

**RETHINKING THE PAST COMMUNITY DEVELOPMENT  
OF INDONESIA:  
HIV TRANSMISSION RISK IMPLICATIONS OF ESTIMATES  
OF PREMARITAL CONCEPTION**

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**Abstract**

*As the countries of Asia and the Pacific come to realize that they will need to confront the AIDS epidemic most are lacking information to help identify populations at risk, and most have no data with which to gauge levels of risk behavior in key segment of the general population. Using data from the 1987 Indonesian Contraceptive Prevalence Survey (The Demographic and Health Survey), we use marital month of first birth to derive estimates of premarital conceptions for marriage cohorts. The estimates produced suggest that the level of premarital sexual intercourse has been rising steadily since the late 1950's, but particularly fast since the mid to late 1970's. Rates specific for age at first marriage and the type of place where a women grew-up, as well as for education suggest that premarital intercourse is now prevalent and increasing rapidly in many segments of the country. The implications of these observations for the development and targeting intervention programs are discussed.*

**Keywords:** *HIV transmission, risk behaviors, premarital sex, Indonesia.*

**INTRODUCTION**

The governments of a number of Asian countries until recently denied the existence of a HIV problem (Cutler, 1988; Goldsmith, 1991; & Suhaini, 1992). Now, increasing numbers, they are moving from denial to actively seeking information which can help them

define the magnitude of their problem and target sub-populations of at risk individuals (Shenon, 1992; & World Health Organization, 1993). A number of these countries have extremely successful family planning programs, and a number, particularly those along the Pacific-rim, have undergone tremendous Modernization and Westernization since the mid 1970's (Leete, 1987; Arnold, 1990; Freedman & Blanc, 1991; & Poedjastoeti & Hatmadji, 1991). While these transitions are improving the quality of life for many individuals in these countries, they are also breaking down a number of traditional social institutions, and subjecting a large proportion of people, particularly the young, to Western culture and perceived Western ways of life. In many of these countries educational level are rising, and this along with rising economic expectations and an orientation placing greater value on consumer good is resulting in many more persons delaying marriage (Rodriguez & Aravena, 1991 & Cleland, Bicego & Fegan, 1991).

While economists and demographers have tended to emphasize the positive benefits of this, most notably a rise in the level of human resources, greater capital wealth, and a delay in the onset of child-bearing coupled with smaller family size (Gertler & Molyneux, 1994), it also possible that these same factors, combined with better nutrition and health generally, are leading to earlier sexual maturity among the young (Rathus, Nevid & Fishner-Rathus, 1993). These changes melded with the transitions discussed above may be resulting in higher levels of premarital sexual activity among young adult in these countries as the length of time between sexual maturation and marriage is increasing in the context of a breakdown of traditional institutions (United nations, 1989; Gage-Brandon and Meekers, 1993).

Although there is good evidence to suggest that many heterosexual HIV transmissions in the West are now taking place among late adolescents and young adults, data to directly address this issue are sorely lacking for the countries of Asia. Clearly, in the West the rise in teenage premarital sexual behavior is a major contributor to the rising rates of detected infections and AIDS cases among heterosexuals in their 20's and early 30's (Centers for Disease Control, 1992). While direct data on this issue is lacking for Asian countries, it would be helpful to have some information on the extent of premarital sexual activity and how this is changing, but even this is lacking the most countries. While direct quantitative data on premarital sexual activity

is lacking, it is possible to estimate the prevalence of premarital conceptions for many countries from the Demographic and Health Surveys. Accordingly, in this paper we estimate the prevalence of premarital conceptions among marriage cohort in Indonesia for the 1950's through the late 1980's. We also examine the extent to which premarital conceptions are related to some other variable.

## **DATA AND METHODS**

### **Data**

The data employed below are from the National Indonesian Contraceptive Prevalence Survey, which was the Indonesian version of the 1987 Demographic and Health Survey. The survey covered 20 of the 27 provinces within the country. While the excluded areas contained only about seven percent of the country's total population, they do contain more than two-thirds of the population with resided in the area known as Outer Java-Bali II. Eligible respondents were ever-married women between the age of 25 and 49. The sample frame included nearly 15,000 households, and of this 14,141 were contacted. Within these, there were 12,065 eligible women and completed interviews were obtained from 11,884 of these. The sample of representative of the areas covered (Central Bureau of Statistics, 1989).

Because we are interested in how patterns of premarital conceptions have changed, we first sorted women into five-year marriage cohorts. This was done using item 504 from the survey questionnaire, which asked for both month and year of first marriage (Central Bureau of Statistics, 1989: 130). Data in column one of Table 1 shows the distribution of all women (11,831) in the sample by five-year marriage cohorts using all women who reported at least the year of first marriage. Similarly, column three shows all women who reported both their year of first marriage, and that they had a first birth. Thus, of the 11,884 women who completed the survey, we could determine at least year of first marriage for 11,831 (99,5%). Of the latter 10,824 or 91.1 percent had first birth. As one would expect this percent is relatively stable (at about 96%) for women married prior to 1977, and is some what lower for women married between 1978 and 1982 and is only 69 percent for women married from 1983 to 1987.

In order to estimate premarital conceptions it was necessary for us to have both month and year of first marriage and the month and year of first birth. Data in column five Table 1 show the marital cohort distribution of women for whom all necessary information was available. This number totalled 6,719 or 56,8 percent of all women and 62.1 percent of women having a first birth. The last column in the table shows the percent of all women for whom we have the detailed data by cohort. This percent varies from a low of 31 for women married before 1958 to nearly 71 percent for women married from 1978 through 1982. Quite clearly, these data suggest that the necessity of having both month and year of first marriage and month and year of first birth may have introduced, some selectivity, and that this selectivity may vary by marital cohort.

Some data to assess the role of selectivity is presented in Table 2, but these data can also be used to highlight a number of important trends of operating on the composition of marital cohorts. For example, the average age at first marriage varies little among the three groups of women within each cohort suggesting little selectivity. There is also the dramatic and steady increase in age at first marriage, particularly for the last three cohorts observed. Among all women and among women who experienced a first birth those who married during the years from 1983 – 1987 on average married about 2.74 years later than did the comparable women who married between 1958 and 1962; about 73 percent of this increase or about 2.7 years of it occurred to the women in the last three cohorts. The women for whom we have detailed data on month and year of first marriage and first birth had their average age at marriage increase by 3.66 years with about the same percent of the increase concentrate in the last three cohorts. In short, within cohort (and by implication between cohorts) the women for whom we have detailed data appear to have experienced the same average age at first marriage and between cohorts the same pattern and magnitude of change in average age at first marriage as did all women and all women who had a first birth.

Second, data are also shown which capture the type of place where women were raised as children. Each woman was asked to identify the type of place where she grew-up until age 12 in terms of it having been a village, town or city. We expect that women, who grew up in cities, and to a lesser extent town, might be more likely to know

the month and year of their first marriage and first birth than women who grew-up in villages. Similarly, we expect that the proportion of women within successively later cohorts who grew-up in villages will decrease while those who had their origins in town and cities will increase. These patterns can be observed in the data in table 2. Within each marriage cohort the percent of women who grew-up in villages decreases as we move from all women to women who reported a first birth, to women who reported the month and year of both their first marriage and first birth. This difference, representing selectivity, however, also reduces substantially as we move from the earlier to the latter cohorts. For example, for women who married between 1958 and 1962 and 1963 and 1967 about nine percent fewer women reported detailed data than all women or women who reported a first birth, but for the two latest cohorts the comparable difference is only about three percent. Quite clearly, selectivity along this dimension varies among the cohorts, but is markedly more serious for the earlier than the later cohorts. There is also a clear pattern in the data reflecting a shift from a more village (rural) to city and town (urban) origin for women marrying in later years. About 21 percent of all women and women who reported a first birth in the cohort marrying between 1958 and 1962 grew up in cities and towns, and this percent increases steadily reaching about 32 for women in the 1983-1987 cohort. The shift in this sense is not quite as dramatic among women who reported detailed data (from 29.7 and 35.1), but this is because among these women the shift is concentrated only in the city category where it actual increased from 10.9 to 19.2 for the comparable cohorts. In other words, the women in the cohorts constructed from detailed data experienced a compositional "origin shift" from villages and towns toward cities while all women and women reporting a first birth experienced a compositional "origin shift" from villages to towns and cities.

The last panel of Table 2 shows the differential educational composition of marriage cohort constructed for women by the detail of data they reported. These data depict a pattern of selectivity within cohort, which is not surprising. Women who reported detailed data on the month and year of their first marriage and first birth were more educated than all women and women who reported a first birth; the within cohort differences between all women and women reporting a

first birth are very small. This difference, however, reduces dramatically from the earliest to the latest cohorts. For example, comparing the distribution of all women with the distribution of women reporting detailed data in the 1958 – 1962 marriage cohort yields an index of dissimilarity of 13.9, the total value for which is a product of the large difference in the percent of women with no education. Making the same comparison for the latest cohort yields an index of dissimilarity of only 4.7. In the words, having to use women who reported detailed data results in educational selectivity, but for earlier cohorts this is a markedly more substantial problem than it is for later cohorts.

Finally, these data, like those presented above depicting the rise in age at first marriage and the increasingly urban context in which young people grow up in Indonesia, show the changing educational experiences of marriage cohorts. There has been a dramatic decline in the proportion of women within marriage cohorts who have no education. Nevertheless, and despite a rise in the proportion of women who attended high school, the data also clearly document relatively few women get through high school and have the opportunity to attend post high school educational programs. Because of these small numbers, it was necessary in the analysis below to combine some educational categories. Similarly, because only small proportions of women (not even nearly half) could be included from the two earliest cohorts they are deleted from much of the discussion of the detailed analysis, but data on them is included in Table 3.

### **Estimating Premarital Conceptions**

The data presented above suggest that those women who reported month and year of both first marriage and first birth are reasonably representation of all married women in the national contraceptive prevalence survey. This is considerably more the case for women marrying in the last two cohorts than it is for women who married in the cohorts before 1977. Accordingly, we derived an estimate of premarital conceptions by making the assumption that the interval between marriage and first birth should be greater than nine months if the conception occurred after marriage. This estimated was obtained by merely subtracting the date of first birth from the date of first marriage for each woman; if the result of this operation was ten

or more the conception was assumed to have occurred after marriage. If it was nine or less the conception was assumed to have occurred prior to marriage. One major problem with this procedure is that some women may have delivered early, and this is more likely to occur among younger women. Similarly, we did not have day of first marriage and day of first birth making it likely that some women who married late in a month and delivered early in a month (or the reverse) were miscounted. To help overcome these and related problem two additional estimates were derived in essentially the same manner except with these we counted only births, which occurred within eight and then seven months of marriage. In the table 3 and 4 the nine-month estimates are referred to as "high," the eight-month as "medium," and the seven-month as "low."

It is important to bear in mind that our objective is to use "premarital conceptions" as an indicator of premarital sexual activity. Blanc and Retenberg (1991a and 1991b) have shown that estimates of premarital conceptions derived in this manner from DHS data provide good aggregate estimates of premarital sex, and the same procedure has been used extensively to estimate premarital conceptions from other surveys (U.S. Bureau of the Census, 1984; & Rosero-Bixby, 1991). In this sense we are confident that the estimates derived using the procedures outlined above are conservative; that is, they represent under as opposed to over-estimates of the number of women who engaged in sexual intercourse prior to marriage. The principle reasons for this are because some women who may have conceived as a result of intercourse could have aborted conceptions (spontaneously or induced) and not reported these. It is also possible that some women may have misreported either their date of marriage or date of birth to cover-up a premarital conception, but it seems highly unlikely that women would have purposely misreported one or the other of the dates to make it appear as though they had a premarital conception. Third, setting aside even these issues, the procedure employed above as an indicator of premarital sexual intercourse assumes that each sexual intercourse would result in a conception. In point of fact, if intercourses occurred randomly within months, or were planned to occur around ovulation cycle, even in the absence of other birth control, many women could have had multiple intercourse and never a resulting conception and first birth prior to marriage.

Finally, it is important to note that the method employed tell us only a minimum amount of information. It allows us to crudely identify those women likely to have had sexual intercourse prior to marriage, but it tells us little about the level of risk for HIV transmission even among those women who had premarital relations which resulted in a birth. We know nothing about other types of sex (other than vaginal) that these women may have engaged in or their frequency. We know nothing about the partner that produced the conception or about the number of partners and any of their risk characteristics that women may have had sex with. Nor do we know anything about her birth control practices.

## RESULTS

With these shortcomings in mind, we can examine the data reported in Table 3. The first tree columns of this Table show the estimated number of premarital conceptions derived from the marital month within which the first birth occurred. The next three columns express each of these numbers as a rate per 1,000 women who had a first birth and reported detailed data for both their first birth and their first marriage. These rates are presented graphically in Figure 1. The shape of the curve for each of the estimates is similar, and together they suggest that the rate of premarital conceptions increased at a slow to moderate pace for the three cohorts marrying from 1958 – 1962 through 1968 – 1972, but that for cohorts marrying after this there has been a much sharper increase in the rate of premarital conception. Overall, the low estimate produces an increase from 41.4 premarital conceptions per 1,000 women (among women having a first birth and marrying from 1958 – 1962) to 136.8 for the comparable women marrying from 1983 – 1987; an increase of about 230 percent. The mid-estimate show an increase from 56.5 to 184.7 or 227 percent, and the high estimates from 94.2 to 286.6 or 204 percent. Moreover, the three estimates suggest that between 56 and 60 percent of the total increase in the cohort rates has been concentrated in the last two cohorts.

It is important to note that the rate of premarital conceptions as measured in these figures are confounded by two factors. First, there may be some women in the latter cohorts who were pregnant with a



first birth at the time of the survey who would have reported the month and year of their first birth, but could not because it had not yet occurred. To the extent that these births might occur within the estimate parameter limits and be counted as premarital conceptions, they result in an underestimate for the women considered, but only in the latest cohort. Working in the opposite direction; that is producing an inflationary effect, is the fact that some women who may be pregnant (and some women who are delaying their first pregnancy and may become pregnant with a first birth later) and post-maritally conceived (or will conceive) also do not appear in the denominator because they have not yet had a first birth. Since the data presented in Table 1 suggest that about 96 percent of the women in recent cohorts (1968 – 1977) will have a first birth, and only 70 percent of those in the latest cohort have reported a first birth, we expect that the rates for women marrying between 1983 – 1987 may, in fact, be over estimated. We do not expect that this effect is great, however, because it is offset, in part, by the increasingly large share of each cohort of women who report detailed data.

In other words, despite these limitations and the fact that there may be some inflation associated with the estimates for the latest cohort, there should be no doubt that the data do depict a general trend. This trend quite clearly suggests that the rate of premarital conception has been generally increasing since the late 1950's; and more important, that it has been rising most rapidly since the late 1970's. To this point, we have not emphasized the magnitude of the estimated rates of premarital conception, but rather the general trend that they portray. Moreover, while we do not want to overemphasize the magnitude of the rates, it is important to note that they do suggest that between 13 and 28 percent of all current first births are premaritally conceived. Remembering that we also expect that using premarital conceptions as an indicator of premarital sexual activity results in an underestimate of the latter, one is left to conclude that no matter which estimate is used, the level of premarital sexual intercourse is rising and is currently quite high.

Finally, data in Table 4 show the rates of premarital conception for women reporting detailed data for the last four marital cohorts specific for age at first marriage, type of place lived to age 12, and education. We focus on only these cohorts because the data presented

above suggested that they cover the period when rates of premarital conception changed most dramatically, and because "N's" for some categories become relatively small even for the earliest of cohorts considered here. Similarly, truncating the age distribution at 26 was necessary because both the number of marriages and number of first births after this were small. With some minor deviations the intra-and intercohort patterns to these rates are basically the same for the high, medium, and low estimates; in the discussion below we focus on the medium estimates.

Interpretation of the age at first marriage specific rates requires caution because premarital conception interacts with marriage and the relationship between the two variables in terms of cause and effect is very unclear. While it may be argued that a premarital conception can cause marriage, it may also be the case that an impending marriage (this is discussed further in the next section) may cause (or at least legitimate) sex prior to marriage and this may result in a premarital conception. Accordingly, a rising age at first marriage may increase the chances of premarital conception by lengthening the interval between maturity and the one set of marital relations, however, a rise in premarital conception may also suppress a rise in the age at first marriage if premarital conceptions lead to marriages. Similarly, a premarital conception may have little or no effect on age at marriage if it occurs around marital age as determined by other factors.

In part, this ambiguity is reflected in the data in Table 4. Here we can see that within cohorts the rate of premarital conception tends to increase in the age category where the mean age at first marriage occurs and in the age category following this. This would tend to support any of the above interpretations. What is interesting, however, is to compare the rates for the 1968 – 1972 cohort with those for the latest cohort. In the former case (where the mean age at first marriage was 17.2) there is a relatively low rate for the 18 and under age group, and we can see that even though the rate increases over the next two age categories (before declining markedly when few women were left to marry), it never reaches a level which even approximates the lowest rate found in the latest marriage cohort. In the latest cohort (where the mean age at first marriage was 19.9) the pattern is the same, but each of the age specific premarital conception rates are at least double those observed for the earliest cohort, and that for the last age group it is

actually triple. Thus, while it would appear that the level of premarital sex has tended to rise sharply at all ages, this tends to suggest that it rose most at the older ages. This observation must be tempered by comparing the age specific rates across all cohorts. When this is done it is clear that the sharpest rises between cohorts occurred first at the older ages, but that it occurred at the youngest ages in successively earlier cohorts. That is, between the 1968 – 1972 cohort and the 1973 – 1977 cohort the largest rises occurred to the two age groups 21 – 23 and 24 – 26, between the 1973 – 1977 cohort and the 1978 – 1982 cohort the sharpest increases occurred to the 18 – 20 and 21 – 23 age group, while between the 1978 – 1982 and the 1983 – 1987 cohort the sharpest rise occurred in the under 18 age group. In short, the data suggest that increased sexual activity among premarried persons might have begun first among those who delayed marriage, but it is increasingly becoming more common among the young, and may, in fact, now be acting to suppress the age at first marriage.

A not markedly different pattern appears in the data showing premarital conception rates specific for the type of area where the women grew-up. For each cohort there is a tendency for the rates to rise as we move from village to town to city, and this parallels a rise within each type of place for successively later marriage cohorts. Again, however, the extent to which premarital sex is permeating the society is suggested by comparing the earliest and the latest cohorts. For the earliest cohort villages, levels of premarital conception were quite low, and although they rise consecutively for towns and cities, the city rate for the earliest cohort is markedly lower than the village rate for the latest cohort. Similarly, if we look at the type of place rates across cohorts we can see that the sharp rise in city rates appear to have corresponded with marriages occurring from 1968 - 1982, the sharp rise in town rates at the time of the marriages occurring from 1973 - 1987, while the sharpest rise in village rates appears with the 1983 -1987 cohort (even though there was already one large increase in this between the two earliest cohorts).

The last panel of Table 4 shows rate specific for highest level of school attended. Here we expected rates of premarital conception to increase as education increased; this pattern did hold for each of the cohorts expect that marrying from 1973 – 1977 were the lowest rate occurred among women who attended primary school. Within levels

of education rates rise for successively later cohorts, but the most outstanding feature of these data appears to be the relatively small differential between those with no schooling and primary attendance vs. the differential between those with primary attendance and those with high school or higher attendance in the two latest cohorts. For the cohort marrying between 1978 and 1982 there is only a marginal difference in the rates between those with no education and some primary attendance and a 45 point difference between those with a primary attendance high school or higher attendance. For the last cohort, the differential for the former increases to about 28 points and for the later to over 105 points.

## DISCUSSION

We have examined estimated rates of premarital conception in order to determine if there is evidence of a high level of premarital sexual activity among late adolescents and young adults in Indonesia. Our estimates suggest that between 13 and 20 percent, of first births occurring to women marrying for the first time from 1983 - 1987 were conceived before marriage. Although there is no reliable way to determine from the data how many women may have had sex before marriage and not had a first birth which was not premaritally conceived, there should be little doubt that there is currently a relatively higher level of premarital sexual intercourse occurring within the country than what these estimates suggest. Moreover, the data show quite clearly that the trend a premarital sexual intercourse has been rising since the late 1950's, but that it has risen most sharply since the mid to late 1970's. Examination of cohort rates specific for age at first marriage and type of place where the women grew-up, essentially suggest the same general thing. Quite succinctly put, this is although these factors influence the trend in the premarital sexual activity in the manner expected, currently the differentials along these dimensions are being reduced because premarital sexual activity is increasing most rapidly where it is least expected; that is, among younger persons, and among persons raised in village. Examination of rates specific for education, on the other hand, confirmed our expectation that sharp differentials exist between those who are more educated and those with no or less education, but there were contrary to what we expected in the sense that levels of premarital sexual

activity increased rapidly and are currently as high as what they are among those with no or less education.

In terms of the HIV transmission implications of these observations it is important to bear in mind that we have examined only the behaviors of women, and of necessity, have not examined the behavior of their partner (or partners). While it is possible that a rise in the prevalence of premarital sex may not be indicative of a rise in the risk of HIV transmission, this is only so if all individuals having premarital sex, irrespective of gender, are in (and remain in) monogamous relationships. The extent to which this is the case cannot be determined from the data, but the importance of resolving this issue is made abundantly clear by the data. We do know that in most, if not all, countries more males than females are likely to have multiple partners and that more males than females are likely to engage in premarital sex. While we cannot quantify these issues for Indonesia from the data available, the level of activity suggested for the women examined here should leave no doubt that if the same gender differences exist in the country as elsewhere many late adolescents and young adults are potentially at a high level of risk.

Similarly, the data strongly suggest that engagement in premarital sex by the young has permeated segments of the society where it might be least expected, and this has important implications for prevention and intervention programs. *First*, the data suggest that engagement in premarital sex has started at a younger age in successive cohorts as the age at first marriage has increased. The obvious implications of this are that intervention programs will need to be developed not only for those approaching marriage ages, but also for those considerably younger. This is more easily said than accomplished effectively. The cognitive and emotional ability of younger persons to handle, process, and understand the complexity of the disease and its implications decreases with age, and the public's resistance to exposing young people to transmission relevant information increase as age decreases. Moreover, merely providing information has generally produced little success in altering health risk behaviors once they have been adopted. Considerably more success can be achieved if intervention begins well before engagement in risk related behaviors. Thus, intervention programs will need to reach individuals before, not after or when; they reach risk ages to be most effective.

Clearly, more information is needed on the emotional and cognitive abilities of young people in Indonesia, as well as on public resistance/support to providing young people with HIV/AIDS information, before effective acceptable intervention programs can be developed.

*Second*, that the level of premarital sex has reached the surprising level that it has among persons raised even in rural areas suggests that intervention efforts must not be confined to the most urban areas of the country. There is a great deal of population circulation as young people come and go between their rural homes and urban areas. While it is even possible that they are more likely to engage in premarital sex when they are in urban areas (and we do not know this), it is also the case that they are more likely to engage in risk behaviors once they are old enough to circulate. Thus, reaching young persons outside of the largest urban centers at a young age is equally, and given their numbers and mobility, perhaps more important than reaching those who live in the urban centers.

*Third*, the data also highlight the importance of making the relevant contraception and birth control information, services, and devices available to the sexually active unmarried segment of the population. Having a family planning program which targets, intentionally or unintentionally, married persons is no longer sufficient in a society where the risk of HIV transmission interacts with the risk of preventing a birth outside of marriage. Equally, if not more, important to realize is that having a family planning program which promotes IUD's, pills, injections, and implants irrespective of a women's marital status may be exposing her and her partner(s) to higher risk of HIV transmission than necessary. In other words, the data presented here strongly suggest that there is a large un-to-under-served population whose needs go well beyond the prevention and planning of births to include other HIV transmission prevention needs. Finally, it is worth noting again that the intercohort pattern of change in the age at first marriage specific rates of premarital conception suggested that promoting contraception among the sexually active unmarried segment of the population may not only help to reduce the risk of HIV transmission, but it may also help to further delay marriage and the age at first birth.

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**Table 1. The Size and Distribution of Women by Marriage Cohort and First Birth Status**

Marriage cohort	All women		Women with a first birth		Women with detailed data		% of All Women With a 1st Birth	% of All Women With Detailed Data
	N	%	N	%	N	%		
83 - 87	1,921	16.2	1,326	12.2	1,148	17.1	69.8	59.8
78 - 82	2,352	19.9	2,226	20.6	1,663	24.7	94.6	70.7
73 - 77	2,136	18.1	2,053	19.0	1,371	20.4	96.1	64.2
68 - 72	1,681	14.2	1,619	15.0	0,977	14.5	96.3	58.1
63 - 67	1,522	12.9	1,461	13.5	0,742	11.1	96.0	48.8
58 - 62	1,294	10.9	1,249	11.5	0,531	7.9	96.5	41.0
< 57	0,925	7.8	0,890	8.2	0,287	4.3	96.2	31.0
Total	11,831	100.0	10,824	100.0	6,719	100.0	56.8	56.8

**Table 2 Selected Characteristic of Women by Marriage Cohort and First Birth Status by Detail of Data Reported**

Marriage cohort	All women	Women with a first birth	Women with detailed data
<b>Age at First Marriage</b>			
83 - 87	19.81	19.82	19.92
78 - 82	18.58	18.59	18.72
73 - 77	17.54	17.56	17.98
68 - 72	17.06	17.07	17.24
63 - 67	16.85	16.87	16.96
58 - 62	16.07	16.10	16.26
< 57	13.90	13.92	14.31

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Marriage cohort	All women	Women with a first birth	Women with detailed data
<b>Type of Place Grew-up</b>			
83 – 87			
Village	68.3	66.5	64.9
Town	15.0	15.4	15.9
City	16.7	18.1	19.2
78 – 82			
Village	70.7	71.0	67.0
Town	14.0	13.8	15.6
City	15.3	15.1	17.3
73 – 77			
Village	73.9	73.7	68.1
Town	13.1	13.4	15.7
City	13.0	12.9	16.2
68 – 72			
Village	72.5	72.2	64.6
Town	14.7	15.1	19.2
City	12.8	12.6	16.2
63 – 67			
Village	74.4	74.0	65.1
Town	13.0	13.2	17.4
City	12.6	12.8	17.5
58 – 62			
Village	79.2	78.9	70.2
Town	12.7	13.0	18.9
City	8.1	8.1	10.9
< 57			
Village	79.0	79.0	71.4
Town	13.4	13.3	17.9
City	7.6	7.7	10.7

*Continued on Next Page...*

Marriage cohort	All women	Women with a first birth	Women with detailed data
<b>Highest Level of Education Attended</b>			
<b>83 – 87</b>			
None	8.4	8.3	6.0
Primary	55.0	54.4	52.7
High School	31.4	32.0	35.2
Post H School	5.2	5.3	6.1
<b>78 – 82</b>			
None	13.5	13.7	8.9
Primary	62.1	61.8	61.2
High School	22.2	22.3	26.8
Post H School	2.2	2.2	3.1
<b>73 – 77</b>			
None	16.6	16.0	9.7
Primary	62.8	63.0	61.8
High School	18.4	18.7	25.1
Post H School	2.2	2.3	3.4
<b>68 – 72</b>			
None	19.4	19.0	11.7
Primary	61.6	62.0	60.4
High School	17.2	17.3	25.2
Post H School	1.8	1.7	2.7
<b>63 – 67</b>			
None	29.9	34.7	16.9
Primary	53.1	48.0	54.7
High School	16.0	16.3	26.6
Post H School	1.0	1.0	1.8
<b>58 – 62</b>			
None	38.8	37.8	24.9
Primary	51.1	51.7	57.4
High School	10.0	10.3	17.5
Post H School	.1	.2	.2

*Continued on Next Page...*

Marriage cohort	All women	Women with a first birth	Women with detailed data
< 57			
None	53.2	52.5	36.9
Primary	41.7	42.2	52.3
High School	5.1	5.2	10.5
Post H School	-	.1	.3

**Table 3. Low, Medium and High Estimates of Premarital Conception for Marriage Cohorts, and Estimated Rates of Premarital Conception Per 1,000 Women Having a First Birth and Reporting Detailed Data**

Marriage Cohort	Estimated Premarital Conception by Marital Month of Birth			Rate Per 1,000 Women Reporting Detailed Data		
	7 <sup>th</sup> Low	8 <sup>th</sup> Med	9 <sup>th</sup> Hgh	7 <sup>th</sup> Low	8 <sup>th</sup> Med	9 <sup>th</sup> Hgh
83 - 87	157	212	329	136.8	184.7	286.6
78 - 82	174	233	368	104.6	140.1	221.3
73 - 77	109	154	236	79.5	112.3	172.1
68 - 72	61	76	128	62.4	77.8	131.0
63 - 67	35	54	93	47.2	72.8	125.3
58 - 62	22	33	50	41.4	56.5	94.2
<57	8	14	18	28.6	50.0	64.3

**Table 4. Estimated Low, Medium and High Rates of Premarital Conception Specific for Age at First Marriage, Place Where Grew-up and Highest Level of School Attended for Marriage Cohorts**

Marriage cohort	Age at First Marriage				Type of Place Grew-up					
	<18	18-20	21-23	24-26	Village	Town	City	None	Primary	High School
<b>Low Estimates</b>										
83-87	109.6	149.8	151.3	165.4	121.3	153.8	172.7	115.9	112.4	170.9
78-82	56.4	133.5	171.5	135.6	79.0	123.1	187.5	87.2	95.3	129.0
73-77	60.3	79.7	141.5	117.6	72.9	65.1	121.6	89.6	55.5	128.2
68-72	58.3	81.6	39.2	85.1	50.7			26.3	59.3	84.2
<b>Medium Estimated</b>										
83-87	143.8	200.4	222.7	189.0	163.1	203.3	240.9	130.4	158.7	264.9
78-82	84.7	162.7	233.6	118.6	112.2	153.8	236.1	120.8	127.7	171.4
73-77	86.8	108.0	195.1	147.1	100.7	102.3	171.2	119.4	86.2	166.7
68-72	67.1	93.9	107.8	63.8	63.4	101.6	107.6	26.3	69.5	86.9
<b>High Estimated</b>										
83-87	191.8	292.8	386.6	307.1	264.1	307.7	377.3	173.9	244.6	356.5
78-82	142.6	237.7	332.1	288.1	175.9	261.5	361.1	161.1	198.4	286.3
73-77	126.5	185.1	273.2	250.0	154.3	148.8	270.3	156.7	141.7	243.6
68-72	91.9	171.4	225.4	212.8	106.2	171.1	183.5	43.8	105.1	223.4