最近 出產率 推定과 趨勢

—1971年度 出產力 및 人工姙娠中絕調査의
嫡生兒(own children) 資料에 依하여—

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家 族 計 劃 研 究 院

머 리 말

이 報告書는 家族計劃硏究院의 出產力 및 人工姙娠中絕調査 資料를 利用하여 하와이大學의 趙利濟 敎授가 嫡生兒에 의한 出產力測定方法(own children method)을 적용하여 最近 우리나라 婦人의 出產率과 그 變動 추세를 分析한 것입니다.

1960年代에 우리나라 出產水準과 形態가 어떻게 變動되었는가를 硏究하는데 많은 도움을 줄수있는 연구자료가 될것으로 생각하며 이 報告書를 作成해 주신 趙利濟 敎授께 심심한 謝意를 表합니다.

1973. 6

家族計劃硏究院長 車 潤 根

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Ⅰ. 研 究 資 料

1971年度 全國 出產力 및 人工姙娠中絕調査는 1971. 9. 1~1971. 10. 31 사이에 實施되었으며 全國의 約 6,800家口를 調査對象家口로 하였다.

이 調査의 主要目的의 하나는 最近 우리나라의 出產水準을 測定하는 것이었다. 出產水準을 測定하기 위하여 調査는 可姙婦人의 全 出產期間동안의 姙娠歷調査에 중점을 두었다.

이 分析은 嫡生兒에 의한 出產力 測定方法(own children method)을 적용한 出產率의 推定과 最近의 變動趨勢를 보여 주고 있다.

1971년 出產力調査에 이 方法을 적용할려고 했을때 한가지 問題點이 있었다. 即 調査資料에서 家口員과 家口主와의 關係를 符號化하지 않았기 때문에 한 家口에 한名 이상의 可姙婦가 있을 경우 家口調査票에 기록되어있는 嫡生兒가 어느 婦人의 子女인지를 區分할수 없었다.

그러나 이 問題點을 해결하기 위하여 全體 調査家口에 대하여 家口主와의 關係를 再符號化 하기에는 費用이 너무 많이들뿐아니라 대부분의 調査家口가 한 家口當 한名의 婦人이었기 때문에 再符號化하지 않더라도 年齡別 出產形態의 파악에는 充分한 것으로 看做되었고 한 家口當 2名 以上의 婦人이 있는 경우는 한名의 婦人이 있을때의 年齡別 出產形態에 準하였다.

1971年度의 出產力 및 人工姙娠中絕調査와 때를 같이하여 經濟企劃院 調査統計局의 特別人口調査(Special Demograpic Survey)가 實施되었다. 이 두個의 獨立的인 調査는 서로 比較해보는데 매우 有用하였다. 特別人口調査는 많은수의 標本을 대상으로 하였다. (표본 가구수의 크기는 약 30,000 정도이다). 特別人口調査 資料에 嫡生兒에 의한 出產力 測定方法을 적용한 分析結果도 表—1에 제시되어 있다.

Ⅱ. 推 定 方 法

센사스나 調査(survey) 資料를 利用한 嫡生兒에 의한 出產力 測定方法(own children technique)은 이미 發表된 論文이 있기 때문에 이 方法에 대한 자세한 言及은 생략하겠다. 嫡生兒에 의한 出產力測定方法이란 간단히 말해서 調査에서 파악된 자녀들에 生存率을 고려하여 出生數를 推定하고 調査에서 파악된 婦人의 生存率을 고려하여 推定된 出生數에 대응되는 婦人數를 推定하는 生存率을 逆으로 적용(reverse-survival technique)한 方法이다.

嫡生兒에 의한 出產力測定方法의 重要한 한 부분은 幼年期 死亡率(childhood mortality)이다. 出產力 및 人工姙娠中絕調査에 의한 總出生兒(children ever born)에 대한 자세한 製表나 자녀들의 生存率의 계산은 이 조사가 표본조사였기 때문에 資料의 제한이 있었기 때문에 幼年期 死亡率을 1966年과 1970年의 센사스에 의하여 推定하는 것이 바람직하였다.

調査 자료에 의한 幼年期 死亡率 推定은 센사스에 의한 幼年期死亡率과 比較의 目的에 적합할것 같고 이 報告書에 使用된 死亡水準과도 거의 一致될것으로 생각된다.

Ⅲ. 出産率 推定

表—1은 1971年 出産力 및 人工姙娠中絶調査의 嫡生兒를 利用한 연령별 출산률과 합계출산률이다. 嫡生兒 자료에 의한 出産率 推定値와 姙娠歷(pregnancy history)에 의한 出産率 推定値가 대조적으로 比較되었다. 이미 言及하였듯이 1962~63과 1970~71의 特別人口調査 結果에 의한 出産率도 제시되었다.

標本誤差를 줄이기 위하여 調査前 10年間의 出産率은 二年간격의 연속평균치(two-year moving average)이다. 연속 평균치 방법에 의하여 양력과 음력의 혼용으로 인한 근소한 연령 오차(age-misstatement)가 修正될수있다.

結果的으로 嫡生兒 資料, 姙娠歷 資料, 特別人口調査 資料를 利用하여 산출된 最近 10年동안의 出産率水準은 거의 一致되는 경향이다. 비록 姙娠歷 資料와 嫡生兒資料에 의한 推定値에 약간의 差異는 있지만 이 差異는 調査 資料에 의한 새로운 幼年期死亡率(childhood mortality)의 推定과 家口當 2名以上 婦人에 대한 資料가 보완될경우 줄어들 것이다.

아뭏든 3個의 獨立的인 推定値가 거의 同一한 연령별출산율 形態를 보인다는 것은 매우 흥미 있는 일이다.

嫡生兒에 의한 出産力測定은 앞으로 總出生兒 및 現存 子女에 대한 調査資料가 利用되어 보다 正確한 死亡率 推定이 가능하게 되면 좀더 보완 될것으로 생각된다. 理論的으로는 同一 調査 資料에 대한 수개의 推定方法에 의한 출산율 추정은 의거 同一하여야 한다

Ⅵ. 變動趨勢의 分析方法

以前 硏究에 의하면 年齡構造, 結婚狀態, 配偶出産率의 變動에 의한 粗出生率變動의 分析은 主로 標準化方法(standardization technique)에 依하였다.

이 方法은 근본적으로 두개 變數를 固定한 다음 다른 要因의 變動을 分析하는 것이다. 粗出生率의 純 變動量을 事實上의 變動에 대한 세개 變數의 作用으로 설명하는 것이다.

이와같은 接近方法은 一般的으로 總 變動量을 各 變數의 變動量의 合으로 나타낼 수 없다는 不便을 가진다. 即 變量分析에 있어 殘差(Residual)가 남게되어 3個 要因이 混合되는 부분이 있다.

여기서는 殘差가 없는 變量分析을 하기 위하여 기다가와(Kitagawa) 方法을 적용하였다. 이 方法을 소개하면 例를들어 3個의 變數 즉 연령(x), 결혼 상태(m), 연령 및 결혼상태별 출산력을 생각했을때 粗出生率은

$$CBR=\sum_{x} K_xF_x \text{ 로 표시되고} \cdots\cdots(1)$$

여기서 $K_x=K_x^f/K$, K_x^f는 연령 x에서 $x+5$의 女子人口이고 K는 總 人口이다. F_x는 연령별 출산율이다. $\sum$는 재생산 연령 전부를 포함한다.

한편

$$F_x=\sum_{x} K_{xm}\ F_{xm} \text{ 이 된다} \cdots\cdots(2)$$

여기서 K_{xm}는 x연령층의 결혼상태별 비율이고 F_{xm}는 연령 및 결혼상태별 출산율이다.

等式 (1),(2)에 의하여 一定期間동안의 CBR 變動을 다음과 같이 表示할수 있다.

$$\triangle CBR=\sum_{x} \overline{F_x}\ \triangle K_x+\sum_{x,\,m} \overline{K_x}\overline{F_{xm}}\ \triangle K_{xm}+\sum_{x,\,m} \overline{K_x}K_{xm}\ \triangle F_{xm}$$

여기서 $\overline{F}$, $\overline{F_{xm}}$, $\overline{K_x}$, $\overline{K_{xm}}$은 一定期間의 平均値이다.

等式 (3)에 의하여 年齡 및 性別構造, 結婚構造의 變動, 年齡—結婚狀態別 出産率 變動이 表示된다.

等式 (3)은 또한 3개의 主要性分에 대한 年齡別 分析도 가능하다. 이 分析에서는 婚前出生率(illegitimate fertility)은 0으로 간주하였고 配偶出産率은 年齡別 出産率을 結婚率로 나눈 것이다.

V. 分 析 結 果

粗出生率을 산출하기 위하여 그리고 1962年 부터 1971年 까지의 粗出生率의 變動을 分析하기 위하여 다음과 같은 事項에 대한 資料가 필요하였다.

(1) 1962년과 1971년의 總人口數. 1962년과 1970년의 總人口數를 推定하기 위하여 1960년과 1966년의 센사스를 이용하여 推定하였다.

(2) 5세간격의 再生產이 可能한 年齡에 있는 女子人口數. 이 資料는 1970年 센사스에 의하여 推定되었다.

위의 두가지 事項에 대한 資料가 1971年 씨베이에서는 알수없었기 때문에 1971年에 대해서는 1970년 센사스를 利用하였고 1962년은 1960년과 1966년의 센사스를 利用하였다.

配偶出產率은 年齡別出產率을 各 年齡에서의 結婚率로 除하여 求하였다.

1962~1971年 사이의 年齡別 結婚率의 變動을 씨베이에서 구할수 없었기 때문에 1970년과 1966년의 센사스를 利用하여 推定하였다.

表—2는 세가지의 각각 다른 出產率水準에 의한 粗出生率과 粗出數의 變動을 分析한 結果를 보여준다.

分析된 結果를 보면 年齡—性別構造의 變動에 기인된 粗出生率 低下는 7%程度였다.

粗出生率 低下의 32%는 結婚狀態의 變動에 의한 것이다.

粗出生率 低下의 60%는 配偶出產率의 低下에 기인된 것이다. 젊은 年齡層의 婦人의 配偶出產率은 오히려 약간 높아진 경향을 볼수 있으나 30歲 以後 婦人의 配偶出產率은 매우 낮아졌다.

30歲 以後에서의 出產率 低下는 主로 家族計劃事業의 結果라고 보겠다.

Ⅳ. 結　論

비록 우리나라는 人口動態統計가 未備한 狀態이지만 人口센사스와 써베이에 依하여 充分한 資料를 가지고 있는 것은 다행하다. 센사스에 依하여 全國的인 것은 勿論 小地域 單位의 出產率까지도 推定할 수 있다. 한편 1971年의 出產力 및 人工姙娠中絕調査 等의 調査資料는 센사스나 기타 써베이에서 推定된 出產과 死亡水準을 比較해 볼수있는 資料가 된다는 뜻에서 매우 價値있는 것이다. 1971年의 出產力 및 人工姙娠中絕調査는 現在 進行되고 있는 1970年度의 人口센사스를 利用한 出產率 推定에 매우 有用한 比較 資料가 되고 있다.

이미 言及하였듯이 姙娠歷 資料를 利用한 出產率이나 嫡生兒資料에 依한 出產率이 거의 一致하고 있다는 事實은 매우 有用한 硏究結果이고 써베이 資料를 利用하여 보다 좋은 出產率 推定이 된다면 人口動態統計가 未備한 경우에도 보다 正確한 出產水準을 알수있을 것이다.

다만 여기서 注意할것은 써베이 資料에 依한 出產率 推定은 써베이가 一般家口만을 調査對象으로 하기 때문에 非一般家口(institutional household)와 特別調査區에 대한 修正이 必要하게 된다는 것이다. 現在 우리나라 總人口중 非一般家口에 거주하는 人口는 約 5% 程度이다.

이들 非一般家口에 거주하는 人口의 特性은 出產率이 매우 낮다는 것이다. 이것은 結局 써베이에 依한 出產率 水準이 우리나라 全體 즉 非一般家口를 포함시켰을때의 出產率 水準보다 약간 높다는것을 意味하게된다.

마지막으로 現在 우리나라의 出產率 水準을 正確하게 알기 위해서는 1970年과 1966年의 센사스에 依한 出產率 推定値와 써베이에 依한 推定値와의 주의깊은 比較硏究가 必要하다.

CURRENT FERTILITY ESTIMATES AND TRENDS

BASED ON THE 1971 FERTILITY AND ABORTION SURVEY DATA ON OWN CHILDREN

by
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I. Source of data

The 1971 Fertility and Abortion Survey was conducted from September 1 through October 31, and the Survey enumerated about 6,800 sample households. One of the major purposes of the survey was to measure the current level of fertility. The Survey carried a detailed schedule of pregnancy history, which was used to estimate recent levels of fertility.

This paper presents estimates of current fertility rates from the survey using the own-children technique, and an analysis of the recent trend based on these estimates.

There is one major limitation in the own children data prepared from the 1971 Fertility-Abortion Survey. The Survey returns were not coded for specific relationships to the head of household of each member of the household, and as a result, the computer was not able to distinguish the specific relationship of own children to their mothers in the household where there was more than one mother. It was thought at that time that it would be too expansive to recode the item on the relationship to head of household.

Since the majority of the sample households had only one mother in the child bearing ages (15-49 years of age), the own children data from single-mother households would be reasonably sufficient to indicate the age-pattern of fertility. Accordingly, the own children from the households with more than one mother were imputed to each age of mother, according to the age-pattern of fertility based on the single-mother household data.

Another survey was taken at the same time as the 1971 Fertility and Abortion Survey. These two surveys are very useful in checking the estimates from each of these two independent sources. Such survey was the Bureau of Statistics Special Demographic Survey (SDS) taken in September 1971. The SDS enumerated a much larger sample (sample size of about 30,000 households). The own-children technique was applied to the SDS data and the estimates of fertility are presented in Table 1.

II. Method of Estimation

Since there are relevant published materials on the own children technique for estimating current fertility rates from the census or survey data(Cho, Grabill and Bogue, 1970; Cho, 1971a; Cho, 1971b), a description of the detailed technical procedures is omitted here. The own children method in short is essentially a reverse-survival technique by which currently enumerated children are reverse survived to estimate births and currently enumerated women are reverse survived to estimate population at risk corresponding to those births.

One of the essential components of own children estimation procedures is the estimation of childhood mortality. Because the detailed tabulations of children ever born, and children surviving from Fertility-Abortion Survey were not completed, the Survey estimates of childhood mortality have not yet been made. It was not unreasonable, however, to employ estimates of childhood mortality based on the 1970 and 1966 census data. The childhood mortality estimates from the Survey data would provide an additional check on mortality estimates, but the author doubts such estimates of childhood mortality would bring about significant changes in the estimated levels of fertility presented in this paper.

III. Estimated Current Fertility

Table 1 presents estimated age-specific and total fertility rates based on the own-children data from the 1971 Fertility-Abortion Survey. The fertility estimates based on own children data compare very well with those estimates from pregnancy histories. As mentioned earlier, independent estimates of fertility for the initial two-year period for 1962-63 and the last two years 1970-71 from the Special Demographic Survey are also presented in Table 1.

In order to reduce the sampling variations, we took the two-year moving averages of the fertility estimates for the ten-year period preceding the Survey. The moving averages partly solve the problem of any minor age-misstatements resulting from a simultaneous use of the Lunar and Western calendar.

We find that the preliminary estimates based on the own-children data agree closely with the estimates based on pregnancy histories for all the years as well as with those estimates from the Special Demographic Survey for the two periods.

There are some differences between the estimates from pregnancy histories and those based on own children data. These differences can be further reduced through refinements with new Survey estimates of childhood mortality and improved inputations of those children of the households with two or more mothers.

A good approximation of the three different estimates of the age-specific birth rate around a common fertility curve is very encouraging. The author believes that further refinements of the own-children estimates are possible with incorporation of the later revisions to the original Survey data given to the author, and with improved mortality estimates by using children ever born and children living data from the Survey. The theories underlying the two estimation approaches state that the two sets of fertility estimates from the same Survey data should be approximately identical, if not identical.

IV. Method of Fertility Trend Analysis

Prior analyses of changes in crude birth rates in terms of contributions from changes in age structure, marital structure, and marital fertility have for the most part relied on standardization techniques (see, for example Freedman *et al.*, 1972, p. 145). The technique is essentially to hold two parameters constant and let the third vary. The net change in the crude birth rate is then interpreted as the contribution of the third parameter to the actual change in the crude birth rate. This approach has the disadvantage that the sum of the contributions so calculated does not in general equal the total change. There is a residual term in such decompositions which muddies somewhat the interpretation of results.

The present paper adapts a decomposition technique from Kitagawa (1955) in such a way as to give detailed decompositions with no residual terms. Consider the three variables: age (subscript x), marital status (subscript m), and fertility by age and marital status. We may represent the crude birth rate as

$$CBR=\sum_{x} K_x F_x, \quad \cdots\cdots(1)$$

Where $K_x=K_x^f/K$, K_x^f=female population aged x to $x+5$, K=total population of both sexes, and F_x=age-specific fertility. The summation is understood to cover the reproductive ages in conventional abridged 5-year age groups. Similarly we can represent F_x as

$$F_x=\sum_{x} K_{xm} F_{xm}, \quad \cdots\cdots(2)$$

where K_{xm} is the proportion that persons of marital status m are of the xth age group and F_{xm} is age-marital status-specific fertility for women of marital status m aged x to $x+5$. Equations (1) and (2) imply that the change in the CBR over a given time period can be decomposed as

$$\triangle CBR=\sum_{x}{}' \bar{F}_x \triangle K_x+\sum_{x,\,m} \bar{K}_x \bar{F}_{xm} \triangle K_{xm}+\sum_{x,\,m} \bar{K}_x \bar{K}_{xm} \triangle F_{xm}, \quad \cdots\cdots(3)$$

Where $\bar{F}_x$, $\bar{F}_{xm}$, $\bar{K}_x$, and $\bar{K}_{xm}$ are averages over the period, each obtained by summing beginning and end values and dividing by two. Aggregated to three terms (the three summations), (3) gives contributions from changes in age-sex structure, changes in marital structure within age groups, and changes in fertility rates within age-marital status groups. It is clear from

(3) that each of these three principal components can be further broken down by age. There are no residual terms.

In the analysis that follows illegitimate fertility is assumed to be zero unless otherwise specified, and marital fertility rates are derived by dividing overall age-secpific fertility rates by proportion married in each age group.

V. Findings

In order to calculate the crude birth rate and to decompose the changes in the crude birth rates between 1962 and 1971, we required the fellowing data presented in Appendix Tables:

(1) Total population for 1962 and 1971 and this was obtained by interpolation of the census data for 1960 and 1966.

(2) Data on female population in the reproductive ages in five year age intervals. This information was also obtained from the 1970 census.

The above two sets of data were not available for the specific periods of 1971 and 1962 from the 1971 Survey. The 1970 census data were used for 1971 and the interpolated estimates based on 1960 and 1966 census data were used for 1962. The marital fertility rates were obtained by simply dividing age-specific fertility rate, by proportion of married women by age. The proportion of married were not available from the survey for this specific period. The data were obtained from both the 1970 and the 1960 censuses, and were interpolated for the specific periods.

Table 2 shows the crude birth rates calculated on the basis of three different fertility estimates and the results of the decomposition of changes in these crude birth rates. We find that the age-sex structure had contributed very little to the decline of the crude birth rate in this period (only 7 percent).

About 32 percent of the total decline in birth rate was due to changes in marital status. At the older ages, marital structure contributions were negative, reflecting the fact that the proportion of married increased at these ages.

By far, reducton in the marital fertility had the greatest impact on the decline of the birth rate, about 60 percent of the total decline. Marital fertility contributions were negative at the younger ages reflecting increase in marital fertility at these ages. Marital fertility contributions were large and positive at the older ages.

The decline of marital fertility in the older ages may be a reflection of an intensive family planning program which has accelerated fertility decline in older age groups and similarly rapid economic development and attendant social changes which account for much of the rise in age of marriage. Furthermore, rapid urbanization during the 1960s may account in part for more rapid rise in age of marriage.

VI. Conclusion

Although Korea lacks reliable and complete vital statistics, it is fortunate in having a variety of demographic information available from fairly frequent population censuses and other demographic surveys. On one hand, the censuses provide a massive information from which we can estimate fertility for the nation as well as for small geographical areas. Such special demographic surveys, as the 1971 Fertility-Abortion Survey, on the other hand are valuable in checking the estimates of fertility and mortality from the census and other surveys. The estimates of fertility from the 1971 Fertility-Abortion Survey provide a useful check upon the fertility estimates now being made from the 1970 census of population.

It is encouraging that the estimates based on pregnancy histories and those of the own-children technique agree closely. And further refinements of own children estimate of fertility based on the Survey would make the agreement much closer.

At this point, a note of caution is in order, as to the survey estimate of fertility and birth rate. The Survey estimates represent fertility level confined to the non-institutional ordinary household population. This means that an adjustment for population in institutional households or special enumeration districts has not been made. We may well find that the institutional population in Korea may account for a significant proportion, perhaps as much as 5 percent of the total population. This special population usually is characterized with non-fertility. This would mean that an adjustment for the population in the special enumeration districts would lower the survey estimates of birth and fertility rates by the same proportion.

Finally, the estimated fertility and birth rate based on the Survey data should be carefully compared with the final estimates presently being derived from the 1966 and 1970 census data.

Table 1. Age-Specific Fertility Rates Obtained from Various Survey for Korea: 1962-1971

Year	Sources	TFR	Age Groups						
			15—19	20—24	25—29	30—34	35—39	40—44	45—49
1962—63	(1) KIFP	5946.5	16.0	227.3	321.3	304.8	204.2	90.6	25.1
	(2) Own	5797.5	18.9	225.5	300.9	294.3	204.2	90.6	25.1
	(3) SDS	5947.5	8.1	243.2	326.7	269.9	188.6	127.9	25.1
1963—64	(1) KIFP	5674.0	22.2	212.2	316.6	274.2	194.3	91.2	24.0
	(2) Own	5646.5	16.9	221.2	298.8	282.8	194.3	91.3	24.0
1964—65	(1) KIFP	4974.0	23.5	192.6	297.4	234.8	164.5	68.0	14.0
	(2) Own	4919.5	17.5	201.7	272.7	233.9	176.1	68.0	14.0
1965—66	(1) KIFP	4909.5	19.6	193.7	309.7	220.1	165.2	67.8	7.8
	(2) Own	4810.5	15.4	192.4	284.4	216.4	177.9	67.8	7.8
1966—67	(1) KIFP	4757.0	16.7	187.4	302.5	219.1	154.7	64.6	6.4
	(2) Own	4685.0	12.8	185.7	278.6	224.0	164.9	64.6	6.4
1967—68	(1) KIFP	4569.5	11.4	185.0	304.7	212.5	143.7	50.5	6.1
	(2) Own	4434.0	12.2	186.8	266.4	218.3	146.5	50.5	6.1
1968—69	(1) KIFP	4684.0	12.0	191.0	324.1	223.6	131.3	51.1	3.7
	(2) Own	4412.5	9.5	185.9	288.2	207.5	136.6	51.1	3.7
1969—70	(1) KIFP	4450.0	11.2	181.6	311.9	219.9	106.2	50.0	9.2
	(2) Own	4265.0	8.7	176.3	291.8	200.5	116.5	50.0	9.2
1970—71	(1) KIFP	4492.0	7.4	182.2	324.6	215.3	114.9	44.2	9.8
	(2) Own	4280.0	10.2	171.2	297.1	202.2	121.3	44.2	9.8
	(3) SDS	4364.0	12.0	186.6	308.4	210.8	105.8	40.4	8.8

Sources; (1) KIFP=1971 KIFP Fertility Survey.
(2) Own=Own Children Tabulation based on the 1971 KIFP Fertility Survey.
(3) SDS=Preliminary Estimates for 1962-63 and 1970-71 only based on the 1971 Special Demographic Survey.

Table 2. Percent Distribution of Decline in the Crude Birth Rate, by Change in Specified Factors: Republic of Korea, 1962-1971

	All Age	Age Groups						
		15—19	20—24	25—29	30—34	35—39	40—44	45—49
1971 KIFP Fertility Survey	(24.2% decline in Crude Birth Rates from 40.9 to 31.0)							
Age-Sex Structure	7.5	−0.3	8.5	11.3	−8.1	−2.2	−1.6	−0.2
Marital Fertility Rates	60.2	0.1	−9.4	−5.9	32.1	28.4	11.6	3.3
Marital Structure	32.3	3.9	28.1	4.7	−2.1	−1.8	−0.5	−0.1
All three	100.0	3.7	27.2	10.1	21.9	24.4	9.5	3.4
1971 Special Demographic Survey	(25.6% decline in Crude Birth Rates from 40.7 to 30.3)							
Age-Sex Structure	7.7	−0.2	8.5	10.5	−7.1	−1.9	−1.9	−0.1
Marital Fertility Rates	60.1	−5.7	−5.6	2.1	20.7	25.0	20.4	3.3
Marital Structure	32.1	3.9	27.9	4.4	−1.8	−1.6	−0.6	−0.1
All three	99.9	−2.0	30.8	17.0	11.8	21.5	17.9	3.1
Own-Children Tabulation from 1971 KIFP Fertility Survey	(25.9% decline in Crude Birth Rates from 39.8 to 29.5)							
Age-Sex Structure	6.3	−0.3	7.9	9.9	−7.4	−2.1	−1.5	−0.2
Marital Fertility Rates	63.0	−0.9	−4.4	−2.8	31.5	25.4	11.1	3.1
Marital Structure	30.7	4.8	25.9	4.1	−1.9	−1.7	−0.4	−0.1
All three	100.0	3.6	29.4	11.2	22.2	21.6	9.2	2.8

Percentages do not sum total due to rounding error.

Appendix Table 1. Number of Female Population in Reproductive Age (15-49) and Percentage Distribution of the Total Population

Age	1962*		1970**	
	Population	Percent	Population	Percent
15—19	1,181,308	4.6	1,505,000	4.8
20—24	1,110,720	4.3	1,217,400	3.9
25—29	999,648	3.9	1,103,500	3.5
30—34	819,026	3.2	1,089,400	3.5
35—39	744,286	2.9	944,400	3.0
40—44	582,350	2.2	778,400	2.5
45—49	524,218	2.0	663,300	2.1
Total Population (Male and Female)	25,939,988	100.0	31,438,900	100.0

*: $P_{1962}=P_{1960}\ e^{1.5*0.0249}$

**: Taken from the 1970 Census of Population

Appendix Table 2. Proportion of Currently Married Women of the Total Female Population, by Age

Age	1962	1970
15—19	5.9	2.8
20—24	59.2	42.5
25—29	92.0	88.5
30—34	92.4	94.6
35—39	88.6	91.9
40—44	82.3	84.7
45—49	75.0	76.6

Sources: Cho, Lee-Jay, PAA Paper, Table 7.

Appendix Table 3. Age-Specific Marital Fertility Rates Obtained from Various Sources: Republic of Korea, 1962-71

Sources	Year	Age Groups						
		15—19	20—24	25—29	30—34	35—39	60—44	45—49
KIFP Fertility Survey	1962—63	271.2	384.0	349.2	329.9	230.7	110.1	33.5
	1970—71	264.3	428.7	366.8	227.6	125.0	52.2	12.8
Special Demographic Survey	1962—63	137.3	410.8	355.1	292.1	213.1	155.4	33.5
	1970—71	428.6	439.1	348.5	222.8	115.1	47.7	11.5
Own-Children Tabulation	1962—63	320.3	380.9	327.1	318.5	230.7	110.1	33.5
	1970—71	364.3	402.8	335.7	213.7	132.0	52.2	12.8

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