

Technical Report # 99

Demographic Description of KEEP Families in  
Cohorts I Through V, By Sample Source and Cohort

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## The Kamehameha Early Education Program

The Kamehameha Early Education Program (KEEP) is a research and development program of The Kamehameha Schools/Bernice P. Bishop Estate. The mission of KEEP is the development, demonstration, and dissemination of methods for improving the education of Hawaiian and Part-Hawaiian children. These activities are conducted at the Ka Na'i Pono Research and Demonstration School, and in public classrooms in cooperation with the State Department of Education. KEEP projects and activities involve many aspects of the educational process, including teacher training, curriculum development, and child motivation, language, and cognition. More detailed descriptions of KEEP's history and operations are presented in Technical Reports #1-4.

## Introduction

This report presents data on a number of social and demographic characteristics of the Kamehameha Early Education Program (KEEP) families for the first five of the cohorts to enroll in the KEEP research and development school, and to participate in the development and testing of the KEEP reading program. An earlier Technical Report (Weisner, Gallimore, and Omori, 1977, #83) described the first three cohorts in some detail, along many of the same dimensions to be reported here; an additional two cohorts have been added to this initial data base, and a set of 12 summary social and demographic measures have been selected for presentation:

- 1 -- the total number of children in the household
- 2 -- birth order of KEEP child
- 3 -- mother's and father's occupation
- 4 -- the household type (mother-child; mother-child with others; nuclear; nuclear with others present; three-generation, stem, or expanded household)
- 5 -- KEEP child's sex
- 6 -- whether family was selected from the Department of Social Services (DSS) sample list, or the Kamehameha Schools sample list (Kam)
- 7 -- total household income from all sources, per month
- 8 -- the total number of persons in the household
- 9 -- birth order of KEEP child among children of the child's sex
- 10 -- mother's marital status (single; divorced/separated; married)
- 11 -- mother's and father's age
- 12 -- mother's and father's education

These data were taken from interviews conducted with the parents during the 1974-1975 and 1977-1978 school years, and were carefully checked and

reviewed for consistency in question format and in coding before being grouped for analysis.

These measures have been selected for a number of reasons. First, as a number of previous reports have indicated (e.g., Weisner, Gallimore, and Omori, 1977) the sample source from which the family was drawn (Kam vs. DSS), and family socio-economic status measures are strongly associated with a variety of measures of IQ, reading readiness, and reading abilities. A number of these measures are standard dimensions of overall socio-economic status differences which are clearly related to school performance within the Hawaiian/American community, just as they are for the nation generally.

Second, KEEP purposely sampled in order to cover the full range of families in Kalihi, and to do so consistently for each KEEP cohort. Thus, we expect to find a wide range of scores among the socio-economic indicators within the KEEP families each year, and we expect not to find significant differences in these measures between KEEP cohorts from year to year. This report presents a series of tables showing the ranges of family background characteristics by sample (Kam vs. DSS). The report also directly tests the between-class null hypothesis that cohorts do not differ year to year. If it were to be found that certain KEEP cohorts were significantly different in their levels of parental education, or household composition, or parent's occupations, etc., KEEP cohort comparisons on educational assessment measures would have to be carefully weighted to take this into account. Thus, three related purposes are served by this Technical Report: to present descriptive material on the family background in all five KEEP cohorts; to provide a rough indication of the adequacy of the KEEP sampling in terms of the range of socio-economic and family differences; and to test for KEEP cohort differences which could influence children's educational performance.

First, the Kam Schools and DSS samples are contrasted on each measure, since these two sample groups consistently differ in school performance, and since this contrast was a deliberate intent of the sampling design. The next section presents data on family background for each KEEP cohort, including a final tabulation of the results of an analysis testing for significant differences between each of the five cohorts compared to the other four, for each summary measure. In general, this analysis found that Kam and DSS samples differ consistently overall as intended in the sampling.

The analysis of KEEP cohorts does not indicate any pattern of between-cohort differences which would be likely to influence educational performance. The few differences obtained were scattered across cohorts and across various family measures. Thus no one cohort differed from the remaining four on more of the background measures, nor did any particular measure or set of measures of family background characteristics consistently differ among the cohorts.

Kamehameha Schools (Kam) and Department of Social Services (DSS) Sample

Source

Table 1 summarizes the demographic and socio-economic status differences between the Kamehameha Schools and DSS samples. These differences are the expected ones, given the nature of each sample group. One fourth of the DSS sample was non-Hawaiian (largely Samoan); DSS families have smaller incomes, more unemployment for both mother and father, and have slightly more children per household (but not larger households overall). More KEEP children from DSS families are living with their mother only (nearly half), and less than half the DSS mothers were married at the time of the census.

It is also notable that there is a fairly wide range in the distributions of both Kam and DSS samples on many of these variables. Thus Table 2 shows quite large numbers of DSS families in nuclear or nuclear/expanded households (over 51 percent), and some Kam-sample children living in mother-child households (nearly 14 percent). Household size ranges widely between the two samples, as does income and occupation. Although there are age difference trends for mothers between the two samples, (Kam mothers somewhat older) these trends are not significant. The education level of Kam parents is much higher: the DSS parents are far less likely to have finished high school, or pursued post-high school training and education.

Table 3 indicates there are fairly large numbers of DSS families with higher incomes or regular employment, whereas there are typically few Kam families with relatively low incomes or high paternal unemployment.

Table 4 compares the proportions of males and females, and Hawaiian and non Hawaiian children, by sample source. Boys and girls were equally represented in DSS and Kam samples. The majority of children at KEEP are Hawaiian.

Table 5 shows the proportion of Kam and DSS pupils in each of the five KEEP cohorts. The first cohort had significantly more Kam pupils than the 60 to 77 percent figures for the remaining four years.

#### Cohort Contrasts

Analyses of cohort differences for the several demographic variables are presented separately for each cluster of variables, in Tables 7 to 9. The number of variables makes it difficult to assess the possibility of consistent differences among the various cohorts. To more readily assess the possibility of a bias, a series of analyses were conducted to determine how particular cohorts might differ from the overall distribution. The value of

these procedures, presented in Table 6, is to test the hypothesis that one or more cohorts might be quite different in socio-economic status, and thereby complicate the interpretation of reading achievement results reported elsewhere (Gallimore, Tharp, Sloat, & Klein, in press; Tharp, 1980).

Table 6 presents in summary form the results of the analyses, in which each cohort was contrasted with the other four combined. The results indicate:

1. Cohort I had a very low proportion of unemployed mothers (23.8 percent); Cohorts II and III had the highest levels of mother unemployment (68.0 and 66.7 percent respectively).
2. Cohort I had a significantly higher income as a group than the other cohorts; 74.9 percent of Cohort I had incomes above \$650 per month. In contrast, only 34.9 percent of Cohort II had incomes above \$650 per month; the other cohorts had incomes intermediate to Cohorts I and II.
3. Cohort III had the fewest number of households with more than five members (22.2 percent); Cohort IV had the largest number with five or more (60.0).
4. Cohort I had the fewest number of families receiving financial assistance from the Hawaii State Department of Social Services and Housing (38.1 percent).
5. Cohort III had the largest number of single households (55.5 percent).
6. Cohort I had the lowest number of DSS sample children (38.1 percent, from Table 5).

Of 70 contrasts, there are 10 which produced statistically reliable differences between one of the cohorts compared to the other four combined. Of these ten differences, three involved Cohort I, two for Cohort II,

four for Cohort III, and one for Cohort IV. Cohort V did not differ on any of the contrasts. There appears to be no consistent pattern of one or more cohorts differing in the same direction on a cluster of variables (e.g., family, or economic/occupational variables), with the exception of Cohort I. Cohort I had a larger number of Kam list children, and are thus generally of higher socioeconomic status (more income, fewer unemployed mothers and fewest families receiving financial assistance). This cohort received the old reading program.

With this single exception, there is no basis for concluding that there are any consistent differences among the cohorts on socioeconomic status and other factors. Cohort I differs largely because during the initial year of operation, time pressures forced a larger selection from the Kam list than was originally planned. Beginning with Cohort II, our increased experience and project reputation made sampling DSS families more successful.

Most significantly, the results indicate no bias in socioeconomic status which would increase the probability of spuriously higher reading scores among cohorts receiving the new reading program. If anything, the socioeconomic bias favors those cohorts receiving the old program because Cohort I children came from families with slightly higher socioeconomic status.



Table 1

Summary of Kamehameha Schools versus DSS Sample  
Differences (p .05) and Non-Differences

Variable	Direction of Differences
Ethnicity	25 per cent of DSS families are non-Hawaiian; <u>all</u> Kamehameha families are Hawaiian (Table 4)
Household Type; Mother's Marital Status; Number of Children in Household; Mother's Education; Father's Education; Father's Presence	Kamehameha families have higher incomes; over 65 per cent DSS mothers not working compared to 20 per cent Kamehameha families. More father-absent DSS households, and more unemployed (Table 3)
Household Income; Mother's and Father's Occupational Status	DSS families (48.2%) have more mother-child households; 84.1 percent of Kam mothers married, versus 43.5 percent of DSS. Slightly more children in DSS households (Table 2)

Variables with no difference:

Household Size (Table 2)  
 Birth Order of KEEP Child (Table 2)  
 Birth Order of KEEP Child Among Siblings of Same Sex (Table 2)  
 Mother's Age (Table 2)  
 Father's Age (Table 2)  
 KEEP Children's Sex (Table 4)

Table 2  
Family and Household Data, By Kamehameha Schools  
or DSS Sample Source

Household Type	DSS Sample		Kam Schools Sample		Total	
	Column N	Percent	Column N	Percent	Column N	Percent
Mother-Child	21	24.7	4	9.1	25	19.4
Mother-Child & Other Kin	20	23.5	2	4.6	22	17.1
Nuclear	24	28.2	23	52.3	47	36.4
Nuclear & Other Kin	20	23.5	15	34.1	35	27.1
Total	85	99.9	44	100.1	129	100
Mother's Marital Status						
Married	37	43.5	37	84.1	74	57.4
Other (Divorced, Separated, Single)	48	56.5	7	15.9	55	42.6
Total	85	100	44	100	129	100

(X<sup>2</sup> (3) = 15.56, p < .0014)

(X<sup>2</sup> (1) = 19.50 p < .001)

Table 2 (continued)

	DSS Sample		Kam Schools Sample		Total	
	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>Column N</u>	<u>Percent</u>
<u>Father Present in Household</u>						
Yes	45	52.9	38	86.4	83	64.4
No	40	47.1	6	13.6	46	35.6
Total	<u>85</u>	<u>100</u>	<u>44</u>	<u>100</u>	<u>129</u>	<u>100</u>
$(\chi^2 (1) = 12.14, p < .001)$						
<u>Number of Children in Household</u>						
1	6	7.1	6	13.6	12	9.3
2	22	25.9	11	25.0	33	25.6
3	15	17.7	15	34.1	30	23.3
4	22	25.9	6	13.6	28	21.7
5-8	20	23.5	6	13.6	26	20.2
Total	<u>85</u>	<u>100.1</u>	<u>44</u>	<u>99.9</u>	<u>129</u>	<u>100.1</u>

$(\chi^2 (4) = 8.14, p < .09)$

Table 2 (continued)

Household Size	DSS Sample		Kam Schools Sample		Total	
	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>
2-4	32	37.7	14	31.8	46	35.7
5	18	21.2	13	29.5	31	24.0
6-7	23	27.1	11	25.0	34	26.4
8-13	12	14.1	6	13.6	18	14.0
Total	85	100.1	44	99.9	129	100.1
$(\chi^2 (3) = 1.17, N S)$						
<u>Birth Order of KEEP Child</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>
First born	26	31.0	16	36.4	42	32.8
Second born	20	23.8	13	29.6	33	25.8
Third or Fourth born	21	25.0	9	20.5	30	23.4
Fifth to Ninth born	17	20.2	6	13.6	23	18.0
Total	84	100.0	44	100.1	128	100.0
$(\chi^2 (3) = .66, N S)$						

Table 2 (continued)

	DSS Sample		Kam Schools Sample		Total	
	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>
<u>Birth Order of KEEP Child Among Siblings of Same Sex</u>						
First born	41	48.8	24	54.6	65	50.8
Second born	24	28.6	12	27.3	36	28.1
Third to Sixth born	19	22.6	8	18.2	27	21.1
Total	<u>84</u>	<u>100.0</u>	<u>44</u>	<u>100.1</u>	<u>128</u>	<u>100.0</u>
<u>Mother's Education</u>						
Grade completed						
0-8	10	12.1	0	0.0	10	7.9
9-11	29	34.9	2	4.7	31	24.6
12	29	34.9	28	65.1	57	45.2
13 or more	15	18.1	13	30.2	28	22.2
Total	<u>83</u>	<u>100.0</u>	<u>43</u>	<u>100.0</u>	<u>126</u>	<u>99.9</u>

( $\chi^2 (2) = .79, N S$ )

( $\chi^2 (3) = 23.33, p < .0001$ )

Table 2 (continued)

	DSS Sample		Kam Schools Sample		Total	
	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>
<u>Father's Education</u>						
Grade completed						
0-8	5	11.9	2	5.6	7	9.0
9-11	21	50.0	2	5.6	23	29.5
12	14	33.3	27	75.0	41	52.6
13 or more	2	4.8	5	13.9	7	8.9
Total	<u>42</u>	<u>100.0</u>	<u>36</u>	<u>100.1</u>	<u>78</u>	<u>100.0</u>
$(\chi^2 (3) = 22.06, p .0001)$						
<u>Mother's Age</u>						
Years						
18-26	20	24.4	7	15.9	27	21.4
27-29	22	26.8	9	20.5	31	24.6
30-35	24	29.3	13	29.6	37	29.4
36 or older	16	19.5	15	34.1	31	24.6
Total	<u>82</u>	<u>100.0</u>	<u>44</u>	<u>100.1</u>	<u>126</u>	<u>100.0</u>

$(\chi^2 (3) = 3.909, N S)$

Table 2 (continued)

Father's Age Years	DSS Sample		Kam Schools Sample		Total	
	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>
18-28	7	17.5	9	24.3	16	20.8
29-32	11	27.5	9	24.3	20	25.9
33-38	10	25.0	9	24.3	19	24.7
39 or older	12	30.0	10	27.0	22	28.6
Total	<u>40</u>	<u>100.0</u>	<u>37</u>	<u>99.9</u>	<u>77</u>	<u>100.0</u>

( $\chi^2$  (3) = .57, N S)

Table 3

Income and Occupational Data by Kamehameha Schools  
or DSS Sample Source

	DSS Sample		Kam Schools Sample		Total	
	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>
<u>Total Income of Household Per Month</u>						
\$150-449	24	28.6	1	2.6	25	20.5
\$450-649	28	33.3	2	5.3	30	24.6
\$650-849	12	14.3	6	15.8	18	14.8
\$850-1349	15	17.9	12	31.6	27	22.1
\$1350-2149	5	5.9	17	44.7	22	18.0
Total	<u>84</u>	<u>100.0</u>	<u>38</u>	<u>100.0</u>	<u>122</u>	<u>100.0</u>
<u>Mother's Occupation</u>						
Unemployed	57	68.7	9	20.5	66	52.0
Professional, management, sales, clerical	12	14.5	25	56.8	37	29.1
Operators, labor, service	14	16.8	10	22.7	24	18.9
Total	<u>83</u>	<u>100.0</u>	<u>44</u>	<u>100.0</u>	<u>127</u>	<u>100.0</u>

( $\chi^2$  (4) = 41.07, p < .0001)

( $\chi^2$  (2) = 31.10, p < .0001)



Table 3 (continued)

Father's <u>Occupation</u>	DSS Sample		Kam Schools Sample		Total	
	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>
Unemployed	17	31.5	1	2.5	18	19.2
Management, sales, professional, crafts	13	24.0	15	37.5	28	29.8
Semi-skilled, operators	7	13.0	13	32.5	20	21.3
Laborer & Service	17	31.5	11	27.5	28	29.8
Total	<u>*54</u>	<u>100.0</u>	<u>**40</u>	<u>100.0</u>	<u>94</u>	<u>100.1</u>

( $\chi^2$  (3) = 15.71, p < .001)

\*No father data available for 31 cases

\*\*No father data available for 4 cases

Table 4  
Sex and Ethnicity of KEEP Child, By Kamehameha Schools  
or DSS Sample Source

<u>Child's Sex</u>	<u>DSS Sample</u>		<u>Kam</u>		<u>Total</u>	
	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>	<u>N</u>	<u>Column Percent</u>
Girl	38	44.7	24	54.6	62	48.1
Boy	47	55.3	20	45.5	67	51.9
Total	<u>85</u>	<u>100.0</u>	<u>44</u>	<u>100.1</u>	<u>129</u>	<u>100.0</u>
( $\chi^2 (1) = 1.124, N S$ )						
<u>Ethnicity</u>	<u>DSS Sample</u>		<u>Kam</u>		<u>Total</u>	
Hawaiian	64	75.3	44	100.0	108	83.7
Non-Hawaiian	21	24.7	0	0	21	16.3
Total	<u>85</u>	<u>100.0</u>	<u>44</u>	<u>100.0</u>	<u>129</u>	<u>100.0</u>
( $\chi^2 (1) = 12.98, p < .0003$ )						

Table 5

## KEEP Cohorts By Kamehameha Schools or DSS Sample Source

KEEP Cohort	DSS		Kam		Totals	
	<u>N</u>	<u>Row Percent</u>	<u>N</u>	<u>Row Percent</u>	<u>N</u>	<u>Column Percent</u>
I	8	38.1	13	61.9	21	16.3
II	18	72.0	7	28.0	25	19.4
III	21	77.8	6	22.2	27	20.9
IV	15	60.0	10	40.0	25	19.4
V	23	74.2	8	25.8	31	24.0
Total	85	-	44	-	129	100.0

$(\chi^2 (4) = 10.67, N S)$

Percent of  
Cohort From DSS  
Sample Source

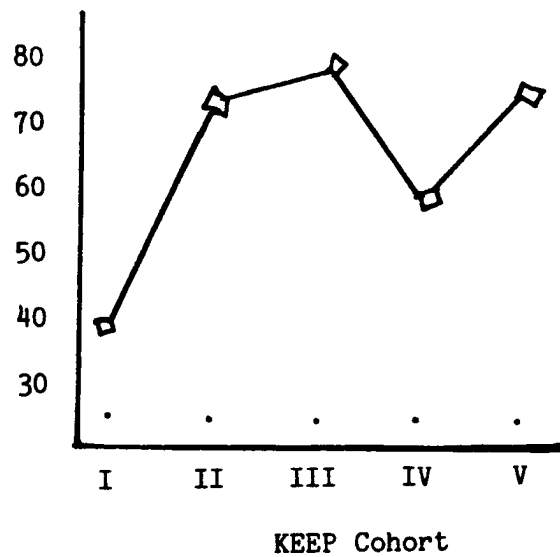


Figure 1. Distribution of DSS Sample Source Across Cohorts.

Table 6  
 Summary of Contrasts Among Cohorts  
 for Fourteen Demographic Variables

<u>Demographic Variables</u>	Cohort <u>I</u>	Cohort <u>II</u>	Cohort <u>III</u>	Cohort <u>IV</u>	Cohort <u>V</u>
Total Number of Children in Household	NS	NS	NS	NS	NS
Birth Order of KEEP Child	NS	NS	NS	NS	NS
Birth Order of KEEP Child Among Siblings of Same Sex	NS	NS	NS	NS	NS
Mother's Occupation (Employed/Unemployed)	$X^2=7.25$ $p < .007$	$X^2=3.63$ $p < .056$	$X^2=3.29$ $p < .069$		
Household Type (Nuclear/Other)	NS	NS	$X^2=5.49$ $p < .019$	NS	NS
Child Sex	NS	NS	NS	NS	NS
Kamehameha/DSS Sample Source	$X^2 = 7.88$ $p < .005$	NS	NS	NS	NS
Total Household Income	$X^2 = 8.05$ $p < .005$	$X^2=3.16$ $p < .076$	NS NS	NS NS	NS NS
Total Persons in Household	NS	NS	$X^2=4.44$ $p < .035$	$X^2=4.90$ $p < .028$	NS
Mother's Marital Status	NS	NS	$X^2=4.23$ $p < .39$	NS	NS
Mother's Age*	NS	NS	NS	NS	NS
Father's Age*	NS	NS	NS	NS	NS
Mother's Education*	NS	NS	NS	NS	NS
Father's Education*	NS	NS	NS	NS	NS

\*Contrasts based on general linear model; each cohort contrasted with other four cohorts combined; one degree of freedom for each contrast.

Table 7

Sex of KEEP Child and Ethnicity, by KEEP Cohort

<u>Child's Sex</u>	<u>Cohort</u>										<u>Total</u>	
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Girl	13	61.9	10	40.0	12	44.4	12	48.0	15	48.4	62	48.1
Boy	8	38.1	15	60.0	13	55.6	13	52.0	16	51.6	67	51.9
Total	21	100.0%	25	100.0%	27	100.0%	25	100.0%	31	100.0%	129	100.0%
$(\chi^2 (4) = 2.406, N S)$												
<u>Ethnicity</u>												
Hawaiian	21	100.0	19	76.0	22	81.5	20	80%	26	83.9	108	83.7
Non-Hawaiian	0	0	6	24.0	5	18.5	5	20%	5	16.1	21	16.3
Total	21	100.0%	25	100.0%	27	100.0%	25	100%	31	100.0%	129	100.0%

$(\chi^2 (4) = 5.53, N S)$

Table 8

Family and Household Data, by KEEP Cohort

Household Type	Cohort										Total	
	I	II	III	IV	V	VI		VII		Total		
	N	%	N	%	N	%	N	%	N	%	N	%
Mother-child	1	4.8	2	8.0	8	29.6	3	12.0	11	35.5	25	19.4
Mother-child & other kin	5	23.8	4	16.0	7	25.9	5	20.0	1	3.2	22	17.0
Nuclear	6	28.6	8	32.0	7	25.9	11	44.0	15	48.4	47	36.4
Nuclear & other kin	9	42.9	11	44.0	5	18.5	6	24.0	4	12.9	35	27.1
Total	21	100.1	25	100.0%	27	99.9	25	100.0%	31	100.0%	129	99.9%
(X <sup>2</sup> (12) = 26.324, p .0097)												
Mother's Marital Status												
Married	15	71.4	18	72	11	40.7	14	56	16	51.6	74	57.4
Other (divorced, separated, single)	6	28.6	7	28	16	59.3	11	44	15	48.4	55	42.6
Total	21	100.0%	25	100%	27	100.0%	25	100%	31	100.0%	129	100.0%

(X<sup>2</sup> (4) = 7.377, N S)

Table 8 (continued)

Cohort

Father Present in Household	I		II		III		IV		V		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Yes	15	71.4	19	76.0	12	44.4	17	68.0	20	64.5	83	64.3
No	6	28.6	6	24.0	15	55.6	8	32.0	11	35.5	46	35.7
Total	21	100.0%	25	100.0%	27	100.0%	25	100.0%	31	100.0%	129	100.0%

(X<sup>2</sup> (4) = 6.73, N S)

Number of  
Children in  
Household

1	2	9.5	0	0	4	14.8	0	0.0	6	19.4	12	9.3
2	2	9.5	9	36.0	8	29.6	6	24.0	8	25.8	33	25.6
3	7	33.3	6	24.0	5	18.5	5	20.0	7	22.6	30	23.3
4	5	23.8	4	16.0	6	22.2	10	40.0	3	9.7	28	21.7
5-8	5	23.8	6	24.0	4	14.8	4	16.0	7	22.6	26	20.2
	21	99.9	25	100.0%	27	99.9	25	100.0%	31	100.1	129	100.1%

(X<sup>2</sup>(16) = 20.932, N S)

Table 8 (continued)

Cohort

<u>Household Size</u>	<u>I</u>		<u>II</u>		<u>III</u>		<u>IV</u>		<u>V</u>		<u>Total</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
2-4	2	9.5	9	36.0	12	44.4	7	28.0	16	51.6	46	35.7
5	10	47.6	6	24.0	9	33.3	3	12.0	3	9.7	31	24.0
6-7	4	19.1	7	28.0	2	7.4	12	48.0	9	29.0	34	26.4
8-13	5	23.8	3	12.0	4	14.8	3	12.0	3	9.7	18	14.0
<u>Total</u>	<u>21</u>	<u>100.0%</u>	<u>25</u>	<u>100.0%</u>	<u>27</u>	<u>99.9</u>	<u>25</u>	<u>100.0%</u>	<u>31</u>	<u>100.0%</u>	<u>129</u>	<u>100.1%</u>

( $\chi^2(12) = 27.906, p = .0057$ )



Table 8 (continued)

Cohort

Birth Order of KEEP Child	I		II		III		IV		V		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
First Born	7	33.3	10	40.0	8	30.8	8	32.0	9	29.0	42	32.8
Second Born	7	33.3	7	28.0	5	19.2	7	28.0	7	22.6	33	25.8
Third or Fourth Born	2	9.5	2	8.0	10	38.5	5	20.0	11	35.5	30	23.4
Fifth to Ninth Born	5	23.8	6	24.0	3	11.5	5	20.0	4	12.9	23	18.0
Total	21	100.0%	25	100.0%	26	100.0%	25	98	31	100.0%	128	100.0%

( $\chi^2$  (12) = 12.514, N S)

Table 8 (continued)

Cohort

Birth Order of KEEP child Among Siblings of Same Sex	I		II		III		IV		V		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
First Born	12	57.1	14	56.0	12	46.2	13	52.0	14	45.2	65	50.8
Second Born	3	14.3	8	32.0	8	30.8	6	24.0	11	35.5	36	28.0
Third to Sixth Born	6	28.6	3	12.0	6	23.1	6	24.0	6	19.4	27	21.0
	—	—	—	—	—	—	—	—	—	—	—	—
Total	21	100.0%	25	100.0%	26	100.1%	25	100.0%	31	100.1%	128	100.0%

( $\chi^2$  (8) = 4.717, N S )

Table 8 (continued)

Mother's Education	Cohort												Total	
	I	II	III	IV	V	VI	VI	VI	VI	VI	VI	VI		
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Grade Completed														
0-8	1	5.6	3	12	1	3.7	3	12.0	2	6.5	10	7.9		
9-11	3	16.7	6	24	8	29.6	3	12.0	11	35.5	31	24.6		
12	12	66.7	9	36	12	44.4	10	40.0	14	45.2	57	45.2		
13+	2	11.1	7	28	6	22.2	9	36.0	4	12.9	28	22.2		
Total	18	100.1	25	100.0	27	99.9	25	100.0	31	100.1	126	99.9%		

( $\chi^2$  (12) = 12.89, N S)

Table 8 (continued)

Cohort

<u>Father's Education</u>	<u>I</u>		<u>II</u>		<u>III</u>		<u>IV</u>		<u>V</u>		<u>Total</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Grade Completed												
0-8	1	7.1	2	11.8	0	0	2	12.5	2	10.0	7	8.9
9-11	5	35.7	5	29.4	4	36.4	4	25.0	5	25.0	23	29.5
12	8	57.1	8	47.1	5	45.5	8	50.0	12	60.0	41	52.6
13 +	0	0	2	11.8	2	18.2	2	12.5	1	5.0	7	8.9
<u>Total</u>	14	99.9	17	100.1	11	100.1	16	100.0	20	100.0	78	99.9%

( $\chi^2$  (12) = 5.55, N S)

Table 8 (continued)

Cohort

<u>Mother's Age</u>	<u>I</u>		<u>II</u>		<u>III</u>		<u>IV</u>		<u>V</u>		<u>Total</u>	
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Years												
18-26	2	10.5	9	36.0	8	29.6	4	16.0	4	13.3	27	21.4
27-29	6	31.6	7	28.0	3	11.1	8	32.0	7	23.3	31	24.6
30-35	6	31.6	4	16.0	12	44.4	6	24.0	9	30.0	37	29.4
36 or older	5	26.3	5	20.0	4	14.8	7	28.0	10	33.3	31	24.6
Total	19	100.0%	25	100.0%	27	99.9%	25	100.0%	30	99.9%	126	100%

( $\chi^2$  (12) = 14.93, N S)

Table 8 (continued)

Cohort

<u>Father's Age</u>	<u>Cohort</u>										<u>Total</u>	
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>		<u>%</u>
Years	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
18-28	1	6.7	4	23.5	4	36.4	4	28.6	3	15.0	16	20.8
29-32	6	40.0	4	23.5	2	18.2	2	14.3	6	30.0	20	29.9
33-38	1	6.7	6	35.3	2	18.2	6	42.9	4	20.0	19	24.7
39 or older	7	46.7	3	17.7	3	27.3	2	14.3	7	35.0	22	28.6
<u>Total</u>	<u>15</u>	<u>100.1</u>	<u>17</u>	<u>100.0</u>	<u>11</u>	<u>100.1</u>	<u>14</u>	<u>100.1</u>	<u>20</u>	<u>100.0</u>	<u>77</u>	<u>104.0</u>

( $\chi^2$  (12) = 14.52, N S)

Table 9  
Income and Occupational Data by KEEP Cohort

<u>Total Income of Household</u>	<u>Cohort</u>										<u>Total</u>	
	<u>I</u>		<u>II</u>		<u>III</u>		<u>IV</u>		<u>V</u>		<u>N</u>	<u>%</u>
\$ 150-449	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
	1	6.3	7	30.4	10	37.0	2	8.0	5	16.1	25	20.5
450-649	3	18.8	8	34.8	6	22.2	5	20.0	8	25.8	30	24.6
650-849	0	0.0	2	8.7	2	7.4	7	28.0	7	22.6	18	14.8
850-1349	8	50.0	4	17.4	7	25.9	5	20.0	3	9.7	27	22.1
1,350-2149	4	25.0	2	8.7	2	7.4	6	24.0	8	25.8	22	18.0
<b>Total</b>	<b>16</b>	<b>100.1%</b>	<b>23</b>	<b>100.0%</b>	<b>27</b>	<b>99.9</b>	<b>25</b>	<b>100.0%</b>	<b>31</b>	<b>100.0%</b>	<b>122</b>	<b>100.0</b>

( $\chi^2$  (16) = 31.174, p .0128)

Table 9 (continued)

Cohort

<u>Father's Occupation</u>	<u>Cohort</u>										<u>Total</u>			
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>VII</u>	<u>VIII</u>	<u>IX</u>	<u>X</u>				
	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>
Unemployed	1	6.7	5	23.8	4	26.7	2	11.1	6	24.0	18	19.2		
Professional, management, sales, crafts	5	33.3	5	23.8	4	26.7	7	38.9	7	28.0	28	29.8		
Semi-skilled operations	4	26.7	4	19.1	4	26.7	4	22.2	4	16.0	20	21.3		
Labor, service	5	33.3	7	33.3	3	20.0	5	27.8	8	32.0	28	29.8		
<b>Total</b>	<b>15</b>	<b>100.0%</b>	<b>21</b>	<b>100.0%</b>	<b>15</b>	<b>100.1%</b>	<b>18</b>	<b>100.0%</b>	<b>25</b>	<b>100.0%</b>	<b>94</b>	<b>101.1%</b>		

( $\chi^2$  (12) = 5.201, N S)



Table 9 (continued)

Mother's Occupation	Cohort											
	I		II		III		IV		V		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Unemployed	5	23.8	17	68.0	18	66.7	11	54.8	15	50.	66	52.0
Professional, management sales, clerical	11	52.4	5	20.0	4	14.8	7	29.2	10	33.3	37	29.1
Operators, labor, service	5	23.8	3	12.0	5	18.5	6	25.0	5	16.7	24	18.9
Total	21	100.0%	25	100.0%	27	100.0%	24	109.0	30	100.0%	127	100.0%

( $\chi^2$  (12) = 5.20, N S)

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