Evaluation of Fertility Data and
Preliminary Analytical Results
from the 1983 (5th Round) Survey
of the National Longitudinal
Surveys of Work Experience of Youth

by Frank L. Mott

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1. INTRODUCTION

The fifth round survey of the National Longitudinal Survey of Work Experience of Youth in 1983 included interviews with 6143 male and 6078 female respondents who were between the ages of 18 and 26 when interviewed durin_ the first half of 1983. The interviews with the men updated the complete live birth histories and related data collected in the 1982 survey round. The interviews with the women updated from 1982 the pregnancy histories and related records of maternal and infant health and child care. The data collected through the 1982 survey round were analyzed and evaluated in a report prepared for the NICHD in December 1983, entitled "Fertility-Related Data in the 1982 National Longitudinal Surveys of Work Experience of Youth: An Evaluation of Data Quality and Some Preliminary Analytical Results" (Mott, 1983). This report is available from the Center for Human Resource Research.

In the present report, the evaluations carried out with respect to the 1982 data are selectively updated and a number of analyses focusing on specific substantive issues are presented. A major objective of these analyses, which focus on (1) early school leaving and fertility, (2) early parity progression, and (3) fertility expectations, is to clarify issues relating to the quality of those data and to convey to other researchers some of the unique aspects of this longitudinal data set. One other major focus of the data evaluation is to examine the quality of the abortion records by comparing the original abortion reports with results from a confidential abortion reporting scheme in the 1984 survey round.

2. FERTILITY AND RELATED MATERNAL/INFANT HEALTH DATA IN THE NLS

The NLS youth data set includes a considerable body of data on fertility and maternal or infant health and health c re that has been collected in recent years with funds provided by the NICHD. This chapter outlines the kinds of information that have been collected and the approximate number of cases for which this information is available. It also gives some cautionary advice about possible sample selection biases resulting from the fact that some of the health data elements have not been collected for all mothers and children. The chapter concludes with a detailed description of the special variable creation procedures which have been carried out by the Center for Human Resource Research which should facilitate the use of this data set for researchers conducting fertility-related research.

FERTILITY AND MATERNAL-INFANT HEALTH DATA AND RELATED SAMPLE SIZE ISSUES

The NLS includes interviews with a nationally-representative sample of about 12,600 men and women who were 14 to 22 years of age when first interviewed in 1979.[1] These respondents have been interviewed annually through 1984; additional interviews will be completed in 1985 and 1986 by which time the respondents will be age 21 to 29. Attrition has been extremely low; at the completion of the 1983 interview round, the sample still included over 95 percent of the original group.

The survey currently includes about 6,000 women who represent an ideal data source for examining a wide variety of research issues associated with maternal and infant health care among young American mothers. This sample

[1]The entire sample was 14 to 21 years of age as of January 1, 1979.

includes an over-representation of about 1,500 black, 1,000 Hispanic and 1,000 economically disadvantaged white young women so as to permit statistically valid racial, ethnic and socioeconomic comparisons.

Because of the large size of the sample and the fact that many of the respondents are in the prime childbearing ages, the data set includes a large number of young mothers and fathers and correspondingly, information about many thousands of children. In this regard, the number of mothers greatly exceeds the number of fathers, as the women in the sample are on average further along into their childbearing years. In addition, because information about children collected from mothers is frequently of higher quality than information collected from fathers (reflecting in part the fact that children in non-intact families typically live with their mother), much of the detailed maternal and child health information in this data set was collected only from female respondents.

Table 2.1 includes information about the number of fathers, mothers, and children in the sample as of the 1983 survey, categorized by the race or ethnicity of the respondent's parent. Also included is information on the ages of the children and their living arrangements. It may be noted from the table that by that date, approximately 2400 of the 6000 women were mothers, and they had a total of almost 3800 children. Also, about 1400 of the 6000 men were fathers and they had about 2000 children. It may also be seen that the sample includes large numbers of minority parents and children.

Most of the children are of pre-school age, and about half of the children of the female respondents and 60 percent of the children of the men are under the age of three. Of course, given the relative youthfulness of the respondent sample, the number of parents and children will increase greatly over the next few survey years and the number of children who will have

Table 2.1   Characteristics of Live Births by Race and Sex of Respondent, 1983

(unweighted sample sizes)

Categories	White males	Black males	Hispanic males	White females	Black females	Hispanic females
Age of children						
Less than 1	254	143	96	362	209	139
1	228	119	70	357	192	144
2	176	107	66	306	188	93
3	130	102	48	266	172	88
4	95	66	33	194	127	76
5	70	39	20	147	124	49
6	26	28	7	96	90	34
7	17	20	4	68	82	30
8	4	10	3	28	39	9
9	1	6	2	17	17	7
10+	0	6	0	7	13	3
NA	7	15	5	2	1	2
Sex of children						
Male	508	341	178	925	651	356
Female	496	310	176	919	602	318
NA	4	10	0	7	1	0
Living arrangements of children						
In R's household - spouse present	718	182	213	1264	370	412
In R's household - spouse not present	73	76	45	472	796	236
With absent parent	182	374	87	25	13	5
With other relatives	7	16	1	17	38	9
Foster care	0	0	0	4	2	3
Adoptive parents	4	1	0	25	1	2
Long-term institution	0	0	0	2	0	1
Away at school	0	0	0	0	0	0
Deceased	8	4	4	33	33	5
Other	4	2	0	4	0	0
NA	12	6	4	5	1	1
Number of children by respondent						
No children	2931	1081	704	2378	759	538
1 child	493	297	155	731	426	246
2 children	195	122	62	353	232	125
3 children	35	26	19	102	81	40
4 children	5	8	2	19	20	12
5 children	0	2	2	5	7	2
6 children	0	0	0	0	1	0
7 children	0	0	0	1	0	0
NA	2	2	0	0	0	0
Total	1008	661	354	1851	1254	674
Number of respondents with children	728	455	240	1211	767	425

reached school age will gradually increase.

The nature of the children's living arrangements is described in somewhat greater detail in Table 2.2. About 95 percent of the children of female respondents were living with their mother, compared with only about 71 percent for the children of male respondents. There are large racial disparities in this family dimension. For example, about 80 percent of the white children (of male respondents) were living with their father compared with 75 percent of Hispanics and 38 percent of the black children. These differences should be considered when issues related to the relative quality of fertility and infant health data are analyzed.

As mentioned, a comprehensive pregnancy history has been gathered for all the female respondents and a live birth history for all fathers. In general, as reported in detail in last year's report to the NICHD, the quality of the reporting for live birth events, particularly reports from mothers, is superior to the quality of reporting on pregnancies which did not result in a live birth. In addition, Chapter 3 in this report examines in detail the issue of abortion reporting and describes interviewing techniques incorporated into the surveys which are demonstrated to improve the data quality. These improved abortion reports will be made available to the public.

Table 2.3 presents the kinds of information collected from the female respondents. Complete pregnancy histories, related retrospective information on pregnancy wantedness and contraceptive usage, and a complete record of infant feeding and immunization practices, have been collected for all births. Beginning with the 1983 survey, a large variety of additional maternal and infant health data have also been collected. This information, also detailed in Table 2.3, was collected for all last births reported to women as of the 1983 survey, and in most instances is being updated in

Table 2.2 Distribution of NLS Children by Parental Residence Status, Marital Status, Race and Sex: 1983

(population estimates in thousands)

Characteristic	Total		White		Black		Hispanic	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Children of female respondents	8198	100.0	5506	100.0	1920	100.0	772	100.0
Living with mother	7776	94.8	5246	95.3	1789	93.2	741	96.0
Mother never married	1519	18.5	358	6.5	1015	52.9	146	18.9
Mother, spouse present[a]	5200	63.4	4200	76.3	516	26.9	484	62.7
Mother sep./wid./div.	1057	12.9	688	12.5	258	13.4	111	14.4
Not living with mother	422	5.2	260	4.7	131	6.8	31	4.0
Mother never married	152	1.9	61	1.1	77	4.0	14	1.8
Mother, spouse present[a]	155	1.9	113	2.0	30	1.6	12	1.6
Mother sep./wid./div.	115	1.4	86	1.6	24	1.2	5	0.6
Children of male respondents	4155	100.0	2797	100.0	970	100.0	388	100.0
Living with father	2942	70.8	2279	81.5	371	38.3	292	75.3
Father never married	164	3.9	39	1.4	92	9.5	33	8.5
Father, spouse present[a]	2625	63.2	2137	76.4	249	25.7	239	61.6
Father sep./wid./div.	153	3.7	103	3.7	30	3.1	20	5.2
Not living with father[b]	1213	29.2	518	18.5	599	61.7	96	24.7
Father never married	650	15.6	157	5.6	458	47.2	35	9.0
Father, spouse present[a]	263	6.3	161	5.8	80	8.2	22	5.7
Father sep./wid./div.	300	7.2	200	7.1	61	6.3	39	10.0

[a] Spouse of parent is not necessarily the child's parent.

[b] The vast majority are living with the mother.

Table 2.3 Maternal and Child Health Information (including sample sizes)
Available in The National Longitudinal Surveys of Work Experience
of Youth as of 1983

	Child sample available as of 1983					Mother sample in 1983
	Total	Under 2	2-3	4-5	6 ar over	
Data available for all children	3773	1403	1113	717	540	2403
Complete pregnancy history						
Beginning and ending date of miscarriages & abortions						
Dates of birth and sex						
Residence status						
Prior wantedness						
Prior contraception status						
Post-birth						
Detailed infant feeding practices						
Immunization record						
Data available for all last births as of 1983	2401	1280	701	283	137	2401
Pre-natal (relating to last pregnancy)						
Number of visits and pattern of pre-natal care						
Alcohol/cigarette use						
Amniocentesis						
Sonogram						
X-ray use						
Vitamin use/general health care						
Due date/need for C-section						

Table 2.3 (continued)

	Child sample available as of 1983				Mother sample in 1983
Total	Under 2	2-3	4-5	6 and over	

Mother's weight at
beginning and end of
pregnancy

Mother's height

Post-natal

   Length of baby at birth

   Length of mother and
   baby hospital stay

   Sick and well care
   during first year

   Post-birth hospital stays

   Mother maternity leave
   and employment return

   Child care

Other information on
sexual activity/contraception

   Age at first intercourse   (Available for all women
                                  (approximately 6,000))

   Age at puberty (asked
   in 1984)

   Current sexual activity
   and contraception
   (1982-1984)

   Sex education in high
   school (1984)

subsequent survey rounds. Although child care information has been collected from the beginning of the survey, more detailed child care data have been collected since 1982.

Finally, a number of additional items have been or are being asked of all women in the sample. These include age at puberty and age at first intercourse, as well as information on current sexual activity (collected each year since 1982), and whether or not the respondent had a sex education course while in high school.

Because not all the maternal and infant health care information was collected for all respondents, it is useful to document potential sample selection biases which users should bear in mind when carrying out their research. First, it is worth noting that the overall sample of mothers and children is a youthful one. From a program or policy perspective, the user and reader should always be aware that what this sample includes is a nationally representative sample of younger mothers. This means, of course, that it includes a disproportionate number of mothers (compared with a full cross-section) who have had children as adolescents, who are not married, and who have limited educational or financial resources. Thus, while the sample is truly nationally representative, it is representative of only a slice of the full parent spectrum--albeit an extremely important one. With every passing survey year, this constraint becomes less pronounced, as the population and number of women having children at the modal childbearing ages increases.

The fact that much of the maternal-infant health data are available for all last children introduces some additional potential biases into the sample. Table 2.4 includes age distributions of mothers and children for those subsamples of NLS mothers and youth which we expect researchers will use

Table 2.4 Age of Child in 1983 and Mothers' Age at Birth for Selected Birth
          Samples
                        (unweighted sample estimates)

	All last	All last $\geq$1.0	All first	All first $\geq$1.0	Only	Only $\geq$ 1.0
Mothers' age at birth						
$\leq$ 14	5	5	35	35	5	5
15	29	29	112	112	27	27
16	93	93	243	243	81	81
17	203	192	334	325	172	163
18	265	202	362	318	191	147
19	341	256	393	333	234	174
20	340	269	337	289	213	167
21	351	255	222	187	160	126
22	331	222	168	120	138	90
23	231	147	108	74	95	63
24	149	62	69	33	68	32
25	62	5	19	3	19	3
26	1	-	-	-	-	-
N	2401	1737	2402	2072	1403	1078
Child age in 1983						
0	664	-	330	-	325	-
1	616	616	384	384	344	344
2	402	402	372	372	253	253
3	299	299	359	359	191	191
4	171	171	279	279	114	114
5	112	112	222	222	68	68
6	59	59	169	169	43	43
7	51	51	153	153	40	40
8	19	19	74	74	18	18
9	7	7	38	38	6	6
10	1	1	17	17	1	1
11	-	-	4	4	0	-
12	-	-	1	1	0	-
N	2401	1737	2402	2072	1403	1078
Median age at birth	20.8	20.3	19.3	19.0	20.0	19.7
% < 17.0 at birth	5.3	7.3	16.2	18.8	8.1	10.5
% > 20.0 at birth	61.0	55.3	38.4	34.1	40.5	44.6

frequently. The reader may note some of the more obvious implications of using these subsets from these age structures as well as a number of related characteristics reported in Table 2.5. The distributions highlighted are for all last births, all first births (an important subset of the overall universe of 3800 births) and finally, all only children (i.e., first child = last child), an important subset of the last child sample. In addition, each of these three sub-samples is further limited to children aged one and above--the samples most appropriate for analyses which would focus on infant health inputs or outcomes.

Briefly, it may be seen that analyses which will focus on all first births using this data set will include a very youthful sample, mothers who were on average 19.3 years old at the first birth. About 16 percent of this sample had their first birth before age 17. The mother who has had only one child is somewhat older, reflecting the fact that these women have not yet had additional children and thus probably have had a birth fairly recently. Finally, the oldest of the samples is the last birth sample. The principal caveat to be remembered in analyzing this data set--which is perhaps the most important subset insofar as all the health care information is available for these children--is that it is for last births and it thus disproportionately under-represents earlier births to mothers who later had additional children.

Table 2.5 provides selected mother and child characteristics for these various sub-samples by race. Generally, the three samples are not different from each other in any major way except with respect to the age of the mother when the child was born. The "only child" sample of mothers is somewhat more educated than the other two groups and slightly less likely to be married. Within race/ethnic groups, some larger discrepancies in characteristics may be noted.

Table 2.5 Selected Characteristics of Mothers and Children for Selected Birth
          Samples
                    (based on weighted population estimates)

	Total	White	Black	Hispanic
Percent				
All first births	100.0	69.1	21.9	8.9
All last births	100.0	69.1	21.9	8.9
All only children	100.0	70.9	20.6	8.5
Mother's mean age at birth				
All first births	19.6	19.9	18.6	19.3
All last births	20.9	21.1	20.2	20.8
All only children	20.3	20.6	19.5	20.0
Percent of mothers 17 at birth				
All first births	14.0	10.3	25.3	14.6
All last births	4.1	2.8	8.5	3.3
All only children	6.4	4.4	13.3	5.8
Percent of mothers breastfeeding				
All first births	37.2	44.3	15.1	36.8
All last births	39.2	45.9	18.2	38.7
All only children	39.5	46.1	18.4	36.4
Mother's mean educ (1983)				
All first births	11.6	11.7	11.8	10.6
All last births	11.6	11.7	11.8	10.6
All only children	11.9	11.9	12.2	11.1
Mother's % HS dropout (1983)				
All first births	29.0	26.2	29.7	49.1
All last births	29.0	26.2	29.7	49.1
All only children	23.4	22.1	21.3	39.6
Mother's marital status (1983) (% ever married)				
All first births	77.9	90.4	38.9	76.9
All last births	77.9	90.4	38.9	76.9
All only children	74.0	86.7	31.0	72.9
Child's mean birth weight (ounces)				
All first births	115.5	117.8	108.9	113.4
All last births	116.3	118.8	108.8	114.9
All only children	115.9	118.1	109.1	113.8

VARIABLES AVAILABLE ON SUPPLEMENTAL FERTILITY TAPE

A special fertility supplemental tape is being made available at no cost to all public users who purchase the regular 1983 youth data. This tape will include four categories of variables. The first category includes selected fertility variables from 1979 through 1982 youth tapes which were revised in the 1983 data cleanup procedure. For a detailed description of this revision, see Mott (1983). Not all 1979 through 1982 fertility variables are included on this tape, only those that were altered in this 1983 data revision process. The overall 1979 through 1982 youth tapes include all of the original fertility variables, including those which were ultimately revised as well as those requiring no change. Variable 54 on the following list permits one to identify which cases on the youth tape were changed. Variables on the list below that were part of this original revision process are listed under Category A.

The second category of variables on the supplemental fertility tape are a complete set of 1983 updated versions of basic 1982 fertility variables. For the most part, these fertility data collected on the 1983 survey round only update the fertility records from the 1982 survey tape. This second category (designated "B") combines the fertility records up to the 1982 survey with the 1982-1983 update, and thus provides a comprehensive set of fertility variables to 1983. For example, a set of variables specifying the date of birth of a respondent's "Nth" child, which had been current to the 1982 survey date, is now current to the 1983 survey date. All of these updated variables, where appropriate, incorporate the "revised" or "clean" version of the 1982 variables.

The third category (designated "C") includes a selected number of

"created" variables as an aid to the research community. These are likely to be commonly used and include a variety of fertility, marriage, family and education variables. Typically, they are variables for which the creation was non-trivial, and their availability to the public assures to a greater extent that different researchers working on similar topics will at least start with the same raw material. As with the "B" variables, the "C" variables incorporate as input the "revised" 1982 fertility variables, where appropriate. Unless otherwise specified, all variables reference the 1983 survey date. This special fertility tape can be readily merged with the main youth data file.

Finally (Category "D"), the supplementary fertility tape will also include the confidential abortion reporting history collected from all female respondents on the 1984 survey round. Chapter 3 includes a comprehensive comparison of abortion records collected through this confidential reporting mechanism and the abortion records collected in the 1982, 1983 and 1984 fertility sections of the questionnaire. This evaluation concludes that the confidential reports on abortion, while far from perfect, are greatly superior to the non-confidential abortion reports. Information collected in the confidential record includes the total number of abortions reported by a respondent as well as the month and year of each abortion. It is important to note that the confidential abortion reporting record includes all abortions up to the 1984 survey date whereas all the other available fertility information only is inclusive of the 1983 survey date. Thus, researchers incorporating the confidential abortion reports into fertility histories need to truncate the abortion records as of the 1983 survey date and delete abortions reported in the regular fertility histories.

Category A Variables

1	Has R ever had any children? 79 Int.
2	Number of children R has had, 79 Int.
3	Month of birth of first child, 79 Int.
4	Day of birth of first child, 79 Int.
5	Year of birth of first child, 79 Int.
6	Month of birth of second child, 79 Int.
7	Day of birth of second child, 79 Int.
8	Year of birth of second child, 79 Int.
9	Month of birth of third child, 79 Int.
10	Day of birth of third child, 79 Int.
11	Year of birth of third child, 79 Int.
12	Month of birth of fourth child, 79 Int.
13	Day of birth of fourth child, 79 Int.
14	Year of birth of fourth child, 79 Int.
15	Month of birth of fifth child, 79 Int.
16	Day of birth of fifth child, 79 Int.
17	Year of birth of fifth child, 79 Int.
18	Has R had any children since last interview? 80 Int.
19	Number of children R has had since last interview, 80 Int.
20	Month of birth of first child born since last interview, 80 Int.
21	Day of birth of first child since last interview, 80 Int.
22	Year of birth of first child since last interview, 80 Int.
23	Has R had any children since last interview? 81 Int.
24	Number of children R has had since last interview, 81 Int.
25	Month of birth of first child born since last interview, 81 Int.
26	Day of birth of first child since last interview, 81 Int.
27	Year of birth of first child since last interview, 81 Int.
28	Month of birth of second child born since last interview, 81 Int.
29	Day of birth of second child born since last interview, 81 Int.
30	Year of birth of second child born since last interview, 81 Int.
31	Number of children R has had, 82 Int.
32	Month of birth of first child, 82 Int.
33	Day of birth of first child, 82 Int.
34	Year of birth of first child, 81 Int.
35	Month of birth of second child, 82 Int.
36	Day of birth of second child, 82 Int.
37	Year of birth of second child, 82 Int.
38	Month of birth of third child, 82 Int.
39	Day of birth of third child, 82 Int.
40	Year of birth of third child, 82 Int.
41	Month of birth of fourth child, 82 Int.
42	Day of birth of fourth child, 82 Int.
43	Year of birth of fourth child, 82 Int.
44	Sex of first child, 82 Int.
45	Sex of second child, 82 Int.
46	Sex of third child, 82 Int.
47	Sex of fourth child, 82 Int.
48	Residence of first child, 82 Int.
49	Residence of second child, 82 Int.
50	Residence of third child, 82 Int.
51	Residence of fourth child, 82 Int.
52	Month of death of third child, 82 Int.
53	Year of death of third child, 82 Int.

54   Consistency of fertility report, 1979-1982

Category B Variables

55-75	Month, day and year of birth of child 1 through child 7
76-82	Gender of child 1 through child 7
83-89	Current living arrangement of child 1 through child 7
90-97	Month, year of death of children (if relevant)
98-99	Month, year of first pregnancy
100	Number of children ever born

Category C Variables

101	Number of pregnancies
102	Number of miscarriages/stillbirths
103	Number of abortions
104	Months between first marriage and first birth
105	Months between first and second birth
106	Months between second and third birth
107	Number of R's own children in household, 1979 Int.
108	Number of R's own children in household, 1980 Int.
109	Number of R's own children in household, 1981 Int.
110	Number of R's own children in household, 1982 Int.
111	Number of R's own children in household, 1983 Int.
112	Age of R's youngest child in household, 1979 Int.
113	Age of R's youngest child in household, 1980 Int.
114	Age of R's youngest child in household, 1981 Int.
115	Age of R's youngest child in household, 1982 Int.
116	Age of R's youngest child in household, 1983 Int.
117	Age of R at first birth
118	Age of R at second birth
119	Age of R at third birth
120-121	Month, year R began first marriage
122-123	Month, year R ended first marriage
124-125	Month, year R began second marriage
126	Age of R at first marriage
127-128	Month, year last enrolled in secondary school
129-130	Month, year last enrolled in school

Category D Variables

131	Number of abortions by 1984 survey date
132-139	Month and year of each abortion

3. SAMPLE ATTRITION AND DATA QUALITY ISSUES

OVERALL SAMPLE ATTRITION

The overall level of attrition in the NLS youth cohort continues to be extremely low. Indeed, from the 1982 to the 1983 survey rounds, net attrition actually declined slightly as more respondents were "found" than "lost." That is, respondents not interviewed in 1982 who were interviewed in 1983 exceeded the numbers interviewed in 1982 who were not interviewed in 1983. Of the 12,686 respondents originally interviewed in 1979, 12,221 or 96.3 percent were reinterviewed in 1983 (see Table 3.1). It may also be noted in Table 3.1 that attrition did not vary in any major way between the male and female respondents or among racial and ethnic groups.

REFUSAL RATES ON SELECTED QUESTIONNAIRE ITEMS

In addition to a very low overall level of attrition, significant non-response due to refusal on any of the questionnaire items of particular interest to the NICHD--the items in the fertility and child care sections--is generally not evident. Table 3.2 includes refusal rates for several items considered to be potentially among the most sensitive--the questions on sexual intercourse. The 1983 response patterns on these items show that only about one percent of all eligible (non-father or never-pregnant) male or female respondents refused to answer whether or not they had ever had sexual intercourse. Only about one percent of the non-virgin groups refused to answer at what age they had first had sexual intercourse. In addition, only very small numbers refused to answer the question on intercourse during the past month, a question generally considered to be more sensitive than the longer term virginity items. Finally, taking into account the fact that

Table 3.1   Interviews Completed in 1979 and 1983 by Race and Sex

	1979					1983			
	Total	Male	Female	Total	Attrition rate	Male	Attrition rate	Female	Attrition rate
Total	12686	6398	6288	12221	3.7	6143	4.0	6078	3.3
White	7510	3793	3717	7250	3.5	3661	3.5	3589	3.4
Poor white	2044	947	1097	1970	3.6	915	3.4	1055	3.8
Hispanic	2002	999	1003	1907	4.7	944	5.5	963	4.0
Black	3174	1606	1568	3064	3.5	1538	4.2	1526	2.7

Table 3.2 Patterns of Respondent Refusal on "Sensitive Items"

	Male			Female		
	Total	Refusals	Percent	Total	Refusals	Percent
			1983			
(1) Have you ever had sexual intercourse?	4508	57 (non-fathers)	13	3263	40 (never pregnant)	1.2
(2) Have you had intercourse in past month?[a]	5390	23 (non-virgins excluding above refusals)	0.4	5096	21 (non-virgins excluding above refusals)	0.4
(3) Age at first intercourse.	5386	60 (non-virgins excluding refusals on "ever sex")	1.1	5091	55 (non-virgins excluding refusals on "ever sex")	1.1
(4) Refusal on (1) or (3) above.	5386	117	2.2	5091	95	1.9
			1984			
(1) Have you ever had sexual intercourse?	828	45 (non-fathers who were virgins)	5.4	3010	54 (never pregnant)	1.8
(2) Have you had intercourse in past month?[a]	5680	167 (all non-virgins excluding above refusals)	2.9	5197	135 (all non-virgins excluding above refusals)	2.6
(3) Age at first intercourse.	464	23 (non-virgins who were virgins in 1983)	5.0	5280	78 (all non-virgins except refusals on "ever sex")	1.5
(4) Refusal on (1) or (3) above.				5280	142	2.7
(5) Age at first menstrual period.				5993	22 (all respondents)	0.4
(6) Used birth control in past month?				4903	17 (all sexually active)	0.3

NOTE: Universe asked question is indicated in parentheses.

[a]Question asked frequency of intercourse in past month.

respondents who refused to answer the question on whether they have ever had intercourse are not asked age at first intercourse, the "true" cumulative refusal rate on the intercourse items is about two percent for both male and female respondents.[2]

Table 3.2 also includes preliminary refusal rates estimated for key variables from the 1984 survey round. Increasing resistence to some of the sexual intercourse items appears, although the rates are still not excessive. For the female respondents, including some who had answered the question in the preceding year, 1.8 percent refused to answer whether or not they had ever had sexual intercourse. Overall, about 2.5 percent refused to respond either to the question on whether they had ever had sexual intercourse or to the question on age at first intercourse. Interestingly, the questions on age at first menstrual period or on whether or not contraception was used in the past month provoked very little resistence.

About 5 percent of the male respondents who were asked the question on virginity refused to respond. This apparent high refusal rate (as well as the high refusal rate on age at first intercourse) is deceptive, however, because the questions were asked of only that small subset of respondents who were still virgins as of the 1983 survey. Thus, the respondents were a highly

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[2]Utilizing comparative data from the N.L.S., the 1982 round of the National Survey on Family Growth and the 1979 Johns Hopkins Zelnik-Kantner Studies, N.I.C.H.D. staff have been evaluating the relative quality of the retrospective reports on age at first intercourse from several perspectives. While there is some single year of age variability in sexual activity levels between these data sets, undoubtedly partly reflecting sampling variability and perhaps also reflecting minor differences in sample selection procedures, overall, the comparisons suggest considerable similarity in sexual activity patterning between the data sets. N.L.S. levels of sexual activity appear slighty lower than the N.S.F.G. at the younger ages but quite similar at the late teenage years. Also, comparative multivariate analyses between the N.L.S. and N.S.F.G. indicate that the determinants of sexual activity by age 17 and by age 20 are very similar between the two data sets.

selected out group of men (about 14 percent of the total male sample) who were still virgins between the ages of 18 and 26. Also, given the fact that, by definition, they could have become sexually active only within the preceding 12 months, these questions, because of the likely recency of a first sexual encounter, might well be more threatening.

Because information on age at first intercourse was first collected in 1982, no precise internal data checks can be made between the 1983 and earlier surveys. External data checks underway by other researchers (see footnote 2) suggest that the overall reporting level of the NLS reports on age at first intercourse are comparable to those of one other nationally-representative data set. The only internal checks possible with the NLS at this time involve an examination of the 1982 reports on current sexual activity for those respondents who report in 1983, a year later, that they are still virgins. Table 3.3 shows that about 15 percent of the female and 30 percent of the male respondents who indicate that they are virgins in 1983 had reported in 1982 that they were sexually active at that time. Whether this discrepancy represents primarily misreporting in the 1983 retrospective sexual activity record or in the 1982 current sexual activity report cannot be resolved at this time. On the one hand, as noted, the 1983 retrospective report on age at first intercourse produces statistics generally comparable with other data sets. Also, given that the "ever-sexually active" items reference a lifetime, they may be less threatening to a respondent than the current (in 1982) sexual activity items focusing on a respondent's actions at that time. For various reasons, an adolescent or young adult respondent might feel a need to either over- or under-state his or her current sexual activity status. Some of these discrepancies may be clarified when the 1984 sexual activity reports are incorporated into forthcoming internal consistency checks. While the more

Table 3.3   The Validity of Current and Retrospective Reports on Sexual
            Activity: Percent of Respondents Who Reported that They Were
            Virgins in 1983 Who Also Reported That They Were Sexually Active
            in 1982[1]

	Total	White	Black	Hispanic
Male	29.2 (720)	26.3 (501)	51.4 (87)	47.9 (132)
18-19	26.5 (314)	24.0 (216)	50.5 (43)	35.8 (55)
20-21	32.1 (202)	30.2 (144)	- (17)	48.9 (41)
22-23	29.8 (116)	26.3 (82)	- (16)	- (18)
24-25	31.9 (88)	25.8 (59)	- (11)	- (18)
Female	15.2 (962)	14.0 (576)	28.7 (169)	13.7 (217)
18-19	11.5 (410)	9.0 (234)	31.6 (77)	14.0 (99)
20-21	15.0 (302)	14.4 (172)	22.8 (62)	10.8 (68)
22-23	17.7 (149)	16.3 (102)	- (18)	24.7 (29)
24-25	28.3 (101)	30.2 (68)	- (12)	- (21)

[1]Percentages based on weighted population estimates. Sample sizes in
parentheses.

psychologically neutral lifetime reports are probably superior in quality to the current sexual activity reports for this age group, caution should be used when incorporating these data elements into micro-level analyses.

THE QUALITY OF ABORTION REPORTING; PRELIMINARY RESULTS ON THE USE OF CONFIDENTIAL FORMS FOR REPORTING ON ABORTIONS

Last year's Report to the NICHD (Mott, 1983) explains that when the NLS reports on abortion from the retrospective pregnancy history were compared with abortion reports from other data sources, the NLS appeared to under-report abortions significantly. In an attempt to improve the quality of the retrospective abortion reports, a confidential reporting form was introduced into the 1984 survey round. Instead of having to verbalize any abortion reports to the interviewer, the respondent was given a form in which she could confidentially report on the number of abortions she had had, if any, and the dates the events occurred. This section compares the verbal reports on abortion made by the female respondents to the interviewers in the 1982 and 1983 surveys and the confidential reports in the 1984 survey. The 1984 reports are truncated in this particular analysis as of the 1983 survey dates. Thus, the number of abortions reported by a respondent as of 1983 is compared between two independent record sets, the "open" or verbalized responses to the interviewer in both 1982 and 1983 and the confidential self-report in 1984.

Before reporting the results, several caveats are in order. First, the confidential report was made in 1984, so the respondent has one additional year either to forget abortion events or to consciously or subconsciously "rearrange" her fertility record. The latter can occur for a variety of

reasons, and can, in particular, be associated with changes in marital status or living arrangements. This change in reporting could increase or decrease the probability of reporting an earlier abortion, depending on the nature of the psychological or other (e.g., changes in parenthood or marriage status) changes the respondent has recently undergone.

Filling out the report in confidence could also substantially increase the willingness of a woman to report an earlier abortion by negating any embarrassment she might feel about the event. This, indeed, is the main reason the NLS shifted to a confidential reporting technique. A respondent's embarrassment could derive from not only an unwillingness to verbalize these events to the interviewer, but also from a concern that the report, if verbalized, could be overheard by others in her household.

The results of this confidentiality reporting test are definitive. As Table 3.4 shows, the number of women reporting an abortion by the 1983 survey doubled--from 340 to 679. This increase occurred among black, white and Hispanic women. Very few abortions were reported in the earlier "open report" procedures that were not reported in the confidential reports. If only the confidential later reporting were available, about 92 percent of all the women reporting an abortion at either report would have had a recorded abortion (Table 3.4), and about 92 percent of all of the reported abortions would have been recorded (Table 3.5). In contrast, having only the earlier open reports would have resulted in only 40 percent of the women who reported an abortion and 38 percent of all the abortions being recorded.

For the most part, the considerable improvement in the overall abortion reporting resulted from greatly increasing the number of women willing to report on abortion, rather than from increasing the number of abortions women were willing to report. The number of women reporting an abortion doubled,

le 3.4 Net and Gross Differences in <u>Number of Women Reporting an Abortion</u> Between the 1984 Retrospective (Confidential) Reports and the Non-confidential Reports in 1983 and 1982[a]

(unweighted sample estimates)

	Total			White			Black			Hispanic		
	Total	Abortion reported in 1983	Abortion not reported in 1983	Total	Abortion reported in 1983	Abortion not reported in 1983	Total	Abortion reported in 1983	Abortion not reported in 1983	Total	Abortion reported in 1983	Abortion not reported in 1983
al reporting abortion 1984 or 1983	737	340	397	441	221	220	174	70	104	122	49	73
eporting abortion in 1984	679	282	397	410	190	220	157	53	104	112	39	73
ot reporting abortion in 1984	58	58	-	31	31	-	17	17	-	10	10	-
t" reporting level[b]												
tilizing 1983 <u>and</u> 1984 reports	100.0			100.0	100.0				100.0			
tilizing 1984 reports only	92.1			93.0	91.8				90.2			
tilizing 1983/1982 reports only	46.1			50.1	40.2				40.2			
al women reporting abortion	100.0			100.0	100.0				100.0			
reporting 1984 and 1983	38.3			43.1	32.0				30.5			
reporting 1984/not 1983	53.9			50.0	59.8				59.8			
reporting 1983/not 1984	7.9			7.0	8.2				9.8			
difference in reporting												
reporting 1984/not 1983 - reporting 1983/not 1984	46.0			43.0	46.0				50.0			

mple is limited to respondents interviewed in 1984, 1983 and 1982. Reports are for abortions which occurred prior to the 1983 ey date as reported in 1984 in comparison with 1983/1982.

se results assume that an abortion reported in either 1982, 1983 or 1984 represents an actual event; i.e., all reported tions actually happened.

Table 3.5 Net and Gross Differences in Number of Abortions Reported Between the 1984 Retrospective (Confidential) Report and the Non-confidential Reports in 1983 and 1982[a]

(unweighted sample estimates)

	Total			White			Black			Hispanic		
	Total	Abortion reported in 1983	Abortion not reported in 1983	Total	Abortion reported in 1983	Abortion not reported in 1983	Total	Abortion reported in 1983	Abortion not reported in 1983	Total	Abortion reported in 1983	Abortion not reported in 1983
Total abortions reported in 1984 or 1983	938	408	530	550	264	286	237	86	151	151	58	93
Abortion reported in 1984	859	329	530	508	222	286	216	65	151	135	42	93
Abortion not reported in 1984	79	79	-	42	42	-	21	21	-	16	16	-
"Net" reporting level												
Utilizing 1983 and 1984 reports	100.0			100.0	100.0			100.0				
Utilizing 1984 reports only	91.6			92.4	89.4			91.1				
Utilizing 1983/1982 reports only	43.5			48.0	38.4			36.3				
Abortions reported in:	100.0			100.0	100.0			100.0				
1984 and 1983	35.1			40.4	27.8			27.4				
1984/not 1983	56.5			52.0	61.6			63.6				
1983/not 1984	8.4			7.6	10.6			8.9				
Net difference in reporting:												
% reporting 1984/not 1983 - reporting 1983/not 1984	48.1			44.4	51.0			54.7				

Sample is limited to respondents interviewed in 1984, 1983 and 1982. Reports are for abortions which occurred prior to the 1983 survey date as reported in 1984 in comparison with 1983/1982.

and the total number of abortions reported increased by slightly over 100 percent. The average number of abortions reported per woman having an abortion increased only slightly (Table 3.6), although this aspect of the reporting improvement was of somewhat greater importance for black than for white or Hispanic respondents. Hence, the proportion of all women having an abortion who were black rose from about 20 to 25 percent between the earlier and later reports. Most importantly, this preliminary evaluation indicates that (1) abortion reporting among all racial and ethnic groups improved significantly when the respondents were permitted to report confidentially and (2) the confidential reporting procedure is greatly preferable to openly verbalized reports in a large scale personal interview survey of this type.

Comparing abortion dates reported for a subset of the women who had an abortion permits a preliminary evaluaton of the quality of the reporting on dates of abortion events. Women who reported exactly one abortion at both reports, presumably a subset for whom the quality of reporting is relatively superior (e.g., they only had one abortion and they recalled that abortion in both the open and confidential report) and where it is possible to match identical events "unequivocally" are the focus here.[3] Table 3.7 compares the open and confidential report dates for the 177 women who reported presumably identical abortion dates at both reports. It may be noted that about 41 percent reported the same date at both points and an additional 11 percent reported dates within a month of each other. Thus, about 50 percent of the women reporting exactly one abortion at the two separate report dates were essentially in agreement across the two reports as to when the abortion

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[3]Theoretically, this is not a correct statement, as a respondent could be reporting on a different abortion at each reporting date. This is in all likelihood not a situation which occurred with any great frequency.

Table 3.6   Mean Number of Abortions per Woman and Distribution of Number of
Abortions for Women Having an Abortion Under Alternate Data
Collections

(based on unweighted sample estimates)

	Mean number	Percent with		
		One	Two	3 or more
Total				
Using 1984 report only	1.27	78.4	17.7	4.0
Using 1983 report only	1.20	81.8	16.5	1.7
Using both reports[a]	1.27			
White				
Using 1984 report only	1.24	80.5	16.1	3.4
Using 1983 report only	1.19	82.8	14.9	2.3
Using both reports[a]	1.25			
Black				
Using 1984 report only	1.38	70.1	23.6	6.4
Using 1983 report only	1.23	77.1	22.9	0.0
Using both reports[a]	1.36			
Hispanic				
Using 1984 report only	1.21	82.1	15.2	2.7
Using 1983 report only	1.18	83.7	14.3	2.0
Using both reports[a]	1.24			

[a]Assumes that the larger number of abortions reported by a woman at either
report date is the correct report.

Table 3.7 Difference (in months) Between Date of Abortion Reported in Open and Confidential Record: Women Reporting Exactly One Abortion in Both Records

(unweighted sample estimates)

	Number	Percent
At least one record had date not reported	196	-
Total with dates reported in bo th records	177	100.0
Month identical	73	41.2
Difference = 1 month	20	11.3
2	7	4.0
3 to 10	15	8.5
11	7	4.0
12	22	12.4
13	5	2.8
14 or 15	4	2.3
16 to 23	9	5.1
24	6	3.4
25 to 36	2	1.1
Greater than 36	7	4.0

occurred. Almost 20 percent reported dates 11, 12 or 13 months apart, suggesting that the single most important reporting problem is a tendency to misreport the date of an abortion by a year, rather than a random number of months.[4]

Table 3.8 summarizes the extent to which accurate (or inaccurate) reporting may be associated with the recency of the reported abortion.[5] Once again, this table is limited to women reporting only one abortion on both dates. Recency and higher quality reporting are not overtly associated. The poorest match between reports was not for those women whose abortion presumably occurred in the more distant past but rather for those who first reported the abortion as occurring in 1980 or 1981. Subsequent multivariate analyses of these matched abortion reports may clarify whether or not date misreporting is associated in any systematic way with characteristics of the respondent, her environment, or when the event occurred. In any event, it is important to reiterate that even for this subset of women who are presumed to be reasonably accurate reporters and for whom it was possible to match identical abortions with a great degree of accuracy, only a 50 percent rate of consistency (events being reported twice with dates within a month of each other) could be attained. It is likely that the overall level of consistency reported for the other subsets would be lower. Analyses requiring precise

[4]This parallels a tendency noted in our earlier evaluation of the 1982 fertility histories; women were more likely to misreport dates of birth of live children by multiples of a year--12, 24 months and so on. Also, if one birth was misreported by exactly one year, there was a high probability that subsequent birth would also be systematically misreported in 12 or 24 months intervals as respondents keyed the dates of birth of subsequent children to the date they reported for the first birth. What this suggests is that year misreporting may represent a more serious form of misreporting in retrospective records than month misreporting.

[5]The reference point here is the event as reported on the first (1982 or 1983) open report.

Table 3.8 Percent of Women with One Month or Less Difference Between Open and Confidential Report by Year of First Reported Abortion: Women Reporting Exactly One Abortion in Both Records

(based on unweighted sample estimates)

	Percent with reports one month or less apart
Total	52.5
Event in 1983 or 1982[a]	56.8
Event in 1981 or 1980	36.2
Event in 1979 or 1978	58.0
Event prior to 1978	49.0

dating of abortion events should thus proceed with caution if these or other large scale survey data are used. One recommendation is to evaluate the dates of reported abortions within the context of the woman's complete fertility history, something not yet done with this data set. Many of the apparer' inconsistencies reported here might be resolved by relating both abortion dates to the temporal placement of live birth dates. At a minimum, erroneous dates overlapping other pregnancies or immediate post-partum periods could be clarified. In addition, abortions initially reported as of the 1982 or 1983 survey can perhaps be reasonably assumed to have occurred prior to those survey dates. Thus, if a woman reports an only abortion as having occurred subsequent to those date(s), it is probably more likely (though not a certainty) that the event occurred earlier in time--particularly if the reporting month for the abortion (e.g., February, March, etc.) is identical across reports.

Preliminary results on the extent of congruence between the confidential and non-confidential reports on abortion for the period between the 1983 and 1984 survey are synthesized in Table 3.9. In this particular case, we focus on two abortion reports from the same individual only minutes apart from each other. The respondent first is asked about her complete fertility history since the last survey date, approximately a one-year interval. This history, of course, includes a series of questions about live births and miscarriages as well as abortions. Then, at the end of this open, non-confidential report, she is immediately asked to fill out the confidential abortion reporting form. In theory, no differential memory bias should be at play here, and thus all differences in responses should reflect differences in willingness to answer the abortion questions. Table 3.9 highlights the enormous difference in reporting between the two procedures, and highlights the additional

Table 3.9 Congruence Between the Number of Abortions Reported Between the 1983 and 1984 Survey Dates in the Confidential and Nonconfidential Reports

(unweighted sample estimates)

| | Nonconfidential Report | | | |
	Abortion	No abortion	Refused	Total
Confidential report				
Abortion	46	59	0	105
No abortion	4	5734	1	5739
Refused/nonresponse	2	168	1	171
Total	52	5961	2	6015

NOTE: Refused includes actual refusals as well as those who left the confidential report form blank.

potentially important bias due to non-response or refusal. Overall, only 52 women openly reported they had had an abortion during this one-year period. In the confidential report this number doubled to 105, reflecting primarily the fact that substantial numbers of women were willing to admit they had an abortion.

The most disconcerting statistic in this table is that 168 women who had indicated in the non-confidential interview that they had not had an abortion during the year either refused to fill out the confidential form or else did not complete the questions, although they did return it to the interviewer. One implication of this discrepancy is that for at least some women, it is perhaps easier to say that they had never had an abortion than to confront an interviewer in an open interview with a refusal. The second implication is that in all likelihood this refusal group includes a disproportionate number of women who have had an abortion. It is possible that the overall 1983 period abortion rate would be substantially higher.[6]

The 1984 public use tape will include a pregnancy record for the female respondents which will have been enhanced by the more complete confidential abortion reports. In the interim, as an aid to fertility researchers, the supplementary fertility tape accompanying the 1983 public use tape will include the raw unedited confidential abortion report history.

THE QUALITY OF THE FERTILITY RECORDS

The report prepared for the NICHD in December 1983 included a

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[6]Analyses underway will clarify the extent to which these refusals have an above average earlier (pre-1983) abortion history. For various reasons, women who had reported abortions at earlier dates may be more reticent to report them again in 1984. Also, the characteristics of these refusing respondents will be compared with characteristics of other aborters and non-aborters.

comprehensive evaluation of the quality of the birth and pregnancy histories through the 1982 survey round. For all except those respondents who were not interviewed in 1982 but interviewed in 1983, the 1983 survey includes only an update on live births, abortions and miscarriages occurring between the 1982 and 1983 survey dates. For this reason, further evaluation of the fertility data in this report is limited to several comparisons between recent and lifetime fertility in the 1983 NLS and the June 1982 Current Population Survey. (Additional aspects of the completed fertility and fertility expectation data are considered in some detail in subsequent sections of this report.) The fertility data considered in this report are an amalgum of the lifetime pregnancy records collected for all female respondents in 1982 and the 1982 to 1983 updates. The 1982 lifetime records were substantially revised on the basis of a variety of internal data checks (see Mott, 1983). The complete fertility records up to 1983 thus represent a combination of these revised 1982 records and the 1982 to 1983 updates as collected and processed by the NORC, the data collection agency. The only adjustments made to the update records were for a handful of cases where it was apparent that a birth already reported in 1982 was being reported once again as having occurred slightly after the 1982 survey date. Thus, with respect to lifetime fertility reporting, the differences between the lifetime fertility tabulations in this report and those reported in the previous report to the NICHD reflect additional fertility since the 1982 survey.

Table 3.10 presents comparable annual fertility statuses from the NLS and the CPS for 18 to 24 year old women. These data are presented for essentially identical twelve month periods ending in June 1982, and use identical definitions with respect to race and marital status. The overall weighted population estimates by race and marital status produced by the two data sets

ıble 3.10   18-24 Year Olds Who have had a Child in the Past Year by Race and Marital Status:
Comparison of June 1982 CPS with 1983 NLS: Young Women[a]
(numbers in thousands)

	Number of women	Childless women		Women who have had a child in past year					
				All women		Women with 1 CEB		Women with 2+ CEB	
		Number	Percent	Number	Per 1,000	Number	Per 1,000	Number	Per 1,000
tal race									
Total marital status									
CPS	14,801	10,681	72.2	1,306	88.3	759	51.3	547	37.0
NLS	14,620	10,466	71.6	1,299	88.6	715	48.9	583	39.9
Ever married									
CPS	5,548	2,458	44.3	985	177.6	557	100.4	428	77.1
NLS	5,390	2,247	41.7	1,007	186.8	512	95.0	495	91.8
Never married									
CPS	9,253	8,223	88.9	321	34.7	202	21.8	119	12.9
NLS	9,231	8,220	89.0	292	31.6	204	22.1	88	9.5
ite									
Total marital status									
CPS	12,375	9,280	75.0	1,016	82.1	621	50.1	395	32.0
NLS	11,682	8,830	75.6	937	80.2	549	47.0	389	33.3
Ever married									
CPS	4,964	2,282	46.0	871	175.6	514	103.6	357	72.0
NLS	4,530	2,011	44.4	820	181.0	443	97.8	378	83.4
Never married									
CPS	7,411	6,998	84.4	144	19.5	106	14.3	38	5.1
NLS	7,154	6,821	95.3	117	16.4	106	14.8	11	1.5
ack									
Total marital status									
CPS	2,065	1,140	55.2	246	119.3	118	57.2	128	62.1
NLS	2,033	1,106	54.4	222	109.2	100	49.2	123	60.5
Ever married									
CPS	462	127	27.5	84	182.0	30	64.2	54	117.8
NLS	456	121	29.5	80	175.4	25	54.8	55	120.6
Never married									
CPS	1,603	1,013	63.2	162	101.2	88	55.1	74	46.0
NLS	1,577	985	62.5	143	90.7	75	47.6	68	43.1
spanic									
Total marital status									
CPS	992	582	58.7	134	134.9	60	60.4	74	74.4
NLS	908	531	58.5	139	153.1	67	73.8	72	79.3
Ever married									
CPS	416	112	26.8	99	236.9	38	92.2	60	144.6
NLS	405	116	28.6	107	264.2	44	108.6	63	155.6
Never married									
CPS	576	471	81.7	35	61.2	22	37.5	14	23.7
NLS	503	416	82.7	32	63.6	23	45.7	9	17.9

All of the NLs data references June 16, 1982. That is, marital status, age of respondent and numbeı
ᶠ children is measured as of that point in time. Breakdowns by marital status may not add to total
pulation figures since respondents missing data on any item are excluded from the NLS tabulations.

coincide very closely, with the possible exception of the Hispanic data, where the CPS 18 to 24 population groups exceed the comparable NLS group by about 10 percent. Most of this difference reflects a greater ever-married Hispanic population reported in the CPS.

Table 3.10 also shows that the NLS and CPS percent childless are virtually identical both overall and for all race/ethnic-marital status categories. The overall NLS and CPS period fertility rates for all races combined are very similar even when stratified by prior fertility history. Overall, the NLS women have had 88.6 births per 1000 women during the past year compared with 88.3 for their CPS counterparts. The NLS married women, however, have a slightly higher birth rate than the CPS married cohort. Given the modest sample sizes for some of the ethnic-marital status specific mother categories, most of the CPS and NLS fertility rates are reasonably close to each other. The differences that do appear are not completely systematic and to some extent undoubtedly reflect sampling variability. The NLS and CPS rates for whites are generally in close agreement.[7] Black fertility rates generated from the NLS data are slightly below the comparable CPS estimates, whereas the NLS Hispanic estimates slightly exceed the CPS rates. Table 3.11 provides the parallel 1981 NLS and CPS fertility statistics.[8] Also, while comparative data are not available, Table 3.12 includes annual fertility statistics for the male respondents in the NLS that parallel the data presented in Table 3.9. As had been extensively documented in last year's report to the NICHD, the overall quality of the male fertility data is significantly inferior to the female data. It should also be noted that 18 to

[7]A careful comparison of NLS and CPS statistics on fertility expectations is included in Chapter 6 of this report.

[8]The data in Table 3.11 were originally presented as Table 8 in Mott (1983).

Table 3.11 18-24 Year Olds Who have had a Child in the Past Year by Race and Marital Status: Comparison of June 1981 CPS with 1982 NLS: Young Women[1]
(numbers in thousands)

| | No. of women | Childless women | | Women who have had a child in past year | | | | | |
| | | | | All women | | Women with 1 CEB | | Women with 2+ CEB | |
	Number	Number	Percent	Number	Per 1,000	Number	Per 1,000	Number	Per 1,000
Total race									
Total marital status									
CPS	14849	10350	69.7	1367	92.1	736	49.5	631	42.5
NLS	14453	10267	71.0	1315	91.0	742	51.3	574	39.7
Ever married									
CPS	5839	2437	41.7	1101	188.6	571	97.8	530	90.7
NLS	5381	2218	41.2	1002	186.2	538	100.0	464	86.2
Never married									
CPS	9010	7913	87.8	266	29.5	164	18.2	102	11.3
NLS	9074	8050	88.7	314	34.6	204	22.5	109	12.0
White									
Total marital status									
CPS	12400	9070	73.1	1082	87.2	608	49.1	473	38.2
NLS	11539	8674	75.2	919	79.6	564	48.9	355	30.7
Ever married									
CPS	5184	2282	44.0	953	183.9	514	99.1	439	84.7
NLS	4547	2009	44.2	793	174.4	463	101.8	330	72.5
Never married									
CPS	7216	6788	94.1	129	17.8	94	13.1	34	4.7
NLS	6994	6667	95.3	125	17.9	101	14.4	25	3.6
Black									
Total marital status									
CPS	2047	978	47.8	252	123.0	107	52.3	145	70.7
NLS	2054	1092	53.2	256	124.5	112	54.5	143	69.6
Ever married									
CPS	502	90	18.0	117	232.1	39	78.4	77	153.7
NLS	437	98	22.4	96	219.7	26	59.5	70	160.2
Never married									
CPS	1545	888	57.5	135	87.5	68	43.8	68	43.8
NLS	1616	994	61.5	160	100.9	87	53.8	73	45.2
Hispanic									
Total marital status									
CPS	1058	626	59.2	129	122.1	71	66.7	59	55.4
NLS	887	519	58.5	143	161.2	66	74.4	77	86.5
Ever married									
CPS	482	149	30.9	106	219.7	58	120.4	48	99.3
NLS	402	113	28.0	115	286.1	49	121.9	66	164.2
Never married									
CPS	576	478	83.0	23	40.4	13	21.8	11	18.6
NLS	485	406	83.8	28	57.7	17	35.1	11	22.5

[1]The NLS data are for a 49 week period perceding the survey week, comparable with the June 1981 CPS data which are for the period between the June 1981 CPS week and the preceding July 1. Statistics are for the number of women who had a birth during the period, not the total number of births in the period. The source for the CPS data are unpublished tabulations based on the 1981 CPS prepared by the U.S. Bureau of the Census.

Table 3.12   18-24 Year Olds Who have had a Child in the Past Year by Race and Marital Status: Young Men in 1983[a]

(numbers in thousands)

	Number of men	Childless men		All men		Men with 1 CEB		Men with 2+ CEB	
		Number	Percent	Number	Per 1,000	Number	Per 1,000	Number	Per 1,000
Total race									
Total marital status	15,053	12,954	86.1	792	52.6	509	33.8	283	18.8
Ever married	3,213	1,653	51.4	628	195.5	388	120.8	240	74.7
Never married	11,842	11,302	95.4	164	13.8	121	10.2	43	3.6
White									
Total marital status	12,060	10,646	88.3	566	46.9	369	30.6	197	16.3
Ever married	2,732	1,486	54.4	511	187.0	320	117.1	190	69.5
Never married	9,331	9,161	98.2	55	5.9	49	5.3	6	0.6
Black									
Total marital status	2,051	1,550	75.6	162	79.0	93	45.3	69	33.6
Ever married	250	74	29.6	68	272.0	34	136.0	34	136.0
Never married	1,801	1,476	82.0	94	52.2	59	32.8	35	19.4
Hispanic									
Total marital status	945	761	80.5	64	67.7	46	48.7	18	19.0
Ever married	232	93	40.1	49	211.2	34	146.6	15	64.7
Never married	713	668	93.7	16	22.4	13	18.2	3	4.2

[a]All of the NLS data references June 16, 1982. That is, marital status, age of respondent and number of children is measured as of that point in time. Breakdowns by marital status may not ad to total population figures since respondents missing data on any item are excluded from the NLS tabulations.

24 year old men are, on the average, at a somewhat different life cycle stage than their female counterparts. They are much less likely to be married (21 percent compared with 37 percent) and, if married, would in all likelihood be married to women younger than themselves. Thus, a more appropriate comparison group for these men would be a cohort of women somewhat younger than the cohort represented in Table 3.10. Nonetheless, it is useful to note that those men in this age group who are married have had on average more children in the past year than their married female counterparts. This finding appears to be particularly true for the black respondents.

Table 3.13 provides additional cross-sectional comparisons with vital statistics fertility estimates for calendar year 1982. In this instance, the vital statistics data provide benchmark male fertility rate comparisons for 20 to 24 year olds. For females, the period fertility estimates generated for 18-19 and 20-24 year olds in the NLS tend to range from 5 to 15 percent below those generated using vital statistics. For 20 to 24 year old males, the NLS fertility rates are about 15 percent below the vital statistics estimates. The under-reporting level for black males in the NLS is, however, somewhat greater, as the 20 to 24 year old males in the NLS reported about 100 birth per 1000 men in 1982 compared with an estimated 129 reported in the vital statistics.

Shifting from a cross-sectional to longitudinal or lifetime fertility perspective, the CPS-NLS comparisons in Table 3.14 indicate only very small generally statistically insignificant differences between the two data sources in lifetime fertility reports for young adult females. The cohorts are not exactly comparable because the NLS cumulative fertility estimates are for women age 24 or 25 at the 1983 survey date and the CPS estimates are for 1955-1959 both cohorts--women who were approximately age 23 to 27 when interviewed

Table 3.13 Births Per 1,000 Women age 18-19 and 20-24 and Per 1,000 Men Age
20-24 in 1982: A Comparison of N.L.S. and N.C. H.S. Vital
Statistics Data

| | Female | | Male |
	18-19	20-24	20-24
Total			
N.L.S.	70.0	104.0	72.5
	(1963)	(3892)	(3806)
Vital statistics	80.7	111.3	86.1
White			
N.L.S.	61.7	101.0	68.2
	(1075)	(2915)	(2870)
Vital statistics	70.8	105.9	79.2
Black			
N.L.S.	120.3	122.3	100.0
	(378)	(977)	(936)
Vital statistics	133.3	131.1	129.4

Source for vital statistics rate: National Center for Health Statistics,
<u>Monthly Vital Statistics Report</u>, Vol. 33, No. 6, Supplement. September 28,
1984. Tables 4 and 14.

NOTE: Births in the N.L.S. sample reference events which occurred during
calendar year 1982. The population estimates in the denominator of these
rates represent weighted population figures for the appropriate age/sex group
as of July 1, 1982. Estimates are based on weighted population data. Sample
sizes in parentheses.

Table 3.14 First Births Per 1000 Women Cumulated to Successive Ages by Race:
A Comparison of 1982 CPS (1955-1959 Birth Cohort) and 1983 NLS
(Women 24 or 25 Years of Age)[1]

	Total		White		Black		Hispanic	
	NLS	CPS	NLS	CPS	NLS	CPS	NLS	CPS
Percent with first birth by age								
18	102	99	73	75	255	253	140	
19	158	154	118	123	350	355	244	
20	224	215	184	180	425	443	276	
21	275	277	227	239	510	527	366	
22	335	334	288	298	575	571	409	
23	382	NA	335	NA	613	NA	459	
24	430 (1723)	NA	384 (1097)	NA	653 (387)	NA	530 (239)	

[1]Based on weighted population estimates. Sample sizes in parentheses.

in mid-1982. Nonetheless, as Table 3.14 shows, the cumulative first birth estimates for the two data sets are closely matched at almost all ages and for both black and white respondents. A more detailed examination of the early age patterning of fertility, particularly as it relates to the pace of subsequent early childbearing, is presented in Chapter 5.

The fertility histories of all the female respondents as of the 1983 survey are synthesized in Table 3.15 and Table 3.16 provides a comparable summary up to the 1982 survey. Comparing these two tables permits one to examine the extent to which recent reported pregnancy patterns, in terms of their mix between abortions, miscarriages and live births, by parity, may differ from earlier patterns. It is worth reiterating, however, that neither of these pregnancy history distributions incorporates the revisions in the abortion histories detailed earlier in this section. Little difference appears between the cumulative distributions for the two years. Indeed, the "potential live births' (total pregnancies less women currently pregnant) occurring between the 1982 and 1983 surveys have a mix similar to the overall 1982 and 1983 distributions; 79 percent resulted in live births, 9.7 percent in abortions and 11.2 percent in stillbirths or miscarriages. In other words, the recent non-confidential pregnancy reports closely parallel earlier reports in terms of their mix between live births and other terminated pregnancies.

Table 3.15 Distribution of Pregnancies by Pregnancy Outcome for Young Women, 1983

(based on weighted population estimates)

	Sample size	Total preg- nancies	Abor- tions	Mis- carriages or still births	Currently pregnant	Live births	Poten- tial live births[a]	Live births	Abor- tions	Mis carriages[b]
Number of pregnancies										
1	1449	100.0	13.1	6.3	12.1	68.5	100.0	77.9	14.9	7.2
2	890	100.0	7.7	11.6	7.8	73.0	100.0	79.2	8.3	12.5
3	378	100.0	7.7	16.1	6.4	69.9	100.0	74.7	8.2	17.2
4	135	100.0	8.7	17.9	3.9	69.4	100.0	72.2	9.0	18.6
5	45	100.0	11.4	23.4	2.7	62.1	100.0	63.9	11.7	24.0
6	10	100.0	5.3	27.2	5.3	60.5	100.0	63.9	5.6	28.7
7	6	100.0	3.6	26.8	7.1	55.4	100.0	59.6	3.8	28.8
8	1	100.0	-	-	-	-	100.0	-	-	-
Total events	2973	100.0	9.4	12.3	8.2	70.1	100.0	76.3	10.3	13.4
All pregnancies										
White	1548	100.0	10.6	13.7	8.9	66.8	100.0	73.4	11.6	15.0
Black	876	100.0	6.3	8.7	6.1	78.9	100.0	84.0	6.7	9.3
Hispanic	549	100.0	7.3	10.0	6.9	75.0	100.0	80.6	7.8	10.8

[a] Excludes current pregnancies.

[b] Includes stillbirths.

NOTE: No respondent has had more than 8 pregnancies

Table 3.16 Distribution of Pregnancies by Pregnancy Outcome for Young Women, 1982

(based on weighted population estimates)

	Sample size	Total pregnancies	Abortions	Mis-carriages or stillbirths	Currently pregnant	Number of live births	Potential live births[a]	Live births	Abortions	Mis-carriages[b]
Number of pregnancies										
1	1350	100.0	13.0	5.9	14.2	67.0	100.0	78.0	15.1	6.9
2	747	100.0	7.3	12.4	9.3	70.9	100.0	78.2	8.1	13.7
3	294	100.0	8.2	18.5	5.7	67.6	100.0	71.7	8.7	19.6
4	87	100.0	10.4	15.1	6.0	68.5	100.0	72.9	11.1	16.0
5	38	100.0	3.9	27.3	5.2	63.6	100.0	67.2	4.1	28.7
6	8	100.0	2.4	40.2	2.4	54.9	100.0			
7	2	100.0	-	-	-	-	100.0			
8	1	100.0	-	-	-	-	100.0			
Total events	2527	100.0	9.4	12.6	9.7	68.5	100.0	75.7	10.4	13.9
All pregnancies										
White	1345	100.0	10.5	14.2	10.3	64.9	100.0	72.4	11.7	15.9
Black	769	100.0	6.5	8.4	7.8	77.2	100.0	83.8	7.1	9.1
Hispanic	413	100.0	6.6	10.1	9.6	73.7	100.0	81.3	7.3	11.4

[a]Excludes current pregnancies.

[b]Includes stillbirths.

NOTE: No respondent has had more than 8 pregnancies.

4. EARLY CHILDBEARING AND SCHOOL LEAVING:
PATTERNS AND DEFINITIONAL ISSUES

This chapter examines the associations among childbearing, school leaving and credentialism to document the school leaving patterns of young American women, particularly as they may be related to having a child in the period immediately before or after leaving. The extent to which different definitions of school leaving substantially affect the results is carefully considered. A specific concern here is to clarify the extent to which the use of G.E.D. (General Educational Development) receipt date rather than formal school leaving date significantly alters one's conclusions about the association between childbearing and school leaving. This is an issue of some importance. As the following results indicate, a significant proportion of young mothers use the G.E.D. route as a mechanism for obtaining a secondary level diploma, and the tendency for obtaining a G.E.D. rather than a regular diploma is selective of certain population subgroups. Whether or not receiving a G.E.D. rather than a regular high school diploma is associated with major differences in subsequent education or career outcomes is of course one reason for being concerned with this distinction. While a few studies have addressed wome of the relevant issues,[9] the question remains largely unanswered, but it is one for which this data set is already providing some answers.[10]

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[9]See, for example, Cervero, Ronald M., "The National Survey of G.E.D. Test Candidates: Preparation, Performance, and 18-Month Outcomes," a paper presented at the annual Conference of the American Educational Research Association, Montreal, April 1983 and Swarm, Christine C., "Three Studies of General Educational Development (G.E.D.) Students 1971-1981," Educational Resources Information Center (ERIC): ED211696, 1981.

[10]William R. Morgan, "The High School Dropout in an Overeducated Society."

In all the following tabular and multivariate material, the focus is on examining educational differentials relating to childbearing for women in the youth cohort who were age 20 and over in 1983. Thus, for the most part, the sample is past the normal high school leaving age and reasonably appropriate for examining high school completion patterns. Some small proportion who have not completed high school as of 1983 may do so following that date, but it is unlikely that these late completers would substantially alter the results presented here.

FERTILITY AND SCHOOL LEAVING: SOME SUBSTANTIVE RESULTS AND DEFINITIONAL ISSUES

A principal objective of this section is to clarify whether or not the way one defines "school leaving" can significantly affect substantive results. Thus, many of the following materials are presented using alternate definitions of school leaving. According to one definition, the school leaving date for G.E.D. recipients is the date they receive their G.E.D. certificate. In this chapter, this will be termed the "final" school leaving date. The other definition of a school leaving date references the actual last school attendance date for the G.E.D. recipients. This is termed the "formal" school leaving date. The following comparisons thus will contrast results arrived at using the alternate "final" and "formal" school leaving definitions.

Tables 4.1 and 4.2 synthesize high school completion probabilities by race or ethnicity according to when a birth and/or a pregnancy leading to a birth occurred in relation to final or formal school leaving dates. Using the

Table 4.1 Probability of Not Completing High School by Parent/Pregnancy
           Status at High School Accreditation or Final School Leaving Date[1]

	Total	White	Black	Hispanic
Total	.13	.11	.16	.30
No birth by 1983	.05	.05	.06	.13
	(2716)	(1811)	(537)	(368)
Birth and pregnancy after school leaving	.22	.20	.16	.46
	(1406)	(823)	(320)	(263)
Birth after/pregnancy before school leaving	.47	.44	.45	.68
	(214)	(94)	(84)	(36)
Birth before school leaving	.26	.24	.28	.35
	(468)	(165)	(248)	(55)

[1]Based on weighted population estimates. Sample sizes in parentheses.

Table 4.2   Probability of Not Completing High School by Parent/Pregnancy
Status at Formal School Leaving Date and Race/Ethnicity

	Total	White	Black	Hispanic
Total	.13 (4764)	.11 (2881)	.17 (1164)	.30 (719)
No birth by 1983	.05 (2716)	.05 (1811)	.06 (537)	.13 (368)
Birth and pregnancy after school leaving	.21 (1477)	.19 (870)	.15 (337)	.45 (270)
Birth after pregnancy before school leaving	.47 (212)	.45 (93)	.45 (83)	.67 (36)
Birth before school leaving	.36 (359)	.38 (107)	.33 (207)	.41 (45)

NOTE: 1. The overall numbers reported in all the formal school leaving
tables are not identical to the overall numbers in the final school leaving
tables because some respondents did not report an actual school leaving
date. This occurred at an above average rate among respondents who ultimately
received a G.E.D. degree. 2. Based on weighted population estimates. Sample
sizes in parentheses.

more standard approach of defining school leaving as the official degree receipt date ("final date"), it may be seen in Table 4.1 that whereas 13 percent of all young women had not completed high school by 1983 (i.e., obtained either a regular high school diploma or G.E.D. degree), considerably higher proportions of young mothers fell into this dropout category; 47 percent of young women who became pregnant before their final enrollment date and did not have their baby until after that date did not complete high school and 26 percent of those who actually had their child before the final school leaving date did not graduate. It is also important to note that fully 22 percent of those who did not become pregnant until after their final school leaving date but before 1983 did not complete high school, highlighting the complexity of the school leaving--early childbearing process.

While black young women were somewhat more likely (16 percent compared with 11 percent) to dropout than their white counterparts, it is useful to note that there are no major differences between these two groups in their propensities to dropout _within_ specific mother/pregnancy categories. In contrast, Hispanic women are much less likely to complete high school, regardless of their parenting tendencies. Overall, 30 percent of the young Hispanic women are dropouts and fully two-thirds of the Hispanic women who became pregnant before their final school leaving date but did not have the child until after the school leaving date were non-completers. This finding is consistent with the notion that the young Hispanic woman is perhaps inculcated with a more traditional value system in which: (1) becoming pregnant at a young age (if not married) is a source of embarrassment, and (2) there are stronger subcultural norms regarding the need or obligation to separate the parent and student roles.[11]

The only group affected by the definitional differences between Table

4.1, which relates parent status and final school leaving dates, and Table 4.2, which relates parenting and formal school leaving, is that which had a birth between those respective dates. The particular distinction between the two tables rests, of course, in the G.E.D. group--young women who had a child after the formal but preceding the final school leaving date. Using the G.E.D. (or degree receiving) receipt date rather than the formal or actual school leaving date significantly reduces the actual dropout rate among young mothers. Whether this is an analytic problem or not depends, of course, on the objectives of one's study and whether or not one wishes to treat a G.E.D. completion as equivalent to a regular high school diploma. In any event, the completion date one uses can alter dropout rates for these young mothers by between 25 and 30 percent. This issue is most significant for young white mothers who are evidently most likely to use the G.E.D. as a vehicle for attaining a high school equivalency credential.

Tables 4.3 and 4.4 indicate in somewhat greater detail the distribution of school completion type by parent status, differentiating between the "final" and "formal" school leaving date definitions. Table 3 distributes the type of high school completion status of young women by the relationship between their childbearing status and their final school leaving date. Utilizing these final school leaving dates, of course, substantially augments the likelihood that a woman will report a birth as having occurred before school leaving--for those who received the G.E.D.[12] Indeed, 31 percent of all

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[11]Montiel, M., "The Chicano Family: A Review of Research," Social Work 18: 2, 1973 and Shapiro, D. and J.E. Crowley, "Attitudes Toward Women Working, Fertility Expectations, and Their Relation to Educational and Occupational Expectations" in Michael Borus, et al., Pathways to the Future. Center for Human Resource Research, The Ohio State University.

[12]In this analysis, childbearing dates are always related to school leaving dates for the last period a young woman was enrolled up to 1983. That is, if

Table 4.3 Type of High School Completion Status by Parent/Pregnancy Status at High School
Accreditation or Final High School Dropout Date[1]

	Probability of					Percent of graduates with G.E.D
	Dropping out	Graduating - regular diploma	Graduating - G.E.D.	Graduating - total	Total	
Total	.13	.81	.06	.87	1.00 (4804)	6.9
No baby by 1983	.05	.92	.03	.95	1.00 (2652)	3.2
Birth and pregnancy after school leaving	.22	.74	.04	.78	1.00 (1406)	5.1
Birth after/pregnancy before school leaving	.47	.48	.05	.53	1.00 (214)	9.4
Birth before school leaving	.26	.43	.31	.74	1.00 (468)	41.9

[1]Based on weighted population estimates. Sample sizes in parentheses.

Table 4.4 Type of High School Completion Status by Parent/Pregnancy Status at Formal High School Leaving Date[1]

	Probability of					Percent of graduates with G.E.D
	Dropping out	Graduating - regular diploma	Graduating - G.E.D.	Graduating - total	Total	
Total	.13 (775)	.82 (3677)	.05 (244)	.87 (3921)	1.00 (4696)	5.7
No baby by 1983	.05 (184)	.92 (2386)	.03 (82)	.95 (2468)	1.00 (2652)	3.2
Birth and pregnancy after leaving school	.21 (355)	.70 (1000)	.09 (118)	.79 (1118)	1.00 (1473)	11.4
Birth after/pregnancy before school leaving	.47 (107)	.48 (94)	.05 (11)	.53 (105)	1.00 (212)	9.4
Birth before school leaving	.36 (129)	.56 (197)	.08 (33)	.64 (230)	1.00 (359)	12.5

[1]Based on weighted population estimates. Sample sizes in parentheses.

young women who had a birth before school leaving under this definition ultimately received a G.E.D. certificate, compared with 43 percent who received a regular high school diploma and 26 percent who had not received any diploma, at least as of the 1983 survey date. In sharp contrast, as Table 4.4 shows, among the young women who had births before their actual or formal school leaving date, only eight percent acquired a G.E.D. degree, 56 percent a regular diploma, and 36 percent dropped out. The dramatic difference between the high school completion statistics for young mothers, when measured by the two different school leaving definitions, has important implications for fertility-school leaving research. For the most part, women who are defined as having a child before school leaving according to the "final" school leaving definition are shifted into the "had birth and pregnancy after school leaving" when gauged from the "formal" school leaving definition. For the latter group, the percent graduating with a G.E.D. diploma increases substantially from 4 to 9 percent when one shifts from the definition of Table 4.3 to Table 4.4. The causality implications are, of course, considerable and beyond resolution in this analysis. The basic issue is whether or not many of these young mothers who had a birth between the formal school leaving date and G.E.D. receipt date had prior high school completion motivations. If the answer to this question is positive, and the value of a G.E.D. is approximately equivalent to that of a regular diploma (as guaged by the objectives of a particular researcher) then using the formal school leaving definition can significantly overstate dropout probabilities for young women who have a child while actually enrolled in school.

Tables 4.5 and 4.6 focus more narrowly on those young mothers who had a

a young woman has a baby during a substantial break from school and then returns to high school again, she will be considered as having had a child while in high school.

Table 4.5 Type of Degree Received by High School Graduates Who Had Child Before the Date of High School Accreditation[1]

	Total	Diploma	
		Regular	G.E.D.
Total	100.0 (309)	58.4	41.6
White	100.0 (117)	49.3	50.7
Black	100.0 (160)	71.9	28.1
Hispanic	100.0 (32)	68.7	31.3

[1]Based on weighted population estimates. Sample sizes in parentheses.

Table 4.6 Type of Degree Received by H.S. Graduates Who had a Child Before Formal School Leaving Date[1]

| | Total | Diploma | |
		Regular	G.E.D.
Total	100.0 (230)	86.9	13.1
White	100.0 (66)	89.0	11.0
Black	100.0 (139)	84.6	15.4
Hispanic	100.0 (25)	85.7	14.3

[1]Based on weighted population estimates. Sample sizes in parentheses.

child before "completing" high school according to the two definitions, and on the implications these school leaving definitions have for defining the degree mix of the recipients. If one examines the type of accreditation for all young mothers who had a birth prior to the accreditation date, the importance of the G.E.D. as a mechanism for young mothers to receive high school accreditation is clearly maximized. For all women who had a child before the ultimate accreditation date, over 40 percent did so through the G.E.D. process. This type of school completion is particularly important for white young mothers and is utilized less by minority women. In any event, Table 4.5 documents the major importance of this credentialling process for enabling young mothers to obtain the equivalent of a secondary diploma.

Table 4.6 indicates, in contrast, that for young women who have their baby while they are still actively enrolled in high school, the G.E.D. as a mechanism for obtaining secondary credentials is far less important. Only 13 percent of the young women who had a child while still formally enrolled and who received a degree followed the G.E.D. route, with only a modest difference between white and minority women. Once again, interpretation of these contrasting results rests at least partly on assumptions one makes about the motivations of these young mothers and the relative values of the two types of accreditation. On the one hand, NLS research suggests that the short-term wage returns for young women receiving a G.E.D. are somewhat below those accrueing to a regular high school diploma.[13] This result was presented for all young women, however, and not limited to those who became mothers at an early age. Whether the young mother subset that obtains a G.E.D is motivated to a different degree than other young women is an unanswered question. Also,

13William R. Morgan, Op. Cit.

a G.E.D. degree does generally enable a young woman to enter college, so perhaps the measurement of more relevant outcomes must await the aging and maturity of these young mothers. Using childbearing while actually enrolled in school as a predictor of educational completion clearly will lead to an understatement of the importance of the G.E.D. degree for young mothers, whereas including births in the post-formal school leaving period may more accurately portray the importance of the G.E.D. degree as a mechanism for obtaining a secondary school credential for young mothers.

Table 4.7 summarizes the relationship between early motherhood and type of school completion. While this table obviously cannot resolve any of the intricate causal issues, it does suggest how the age of childbearing is closely associately not only with high school completing probabilities, but also with the type of degree one receives. It is worth reiterating the caveat that the sample of age 20 and over young women is observed as of the 1983 survey; it is likely that some small proportion of these respondents may yet shift from the dropout to graduate category, either through the G.E.D or some other formal school completion process. It may be noted that the majority of young women who have a child before age 17 have not completed their secondary education and that large proportions of women who become mothers at ages 17 or 18--47 and 38 percent, respectively--have not obtained a high school credential by 1983, at which time they were at least 20 years old.

In addition, for those who have a child at an early age and obtain secondary credentials, the G.E.D. represents an important credentialing route. For school completers who had a child at age 15 or 16, the ratios of G.E.D. receipt to regular diploma receipt were .88 and .75, respectively. In addition, the ratio of G.E.D. to regular diploma receipt for young women who became mothers at age 17 was .39. Thus, this alternate educational

Table 4.7 Probability of Graduating by Age at First Birth[1]

Mother's age at first birth	Sample size	Graduating status by 1983 survey			Total graduates	Rates of G.E.D. to regular degree recipients
		Dropout	G.E.D.	Diploma		
Less than 15	27	.70	.06	.23	.29	.27
15	86	.55	.21	.24	.45	.88
16	197	.51	.21	.28	.49	.75
17	242	.47	.15	.38	.53	.39
18	285	.38	.10	.52	.62	.19
19	343	.23	.09	.68	.77	.13
20 and over	911	.10	.04	.86	.90	.05

[1]Based on weighted population estimates.

progression route is clearly of major importance to young women who bear children at an early age. As such, it is an outcome which probably should be incorporated into most early childbearing-early school leaving studies, if at all feasible.

The three remaining tables in this section illustrate the extent to which the proportions of young women who have children while in school vary by race and type of school completion as well as by the definition of school leaving. Table 4.8 shows that, overall, about six percent of the young women who are now twenty and over had a child prior to their formal school leaving date, with the percentage being highest for the high school dropout, next highest for those who ultimately received a G.E.D. and lowest, only four percent, for those who received a regular diploma. For those who received the G.E.D., whereas ten percent had a child while they were still formally enrolled in high school, fully 47 percent had a baby before receiving their G.E.D. (statistic not reported in table).[14] Table 4.9 summarizes the actual school attendance pattern of the young mothers who received a G.E.D. Almost 80 percent of the young mothers who had a baby before the G.E.D. receipt date did so after leaving school. Whether or not many of these young mothers would have obtained a regular diploma either by staying in or returning to regular school if the G.E.D. option were not available cannot, of course, be ascertained. On the surface, however, this table provides further important documentation supporting the notion that the G.E.D. represents an important mechanism for receiving secondary education credentials for the young mothers.

Table 4.10 shows that the different school definitions have only modest effects on the overall in-school birth rates, reflecting the fact that only

[14]In all the statistics reported in this section, school enrollment is defined as enrollment below the college level.

Table 4.8 Fertility by Age 20 by Type of High School Completion Status and Formal High School Leaving Date[1]

	Total	Baby in school	Baby within 7 months	Baby after 7 months	No baby by 1983
Total	100.0 (4696)	5.9	3.4	27.6	63.0
Received regular diploma	100.0 (3677)	4.0	2.0	23.6	70.4
Received G.E.D.	100.0 (244)	10.4	3.6	51.2	34.9
High school dropout	100.0 (775)	16.4	12.6	44.3	26.7

[1]Based on weighted population estimates. Sample sizes in parentheses.

Table 4.9   Birth Date in Relation to Formal School Leaving Date for G.E.D.
Recipients Who had Baby Before Diploma Receipt[1]

	G.E.D. total	Birth prior to school leaving	Birth after school leaving
Total	100.0 (110)	22.3	77.7
White	100.0 (59)	12.6	87.4
Black	100.0 (39)	51.2	48.8
Hispanic	100.0 (12)	-	-

[1]Based on weighted population estimates.   Sample sizes in parentheses.

Table 4.10 In-School First Birth Probabilities Using Alternate "In School"
Definitions

(based on weighted population estimates)

	Probability of birth before formal school leaving date	Probability of birth before final school leaving date
Total	.059	.080
High school dropouts	.164	.164
High school graduate (including G.E.D.)	.042	.067
White	.036	.056
Black	.180	.219
Hispanic	.064	.077

those women receiving a G.E.D. are affected by this definitional difference.[15] Using the looser final degree granting definition increases the overall percent reporting a birth while "in school" from 5.9 to 8.0 percent; the percent of high school graduates reporting a birth while "in school" increases from 4.2 to 6.7 percent. All three racial groups show modest increases in in-school fertility using the formal school leaving criterion, but for no group is the increase dramatic.

A MULTIVARIATE PERSPECTIVE

This section examines the extent to which young women who receive a G.E.D. degree differ in terms of background characteristics from their counterparts who receive a regular diploma. In-school mothers are separately considered. The final analysis here contrasts the independent determinants of dropping out with those of graduating from high school for in-school mothers (or prospective mothers) using the alternate definitions of school leaving. The objective is to see whether or not the definition of school leaving ("formal" versus "final") alters in any major way how a variety of background factors predict "dropping out."

In these analyses, we use the technique of multiple classiciation analysis. The adjusted coefficients in Table 4.11 indicate the probability that a graduate with a selected characteristic received a regular rather than

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[15]This finding is not meant to suggest that there are not other definitional issues. For example, youth can interrupt (but return to) their regular high school program for any number of reasons, including child birth. They can return to school (or even still be enrolled on their 20th birthday) and subsequently complete 12 years or drop out. A small percentage can complete their 12th year but not receive a diploma. Also, a small number ultimately enroll in college without ever receiving a high school diploma. For a sample which is 20 and over, for the most part these are relatively minor problems, with the potential exception of missing those women who may still receive their formal high school credential (e.g., G.E.D.) at older ages.

Table 4.11 Probability of Receiving a Regular Diploma Rather than a G.E.D. for Female Graduates
20 to 25 in 1983: Multiple Classification Analysis Results
(weighted multivariate results)

	All graduates		Graduates having baby before formal school leaving date		Graduates having baby within 7 months of formal school leaving date	
	Unadj.	Adj.	Unadj.	Adj.	Unadj.	Adj.
Parental education						
Both high school graduates	.97	.96**	.90	.87	.89	.89
Father grad, mother less than 12 or NA	.92	.92	.88	.83	.93	.90
Father less than 12 or NA, mother grad	.93	.93	.85	.87	.91	.89
Both less than 12	.91	.92	.86	.90	.86	.88
Other	.89	.92	.83	.86	.83	.83
Race/ethnicity						
Black	.93	.97**	.85	.85	.88	.90
Hispanic	.93	.94	.86	.79	.82	.82
Disadvantaged white	.89	.90	.83	.82	.83	.83
Other white	.95	.94	.90	.91	.90	.89
Region of residence						
South	.95	.95	.94	.98	.94	.94*
Northeast	.96	.95	.90	.90	.92	.92
North central	.92	.94	.85	.85	.86	.87
West	.93	.93	.77	.75	.74	.72
Rural at 14	.94	.95	.99	.96*	.95	.95*
Urban at 14	.94	.94	.85	.85	.86	.87
Religion as child						
Catholic	.95	.95**	.93	.91	.89	.90
Fund. Prot.	.90	.91	.83	.84	.86	.85
Other Prot.	.96	.96	.90	.87	.93	.88
Other	.96	.97	.88	.98	.91	1.00
Mother worked at 14						
Yes	.95	.95	.84	.84	.85	.85**
No	.93	.94	.92	.91	.92	.92
Two parents at 14						
Yes	.95	.95**	.88	.87	.90	.89
No	.88	.89	.84	.87	.84	.85
Number of siblings						
None	.91	.93	.84	.84	.38	.26**
1-2	.96	.95	.92	.90	.92	.91
3+	.93	.94	.85	.86	.88	.89
Church attendance 1979						
Never	.90	.90**	.83	.82	.88	.88**
Sometimes	.93	.92	.77	.76	.80	.80
Once a month or more	.96	.96	.95	.96	.94	.94
Grand mean	.94		.87		.88	
Adj. R^2	.041		.052		.107	
F	8.59		1.59		2.88	
N	3933		227		332	

**Significant at .01.
* Significant at .05.

a G.E.D diploma, controlling for all the other factors in the model. Overall, 94 percent of the graduates and 87 percent of the graduates who had a child before their formal school leaving date received regular high school diplomas.[16]

With respect to the overall graduate population, several background factors, not always consistent with each other, appear to be associated with a greater likelihood of receiving a regular high school diploma. Young graduates whose parents both graduated from high school, who came from a stable family background or who are regular church attenders are more likely to have followed the regular degree path. However, black graduates are also more likely than their other ethnic counterparts to receive regular diplomas, as are youth professing "other religious" affiliations--consisting mostly of the non-attending group.

The model focusing on the graduates who had a baby either before the formal school leaving date or within seven months of that date also suggests interesting differences, although the variables do not as easily attain statistical significance because of the smaller sample sizes. The G.E.D. receivers are most heavily concentrated among Hispanic and disadvantaged white groups, and those who had mothers who worked. Also, perhaps reflecting different access to G.E.D. programs or statutory differences, young mothers living in urban areas or in the Western part of the United States were most likely to receive a G.E.D. credential. In general, while the results are not statistically overwhelming, evidence does show that young women acquiring

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[16]Subsequent analyses will use logit or probit analyses which are more appropriate given the nature of the dependent variable and the relative rarity of the G.E.D. event. M.C.A. was used here because it permits presentation in a straightforward way of G.E.D. probabilities for a variety of population subgroups.

statistically overwhelming, evidence does show that young women acquiring G.E.D. credentials, particularly those who are mothers, are different from regular degree receivers along several socio-economic and geographic dimensions. To the extent that the G.E.D. credential differentially enables certain categories of young mothers to obtain a secondary school credential, this factor should ideally be incorporated into fertility-school completion analyses.

The multiple classification analyses presented in Tables 4.12 and 4.13 permit a comparison of the extent to which a variety of background factors predict high school non-completion for young in-school mothers using the contrasting "final" school leaving and formal school leaving definitions. Focusing on the group of women who had a birth either while in school or within seven months of that date, Table 4.12 shows (using the final school attendance date for referencing the birth event) that dropouts are concentrated (for example) within the groups where the respondent's mother was a dropout, where the respondent was Hispanic or an economically disadvantaged white, and where the respondent's mother did not work. Dropping out was generally prevalent for the same subgroup when considering the formal school leaving date as the reference for the birth event. The levels of dropping out among the young mothers are, of course, considerably higher when the formal definition is used, reflecting the fact that the "final" definition incorporates all G.E.D. receiving mothers as having had their child while still in school. Perhaps the most significant conclusion to be drawn from these final two models is that the independent background determinants of dropping out would have been essentially the same, regardless of the definition of school leaving used. The primary distinction between the two approaches is that they obviously generate different levels of early school leaving.

Table 4.12   Probability of Not Completing High School for Women 20-25 in 1983
Who had a Baby Before Final School Leaving Date (or Before Degree
Receipt) or Within 7 Months of that Date: Multiple Classification
Analysis

(weighted multivariate results)

	Birth in school		Birth within 7 months leaving school	
	Unad.	Adj.	Unad.	Adj.
Parental education				
Both graduates	.14	.17*	.18	.22**
Father grad, mother less than 12 or NA	.34	.33	.42	.42
Father less than 12 or NA, mother grad	.24	.24	.21	.23
Both less than 12	.26	.26	.37	.36
Other	.37	.34	.42	.38
Race/ethnicity				
Black	.27	.27	.32	.31*
Hispanic	.35	.34	.47	.46
Disadvantaged white	.28	.26	.42	.40
Other white	.23	.24	.28	.29
Region of residence				
South	.30	.27	.31	.30
Northeast	.25	.27	.33	.35
North central	.25	.26	.31	.31
West	.27	.23	.36	.31
Rural at 14	.27	.29	.34	.37
Urban at 14	.26	.25	.31	.30
Religion as child				
Catholic	.28	.28	.33	.31
Fund. Prot.	.24	.23	.30	.32
Other Prot.	.21	.23	.25	.28
Other	.42	.39	.50	.46
Mother worked at 14				
Yes	.21	.23	.24	.26**
No	.32	.30	.40	.38
Two parents at 14				
Yes	.23	.24	.30	.30
No	.31	.29	.37	.35
Number of siblings				
None	.08	.02	.59	.17ᵛ
+	.27	.27	.34	.33
Church attendance 1979				
Never	.37	.35*	.46	.43**
Sometimes	.22	.22	.26	.26
Once a month or more	.23	.24	.30	.31
Grand mean		.26		.32
Adj. R^2		.037		.09
F		1.80*		4.00**
N		440		651

**Significant at .01.
* Significant at .05.

Table 4.13 Probability of Not Completing High School for Women 20-25 in 1983 Who had a Baby Before Formal School Leaving Date or Within 7 Months of that Date: Multiple Classification Analysis

(weighted multivariate results)

| | | Birth in school | | | Birth within 7 months of leaving school | |
	N	Unadjusted probability	Adjusted probability	N	Unadjusted probability	Adjusted probabilit
Parental education						
Both graduates	74	.18	.22**	101	.22	.27**
Father grad., mother less than 12 or NA	41	.53	.50	76	.56	.56
Father less than 12 or NA, mother grad.	51	.34	.34	83	.26	.28
Both less than 12	111	.36	.37	187	.46	.44
Other	76	.50	.46	115	.53	.47
Race/ethnicity						
Black	202	.33	.31	284	.37	.34
Hispanic	45	.41	.41	79	.52	.51
Disadvantaged white	44	.44	.42	96	.54	.50
Other white	62	.36	.39	103	.38	.41
Region of residence						
South	45	.42	.41	84	.37	.38
Northeast	96	.31	.32	151	.37	.38
North central	162	.37	.38	245	.41	.41
West	40	.41	.37	69	.47	.43
Residence at 14						
Rural	73	.42	.44	117	.45	.47
Urban	280	.34	.34	445	.39	.38
Religion as child						
Catholic	81	.35	.33	137	.39	.35**
Fund. Protestant	185	.34	.36	289	.39	.41
Other Protestant	50	.31	.33	80	.33	.35
Other	37	.53	.47	56	.59	.55
Mother worked at 14						
Yes	165	.45	.40	281	.49	.46**
No	188	.28	.32	281	.31	.34
Two parents at 14						
Yes	145	.42	.40	207	.46	.46
No	208	.33	.34	355	.37	.38
Number of siblings						
None	6	.29	.12	7	.15	-*
1-2	67	.30	.33	101	.35	.37
3+	280	.38	.37	454	.42	.41

Table 4.13 (continued)

	Birth in school			Birth within 7 months of leaving school		
	N	Unadjusted probability	Adjusted probability	N	Unadjusted probability	Adjusted probability
Church attendance 1979						
Never	60	.53	.49**	112	.58	.54**
Sometimes	110	.31	.32	163	.33	.35
Once a month or more	183	.31	.33	287	.36	.37
Grand mean						
R^2			.07			.12
F			2.24*			4.54**
N			353			562

**Significant at .01.
* Significant at .05.

NOTE: The leaving date for those with G.E.D.s was the date they formally left grades 1 through 12 for the last time, not the date when they received their G.E.D.

5. THE PACE OF EARLY CHILDBEARING

The propensities of NLS youth to begin childbearing at an early age and, in particular, the tendency of young mothers to have a second child, are examined in this chapter. Also considered are the overall patterning of early parity progression and the extent that this tendency is selective of women of different races or ethnicities, or other background characteristics. Historically, women who had a first child at an early age tended to space subsequent children closely together and ultimately achieved above average family size.[17] There is some evidence that the tendency of young mothers to repeat early pregnancies has declined in recent years.[18]

FIRST BIRTH PATTERNS

Figure 5.1 describes the cumulative pattern of reported first births to women in the NLS cohort who were age 24 or 25 in 1983. These results, already mentioned in reference to Table 3.14 in Chapter 3, describe clearly the major racial and ethnic differentials in early childbearing for a cohort that was passing through their late adolescent years during the second half of the seventies.[19] The white sample began childbearing at a slower pace than the

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[17]E.g., Trussell, J. and J. Menken, "Early Childbearing and Subsequent Fertility, Family Planning Perspectives 10: 209-215.

[18]Recent evidence suggests that teenagers who experience a premarital pregnancy are less likely than they used to be to have a second pregnancy shortly thereafter (see Melvin Zelnick, "Second Pregnancies to Premaritally Pregnant Teenagers, 1976 and 1971," Family Planning Perspectives 12 (2): 69-116). This appears to partly reflect the declining proportion of women who marry during their first premarital pregnancy (Koenig, M.A. and M. Zelnik, "Repeat Pregnancies Among Metroplitan-Area Teenagers: 1971-1979," Family Planning Perspectives 14 (6): 341-344). This is certainly consistent with the results of this research indicating the importance of marriage as a predictor of rapid repeat childbearing.

Figure 5.1 First Births Per 1000 Women 24 and 25 Years Old in 1983 by Race: Cumulative Distribution
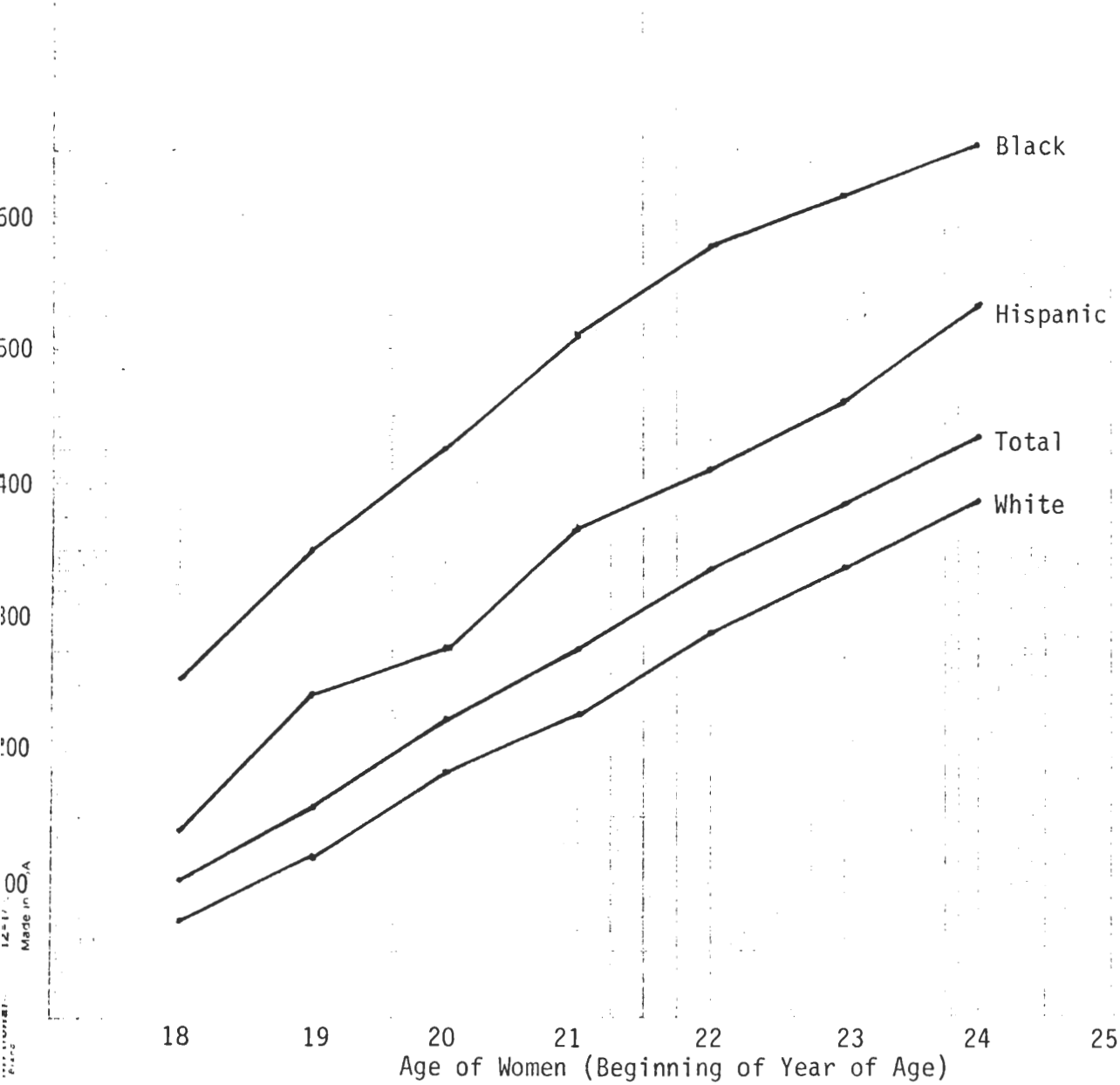
Figure 5.2   First Births Per 1000 Men 24 and 25 Years Old in 1983 by Race: Cumulative Distribution

Black

Hispanic

Total Race

White

500

400

300

200

100

Age of Men (Beginning of Year of Age)

18   19   20   21   22   23   24   25
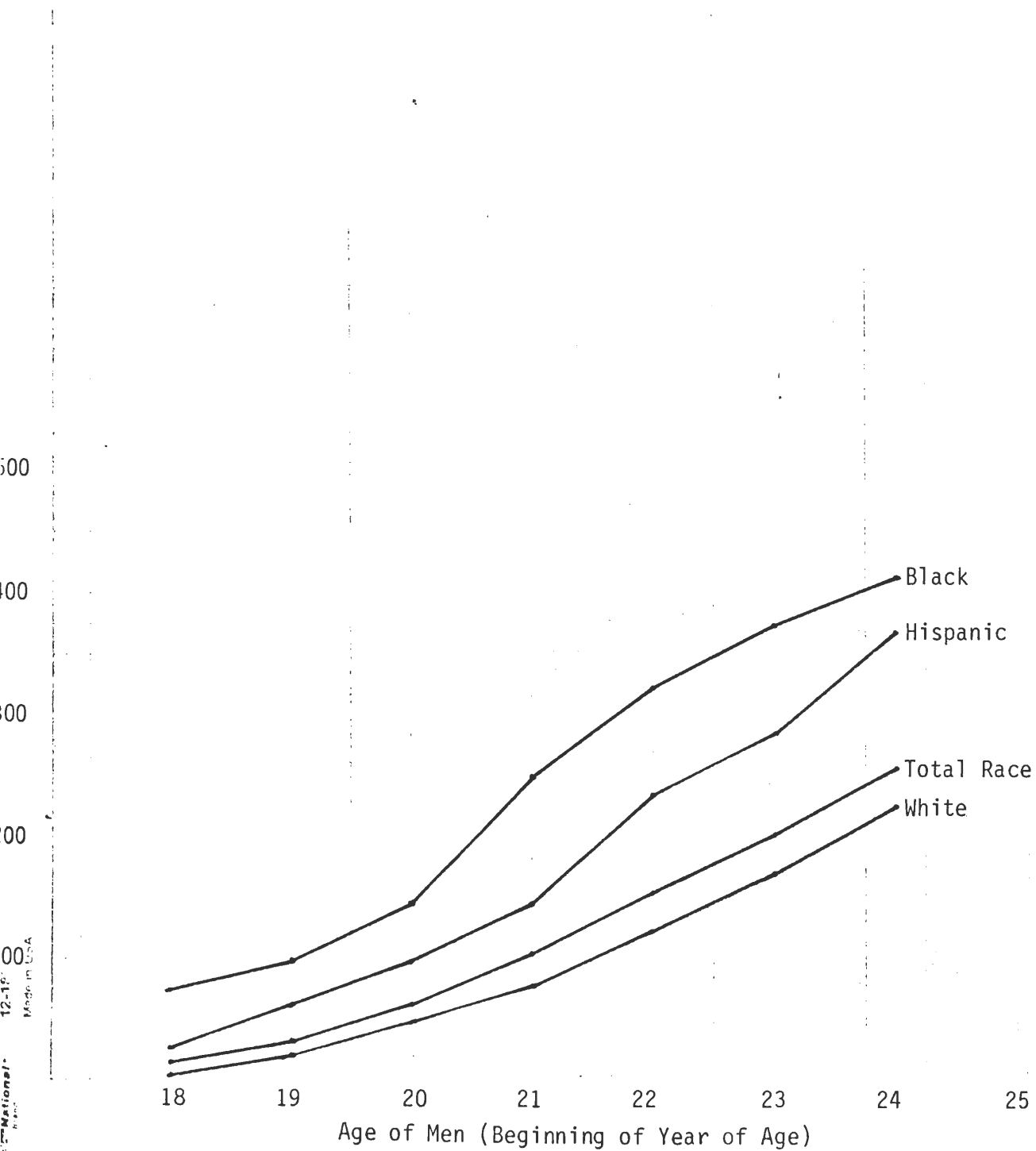
Table 5.1 First Births Per 1000 24 and 25 Year Old Men and 2nd Births Per 1000 One Parity 24 and 25 Year Old Men by Race: Cumulative Distributions[1]

	First births per 1000 men			
	Total	White	Black	Hispanic
Births per 1000 men by age				
18	13	3	73	26
19	31	19	97	60
20	59	44	143	94
21	101	75	247	142
22	150	118	319	232
23	197	164	370	281
24	252 (1778)	220 (1178)	407 (385)	363 (215)
Second births per 1000 one parity men by age				
18	97 (38)	a	a	a
19	83 (83)	a	a	a
20	116 (146)	48 (73)	262 (51)	a
21	139 (230)	108 (116)	179 (82)	a
22	208 (338)	203 (172)	198 (113)	274 (53)
23	274 (428)	257 (228)	290 (136)	387 (64)
24	319 (518)	297 (288)	368 (152)	392 (78)

[a] Insufficient number of one parity cases.

[1] Based on weighted population estimates. Sample sizes in parentheses.

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other two groups and sustained a lower level of childbearing to age 24.

The black cohort maintained a pace of fertility significantly higher than their white counterparts at all ages. The gap between the two groups widens until age 22, and then narrows slightly. Thus, the black women not only had a significantly higher first birth probability at the youngest ages, but they continued to bear first children at a more rapid rate for several years beyond this age.

Young Hispanic fertility consistently lay between the white and black levels. While the Hispanic pattern is somewhat erratic, reflecting the more modest sample size for that group, first birth probabilities by age 18 are approximately twice the white level but slightly more than half the black level. The motherhood gap between whites and Hispanics generally widens with increasing age and, indeed, at age 24 is wider than it has been at any of the preceding ages. By their 24th birthday, slightly under 40 percent of the white women have become mothers, compared with slightly over 50 percent for the Hispanic women and almost two-thirds of the black women. For the most part, the very early differentials in childbearing between the racial/ethnic groups have not been overcome and have significantly widened over the ensuing years.

Figure 5.2 and the top half of Table 5.1 present comparable statistics for men age 24 or 25. While the male fertility levels are, of course, much lower than those for women, the patterns by race and ethnicity are the same. Reported teenage fertility for white males is very low; by their twentieth birthday, only 3.3 percent of white males are fathers, compared with 9.4 percent for Hispanics, and 14.3 percent for black males. By age 24, the

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[19]It is worth mentioning that the statistics presented here coincide closely with C.P.S. estimates for a group from essentially the same generation.

percentages are 22, 36, and 41, respectively. The gap in fertility between the white and black men appears to widen until about age 22, and then very gradually diminishes as white men become fathers at a faster rate than their black counterparts. The white-Hispanic fatherhood gap is still widening as of age 24. While reported early fatherhood is much more prevalent among black than Hispanic men, the gap rapidly narrows as they approach the mid-20s. Even though black men are more likely to report an early birth, Hispanic men sustain a much higher pace of childbearing in the years immediately following adolescence.

In the discussion above, the cohort of female respondents age 24 or 25 in 1983 were used to describe the pace of early childbearing for youth attaining adulthood in the late 1970s. To the extent that levels of fertility for adolescents reaching maturity in the very late 1970s or early 1980s differ from those of this cohort, the above description may not accurately portray current adolescent very early parenting tendencies. Figure 5.3 describes the pace of early parenthood for successive two-year-age groups of women as of 1983. The somewhat limited sample sizes for these two-year-age groups suggest that the results indicated in this Figure should be treated cautiously. Nonetheless, the results are consistent with the notion that women age 24 or 25 in 1983 who began childbearing in the mid-1970s had early childbearing levels slightly above those of succeeding cohorts. The two successive two-year groups, women age 22-23 and age 20-21 in 1983, are indistinguishable from each other by age 20, and it is premature to hypothesize about the likely trend for the group age 18 or 19 in 1983. It is perhaps fair, however, to hypothesize that the cumulative percent having a first child by successive ages is slightly lower for the cohorts of women following the above described 24-25 year old group.

Figure 5.3   Trends in the Pace of First Births: First Births Per 1000 Women by Single Year of Age for Successive NLS Age (as of 1983) Cohorts
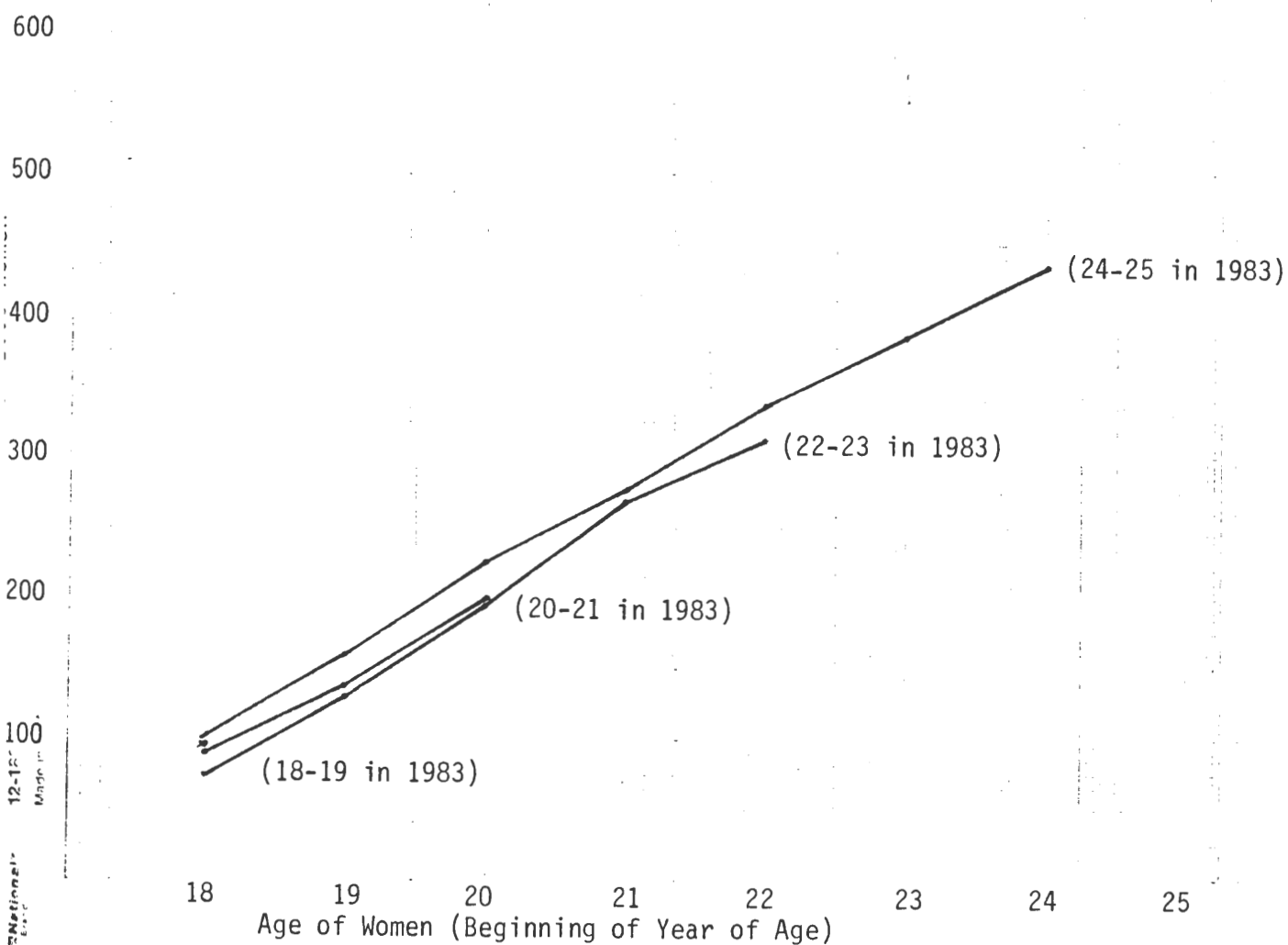
THE PACE OF SUBSEQUENT CHILDBEARING: PARITY PROGRESSION FOR ONE PARITY
RESPONDENTS

This analysis focuses on the pace of repeat childbearing for various NLS
subsets, and the extent to which the characteristics of those who have a
second child rapidly are similar to those of early first time mothers. Table
5.2 includes the second birth probabilities for women age 24 or 25 who have
had first births by selected ages, and Figure 5.4 graphs these same
probabilities. Thus it may be seen, for example, that almost half (49
percent) of women who have had a first birth by their 24th birthday have gone
on to have a second birth. It is of some importance to note that by that age,
white, black, and Hispanic one parity women show only modest differences in
their probabilities of having gone on to have a second birth. Thus, while
white women are, as has been shown, much less likely to have had a first
birth, if they have a first birth their pace of subsequent childbearing does
not differ, on the surface, from their minority counterparts. This narrowing
between the races in parity progression with increasing age may be noted
visually in Figure 5.4. These statistics are not controlled in any way for
the durations since first birth, however. This factor will be explicitly
controlled for in the following material.

Parity progression patterns by race for young men are indicated in Table
5.1. Not surprisingly, much smaller proportions of one parity men have had a
second birth at all ages, reflecting at least partly the fact that the average
one parity man has been in that status for a shorter time period than his
female counterpart. The somewhat erratic cumulative patterns reflect the fact
that the separate race sample sizes in many cases are modest. As of age 24,
the white men in this one parity sample are somewhat less likely to have had a

Table 5.2 Second Births Per 1000 One Parity Women Ages 24 or 25 by Race:
          Cumulative Distribution[1]

	Total	White	Black	Hispanic
First birth by age				
18	95 (204)	49 (86)	154 (87)	154 (31)
19	146 (311)	98 (140)	225 (118)	191 (53)
20	238 (418)	197 (211)	322 (147)	312 (60)
21	286 (526)	253 (264)	349 (182)	333 (80)
22	376 (645)	352 (339)	408 (213)	491 (93)
23	450 (739)	438 (400)	465 (232)	516 (107)
24	490 (823)	477 (453)	493 (247)	520 (123)

[1]Based on weighted population estimtes. Sample sizes in parentheses.

Figure 5.4   Second Births Per 1000 One Parity Women Ages 24 or 25 by Race: Cumulative Distribution

Attained Age of One Parity Women
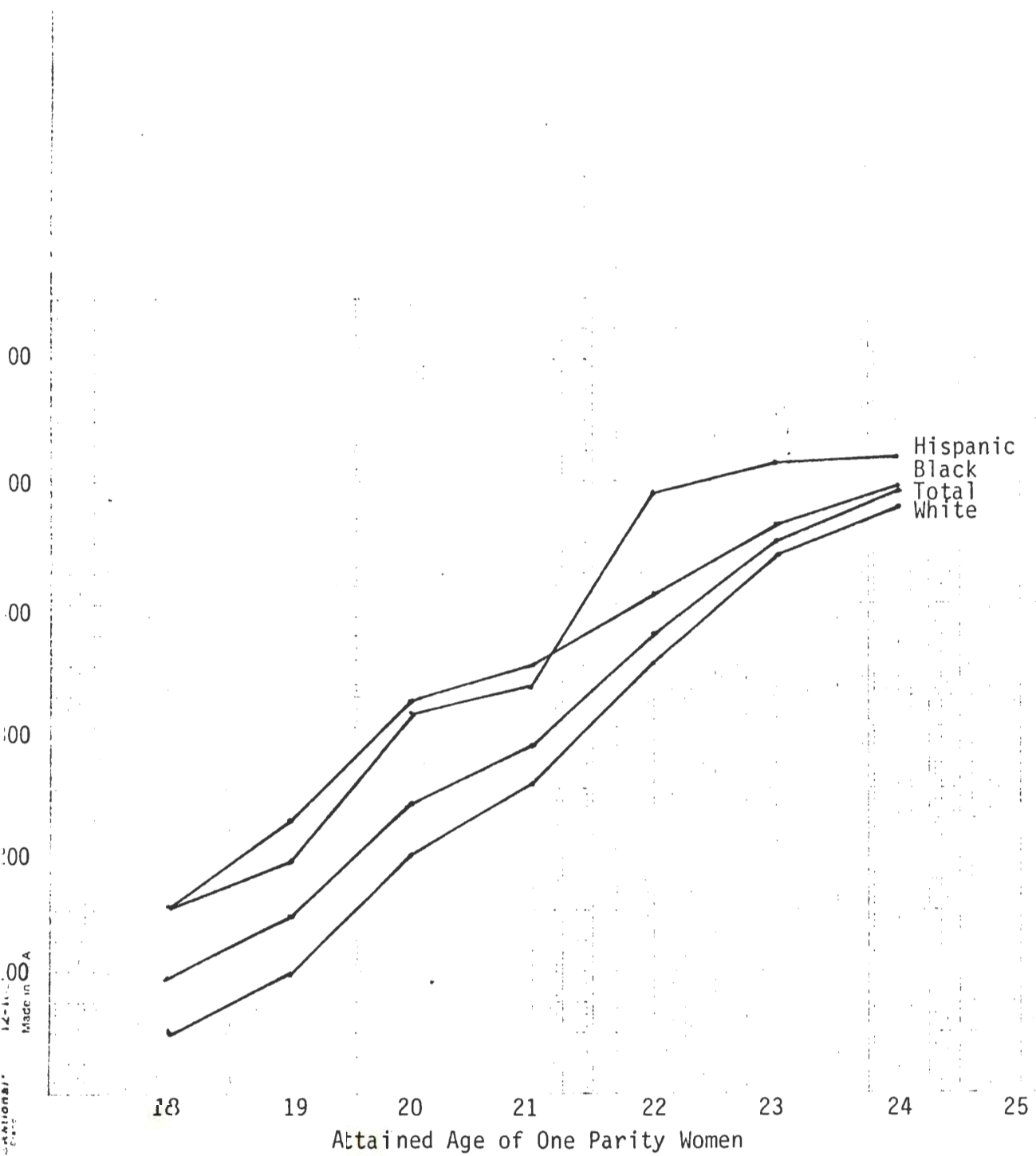
second child than are the black or Hispanic men. However, given the modest sample sizes and the instability of the estimates, these results should be treated cautiously.

Table 5.3 examines more carefully the pace at which one parity white, black, and Hispanic women will have a second child, taking into consideration the mother's age when the first child was born and the precise duration (in months) since that birth. Taking all races together, women who have their first child below age 16 have a much greater likelihood of having a second child within 24 months than women who have a first child at any older age. However, the patterning of the association between age at first birth and second birth (within 24 months) probabilities is not linear. The parity progression probability declines steadily between maternal age 15 and maternal age 18. However, second birth within 24 month probabilities then rise substantially at maternal age 19, and, in a stepwise fashion, then begin a second decline. It is conjectured (and ongoing research will attempt to confirm) that this stepwise pattern by age of mother at first birth in second birth probabilities may be related to the heterogenous nature of the first birth sample of mothers over this age range. The first birth group through age 18 will disproportionately include the high school dropouts who typically will not be in intact marriages. For this subgroup, increasing age at first birth may be predictive of a greater delay in subsequent childbearing. The young women having a first birth in the upper half of this age spectrum will be primarily high school graduates in intact (marital) family units. The first birth was directly associated with high school graduation, marriage, and subsequent (planned) pregnancy. The majority of this group have at least two child intentions and many are progressing towards this two child level. Support for this argument appears in the bottom half of Table 5.3; by 36

Table 5.3 Proportion of Women Having a Second Birth Within 24 and 36 Months
of First Birth by Age at First Birth and Race

Mother's age at first birth	Total Prop.	Total Sample size	White Prop.	White Sample size	Black Prop.	Black Sample size	Hispanic Prop.	Hispanic Sample size
Within 24 months of first birth								
<16	.30	146	.20	49	.36	79	.47	18
16	.24	216	.21	81	.24	95	.35	40
17	.22	246	.23	105	.20	97	.27	44
18	.17	255	.15	119	.22	89	.19	47
19	.24	228	.24	135	.18	65	.29	28
20	.23	191	.24	103	.09	54	.37	34
21	.21	115	.21	73	.17	29	.43	13
22	.14	47	.17	27	0	12	.11	8
≤16	.26	362	.21	130	.30	174	.39	58
17-18	.20	501	.19	224	.21	186	.23	91
19-22	.22	581	.23	338	.13	160	.33	83
Within 36 months of first birth								
<16	.47	132	.37	44	.52	72	.71	16
16	.39	193	.36	72	.39	92	.53	29
17	.40	209	.41	90	.36	81	.45	38
18	.43	194	.49	93	.34	62	.30	39
19	.50	162	.53	103	.33	45	.73	14
20	.41	107	.44	54	.22	34	.66	20
21	.42	56	.40	35	.47	14	.55	7
≤16	.42	325	.36	116	.45	164	.60	45
17-18	.41	403	.45	183	.34	143	.38	77
19-21	.46	325	.48	192	.31	93	.68	41

NOTE: Women in 24 month interval analysis have all had at least 24 months
since first birth and women in the 36 month analysis have had at least 36
months since their first birth. Based on weighted population estimates.

months after the first birth, fully 50 percent of the women who had a first birth at age 19 have already had a second child, the largest percentage to be found for any single year of age birth cohort.

The summary statistics, which group the mothers into larger categories inherently more stable because of larger sample sizes, suggest results supporting the above argument. Young mothers (first birth before age 17) are indeed most likely to have a second birth very quickly--26 percent having a second birth within 24 months compared with 20 and 22 percent for the two older age categories of mothers (17-18 and 19-22). However, when one examines parity progression within 36 months, a pace of childbearing more consistent with normative patterns of progression from a first to a second birth, the pattern is completely reversed; women who had their first birth at the oldest end of the age spectrum, 19 to 21, were more likely to have had a second birth than were younger mothers. From a methodological perspective, this result speaks to a need to be careful in how one defines outcome variables in models focusing on second and perhaps higher birth order outcomes. The relationship between duration since first birth and subsequent birth probabilities is quite sensitive to the age at which the first birth occurred in a non-linear manner.

The results of Table 5.3 also suggest major differences in the patterning of second birth probabilities between the races. Focusing on the grouped statistics, only modest differences appear between younger and older white mothers in their probability of having a second birth within 24 months. In contrast, black mothers show a very strong inverse association between age at first child and second birth probabilities. Indeed, it may be concluded with a high degree of statistical confidence that whereas young (under 17) black mothers are more likely than their white counterparts to have a second child within 24 months, black mothers who had their first child at age 19 or over

are much less likely than older white women to have a second child. This outcome is undoubtedly related to differential selective processes at play in which kind of women become mothers at which ages. That is, according to the statistics in Figure ^{F}.1, by age 20 about 42 percent of black but only 18 percent of white women have become mothers. Thus, the average black woman becoming a mother for the first time at that age may be quite different from a motivational perspective than her white counterpart.

The smaller Hispanic sample sizes make it somewhat more difficult to generalize about the pace of childbearing for that group except to say that for all ages at first birth, the Hispanic mother appears more likely to bear a second child rapidly. The extreme "U shaped" pattern of the association between age at first birth and second birth probabilities suggests that Hispanic mothers within the 15 to 22 age range represent a quite heterogenous group with respect to a variety of behavioral and motivational characteristics beyond the scope of this report. In summary, the overall pattern of the relationship betwen age at first birth and the probability of a second birth within 24 months masks major differences in patterns among the white, black, and Hispanic women.

Even a cursory examination of the summary statistics of second birth probabilities within 36 months, at the bottom of Table 5.3, shows three distinctly different racial/ethnic patterns. The white mothers show a steadily increasing probability of second births within 36 months with increasing age at first birth; black mothers show a steady decline and Hispanic mothers continue to show a "U shaped" pattern. Thus, as second child normative pressures come increasingly into play, the more traditional older marrying and childbearing white family units are having their second children in increasing proportions; the more selected out, perhaps upward mobile, black

family units are having second children at reduced rates,[20] and the Hispanic units, as suggested earlier, are developing patterns suggestive of more complex interactions among cultural, economic, and demographic phenomema.

The remaining tables in this section show the extent to which parity progression probabilities are sensitive to several family and individual characteristics. Table 5.4 highlights the generally greater probability of having a second birth by young mothers who have a mother who has not completed high school. Table 5.5 illustrates the selective importance of marital status as a potentially important differentiator of parity progression among the youngest group of mothers. First, it should be noted that the large majority of women who have become mothers at age 15 and earlier were not married at the time of the first birth. As this table indicates, and as the multivariate analyses that follow will support, the marital status factor is indeed an important independent predictor of having a second child. For almost all age at first birth and duration since first birth categories, women who were married at the time of their first birth are somewhat more likely to have had a second birth in comparison with their non-married counterparts. While disentangling all of the motivations conducive to rapid childbearing is beyond the scope of this report, this result does suggest that young women with lesser motivations for repeat childbearing--those not within a formal marriage--are indeed less likely to have another child quickly.

Table 5.6 highlights one admittedly post-hoc motivational factor in relation to early repeated childbearing--whether or not the respondent reported after the event that her first child was wanted at the time. First,

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[20]See Mott, F. and David Shapiro, "Work and Motherhood: The Dynamics of Labor Force Participation Surrounding the First Birth." Chapter 3 in Years for Decision, Volume 4, by Frank L. Mott, et al., Center for Human Resource Research, The Ohio State University, November 1977.

Table 5.4 Proportion of Women Having a Second Child Within 24 and 36 Months
of First Birth by Age at First Birth and Education Level of the
Respondents' Mother

Mother's age at first birth	Total		HS graduates		HS dropouts	
	Prop.	Sample size	Prop.	Sample size	Prop.	Sample size
Birth within 24 months						
< 16	.27	138	.11	34	.34	104
16	.23	213	.23	71	.24	142
17	.21	229	.18	76	.23	153
18	.17	241	.14	91	.20	150
19	.23	223	.20	105	.27	118
20	.23	186	.20	97	.27	89
21	.22	114	.21	61	.24	53
22	.15	45	.19	29	.02	16
≤ 16	.25	351	.19	105	.28	246
17-18	.19	470	.16	167	.22	303
19-22	.22	568	.20	292	.25	276
Birth within 36 months						
< 16	.44	124	.33	29	.48	95
16	.38	190	.35	66	.40	124
17	.38	196	.31	61	.41	135
18	.44	186	.47	69	.41	117
19	.50	157	.45	82	.56	75
20	.44	101	.40	55	.48	46
21	.44	53	.47	25	.41	28
≤ 16	.40	314	.35	95	.43	219
17-18	.41	382	.40	130	.41	252
19-21	.47	311	.44	162	.51	149

NOTE: See Table 5.3.

Table 5.5 Proportion of Mothers 20 and Over in 1983 Having Second Child Within Selected Intervals by Age at First Birth and Marital Status at First Birth

	Total		Married		Unmarried	
	Prop.	Sample size	Prop.	Sample size	Prop.	Sample size
Age at first birth ≤ 15	-	116	-	25	-	91
Second birth within ≤ 12 months	.02	4	.02	1	.02	3
≤ 18 months	.15	23	.19	8	.14	15
≤ 24 months	.29	41	.34	12	.28	29
≤ 36 months	.46	63	.51	19	.45	44
≤ 48 months	.60	75	.74	21	.56	54
Age at first birth = 16	-	191	-	58	-	133
Second birth within ≤ 12 months	.06	10	.07	5	.06	5
≤ 18 months	.17	34	.21	14	.14	20
≤ 24 months	.23	51	.24	20	.22	31
≤ 36 months	.39	81	.39	31	.38	50
Age at first birth = 17	-	244	-	99	-	147
Second birth within ≤ 12 months	.02	7	.02	2	.02	5
≤ 18 months	.10	34	.12	15	.09	19
≤ 24 months	.22	59	.28	28	.17	31
Age at first birth = 18	-	297	-	138	-	161
Second birth within ≤ 12 months	.03	11	.04	6	.01	5

NOTE: The results in this table are based on uncensored data. Based on weighted population estimates.

Table 5.6 Proportion of Women Having a Second Birth Within 24 and 36 Months of First Birth by Age at First Birth and Wantedness Status of First Birth

Mother's age at first birth	Total		Wanted first birth		Unwanted first birth	
	Prop.	Sample size	Prop.	Sample size	Prop.	Sample size
Birth within 24 months						
< 16	.30	147	.58	41	.22	106
16	.24	226	.30	79	.20	147
17	.22	250	.21	92	.23	158
18	.17	255	.17	92	.17	163
19	.24	232	.31	115	.15	117
20	.22	193	.26	125	.17	68
21	.21	119	.17	77	.29	42
22	.14	49	.15	35	.10	14
≤ 16	.26	373	.37	120	.21	253
17-18	.20	505	.19	184	.20	321
19-22	.22	593	.25	352	.18	241
Birth within 36 months						
< 16	.47	133	.82	37	.37	96
16	.38	201	.43	73	.35	128
17	.40	213	.41	79	.39	134
18	.43	194	.44	74	.42	120
19	.51	164	.55	80	.45	84
20	.41	108	.42	70	.40	38
21	.42	58	.39	38	.46	20
≤ 16	.41	334	.52	110	.36	224
17-18	.41	407	.43	153	.41	254
19-21	.46	330	.48	188	.44	142

NOTE: Women in 24 month interval analysis have all had at least 24 months since first birth and women in the 36 month analysis have had at least 36 months since their first birth. Based on weighted population estimates.

it may be noted that first child "wantedness" is closely correlated with the age at which the woman becomes a mother. A large majority of the youngest mothers indicated after the fact that they did not want that child at that time. In contrast, a substantial proportion of the women who became a mother for the first time after their 19th birthday wanted their child. Given that wantedness is also apparently associated with above average probabilities of going on to have a second birth within 24 or 36 months, the motivational forces at play could tend to have a dampening effect on the probability that many young mothers will quickly repeat the birth event. The extent to which this factor may be relevant independent of the variety of background factors that can affect (retrospective) motivation for childbearing is considered further in the multivariate analysis.

Motivational level (as proxied for by this retrospective report on child wantedness) is important for two reasons. First, as noted, women who reported that they did not want their first child were less likely to quickly repeat the birth process. Second, for women who reported that they wanted their first child, a distinctive "U shaped" relationship between age at first child and probability of having a second child within 24 or 36 months appears once again. Repeat childbearing is most prevalent for the youngest childbearing subset for whom the first birth was wanted and presumably more volitional. It also was more prevalent for the oldest first child bearers who wanted their first child--a group who are disproportionately married and high school graduates. In addition, this "U shaped" association between age at first birth and second birth probabilities among the wanted subset partly reflects the fact that young Hispanic mothers, who are known to follow this "U shaped" pattern, are also more likely to have wanted their first child. Future research with the NLS can at least partly clarify the causal forces behind

this U shaped pattern that appears when the data are stratified by several critical variables of interest, including child wantedness, parental education, race and ethnicity.

A MULTIVARIATE SYNTHESIS

Earlier analyses prepared for the NICHD using the NLS youth data set noted that several background factors were significant predictors of having a first birth before age 17.[21] These included church attendance, maternal education, and coming from a stable (two parent) background, which were shown to be associated with below average probabilities of having an early first birth, and being black or an economically disadvantaged white, which were independently predictive of above average early parenting propensities. In the multivariate (logit) models that follow, the focus is on clarifying the extent to which these and other factors significantly predict having a second birth within 24 or 36 months of a first birth. A particular concern is the extent to which having a first birth at an early age predicts having a second birth sooner after controlling for a variety of factors, some of which are also known to be independent predictors of an early first birth. These models somewhat clarify the independent importance of facts such as marital status, prior (first birth) wantedness, and respondents' mothers education and race, which the earlier tabular analyses suggested differentiate mothers who have a second birth within 24 or 36 months from those who did not.

Table 5.7 includes logit analyses that predict having a second birth within 24 or 36 months of a first birth for all young mothers, as well as white, black, and Hispanic mothers, respectively. The latter models are

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[21]See Mott, 1983, Op. Cit.

Table 5.7 The Likelihood of Having a Second Birth Within 24 and 36 Months of a First Birth by Selected Characteristics: Logit Results[1]
(weighted multivariate results)

	Total		White		Black		Hispanic	
				24 month models				
First child before 17	.653[a]	.566[b]	.270	.250	1.966[a]	1.669[a]	.708	.675
First child at 17 or 18	.192	.105	-.008	-.028	1.397[b]	1.146[b]	-.048	-.198
First child at 19 or 20	.326	.281	.301	.296	.614	.477	.357	.288
R's mother high school graduate or higher	-.300[b]	-.313[b]	-.306	-.310	-.667[b]	-.634[b]	.428	-.376
Number of siblings	.043[c]	.043[c]	.039	.039	.072[b]	.069[b]	.033	.046
Attended church more than monthly	.062	.056	.120	.117	.115	.123	-.392	-.320
Hispanic	.423[c]	.459[c]	-	-	-	-	-	-
Black	.393[b]	.380[c]	-	-	-	-	-	-
Econ. disadv. white	.367[c]	.373[c]	.475[c]	.476	-	-	-	-
Married at first birth	.652[a]	.709[a]	.733[a]	.746[a]	.978[a]	1.109[a]	.028	.241
R reports first child wanted	.270[b]	-	.061	-	.700[a]	-	.783[b]	-
Catholic	-.170	-.170	-.256	-.256	-.120	-.209	.364	-.431
Fund. Prot.	-.421[a]	-.396[b]	-.404[c]	-.394[c]	-.507[b]	-.556[b]	-.634	-.678
With 2 parents at 14	-.092	-.104	.219	.217	-.305	-.325	-.454	-.554[c]
Intercept	-2.111[a]	-1.948[a]	-2.195[a]	-2.158[a]	-2.878[a]	-2.375[a]	-1.646[b]	-1.305
Overall chi square for model	1299.46[b]	1150.19[c]	626.21[c]	547.09	401.49	370.81	236.14[b]	210.09[b]
N	1448	1448	697	697	516	516	235	235
				36 month models				
First child before 17	.644[a]	.599[a]	.203	.208	1.523[a]	1.353[a]	1.367[b]	1.293[c]
First child at 17 or 18	.498[b]	.453[a]	.403	.409	1.084[b]	.935[c]	.349	.118
First child at 19 or 20	.649[a]	.624[b]	.670[b]	.673[b]	.568	.492	.979	.784
R's mother high school graduate or higher	-.155	-.164[a]	-.132	-.131	-.646[a]	-.620[a]	.794[c]	.663
Number of siblings	.050[b]	.050	.071[c]	.071[c]	.054	.053	.043	.055
Attended church more than monthly	.264[b]	.261[b]	.546[a]	.547[a]	-.114	-.110	-.385	-.280
Hispanic	.299	.315[b]	-	-	-	-	-	-
Black	-.052	-.061	-	-	-	-	-	-
Econ. disadv. white	.228	.228	.314	.313	-	-	-	-
Married at first birth	.345[b]	.382[a]	.107	.103	1.145[a]	1.247[a]	.084	.357
R reports first child wanted	.155	-	-.079	-	.450[b]	-	.902[a]	-
Catholic	-.319[c]	-.315[a]	-.472[b]	-.472[b]	-.278	-.337	.129	.233
Fund. Prot.	-.255[c]	-.239[c]	-.199	-.202	-.326	-.353	-.580	-.598
With 2 parents at 14	.175	.169[c]	.694[a]	.694[a]	-.245	-.260	-.194	-.313
Intercept	-1.386[a]	-1.298[a]	-1.640[a]	-1.650[a]	-1.664[a]	-1.383[b]	-1.520[c]	-1.10
Overall chi square for model	1474.19[a]	1318.19[a]	691.10[a]	612.84[a]	474.83[a]	428.14[a]	238.64[a]	220.84
N	1290	1290	613	613	468	468	209	20

[1]The 24 month and 36 month models are estimated for women who had a first birth at least 24 or 36 months before the 1983 survey date respectively. The sample includes respondents 18 to 23 in 1983.
[a]Coefficient significant at .01 level.
[b]Coefficient significant at .05 level.
[c]Coefficient significant at .10 level.

included in order to examine more carefully than tabular analyses permit whether or not the independent association between age at first birth and the probability of a second birth varies across race. Logit analysis is used to minimize th statistical problems associated with having a dichotomous dependent variable, particularly where the estimation of the dependent variable may be significantly skewed as it is here in the models with 24 month outcome.

The independent variables in these models are all dichotomous except for the continuous sibling variable and are self explanatory. In addition to the background variables already noted, the models include proxies for religiosity (attended church more than monthly in 1979 is coded 1), religion (Catholic and fundamental Protestant in 1979 are coded 1, with residual religious categories or no religion coded 0), and family stability (living with two parents at age 14 coded 1 and other coded 0). Alternate models are run including and excluding the "wanted first child" variable. This retrospectively reported on attitudinal variable can be related causally with several of the explanatory variables in complex and indefinable ways, so it is useful to include it in a separate run to note its impact on the relationship between the other independent variables and the parity progression outcome.

Finally, the models include three dummy variables specifying the mother's age when the first child was born. Given the likely lack of linear association between these factors and the outcome, this important earlier behavior variable was divided into three categories: early childbearer (before age 17), intermediate childbearer (17 or 18) and late childbearer (19 or 20). The omitted reference group includes the latest childbearers, women for the most part age 20 to 23 in the 24 month outcome model and 20 to 22 in the 36 month outcome model.

Focusing first on the 24 month model for all mothers, one can see that a variety of the background factors are independent predictors of rapidly having a second birth. Mothers' education, which in the earlier analysis was inversely associated with having an early first birth, is also inversely associated in this model with having a second birth within two years. However, neither the church attendance factor nor the family stability variables were significantly associated with delaying a second birth, although they had been significant predictors of delaying a first birth.

Being black or an economically disadvantaged white (marginally, in this case) are, however, both positively and significantly associated with having a second birth just as they predicted an early first birth. Thus, both of these racial factors may be seen to be generalized predictors of early and frequent childbearing. It is also useful to note that whereas Hispanic young women were, in the earlier analysis, not significantly different from the middle class white reference groups in their early first pregnancy probability, once they became mothers (and mostly married mothers), they have a slightly above average likelihood of having an additional birth quickly.

Aside from the above factors, the model also suggests that whereas Catholicism has no apparent independent impact on repeat childbearing, young mothers from a fundamental Protestant persuasion are below average in their likelihood of having an additional child. However, the family size of one's parental family, as proxied for by the number of siblings the respondent has, is not associated with having a second birth within 24 months of having had a first child.

Even with all of the other socioeconomic and demographic controls in the model, prior marital status remains an important independent predictor; women who were married at the time of their first birth are much more likely to go

on and have a second birth within 24 months. Also, as in the tabular analysis, reporting after the fact that the first child was wanted is associated with subsequent above average probabilities of having a second child quickly. Finally, along with the marital status variable, having had a first child at an early age (before age 17) is the most important predictor of above average parity progression. While the other two age-at-motherhood variables also have positive signs in relation to the residual later child birth (age 21 and over) variable, only the very early first birth variable attains significance.

Shifting to the separate race models, it may be noted that the associations between age at first birth and the probability of having a second birth noted in the tabular analyses are consistent with the results of the multivariate analyses, even with the various controls in the models. The weak association between having an early first birth and having a second birth within 24 months for white women suggested in Table 5.2 is supported by the non-significant age at mother coefficient in the white model; the black mothers show a strong fairly linear inverse association, and the Hispanic pattern of association, while non-significant, follows the "U shaped" association documented in the tabular material. Thus, the differences among the races in the pattern of association between age at first birth and second birth probabilities in all likelihood reflect more than differences in early marriage propensities, wantedness, or status backgrounds among the groups.

The 36 month models, which from a normative perspective should represent a somewhat more "socially acceptable" pattern of repeat childbearing, include several results somewhat different from those reported for the 24 month model. In the overall model, mothers who bore their first child at all ages below 21 were more likely to have a second birth within 36 months than mothers

in the omitted reference group--those 21 or 22. White women who had their first birth in _late_ adolescence were more likely to have a second child _sooner_--consistent with the tabular results; finally, the strong inverse association for black mothers and "U shaped" association for Hispanic mothers, continues to appear, even with all the model controls.

Being married continues to be a significant predictor of more rapid repeat childbearing, but even a cursory glance across models suggests that this finding reflects a very strong positive association between early marriage and having a second birth for black mothers only; the converse of this finding is of course that young black mothers who do not marry are very unlikely to have a second birth quickly.

The wantedness factor seems to be a significant predictor only for minority women, as was true in the 24 month models. This somewhat inexplicable finding either implies a less psychologically rational pattern of childbearing for young white women or else a greater tendency toward post hoc rationalization among minority women.

The frequently asserted overall association between having an early first birth and a more rapid pace of subsequent childbearing may in reality mask major racial and ethnic differentials.[22] It is likely that these differentials reflect more than just differences among these groups in marriage patterns, desire for children, parental education or other associated standard socioeconomic background factors. The patterning of these differentials, even in multivariate models which at least approximately control for many of these factors, remains apparent.

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[22] In this regard, the general orientation of this research is consistent with that of St. John, although the results we arrive at are not always parallel to those suggested by his work, C.C. St. John, "Race Differences in Age at First Birth and the Pace of Subsequent Fertility: Implications for the Minority Group Status Hypothesis." _Demography_ 19 (3): 301-314.

6. THE LEVEL AND STABILITY OF YOUNG ADULT FERTILITY PREFERENCES

In this chapter, we examine the expressed fertility intentions of the NLS respondents in 1979 and 1983 with several objectives in mind: what are the aggregate expressed fertility preferences of the youth in 197^ and 1983 and to what extent have they changed? In this regard, are there differences between younger and older respondents, males and females, or between race or ethnic groups? To what extent are the aggregate reporting changes in fertility levels consistent with disaggregated data focusing on gross changes in fertility expectation transition probabilities from higher to lower levels and vice versa? The prevailing view of the stability of teenage and young adult fertility preferences suggests that as they get older, young adults develop more realistic fertility plans, consonant with other adult values relating to education, career, and family. Within the context of contemporary norms such realism perhaps implies a movement down in expectation for many young adults--both young men and women--as they realize that their adolescent fertility expectations may not be congruent with their desires for higher education, career aspirations, and egalitarian family role structures.[23] This issue will be directly considered.

OVERALL FERTILITY EXPECTATIONS OF YOUNG MEN AND WOMEN IN 1983

Tables 6.1 and 6.2 summarize the overall total lifetime fertility expectations of the men and women who were interviewed in 1983. It is of some significance that, as was true in 1982, there are pronounced differences in lifetime fertility expectations between the reports of the 1983 NLS respondents and Current Population Survey respondents who were interviewed in

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[23]Mott and Mott, 1984, Op. Cit.

Table 6.1 Percentage Distribution of Total Births Expected by Selected Characteristics: Young Women 1983

(weighted population estimates)

	Total	0	1	2	3	4	5 or 6	7	Sample size
Total	100.0	5.6	9.0	51.0	22.7	9.3	2.3	0.2	5900
18-24	100.0	5.4	8.8	50.7	22.8	9.7	2.4	0.2	5086
18-19	100.0	5.0	8.0	51.7	21.3	10.6	3.0	0.4	1214
20-21	100.0	5.7	9.4	51.0	22.9	9.0	1.7	0.4	1479
22-24	100.0	5.4	8.9	50.0	23.6	9.6	2.4	0.1	2391
25	100.0	6.8	9.8	52.7	22.5	6.4	1.7	0.0	816
Total									
Never married	100.0	7.4	8.1	49.9	21.7	10.0	2.7	0.3	3406
Married-spouse present	100.0	2.6	8.8	53.5	25.0	8.4	1.7	0.0	2106
Widow/div./sep.	100.0	7.0	17.0	44.0	22.4	7.9	1.7	0.1	508
Total									
White	100.0	6.1	7.7	51.5	23.4	9.1	2.0	0.2	3560
Black	100.0	4.3	15.7	48.1	19.1	9.3	3.3	0.2	1504
Hispanic	100.0	3.3	9.2	46.9	25.0	12.4	3.0	0.2	957
22-24 year olds									
0-11 years school	100.0	3.4	10.6	44.6	24.2	13.6	3.3	0.3	369
12 years	100.0	5.7	10.1	52.2	21.4	8.6	1.9	0.0	1153
13-15 years	100.0	5.7	7.6	48.3	25.9	8.5	3.9	0.0	579
16 years	100.0	6.3	5.9	51.4	25.0	10.5	1.0	0.0	257
17 or more years	100.0	1.7	0.0	49.2	32.2	16.8	0.0	0.0	23

Table 6.2 Percentage Distribution of Total Births Expected by Selected Characteristics: Young
Men 1983

(weighted population estimates)

	Total	0	1	2	3	4	5 or 6	7	Sample size
Total	100.0	8.9	7.1	51.2	21.1	8.7	2.2	0.7	5906
18-24	100.0	9.2	6.8	51.1	20.9	8.9	2.3	0.8	5146
18-19	100.0	7.6	6.1	49.3	22.4	11.8	2.1	0.7	1282
20-21	100.0	8.9	7.1	51.4	21.8	7.9	2.4	0.6	1497
22-24	100.0	10.4	7.1	51.9	19.3	7.9	2.4	0.9	2367
25	100.0	6.8	9.1	52.5	22.3	7.2	1.6	0.5	760
Total									
Never married	100.0	10.5	5.6	50.0	21.6	9.3	2.3	0.8	4332
Married-spouse present	100.0	4.2	9.9	56.3	19.9	7.2	2.1	0.4	1475
Widow/div./sep.	100.0	13.2	19.3	39.2	19.0	5.4	2.8	1.2	252
Total									
White	100.0	9.5	6.3	52.8	20.9	8.1	2.0	0.5	3619
Black	100.0	8.4	11.5	43.3	21.5	10.1	3.3	1.9	1514
Hispanic	100.0	6.6	7.1	45.3	22.3	13.8	3.6	1.3	927
22-24 year olds									
0-11 years school	100.0	11.4	13.7	49.2	14.8	7.5	2.7	0.7	453
12 years	100.0	10.3	8.4	52.0	19.3	7.0	1.8	1.2	1179
13-15 years	100.0	8.7	3.5	52.4	20.4	10.3	4.0	0.8	486
16 years	100.0	10.5	1.5	54.9	23.1	7.3	2.1	0.7	192
17 or more years	100.0	18.5	4.2	43.5	23.3	10.5	0.0	0.0	44

June 1982. A comparison of Table 6.1 with data presented in Tables 7 and 8 from the June 1982 CPS[24] report indicate that (1) NLS respondents are much less likely to report that they expect a small (0 or 1) number of children; (2) NLS respondents are much more likely to expect large (3 or more) numbers of children; and (3) these differences between the two data sets appear for all ethnic/racial (black, white, and Hispanic) groups and for all marital statuses. Although this discrepancy is not readily resolvable, several possible reaons are suggested. First, virtually all (99.6 percent) of the NLS respondents answered the two components of the lifetime fertility measure--the retrospective completed fertility and prospective fertility questions. In contrast, 10 percent of the ever-married and 8 percent of the never-married CPS respondents did not report on children ever born and a total of about 15 percent of the married and 33 percent of the never-married CPS respondents either had incomplete responses or did not respond to the fertility expectation item.[25] Possibly the difference appears because the large percent who did not respond on the CPS may have been women with high fertility preferences. Second, if there are differences in the socio-economic mix of the two population groups, those differences could affect fertility expectation levels. Third, the NLS respondents have over the years developed a good rapport with the NORC interviewers, and friendliness may improve their responses to fertility-related questions. This conjecture, if true, could affect response patterns in ways that are difficult to specify.

The differences between the reported expectation estimates in the NLS and

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[24]U.S. Bureau of the Census, Current Population Reports, Series P-20, No. 387, Fertility of American Women: June 1982, U.S. Government Printing Office, Washington, D.C. 1984.

[25]Ibid., appendix.

CPS surveys are so substantial that they can affect in major ways how one describes the fertility inclinations of the young adult American population. The NLS results suggest that the young adult population is much more pronatalist in its orientation than do the CPS data. Overall, the NLS data indicate that only 14.2 percent of 18-24 year old American women expect to have less than two children, compared with 24.8 percent of 18-24 year olds in the CPS In contrast, fully 35.1 percent of the NLS sample expects 3 or more children, compared with 25.2 percent of the CPS respondents. Thus, much of what is highlighted in this report will suggest a more pronatalist tone than would a comparable analysis of CPS data.

Table 6.1 shows that two children is clearly the modal expectation level for virtually all the female subgroups, regardless of age, marital status or race/ethnicity. There is very little variability; most of the groups cluster around 50 percent expecting two children.

Only a small percentage expect no children, and the never married and separated or divorced are somewhat more likely to fall in this group than women in a currently intact marriage. A very substantial proportion of separated or divorced women expect one child, reflecting the fact that many of these women already have one child and are no longer married, some not expecting to remarry and others not to bear children if they do.

Although sample sizes are somewhat suspect, for the most highly educated 22-24 year olds, women expecting no children are least prevalent at the opposite ends of the educational spectrum. High school dropouts and women who have attended graduate school are least likely to expect to be childless. An examination of racial differences in expectations suggests that black young women are the most likely to expect a below-normative number of children: 20 percent expect less than two. Conversely, Hispanic young women, who may still

be part of a more traditional fertility-oriented subculture, are much more likely to expect to have three or more children, with over 40 percent expecting to have at least three.

The male fertility expectations reported in Table 6.2 suggest a marginally different pattern. First, young men are slightly more likely to expect to remain childless. Whereas the percent of males and females expecting zero or one child is essentially similar, women with low fertility expectations are somewhat more likely to expect one child, whereas the male is more likely to expect none. Otherwise, the overall expectation distributions for the two sexes are similar.

Differences between the sexes in expecting no children are particularly pronounced when examining marital status differentials. Never married, separated, or divorced men are substantially more likely to expect no children than their female counterparts. In general, the proportion of men expecting no children exceeds the female proportions at all ages, for all marital status categories, races, and education levels. An examination of the educational distribution shows that the largest proportions of men who expect no children are at the bottom and the top of the educational spectrum--the educational categories for which expecting no children was at a minimum for women. This discrepancy may partly reflect the different life cycle stages at which 22 to 24 year old men and women find themselves. It may also be related to more generalized differences between men and women in norms about parenting and non-parenting. Finally, from an economic perspective, it may reflect differences between men and women in preferences regarding how they plan to spend their money, considering children in this context as "consumer durable" items.

VALIDATING SHORT RUN FERTILITY EXPECTATIONS

Before focusing more comprehensively on issues associated with the shorter term stability in fertility expectations, it is useful to briefly consider the extent to which short term fertility expectations reported by the young women in 1979 were fulfilled by 1983. In 1979, the respondents were asked when (and if) they expected to have their next child. Excluding those women who were known to be pregnant at that survey date, Table 6.3 presents live birth probabilities for women between 1979 and 1983, by whether or not they had indicated in 1979 that they expected a child by 1983. These results are also stratified by the marital status of the respondent in 1979, her age in 1983, and her race. It should be noted that a validity test of this type imposes more severe validity conditions than examining lifetime fertility many years later would. Most respondents cannot time their next birth with great precision because many relevant events such as the timing or continuation of a marriage or economic conditions, for example, factors known to be associated with fertility, cannot be forseen with certainty. In general, this is why differentiating the sample by original marital status greatly increases the predictive value of the expectation item. Overall, 42 percent of the women, who had indicated in 1979 that they expected a birth within four years, had a birth during that period, compared with 16 percent of those not expecting a birth; about two-thirds of the married respondents who expected a birth had one, compared with 34 percent for the married women who had not expected a birth. The comparable probabilities for women not married in 1979 were 33 and 16 percent. It may be concluded that married women who expect children and non-married women not expecting children turn out to be the best at predicting their future fertility. This result is consistent with the notion that where an event is consistent with role norms, in all likelihood predictive

Table 6.3 Relationship Between 1979 Four Year Fertility Expectations and
Actual Births Reported 1979-1983 by Race, Age in 1983 and 1979
Marital Status for Young Women (Percent with Birth Between 1979 and
1983 Survey)[1]

	All marital statuses		Married 1979		Not married 1979	
	Expected	Didn't expect	Expected	Didn't expect	Expected	Didn't expect
Total	.42 (1833)	.16 (3674)	.64 (442)	.34 (187)	.33 (1391)	.16 (3487)
18-21	.37 (480)	.15 (2109)	.59 (37)	- (14)	.36 (443)	.15 (2095)
22-25	.43 (1353)	.18 (1565)	.64 (405)	.34 (173)	.32 (948)	.17 (1392)
White	.41 (1059)	.13 (2213)	.65 (317)	.28 (121)	.30 (742)	.12 (2090)
18-21	.35 (237)	.12 (1214)	.57 (27)	- (7)	.33 (210)	.12 (1207)
22-25	.43 (822)	.14 (999)	.65 (290)	.29 (114)	.29 (532)	.13 (885)
Black	.44 (484)	.31 (883)	.52 (49)	.61 (25)	.43 (435)	.27 (858)
18-21	.44 (149)	.28 (519)	- (4)	- (1)	.43 (145)	.27 (518)
22-25	.44 (335)	.37 (364)	.50 (45)	.58 (24)	.43 (290)	.35 (340)
Hispanic	.47 (290)	.28 (578)	.63 (70)	.52 (41)	.40 (214)	.26 (537)
18-21	.43 (94)	.24 (376)	- (6)	- (6)	.40 (88)	.24 (370)
22-25	.49 (190)	.33 (202)	.62 (70)	.51 (35)	.41 (126)	.29 (167)

[1]Women pregnant as of the 1979 survey are excluded from tabulations. Based on
weighted population estimates. Sample sizes in parentheses.

capability will rise.[26]

Generally, white women were more effective at predicting their fertility, reflecting at least in part their greater likelihood of continuing in the same marital status over the four year interval. In contrast, the predictive value of short term fertility intentions for black women is the poorest, with Hispanic women's responses only marginally more valid. With respect to black women, the large proportions who have a family without marrying negates to a considerable degree the potential for improving fertility prediction by stratifying either by current marital status or marital expectations. One seemingly incongruous result, in this regard, is that black married women <u>not</u> expecting children over the four year period actually were more likely to have a child during the interval than black married women who expected to have a child. In general, it may be concluded that short term fertility expectation questions asked of teenagers or young adults have significant, though far from perfect, predictive validity, and that this predictive-actual behavior match can probably be greatly improved by an expeditious stratification of the sample along dimensions known to be closely associated with fertility, including attitudes and behaviors relating to marriage, educational progression or possibly employment dimensions.

THE NET AND GROSS STABILITY OF FERTILITY EXPECTATIONS, 1979 to 1983

Table 4 includes fertility expectation distributions for 1979 and 1983 for all respondents who had no children in 1979. This group, which includes about 90 percent of all male and almost 85 percent of all females, will be the

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[26]In this regard, other earlier results, not included here, suggest that short term predictive fertility validity can be further improved for single women by stratifying by shorter term marriage intentions.

focus of the remaining analysis in this section. Limiting the groups in this way increases the homogeneity of the base year sample, removes the confounding effect of prior fertility and thus permits a view of fertility expectations from a different perspective. Most importantly, it permits this research to focus on one specific issue of substantive interest: to what extent does aging per se and its presumed accompanying maturity affect the fertility intentions of young Americans? Removing those respondents who had already had a child at a relatively young age permits one to test hypotheses relating to this factor in a more meaningful way.

Table 6.4 indicates, without any exceptions, that as the overall group of males or females age, the average (mean) number of children they expect to have declines. For males, the decline is from 2.45 to 2.28 children expected and for females the decline is from 2.44 to 2.27 children. Mean fertility expectations for males and females are virtually identical both in 1979 and 1983.

Equally important is a net decline in fertility expectations for all ages and race/ethnicity groups included in the table. The largest average declines are for black and Hispanic men who started at the highest levels in 1979, and the smallest absolute decline is for white males who already had the lowest expectations in 1979.

A closer look at this table indicates that for all population subgroups, the percent expecting four or more children declined over the four year period and the percent expecting one or two children always increased. In statistical terms, part of this pattern is essentially a regression toward the mean, the dominant moves being towards the center of the distribution. Overall, this table would indeed suggest a tendency for teenagers and young adults to moderate their fertility expectations as they age.

Table 6.4 1979 and 1983 Fertility Expectations and Net Change in Expectations by Race, Sex, and Age in 1979: Respondents with No Children in 1979

(based on weighted population estimates)

		Total children expected				4 or		Sample
	Total	None	1	2	3	more	Mean	size
Total males								
1979	100.0	7.9	4.8	48.0	22.0	17.2	2.45	5405
1983	100.0	8.9	6.8	51.7	20.9	11.7	2.28	
Change		+1.0	+2.0	+3.7	-1.1	-5.5	-.17	
14-17								
1979	100.0	8.0	4.8	45.5	22.6	19.2	2.52	2696
1983	100.0	8.1	6.6	50.4	22.1	12.9	2.33	
Change		+0.1	+1.8	+4.9	-0.5	-6.3	-.19	
18-21								
1979	100.0	7.8	4.9	50.7	21.4	15.3	2.39	2709
1983	100.0	9.6	7.1	53.1	19.7	10.5	2.22	
Change		+1.8	+2.2	+2.4	-1.7	-4.8	-.17	
White								
1979	100.0	8.1	4.5	50.6	21.7	15.1	2.38	3253
1983	100.0	9.0	6.1	53.5	20.8	10.6	2.23	
Change		+0.9	+1.6	+2.9	-0.9	-4.5	-.15	
Black								
1979	100.0	8.3	7.4	36.6	21.4	26.2	2.72	1318
1983	100.0	8.8	11.4	43.9	20.8	15.1	2.44	
Change		+0.5	+4.0	+7.3	-0.6	-11.1	-.28	
Hispanic								
1979	100.0	5.2	3.7	37.9	27.2	26.0	2.83	834
1983	100.0	6.9	6.8	45.3	22.0	19.0	2.51	
Change		+1.7	+3.1	+7.4	-5.2	-7.0	-.32	
Total females								
1979	100.0	7.7	6.6	47.3	20.6	17.9	2.44	4913
1983	100.0	6.1	8.8	52.0	21.9	11.2	2.27	
Change		-1.6	+2.2	+4.7	+1.3	-6.7	-.17	
14-17								
1979	100.0	7.2	7.5	44.1	21.4	19.8	2.50	2545
1983	100.0	5.2	8.7	51.8	21.9	12.5	2.33	
Change		-2.0	+1.2	+7.7	+0.5	-7.3	-.17	
18-21								
1979	100.0	8.2	5.6	50.9	19.8	15.6	2.37	2368
1983	100.0	7.2	8.8	52.3	21.8	9.9	2.21	
Change		-1.0	+2.2	+1.4	+2.0	-5.7	-.16 ·	
White								
1979	100.0	7.2	5.6	48.6	21.2	17.4	2.45	3019
1983	100.0	6.3	7.3	52.5	22.6	11.3	2.29	
Change		-0.9	+1.7	+3.9	+1.4	-6.1	-.16	
Black								
1979	100.0	12.5	12.2	39.9	16.0	19.4	2.30	1116
1983	100.0	5.7	17.8	51.1	15.3	10.2	2.11	
Change		-6.8	+5.6	+11.2	-0.7	-9.2	-.19	
Hispanic								
1979	100.0	4.8	9.3	43.8	21.7	20.5	2.57	778
1983	100.0	4.2	10.4	47.8	24.9	12.7	2.35	
Change		-0.6	+1.1	+4.0	+3.2	-7.8	-.22	

Table 6.5 describes in somewhat greater detail the magnitude of the net movements made by young men and women between 1979 and 1983, stratifying by their 1979 level of expectations. In a sense, this table represents a first attempt at adjusting for the mix of the population by expectation level in 1979, permitting one to examine sex, age, and racial differences in the propensity of respondents at a specific 1979 level to alter their fertility expectations by 1983. For example, this table indicates that young men who expected no children in 1979 are systematically more likely to increase their expectations by 1983 than are women and that this difference by sex is particularly pronounced for black and Hispanic men. It is possible that subcultural or normative pressures within the minority community are responsible for this shift.

In contrast, for men and women already at the norm of two children in 1979, there is little net movement over the four year period. Net movements are small for all ages and for all racial/ethnic groups, although a modest upward drift may be noted for the Hispanic group.

At the upper end of the 1979 fertility expectation distribution, not surprisingly, net changes in expectations are substantial for all groups, with net declines being somewhat larger for those groups who, on average, started higher.

Tables 6.6 and 6.7 add an additional dynamic dimension to the analysis by indicating how the net transitions reported above mask substantial flows and counterflows in expectations over time. The remaining materials in this section are all couched in terms of movements toward or away from the "two child norm." First, this permits the tabulations to be presented in a reasonably compact manner. Second, the theoretical premise behind this analysis is that the two child norm is a dominant consideration when

Table 6.5 Mean Number of Children Expected in 1983 by Mean Number of Children Expected in 1979 by Sex, Age and Race: Respondents with No Children in 1979

(based on weighted population estimates)

Mean number expected 1979	Total 1983 mean	Total Net change 1979-1983	14-17 1983 mean	14-17 Net change 1979-1983	18-21 1983 mean	18-21 Net change 1979-1983	White 1983 mean	White Net change 1979-1983	Black 1983 mean	Black Net change 1979-1983	Hispanic 1983 mean	Hispanic Net change 1979-1983
Males[b]	2.28	-0.17	2.33	-0.19	2.22	-0.17	2.23	-0.15	2.44	-0.28	2.51	-0.32
None	1.62	+1.62	1.78	+1.78	1.44	+1.44	1.52	+1.52	2.07	+2.07	1.96	+1.96
One	1.87	+0.87	2.05	+1.05	1.68	+0.68	1.83	+0.83	2.05	+1.05	1.74	+0.74
Two	2.10	+0.10	2.10	+0.10	2.09	+0.09	2.09	+0.09	2.09	+0.09	2.23	+0.23
Three	2.44	-0.56	2.51	-0.49	2.37	-0.63	2.43	-0.57	2.47	-0.53	2.55	-0.45
Four or more[a]	2.98	-1.57	2.94	-1.67	3.04	-1.43	2.92	-1.53	3.15	-1.69	3.08	-1.62
Females[b]	2.27	-0.17	2.33	-0.17	2.21	-0.16	2.29	-0.16	2.11	-0.19	2.35	-0.22
None	1.47	+1.47	1.57	+1.57	1.38	+1.38	1.44	+1.44	1.59	+1.59	1.54	+1.54
One	1.84	+0.84	1.87	+0.87	1.80	+0.80	1.84	+0.84	1.78	+0.78	2.05	+1.05
Two	2.12	+0.12	2.15	+0.15	2.08	+0.08	2.13	+0.13	1.97	-0.03	2.20	+0.20
Three	2.50	-0.50	2.52	-0.48	2.47	-0.53	2.52	-0.48	2.34	-0.66	2.41	-0.59
Four or more[a]	2.93	-1.61	2.96	-1.57	2.89	-1.66	2.95	-1.56	2.78	-1.88	2.93	-1.69

[a] Net change 1979-1983 for the four and over category is difference between the mean value for the four and over category in 1979 and the 1983 mean. The 1979 mean can be estimated by adding the 1979-1983 decline to the 1983 mean.

[b] Net change equals difference between overall 1979 and 1983 means.

able 6.6 Movement Toward and Away From the 2 Child Norm Between 1979 and 1983 by Age in 1979 and Race: Females with No Children in 1979

(based on weighted population estimates)

1979 xpectation	Total	Stayed below 2	Moved above to below	Moved 2 to below	Moved above to 2	Stayed at 2	Moved below to 2	Moved 2 to above	Moved below to above	Stayed above 2
Female	100.0	5.3	2.9	6.7	15.0	30.0	7.0	10.6	2.0	20.5
None	100.0	43.7	-	-	-	-	44.4	-	11.9	-
1	100.0	29.0	-	-	-	-	55.2	-	15.7	-
2	100.0	-	-	14.1	-	63.4	-	22.6	-	-
3	100.0	-	8.1	-	43.2	-	-	-	-	48.8
4 or more	100.0	-	7.1	-	34.3	-	-	-	-	58.6
14-17	100.0	5.0	3.0	5.8	16.2	27.9	7.6	10.7	2.0	22.0
None	100.0	40.7	-	-	-	-	47.5	-	11.9	-
1	100.0	28.1	-	-	-	-	56.4	-	15.4	-
2	100.0	-	-	13.2	-	63.3	-	23.5	-	-
3	100.0	-	7.5	-	43.5	-	-	-	-	49.1
4 or more	100.0	-	7.1	-	34.9	-	-	-	-	58.0
18-21	100.0	5.5	2.8	7.6	13.7	32.3	6.4	11.0	1.9	18.8
None	100.0	46.8	-	-	-	-	41.3	-	11.9	-
1	100.0	30.3	-	-	-	-	53.4	-	16.3	-
2	100.0	-	-	15.0	-	63.5	-	21.5	-	-
3	100.0	-	8.8	-	42.8	-	-	-	-	48.4
4 or more	100.0	-	7.2	-	33.4	-	-	-	-	59.5
White	100.0	4.8	2.6	6.2	14.9	31.4	6.2	11.0	1.8	21.1
None	100.0	44.7	-	-	-	-	43.4	-	11.9	-
1	100.0	28.1	-	-	-	-	55.4	-	16.6	-
2	100.0	-	-	12.8	-	64.5	-	22.7	-	-
3	100.0	-	6.9	-	43.2	-	-	-	-	49.9
4 or more	100.0	-	6.6	-	33.0	-	-	-	-	60.4
Black	100.0	9.4	4.8	9.2	14.5	24.5	12.2	6.3	3.2	16.0
None	100.0	40.0	-	-	-	-	47.3	-	12.7	-
1	100.0	35.9	-	-	-	-	51.1	-	13.1	-
2	100.0	-	-	23.0	-	61.3	-	15.7	-	-
3	100.0	-	17.1	-	41.7	-	-	-	-	41.2
4 or more	100.0	-	11.0	-	40.3	-	-	-	-	48.8
Hispanic	100.0	3.6	3.3	7.7	17.4	21.9	8.5	14.3	1.9	21.4
None	100.0	42.4	-	-	-	-	50.6	-	7.0	-
1	100.0	18.3	-	-	-	-	65.1	-	16.6	-
2	100.0	-	-	17.4	-	49.9	-	32.7	-	-
3	100.0	-	10.0	-	45.0	-	-	-	-	45.0
4 or more	100.0	-	5.5	-	37.5	-	-	-	-	57.0

Table 6.7 Movement Toward and Away From the 2 Child Norm Between 1979 and 1983 by Age in 1979 and Race: Males with No Children in 1979

(based on weighted population estimates)

1979 Expectation	Total	Stayed below 2	Moved above to below	Moved 2 to below	Moved above to 2	Stayed at 2	Moved below to 2	Moved 2 above	Moved below to above	Stayed above 2
Male	100.0	4.6	4.3	6.8	14.6	31.0	6.1	10.3	2.0	20.3
None	100.0	39.9	-	-	-	-	43.2	-	16.9	-
1	100.0	30.0	-	-	-	-	55.7	-	14.3	-
2	100.0	-	-	11.0	-	64.6	-	21.4	-	-
3	100.0	-	11.7	-	41.6	-	-	-	-	46.7
4 or more	100.0	-	10.2	-	31.6	-	-	-	-	58.2
14-17	100.0	4.3	4.4	6.1	15.0	29.4	6.0	10.1	2.6	22.3
None	100.0	37.1	-	-	-	-	43.2	-	19.7	-
1	100.0	26.3	-	-	-	-	53.2	-	20.5	-
2	100.0	-	-	13.3	-	64.5	-	22.2	-	-
3	100.0	-	11.1	-	38.4	-	-	-	-	50.5
4 or more	100.0	-	10.0	-	33.1	-	-	-	-	56.9
18-21	100.0	5.0	4.2	7.5	14.2	32.7	6.2	10.4	1.5	18.2
None	100.0	42.8	-	-	-	-	43.3	-	14.0	-
1	100.0	33.7	-	-	-	-	58.3	-	8.0	-
2	100.0	-	-	14.8	-	64.6	-	20.7	-	-
3	100.0	-	12.3	-	45.1	-	-	-	-	42.5
4 or more	100.0	-	10.5	-	29.6	-	-	-	-	59.9
White	100.0	4.6	3.9	6.6	13.7	33.6	6.2	10.4	1.8	19.2
None	100.0	40.7	-	-	-	-	44.0	-	15.2	-
1	100.0	28.5	-	-	-	-	59.0	-	12.5	-
2	100.0	-	-	13.1	-	66.3	-	20.6	-	-
3	100.0	-	11.7	-	41.6	-	-	-	-	46.7
4 or more	100.0	-	9.2	-	30.9	-	-	-	-	59.9
Black	100.0	5.3	6.9	8.0	17.5	19.3	7.2	9.3	3.3	23.3
None	100.0	33.7	-	-	-	-	44.1	-	22.2	-
1	100.0	33.3	-	-	-	-	46.9	-	19.8	-
2	100.0	-	-	22.0	-	52.6	-	25.4	-	-
3	100.0	-	13.8	-	39.6	-	-	-	-	46.7
4 or more	100.0	-	15.1	-	34.4	-	-	-	-	50.5
Hispanic	100.0	3.7	4.2	5.7	20.3	22.2	2.7	10.1	2.4	28.6
None	100.0	42.8	-	-	-	-	24.7	-	32.5	-
1	100.0	39.6	-	-	-	-	41.0	-	19.4	-
2	100.0	-	-	14.9	-	58.4	-	26.6	-	-
3	100.0	-	8.3	-	45.5	-	-	-	-	46.3
4 or more	100.0	-	8.0	-	30.5	-	-	-	-	61.5

interpreting the fertility attitudes and behaviors of young adults. Our analytic technique is consistent with the thesis that one can ultimately define the likely future fertility pattern of a group by examining their gross movements over time in relation to the two child norm. Tables 6.6 and 6.7 enable one to examine the gross levels of movements in expectations by gender, age in 1979 and race/ethnicity, as well as by the expectation starting point in 1979. About 55 percent of women remained in the same "normative" category in 1983 as in 1979. That is, they either stayed below two, stayed at two, or stayed above two. Thus, from this conceptual perspective, close to half of all young women altered their fertility perceptions in a substantial way, and the pattern was nearly the same for young men.

Those who altered their perceptions over the period, were by far most likely to shift to expecting two. Indeed, over 40 percent of male or female respondents expecting no children in 1979 and over 50 percent of those expecting one indicated in 1983 that their preference was now two children. Over 40 percent of those expecting three and over 30 percent of those expecting four or more in 1979 also indicated in 1983 that they now expected two children. In contrast, close to two-thirds of those starting at two in 1979 stayed at that expectation level.

It is also apparent from these tables that for the most part there is a lack of symmetry in the upward and downward movements, a phenomenon which will be clarified by subsequent tables. In general, movements from the norm upward are substantially greater than from the norm downward. This pattern holds for all population subgroups of both sexes with the single exception of black females.

Table 6.8 describes the patterning of gross flows according to several attitudinal items as measured in 1979 which are postulated to be closely

le 6.8 Summary of Movement Toward and Away From the 2 Child Norm Between 1979 and 1983 by Educational Expectations and Orientation Towards Home-Market Roles for Women in 1979: 14-17 Year Olds With No Children in 1979

(based on weighted population estimates)

	Stayed below 2	Moved above to below	Moved to 2 below	Moved above to 2	Stayed at 2	Moved below to 2	Moved 2 to above	Moved below to above	Stayed above 2	Total
le										
Expect less than or equal to 12 years school	6.2	5.2	8.2	16.0	26.9	7.5	9.6	2.9	17.4	100.0
Expect 13 or more years	2.3	3.7	4.0	14.0	31.7	4.5	10.6	2.2	26.9	100.0
Agree that woman has no time for home and work roles	4.7	5.2	6.8	16.6	26.3	6.6	10.5	2.2	21.1	100.0
Disagree	3.9	3.8	5.7	14.3	31.1	5.6	9.9	2.8	22.9	100.0
Agree that women happier at home	5.0	4.5	6.9	16.2	26.6	5.9	11.9	2.8	20.2	100.0
Disagree	3.6	4.3	5.8	14.3	30.3	6.3	9.3	2.5	23.6	100.0
emale										
Expect less than or equal to 12 years school	7.2	3.6	6.5	16.2	29.0	10.8	8.4	2.3	16.0	100.0
Expect 13 or more years	3.4	2.6	5.4	16.2	27.1	5.3	11.8	1.8	26.4	100.0
Agree that woman has no time for home and work roles	7.9	3.4	4.8	13.6	24.6	9.5	9.2	1.9	24.9	100.0
Disagree	4.2	2.9	6.2	17.0	29.0	7.0	10.5	2.0	21.2	100.0
Agree that women happier at home	5.1	2.5	5.0	15.4	24.2	9.1	10.4	1.8	26.3	100.0
Disagree	5.0	3.1	6.0	16.5	29.2	7.1	10.3	2.1	20.7	100.0

related to fertility expectations.[27] Because of the youthfulness of much of the sample, educational expectations in 1979 are used as a proxy for general educational orientation rather than actual years of school completed. Table 8 contrasts the stability of fertility expectations for men and women by whether or not they expect to attend college. The traditional view in this regard, which is generally supported by available Census and NLS statistics, is that less education is associated with greater fertility expectations and behavior. Whether this view fits the contemporary generation of men and women reaching adulthood is somewhat unclear and it has already been called into question here by the evidence in Tables 6.1 and 6.2. Table 6.8 shows that for both men and women, higher educational expectations are decidedly correlated with greater fertility expectations. The respondents who expect more education are (1) much more likely to have greater fertility expectations in 1979, and when starting from a common point (e.g., two children in 1979) are more likely to show an upward rather than a downward drift in expectations. These changes will be further clarified below where the focus is on fertility expectation transition probabilities.

In contrast, the gross flow patterns of the respondents giving more or less traditional responses on attitudinal items relating to women's roles do not differ from each other. Male and female respondents may differ in their views of appropriate roles for women, but these differences do not translate into significant differences in fertility orientations, at least at this level of data disaggregation.

[27]This close correspondence was found in earlier research. See Mott and Mott, 1984. Op. Cit.

FERTILITY EXPECTATION TRANSITION PROBABILITIES: MATURATION AND UPWARD DRIFT

Assessing the significance of the gross flows as indicators of prevailing tendencies toward higher or lower fertility among young adults is somewhat difficult because the overall distribution of the gross patterns is constrained by the fertility expectation mix of the group in the base year. Thus, if a large proportion of the overall group has relatively high fertility expectations in the base year, their movement toward the norm would: (1) suggest significant downward movements in expectations over time for youth in general; and (2) result in average statistics suggesting that fertility expectations for "youth" are declining. This pattern has indeed been observed. The heavy weighting of high fertility expectation types in the initial 1979 distribution has, mechanically, led to significant overall declines in "net" average (mean) fertility over the four year period, for both men and women, of all ages, and in all racial or ethnic groups. Thus, unless one disaggregates the data, it would be easy to conclude that as the youth age (ignoring secular trends over the period, which are known to be insignificant, from CPS and NLS statistics), their fertility expectations decline. Such an observation would certainly be consistent with the prevailing wisdom--that youth moderate their fertility desires as they approach maturity. As the following tables show, however, this interpretation would be inaccurate.

Table 6.9 includes the probabilities of an individual in a particular 1979 norm category, either staying in that category in 1983 or moving upwards or downwards (if possible) from that category. That is, the denominator of these rates represents individuals who were in the particular norm category in 1979. This permits one to compare the probabilities that individuals in different gender-age-race categories in 1979 will be in either that or a different category in 1983. It will also permit one to compare more

Table 6.9 Probability of Movement Toward and Away From the 2 Child Norm Between 1979 and 1983

	Probability of									Percent starting		
	Staying below 2	Moving above 2 to below 2	Moving from 2 to below 2	Moving above 2 to 2	Staying at 2	Moving from below 2 to 2	Moving from 2 to above 2	Moving from below 2 to above 2	Staying above 2	Below 2	At 2	Above 2
Male	.36	.11	.14	.37	.64	.48	.21	.16	.52	12.7	48.1	39.2
14-17	.33	.11	.13	.36	.64	.47	.22	.20	.53	12.9	45.6	41.7
18-21	.39	.11	.15	.39	.65	.49	.21	.12	.50	12.7	50.6	36.6
White	.37	.11	.13	.37	.66	.49	.21	.14	.52	12.6	50.6	36.8
Black	.34	.15	.22	.37	.53	.46	.25	.21	.49	15.8	36.6	47.7
Hispanic	.42	.08	.15	.38	.58	.31	.27	.27	.54	8.8	38.0	53.1
Female	.37	.08	.14	.39	.63	.49	.22	.14	.53	14.3	47.3	38.4
14-17	.34	.07	.13	.39	.63	.52	.24	.14	.53	14.6	44.4	41.2
18-21	.40	.08	.15	.39	.63	.46	.22	.14	.53	13.8	50.9	35.3
White	.38	.07	.13	.39	.65	.48	.23	.14	.55	12.8	48.6	38.6
Black	.38	.14	.23	.41	.61	.49	.16	.13	.45	24.8	40.0	35.3
Hispanic	.26	.08	.18	.41	.50	.61	.33	.14	.51	14.0	43.9	42.1

NOTE: The denominator for each of these probabilities is limited to the universe eligible to make the transition, e.g., the universe of respondents eligible to make a move from below 2 to 2 only includes women who expected no children or one child in 1979. Based on weighted population estimates.

meaningfully upward and downward movements for respondents starting in somewhat symmetrical positions (e.g., below the norm compared with above the norm).

A number of generalizations may be derived from Table 6.9. First, there are virtually no differences between men and women in their tendencies to change norm categories between 1979 and 1983; the overall male and female transition probabilities are virtually identical.

There is a significant upward drift in fertility expectations over time for virtually all age groups. For example, in all cases, the probability of a respondent staying above the norm of two children greatly exceeds the probability that a respondent will stay below the norm. In virtually all cases, the probabilities of a respondent altering his or her expectations from below two to above two exceeds the converse upward to downward probability. In addition, in all except one case, the probability of moving from two upward exceeds the probability of moving from two downward; and finally, in all except one case, the probability of moving from below two to two exceeds the probability of moving from above two to two. Thus, looked at this way, the evidence is overwhelming that as youth approach adulthood in the early 1980s, there is a substantial tendency for them to alter their fertility expectations upwards. The sole reason for the aggregate downward movement is that such a large proportion of adolescents had high fertility expectations in the 1979 base year. Table 6.10 summarizes these patterns by providing ratios of the paired probabilities. In virtually all cases, the ratios of the probabilities exceed one. The only significant exception is for black females, who show a decidedly counter-normative drift. Note also that the strongest pronatalist drift (the highest ratios in Table 6.10) appears among the younger respondents (14-17 in 1979), and white and Hispanic women. This finding regarding white

Table 6.10 Symmetry of Upward and Downward Probability of 1979 to 1983
Movements by Sex, Age and Race: Respondents with No Children in
1979

(based on weighted population estimates)

	Staying above 2 / Staying below 2	Moving below 2 to above 2 / Moving above 2 to below 2	Moving from 2 to above 2 / Moving from 2 to below 2	Moving below 2 to 2 / Moving above 2 to 2
Male	1.45	1.45	1.49	1.30
14-17	1.61	1.82	1.69	1.30
18-21	1.28	1.09	1.41	1.25
White	1.41	1.27	1.61	1.32
Black	1.45	1.41	1.14	1.23
Hispanic	1.28	3.33	1.79	0.81
Female	1.43	1.75	1.56	1.25
14-17	1.56	2.00	1.85	1.33
18-21	1.33	1.75	1.47	1.18
White	1.45	2.00	1.75	1.22
Black	1.19	0.93	0.69	1.19
Hispanic	1.96	1.75	1.82	1.50

women is particularly significant because they are certainly the predominant child-producing group in our society.

Tables 6.11 and 6.12 include transition probabilities for young men and women by a number of other characteristics--educational expectaions, the women's role items specified earlier, and number of siblings--a factor frequently considered an important correlate of fertility orientations.[28] Consistent with the earlier discussion, higher educational expectations appear to be positively correlated with a shift towards pronatalist inclinations. For both men and women, the probabilities associated with upward movements in fertility expectations are greater than the probabilities associated with downward movements--but these differences are much more pronounced for respondents who expect higher education. Although explaining this educational disparity is beyond the scope of this report, it may rest on the economic interpretation suggested earlier: men and women who expect more education, and presumably higher future earnings, are anticipating spending more of these prospective earnings on children. Whether these fertility intentions will result in higher future fertility, of course, remains to be seen. The results do suggest that a more careful examination of the motivations behind this positive fertility orientation for a large and growing segment of society-- better educated white women--is warranted.

The two attitudinal items generally provide results consistent with expectations, at least for the women in the sample. More often than not, young women with more traditional orientations show somewhat greater

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[28]See, for example, Hirsch, M.B., Seltzer, J.R. and Zelnik, Melvin, "Desired Family Size of Young American Women, 1971 and 1976," pp. 207-233 in L.E. Hendershot and Paul J. Placek (eds.), Predicting Fertility, Lexington, Mass.: Lexington Books, 1981 and Gustavos, S.O. and Nam, Charles B., "The Formation and Stability of Ideal Family Size Among Young People," Demography 7: 43-55, 1981.

Table 6.11 Probability of Movement Toward and Away From the 2 Child Norm Between 1979 and 1983 by Educational Expectations and Orientation Towards Home-Maker Roles for Women in 1979: 14 to 17 Year Olds With No Children in 1979
(based on weighted population estimates)

	Staying below 2	Moving above to below 2	Moving from 2 to below 2	Moving above 2 to 2	Staying at 2	Moving from below 2 to 2	Moving from 2 to above 2	Moving from below 2 to above 2	Staying above 2	Percent starting Below 2	At 2	Above 2
Males												
Expect less than or equal to 12 years school	.37	.13	.18	.41	.60	.45	.21	.17	.45	16.6	44.7	38.6
Expect 13 or more years school	.26	.08	.09	.31	.68	.50	.23	.24	.60	9.0	46.3	44.6
Agree that woman has no time for home and work roles	.35	.12	.16	.39	.60	.49	.24	.16	.49	13.5	43.6	42.9
Disagree	.32	.09	.12	.35	.67	.46	.21	.23	.56	12.3	46.7	41.0
Agree that women happier at home	.36	.11	.15	.40	.59	.43	.26	.20	.49	13.7	45.4	40.9
Disagree	.29	.10	.13	.34	.67	.51	.20	.20	.56	12.4	45.4	42.2
Females												
Expect less than or equal to 12 years school	.35	.10	.15	.45	.66	.53	.19	.11	.45	20.3	43.9	35.8
Expect 13 or more years school	.32	.06	.12	.36	.61	.50	.27	.17	.58	10.5	44.3	45.2
Agree that woman has no time for home and work roles	.41	.08	.11	.32	.64	.49	.24	.10	.59	19.3	38.6	41.9
Disagree	.32	.07	.14	.41	.63	.53	.23	.15	.52	13.2	45.7	41.1
Agree that women happier at home	.32	.06	.13	.35	.61	.57	.26	.11	.60	16.0	39.6	44.2
Disagree	.35	.08	.13	.41	.64	.50	.23	.15	.51	14.2	45.5	40.3

ble 6.12   Probability of Movement Toward and Away From the 2 Child Norm Between 1979 and 1983 by Number of Siblings: 14 to 17 Year Olds with No Children in 1979

(based on weighted population estimates)

	Staying below 2	Moving above to below 2	Moving from 2 to below 2	Moving above 2 to 2	Staying at 2	Moving from below 2 to 2	Moving from 2 to above 2	Moving from below 2 to above 2	Staying above 2	Percent starting		
										Below 2	At 2	Above 2
les												
No siblings	.03	.19	.06	.42	.69	.38	.25	.59	.40	6.8	66.6	26.6
1 sibling	.32	.07	.10	.48	.76	.47	.14	.21	.45	13.4	55.9	30.6
2 or more siblings	.34	.11	.15	.34	.61	.47	.24	.19	.55	12.9	42.5	44.6
emales												
No siblings	.60	.05	.17	.44	.74	.23	.09	.18	.50	18.3	53.6	28.1
1 sibling	.26	.05	.13	.43	.64	.64	.23	.10	.53	11.4	58.1	30.6
2 or more siblings	.34	.08	.13	.39	.63	.52	.24	.14	.54	15.2	40.9	43.9

likelihoods of shifting in a pronatalist direction. The pattern for males is much more erratic, however, suggesting that the issues under consideration here are less central to the man's frame of reference, and that he is less likely to think of wom 1's roles and fertility within a coherent framework (Mott and Mott, 1984).

Finally, the sibling factors seem to predict a shift towards higher fertility expectations for women only. Even then, the relevant dimension of sibling status is that distinguishing only children from all others. Young women with no siblings are decidely more likely to maintain lower fertility preferences than are women from larger families. This distinction will be clarified in the preliminary multivariate analyses which follow.

A PRELIMINARy MULTIVARIATE PERSPECTIVE

In an attempt to clarify which factors might be more generalized predictors of changes towards either higher or lower fertility expectations, several ordinary least squares regressions were estimated. The sample was first stratified (separately for males and females 14-17 and 18-21 in 1979) by whether or not a respondent expected less than two children, two children, or more than two children in 1979. For those models which were limited to respondents who had under two children in 1979, a dichotomous variable coded 1 if the respondent expected two or more children in 1983 and 0 otherwise was regressed on a number of explanatory variables, many of which have already been considered in the tabular analysis. These models are intended to clarify which of the explanatory factors we have already considered have a pronatalist influence on this original low fertility group. Conversely, a second set of regressions which are limited to respondents who expected more than two children in 1979 (the original pronatalist group) have a dependent variable

(coded 1 if 1983 equations remain above two and 0 otherwise) which is regressed on the same predictors, with the complementary objective of determining factors associated with maintaining high fertility expectations over time.

A third, methodologically less satisfying model represents a middle group--respondents who expected two children in 1979, and the dependent variable includes three categories, 0, 1 and 2, specifying whether the respondents' 1983 expectations are less than 2, 2, or above 2 children. A subsequent version of this analysis will use logit procedures for estimating these models, including multinomial logit for the models with three categories in the dependent variable. Nevertheless, these models are expected to provide useful first approximations for estimating the importance of factors such as educational expectations, race, and ethnicity, and religion as predictors of fertility expectation "drift," either upwards or downwards. It should be noted that the dependent variables were consciously dichotomous (or trichotomous) so as to test more directly the prevalence of fertility expectation changes from below or above the two child norm.

An examination of Table 6.13 suggests that only a few factors serve as important predictors of fertility expectation movement, either upward or downward. Most of the significant predictors tend to be pronatalist in their influence. The factor closest to having generalizable value is educational expectation. Expecting more than 12 years of schooling in 1979 appears to have a fairly consistent significant positive coefficient. For both older and younger women, expecting to attend college is significantly associated with increasing fertility expectations among those who expected two children in 1979 and with maintaining a high fertility expectation level for those who expect three or more children in 1979. For men, higher educational

Table 6.13 Estimating the Determinants of Normative Movements in Fertility Expectations Between 1979 and 1983 by Sex and Age of Respondent in 1979 and Fertility Expectation Level in 1979: Ordinary Least Square Coefficients[1]
(t values in parentheses, weighted multivariate results)

	Expect 2 in 1979	Expect 2 in 1979	Expect 2 in 1979
	Females 14-17		
Expect more than 12 years school	.012	.074[b]	.113[a]
	(0.25)	(1.99)	(3.37)
Attends church weekly	.015	.074[c]	.048
	(0.28)	(1.80)	(1.30)
Attends church more than monthly but less than weekly	.164[b]	.025	.035
	(2.46)	(0.48)	(0.77)
Catholic	.136[b]	.094[b]	-.042
	(2.08)	(1.98)	(1.12)
Fundamental Protestant	-.047	-.108[b]	-.113[a]
	(0.87)	(2.41)	(2.61)
Hispanic	.038	-.035	-.034
	(0.37)	(0.44)	(0.54)
Black	.011	-.179[a]	.019
	(0.19)	(2.94)	(0.35)
Economically disadvantaged white	-.028	-.138	-.054
	(0.26)	(1.61)	(0.69)
More than one sibling	.002	.004	-.002
	(0.20)	(0.50)	(0.26)
Constant	-.408	1.050	.482
R^2 (adj.)	.019	.034	.017
F	1.92[b]	5.20[a]	2.95[b]
N	424	1078	1019
	Males 14-17		
Expect more than 12 years school	.111[b]	.103[a]	.133[a]
	(2.02)	(2.82)	(4.44)
Attends church weekly	.014	.025	.084[b]
	(0.22)	(0.60)	(2.52)
Attends church more than monthly but less than weekly	-.124[c]	-.009	.069[c]
	(1.92)	(0.20)	(1.73)
Catholic	.044	.058	.038
	(0.64)	(1.31)	(1.08)
Fundamental Protestant	-.050	-.044	-.032
	(0.80)	(0.97)	(0.81)
Hispanic	-.095	.042	-.010
	(0.70)	(0.51)	(0.19)
Black	.029	.003	.009
	(0.37)	(0.04)	(0.20)
Economically disadvantaged white	-.039	-.046	-.089
	(0.38)	(0.56)	(1.34)
More than one sibling	-.002	.011	.010[c]
	(0.14)	(1.22)	(1.64)
Constant	-.337	.999	.372
R^2 (adj.)	.007	.007	.028
F	1.28	1.85[c]	4.87[a]
N	341	1122	1200

Table 6.13 (continued)

	Expect 2 in 1979	Expect 2 in 1979	Expect 2 in 1979
	Females 18-21		
Expect more than 12 months school	.050 (0.87)	.102^a (2.70)	.102^a (2.72)
Attends church weekly	.067 (1.07)	.035 ('0.81)	.177^a (4.67)
Attends church more than monthly but less than weekly	.175^b (2.36)	.013 (0.29)	.152 (3.28)^a
Catholic	.077 (1.11)	.167^a (3.79)	-.021 (0.55)
Fundamental Protestant	.095 (1.36)	.051 (1.08)	-.152^a (2.96)
Hispanic	.010 (0.08)	-.039 (0.47)	-.088 (1.20)
Black	-.123 (1.54)	-.146^b (2.12)	-.169^a (2.74)
Economically disadvantaged white	-.218^b (2.08)	-.017 (0.25)	-.036 (0.52)
More than one sibling	.002 (0.17)	.009 (1.03)	.025^a (3.13)
Constant	-.497	.919	.336
R^2 (adj.)	.015	.017	.065
F	1.61	3.21^a	7.55^a
N	351	1140	844
	Males 18-21		
Expect more than 12 years school	.096^c (1.85)	.037 (1.04)	.090^a (2.84)
Attends church weekly	.081 (0.98)	.015 (0.34)	.180^a (4.85)
Attends church more than monthly but less than weekly	-.036 (0.55)	.081^c (1.74)	.035 (0.91)
Catholic	.168^a (2.58)	.028 (0.65)	.030 (0.84)
Fundamental Protestant	-.157^b (2.29)	.048 (1.10)	-.108^b (2.46)
Hispanic	-.239^c (1.85)	-.018 (0.21)	-.028 (0.46)
Black	-.059 (0.75)	-.113^c (1.80)	-.003 (0.06)
Economically disadvantaged white	-.308^a (3.21)	-.200^a (2.96)	.026 (0.41)
More than one sibling	.021 (1.68)^c	-.010 (1.16)	.012 (1.83)^c
Constant	-.540	1.050	.351
R^2 (adj.)	.060	.008	.039
F	3.52^a	2.11^b	5.68^a
N	355	1241	1049

NOTE: The dependent variables for the models are as follows: for the expect < 2 sample, a code of one = 1983 expectations are 2 or greater and 0 = 1983 expectations are <2. For the expect >2 sample, 1 = expect> 2 in 1983 and 0 = expect 2 or less in 1983. For the expect 2 in 1979 models, 0 = expect <2 in 1983, 1 = expect 2 in 1983 and 2 = expect $\geq$ 3 in 1983.
^{a}Significant at .01 level.
^{b}Significant at .05 level.
^{c}Significant at .10 level.

expectations consistently predict an upward drift in fertility expectations. Thus, the strong pronatalist influence of this factor, noted in many of the cross-tabular results, maintains an independent importance when modelled together with other factors which might be correlated with education.

The religious factor appears to be associated with changes in fertility expectations in a rational manner. It appears that regular church attendance in 1979 is strongly associated with maintaining high fertility values for those who already expect a large family, but that it has little effect on promoting high fertility values for those not already inculcated with such values. Our findings suggest that the religious high fertility expectation group was already essentially "pre-selected" as of the 1979 survey. That is, the effect of religiosity on fertility expectations is more long-standing in a maturational context. Youth who have internalized pronatalist religous values have already done so at an early age. Conversely, the regular church attendees who have low fertility values in 1979 have already opted and internalized those norms, in spite of their "religiosity" and continued church attendance will probably not alter these values.

However, contrary to this thesis, at least with respect to youth who identify themselves as Catholics in 1979, one opposite tendency appears, particularly for younger women. Catholicism apparently has a pronatalist influence on young women who have low fertility expectations in 1979, but apparently has no effect on helping maintain high fertility values among young women who expected more than two children in 1979.

Finally, there is a marked but erratic suggestion that being black or poor white and/or being of fundamentalist Protestant persuasion is, at least in some instances, associated with a tendency to reduce one's fertility expectations (in comparison with the omitted middle class white and non-

religious reference groups, respectively). These factors are not systematic in their influence; nonetheless, they are the only factors which might be considered anti-natalist in their influence, compared with a somewhat larger group of pronatalist influences. All in all, the models are generally unsatisfactory and suggest, both by the erratic patterns of significance as well as generally overall low explanatory power that the factors that promote changes in fertility values are to some extent beyond the ability of these models and these variables to clarify. The one consistent variable in the model which seems to predict fertility expectation change is the education factor. With increasing age, young men and women who aspire to higher education are more likely than others to raise their fertility expectations.

As an overall result, however, the principal conclusion of this section is that disaggregation of dynamic fertility expectation data is essential if the trends are not to be misinterpreted. A clear overall decline in aggregate fertility for both genders, for all races, and for both younger and older respondents clearly masks important counter-trends among almost all of these groups. The apparent aggregate decline in fertility expectations for young contemporary Americans associated with maturation is really just an artifact of the compositional effects. Large proportions of young Americans have high fertility values in early adolescence, thus their individual shifts toward the two child norm overwhelms the much greater tendency by youth with low fertility values to increase their expectations.