. 79.

10. Heer, p. 79-80.

11. Heer, p. 84.

12. Heer, p. 79-80.

13. H. F. Dobyns and Mario C. Vazquez (eds.), Migracion e Integracion en el Peru, Monografias Andinas, Numero 2, Lima: Editorial Estudios Andinos, 1963.

14. Ibid., p. 48.

15. The term Mestizo refers to a person who has taken on to some extent the national Spanish-speaking culture which may or may not be related to racial mixture, but clearly relates to cultural mixture, a person becomes mestizoized by learning Spanish, wearing modern clothes, quitting the chewing of coca, etc.

16. The Indian scale scores were derived as follows:

A. Language used at home

0 Spanish

1 Quechua and Spanish

2 Quechua only

B. Language known by respondent

0 Spanish only

1 Quechua (some)

2 Quechua with ease

C. Self-Identification

0 White, Mestizo, Negro, etc.

1 Cholo

2 Indian or indigenous

The person's score on each of these items was summed to obtain his total score which could vary from 0 to 6.

17. There was some confusion apparent in the responses to this question in that sometimes the question was answered as if it referred to whether the woman was pregnant when the couple began living together and sometimes as if it referred to actual civil or religious ceremonies. Some caution is necessary, therefore, in interpreting these data.

18. W. J. Goode, "Illegitimacy, Anomie and Cultural Penetration," Readings On The Family and Society, W. J. Goode

(Editor), Englewood Cliffs ,N. J.: Prentice-Hall, Inc., 1964, p. 40. Goode was referring to peasant cultures of Western Europe which in many ways are not comparable to the situation in Peru.

19. Since our samples consist of the currently mated women in the communities studied, we have a certain bias relating to the relative incidence and prevalence in the sense that they are used by epidemiologists. Our samples reflect the prevalence of cohabitation, the proportion of the population currently in cohabiting unions. The incidence may be much higher than one would estimate from the prevalence.

Since in a group where, even if ninety per cent of the eligible people are in current unions, if the rate of turnover in unions is high, stability would be lower than in other groups with lower prevalence but also lower incidence (occurrence rates) of marital unions. Our samples indicate very little about the incidence rate of unions since we have no information on persons who are not currently in unions, some of whom may have had multiple unions.

20. G. C. Myers and L. W. Morris, "Fertility and Migration in Puerto Rico," Revised version of a paper read at the Eastern Sociological Society meetings, 1965.