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**CALIFORNIA WELFARE
RECIPIENTS AND SPELLS
ON AID – SURVIVAL
ANALYSIS**

**USING DATA FROM THE
CALIFORNIA WORK-PAYS
DEMONSTRATION
PROJECT**

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WORKING PAPER #1

California Welfare Recipients and Spells on Aid—Survival
Analysis

Using Data from The California Works-Pays Demonstration
Project

Paper to be presented at the Population Association of America Meetings
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I. Introduction: Overview of The California Work Pays Demonstration Project

The California Work Pays Demonstration Project (CWPD) is a collaborative project of the California Department of Social Services Research Branch (CDSS), the University of California Data Archive and Technical Assistance (UC DATA) and the Survey Research Center (SRC) at the University of California. State legislation mandated this demonstration project to study specific statewide reforms in California's Aid to Families with Dependent Children (AFDC) welfare program. Beginning in December 1992 and over a series of months thereafter changes were made in California welfare regulations: the aid payment was reduced by a total of 12.9%, limits in allowable resources were increased, work limitation rules were liberalized, supplemental payments for child care were made available, and increased funding went to the State's employment training program. The intention of these regulation changes is to reduce the disincentives to work for AFDC recipients, and encourage them to establish some attachment to the labor force.

Starting in 1992, UC DATA began working with CDSS to design and implement a research and evaluation program of the welfare reforms taking place in California. As well as evaluating the administration's recent changes in welfare program, the project will also document the dynamics of family poverty and welfare use in California.

The project collects detailed, longitudinal data for several samples of low income families receiving AFDC in California between 1987 and 1998. The project integrates individual level data from the following four separate sources: state-level administrative records for AFDC, Medi-Cal, Unemployment Insurance, other state and federal assistance programs, and employment tax files, county-level administrative records for AFDC and Food Stamps programs, non-automated client records at county welfare offices, and extensive telephone interviews with AFDC recipients.

By integrating these data sources at the individual and household level, CWPD intends to make available to scholars and analysts unusually detailed information about the characteristics and behaviors of low-income families and

children in California. Researchers will be able to examine family outcomes, such as income and family stability, and their relation to household characteristics and involvement in state and federal assistance programs. Transfer payment and earnings data will be available for researchers interested in cost comparison and cost benefit analyses of social programs.

This multi-year project involves the following distinct components:

1. The Statewide Longitudinal Database: CWPDP is creating a 10% sample of people in the state who received Medi-Cal Eligibility and a 10% sample of cases with Medi-Cal (California's Medi-Caid) eligibility in California between 1987 and 1998. Because AFDC recipients are automatically eligible for Medi-Cal and approximately 50% of the total number of Medi-Cal recipients, this file can be used to study AFDC recipients. In addition, by covering the larger universe of Medi-Cal recipients the dataset can be used to study the participation of AFDC recipients in other programs, as well as the program participation of the larger universe of Medi-Cal recipients. It will be the largest longitudinal database on welfare recipients ever produced. A public use release of these data will be available this spring. This paper will primarily use data from the above described Cases sample to examine some of the effect of household characteristics on participation in AFDC. A discussion of this sample will follow.

2. The Uniform Database: UC DATA is collecting detailed data from county records starting in December 1992, on over 15,000 experimental and control cases in the State's welfare reform demonstration project. These data will be linked to longitudinal data from the Medi-Cal eligibility file described above. This database will provide a starting point for evaluating CWPDP and, and they will provide a detailed portrait of welfare experiences in California. Both this database and the Longitudinal Database are very innovative efforts to utilize administrative data to study welfare outcomes. Although past efforts have revealed difficulties working with administrative data, CWPDP has received exemplary commendations on the collection and integration of these data.

3. Survey Studies: In conjunction with the Survey Research Center, UC DATA has developed extensive survey instruments to examine the welfare experience on a sub sample of the demonstration project sample. One survey, on approximately 2,000 English/Spanish speaking households elicits information on reasons for going on and getting off welfare as well as quality of life, as well as a variety of other important issues. Another survey examines the experience of foreign language speaking households, revealing important information about recent immigrants to California.

4. Process Study: UC DATA is also doing detailed studies of the implementation of the regulation reform in each county. The new regulations aim to increase rewards for work. However, to take advantage of the new rules and exhibit the behavior the project is examining, recipients must be aware of the increased work incentive. The Process Study examines how the county welfare departments are communicating these new rules to AFDC recipients, through a series of interviews with eligibility workers and observations of worker-client interaction.

II. Description of Data used in this Analysis

The Statewide Longitudinal Database

In California, welfare programs are independently administered by 58 county welfare departments. The counties have developed their database management systems independently to meet their unique needs in creating a database and computer system to manage their workload. Longitudinal data are difficult to collect on a statewide basis from these county databases. However, the state of California administers a statewide database of Medi-Cal recipients, managed under the Department of Health Services. This database is called the Medi-Cal Eligibility Data System (MEDS).

Recipient records are updated monthly by county workers. The information maintained on MEDS comes from counties, federal agencies, Department of Health Services and other sources (e.g. private health care plans). MEDS is generally used for managing the issuance of Medi-Cal cards,

tracking Medicare and other health care enrollment, and processing claims. The database includes information on AFDC, foster care, State Supplemental Income/State Supplemental Payments ("SSI/SSP"), and medically-needy only recipients. The database contains information on these aid recipients including program participation, county of residence, Medi-Cal Share of Cost, private health care coverage, as well as demographic information such as social security number, case number, race/ethnicity, address, date of birth, name and gender.

It is from these data that CDSS drew the Statewide Longitudinal Database. CDSS created the LDB Cases by selecting a 10% sample of all cases determined to be Medi-Cal eligible in 1987 and drawing 10% samples from each year's new cases through 1992. A case is identified as new if its identification number does not match an identification number previously observed in the MEDS records from the beginning of 1987 through the year of sampling. If no matching identification number was found, the current year's MEDS records were checked for social security number and other characteristics of the youngest member of the case. If the youngest member was found to have continued on aid then the case information was updated with the youngest member's new case. If not, the case's eligibility status was considered to have expired.

The Statewide Longitudinal Database Cases sample is essentially a cases sample. However, the data is structured on a persons level. Each year, data records from three groups of individual case members are retained from the MEDS files, contributing to the observations in the case sample; 1) members who continued or resumed eligibility under a previously sampled case, 2) members who are new to a case sampled in a previous calendar year, and 3) members whose first observed eligibility occurs within the year of origin for their case. For this reason, a case sample is complex to construct and complex to analyze. Individual members can come and go from a case and a case can open and close. The author will describe below case level data elements that were constructed for this analysis.

Samples used in this Analysis

Two samples were used from the Longitudinal Database in this analysis. One is a 10% sample of new AFDC-FG cases in 1988. AFDC-FG, Aid to Families with Dependent Children-Family Group, is the program providing a cash grant and Medi-Cal coverage for families, deprived because of the absence, incapacity or death of one parent. These are single parent families receiving a cash grant, the paradigmatic welfare family. As described above these are cases who were observed to have received no Medi-Cal eligibility in 1987. There is some argument that these are not truly new cases in that we do not know the aid history of the case prior to 1987. However, for the purposes of this paper these will be described as new cases. Further, these are cases whose youngest member received Medi-Cal eligibility because of their participation in AFDC-FG at any point in 1988. We have 11,775 cases in this sample. This sample will be referred to as the "New Cohort" throughout this paper.

The other sample is a Cross Section of cases whose youngest member was observed to have received AFDC at any point in 1988. In this sample we have 63,803 cases. This sample is left-censored in that we do not have information on their aid receipt before 1988. This sample will be referred to as the "Cross Section" throughout this paper.

The Cross Section of cases is weighted toward long-term cases. Bane and Ellwood often use the example of a hospital to describe this effect. If we were to calculate the tenure of people checking into a hospital in one day, we would find that many of them leave in a short time, receiving routine procedures and leaving. But if we were to walk through the hospital wards and calculate the tenure of people of the people occupying the beds, we would find a different story. The majority of people in the hospital at any one time are in the midst of a long stay, receiving treatment for a serious or chronic condition.

This metaphor works for welfare receipt also. Some people receive welfare as temporary assistance. Some people receive for long periods of time. The latter people make up a majority of a Cross Section of recipient, although they make up a small proportion of newly entering recipients. At any point in

time the characteristics of a welfare caseload can be described in either one of these terms, providing two very different results. For this reason, the author chose to compare these two samples.

Data Elements Constructed for this Analysis

As mentioned above, analysis of a case sample is complex. Although it is caseload that drives funding and policy decisions, aid is provided to assist an individual person. The Statewide Longitudinal Database—Cases Sample is a sample of cases as described above. However, the structure of the files is on a persons level, i.e. each record represents an individual person. Measures of time on aid can be constructed from any one person's aid experience. However, people may come or go on the case and the case itself may open and close over the period of time we observe. Also, these data are collected by the MEDS system on a monthly basis. This aspect of the data improves the fineness with which we can define a spell on aid. However, it also complicates the development of a description of the household composition since the household can change month by month. The author has developed the following case level variables.

Here you will note that a recipient's participation in an assistance program is defined as observed Medi-Cal eligibility for that person for that month. For the rest of this paper this will be referred to as having received aid for that month.

There are many different ways to calculate a spell on aid for these case samples. As mentioned above there are different persons in the case whose aid history can be examined. The eldest member of the case is generally observed to be on aid at the beginning of the case's aid history. These files are constructed so that the youngest member of the case is on aid at the end of the case's aid history.

Further there are many ways to define the end of a spell on aid. There is some discussion that a one- or two-month break in aid may be due to administrative churning instead of a real independence from aid. Administrative churning occurs when a case is withdrawn from the welfare roll due to

paperwork problems. However, in these instances, not only is the case reinstated when the administrative issue is resolved but often the case is reimbursed for any cash aid they missed due to the incorrect termination. Bane and Ellwood offer an interesting discussion of how the relationship between the worker and the adult client can exacerbate administrative churning.

The data used in this analysis are particularly sensitive to these kinds of termination since these data are collected specifically for administrative purposes. Unfortunately these data have no information on cash payments and therefore cannot be reconciled by checking the for any correction in payment amounts.

There is another argument for using spells with a break of three months or more. Until now, the heterogeneity in a welfare population has been ascribed to two different kinds of recipients: short term recipients, and long term recipients. Recently, welfare researchers have brought attention to the fact that there are really more than two types of recipients. There is a group of recipients who go on and off welfare repeatedly. They cycle in and out of welfare and work. Again these data are particularly sensitive to these cycles. Since the data is collected on a monthly basis, the granularity is sensitive enough to catch shorter breaks. Further, these are very large samples, allowing the researcher to make selected subsamples of the data to examine these phenomenon.

The author developed to measures of spells of aid to compensate for these issues. One measure is the maximum of the first duration of the eldest member and the first duration of the youngest member either one with at least a one month break. The other duration measure is the first duration of the eldest member with a 3 month break in aid. The eldest member's duration was chosen to make a duration measure insensitive to administrative churning since the burden of administrative paperwork tends to rest on the adult client providing earnings information or employment training program enrollment information. Choosing the eldest member's duration also allows the author to test the presence of cycling by comparing this measure to the eldest member's duration with a one month break.

The author calculated the household size for each case as the total number of people ever receiving aid in that case. This number may be greater than the actual household size at any point in the data period, since people come and go from cases. Further, we have found some inconsistent assignment of social security numbers in the cases. Since the data records are linked across the years by social security number an incorrect assignment of social security number would make one person appear to be two or more people. UC DATA is presently examining this problem.

The age of youngest member of the case was calculated as of December 31, 1988. If the youngest member was born after 1988, this variable is set to zero and a fertility flag is attached to the case. The age of the eldest member of the case was calculated as of December 31, 1988. If no member of the case was older than 14 years then the case was flagged as being a children only case.

The race of the eldest member was created as a variable, as well as an indicator if the household consisted of whites with non-white races. In this case the race of the eldest member is examined because the tenure of a case predominantly depends on the eldest member's behavior, employment or marriage, or the youngest member aging off. The marriage and employment opportunities are differentially affected by race.

III. Analysis

As mentioned above two distinctly different cohorts have been chosen to show how different cuts of the data can lead to significantly different analyses of welfare receipt.

Table1 shows some of the data means for the compared populations. Some of these variables will be used to compare survival rates.

Household Characteristics

The differences in the two samples are interesting. Chart 1 compares the race distribution of the two samples. We see that the Cross Section has more

non-whites and less whites than the New Cohort. These differences seem to be mostly made up in a higher share of Blacks and Hispanics in the Cross Section. This is certainly what we would expect to find.

Much of the discussion on comparing the New Cohort to the Cross Section revolves around the heterogeneity of a population. This heterogeneity is often described in terms of the time dependent effect of welfare receipt. This effect works on welfare recipients by making the length of time they are on aid effect their future receipt or ability to get off aid, i.e. once they are on aid for a period of time it becomes harder for them to get off. One explanation to time dependency is as a recipient continues on aid they are increasingly alienated from employment opportunities. The difference in race distribution between the two cohorts suggests that this time dependency is explained by the different experience of the races to make and keep labor force attachments.

Chart 2 compares the age distribution of the eldest member. We find a greater proportion of older members and a smaller number of younger members and children only cases in the Cross Section. Since the Cross Section of cases are represented by cases who have had more years on aid, it is not surprising that the eldest members of the cases are more advanced in years.

In comparing the age distribution of the youngest member of the case in Chart 3, we find similar results to that of the eldest member of the case. The New Cohort has a greater proportion of younger youngest members and cases who added a new youngest member after 1988 (referred to as AFDC "fertility" , see discussion below). This result, as with the age distribution of the eldest member, is what we would expect to find in comparing a New Cohort to a Cross Section. The proportion of cases in which we observe the addition of a new youngest member to cases in the Cross Section is very similar to the same rate in the New Cohort.

The author would like to draw some conclusions from this chart regarding the myth that welfare mothers have children to increase or extend their welfare payments. However, we cannot. The proportion of cases to which new youngest members are added is a ratio calculated over the case, not the

number of women at risk of having a child, thus the quotation remarks around fertility. The mean household size is approximately 3 people for both samples. There could be two women at risk in the average household. Unfortunately, these data do not contain any information on relationships between case members.

Comparing the size of the households further complicates this analysis. Although the mean household sizes are very similar, the chart showing the distribution of household sizes, Chart 4, indicates that they are distributed differently. The Cross Section shows more large cases than the New Cohort of cases. Since the Cross Section shows a lower AFDC "fertility" rate and a lower proportion of younger youngest member we wonder who these people are. We can only observe the AFDC "fertility" rate over the four year period from January 1989 to December 1992. We know nothing about the changes in the AFDC household for the Cross Section before the period of observation. But we do know that the New Cohort had no AFDC household before 1988. These differences limit our ability to draw conclusions as to how AFDC receipt affects "fertility".

Welfare Receipt Characteristics

As mentioned above, there are many ways to examine the case's experience on aid using these data. The author has chosen several different measures welfare receipt. The author calculated the total time on aid for the eldest member and the youngest member. The author also calculated the length of the first spell with a one month break for both the eldest and youngest member and the length of the eldest member's first spell with a three month break.

When we compare the experiences of the two samples with respect to total time on aid in Chart 5, we find that for both samples a large proportion of cases have been on aid for over four years. We see this in both measures of total time on aid, that of the eldest member and that of the youngest member. However, we also see that the youngest members experience this large time on aid less so than the eldest members. We would expect to find an opposite effect, since these files are constructed so that the youngest member is the last

person on the case. This may be due to the fact that the youngest member in these samples may come onto the case sometime after the eldest member. In fact, we do observe the addition of a new youngest member after 1988 at a rate of approximately 20% of the cases. Further, the data is right censored. We observe the case for only five years. We do not know the experience of these members after December 1992.

Another interesting comparison, is that between the first duration of the eldest member with a three month break and that with a one month break. See Chart 6. We find that 35% of eldest member's of Cross Section cases experience a three month break first duration of longer than 4 years. Compare this to 22% of Cross Section cases with a one month break first duration. We find a similar phenomenon when we look at the New Cohort of cases. Further, the break in aid seems to occur early in the spell on aid. We observe a similar difference in spells lasting only six months in the reverse direction.

Survival Analysis

In all the survival analysis that follows in this section, the author has attempted to compare groups that may be differently economically disadvantaged. For this reason, whites will be compared to non-whites, the ages of the eldest member' and the age of the youngest member.

The author will use the Kaplan Meier method. Kaplan Meier presents the a reasonable treatment of these types of data. We have many durations on aid and many right censored spells. Kaplan Meier treats the right censored spells as if they have equal probability of ending at any point after they were censored. The Kaplan Meier method right distributes the probability mass of the right censored spells over all the times with validly ending spells. However, survival analysis has unintuitive nomenclature. A survival rate is the rate at which the cases remain on aid. Perhaps because of the socially unacceptable nature of welfare, staying on welfare would not commonly be described as "surviving." The survival rate is the opposite of the hazard rate or $(1 - \text{the hazard rate})$. The hazard rate is the rate at which cases exit from aid. The author will use rates of exit when comparing survival curves because she finds it to be more intuitive.

The author has also chosen to compare two different measures of duration: the first duration of the eldest member with a three month break and the longer of the eldest member first duration and the youngest member first duration with a one month break. The author chose to use the second measure instead of choosing between the youngest member's and eldest member's duration because of the different experiences of the youngest member and the eldest member with respect to the total time one aid, discussion above. Although we would expect the youngest member to be on the case the longest, we found that in the aggregate youngest members experienced shorter total time on aid than eldest members, probably due to the truncation of right censored spells. To capture the fullest spell, the author chose to take the longer of the two.

Charts 7 and 8 compare whites to non-whites. We find that non-whites have much lower survival curves for both samples and for both measures of duration. Whites exit aid more quickly than non-whites. For both measures, the New Cohort exits aid more quickly than the Cross Section. Further, the survival rates of the New Cohort non-whites are very similar to the survival rates of the Cross Section whites. It seems that being in a sample of long-term cases mimics the disadvantages that new non-white cases experience.

These same effects occur for the duration measured by a three month break. The exit rates calculated on durations measured at the 3 month break are considerably lower, i.e. the survival curves are higher. 50% of the Cross Section non-white cases have exited an aid duration with a break of 3 months in 40 months, whereas 50% of the Cross Section non-white cases have exited an aid duration measured as the maximum of the one month break spell in 30 months. Similarly 50% of the Cross Section white cases have exited a three month break duration in 25 months, whereas for whites this marker occurs at 19 months. This is not a surprising result. It is more "difficult" to accumulate three consecutive months of a break in aid.

When we compare survival rates over the age of the eldest member we get some interesting results. See Charts 9-12.

Children only cases have been defined as having no members older than 14. Children only cases are case in which the adults are not eligible for aid, i.e. the adults are undocumented persons. We find that these cases in the New Cohort to have significantly higher rates of exit for both measures of spell length. However, in the Cross Section the exit rates for these cases are just slightly higher (meaning lower survival curves) until 18 - 22 months. At this point the survival curves meet the other age groups and in fact surpass them and asymptote. This is a strong indication of the heterogeneity in this Cross Section of cases. The children only cases who are going to get off do so in the first two years. The cases remaining exit much more slower, their survival curves almost flattening out.

Comparing the other age groups across the different measures of duration we find a few other surprises. We find that the survival curves are almost the same for the durations calculated at a three month break for new cases with eldest members older than 26. Compare Charts 9 and 10. However, for the new cases with teenaged and young adult eldest members the difference between the duration measures is great, almost a 6 month difference at the point where 50% of the cases have exited. This indicates that new cases with eldest members aged 14-26 are much more likely than the other new cases to experience administrative churning or cycling.

The effects are slightly different for the Cross Section of cases. Compare Charts 11 and 12. We find that the difference in definition of duration effects only the cases with eldest member aged 14-17. This says that in the Cross Section of cases, no cases experience great churning or cycling except cases with teenaged eldest members. Unfortunately, we cannot identify the head of household of these cases. These cases could be both teenaged children with their own AFDC cases or teenaged children with undocumented parents.

Conclusions

These analyses reveal some interesting indications of heterogeneity in the welfare. Some groups of recipients can be identified as groups who are cycling more than other groups. These are cases headed by teenagers and

young adults. The author hopes to continue these analyses and to link the data to some contextual data to uncover the story behind the different experiences.

Chart 1

Compare Race Distribution for New Cohort and Cross Section

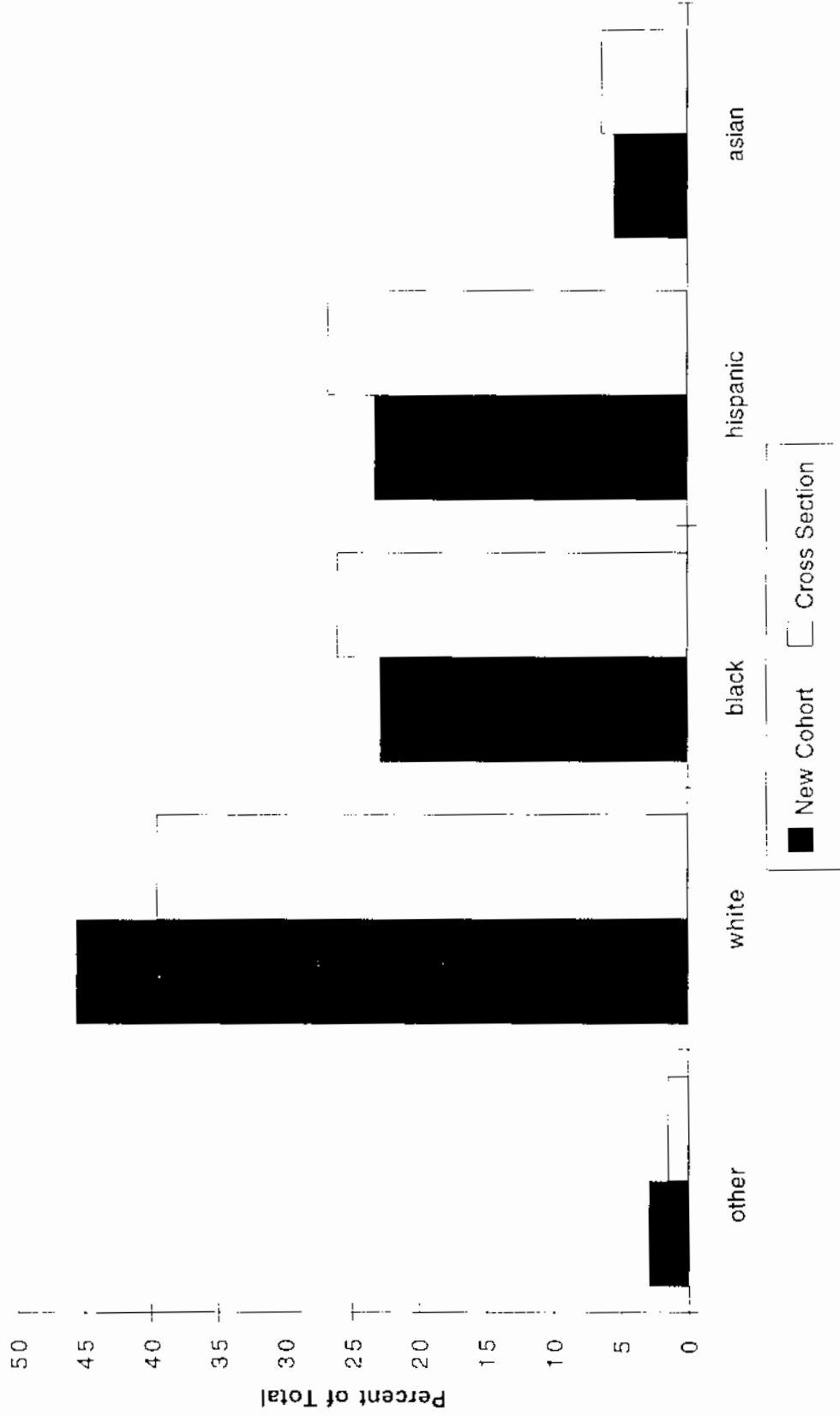


Chart 2

Compare Age Distribution of Eldest Member for the New Cohort and the Cross Section

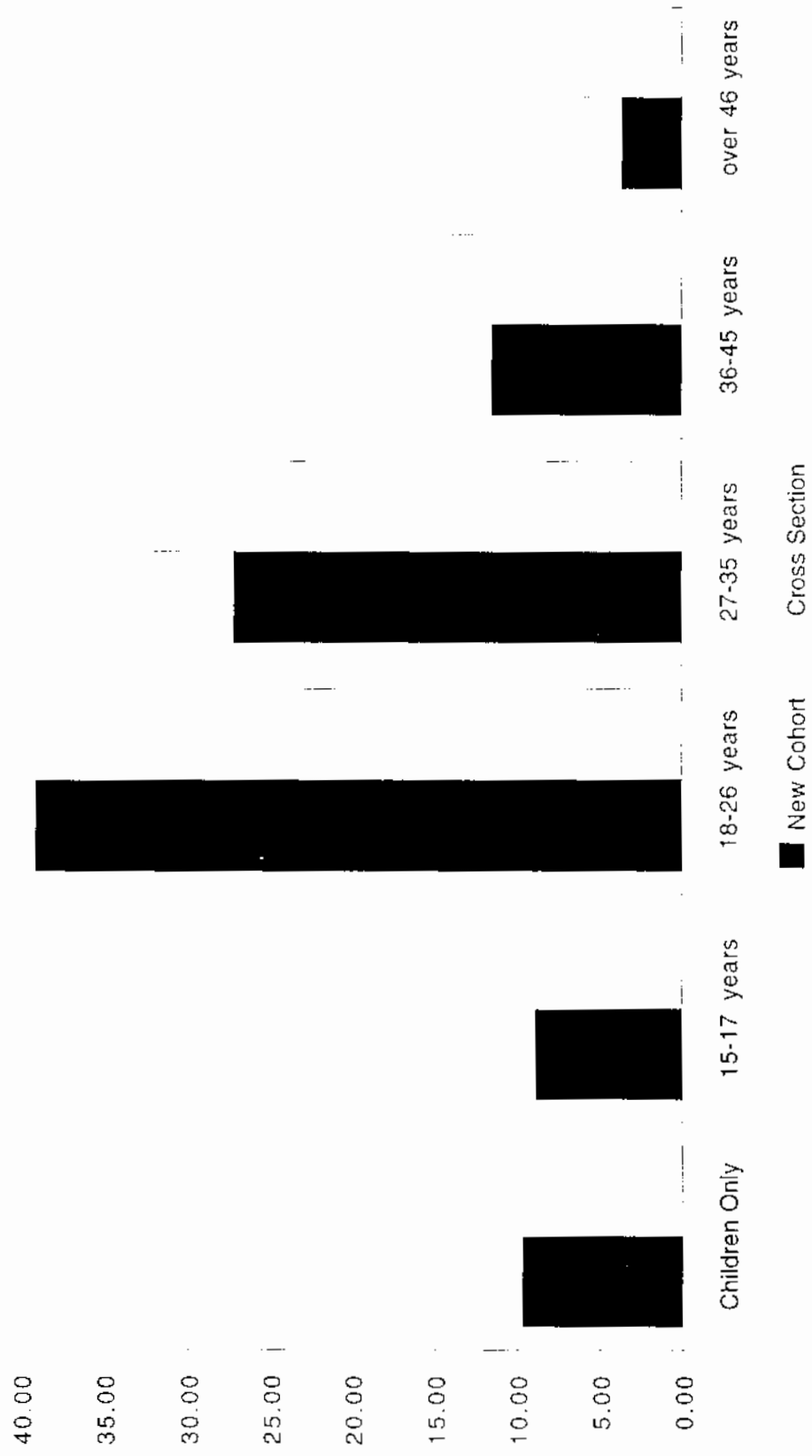


Chart 3

Compare Age Distribution of Youngest Member for the New Cohort and the Cross Section

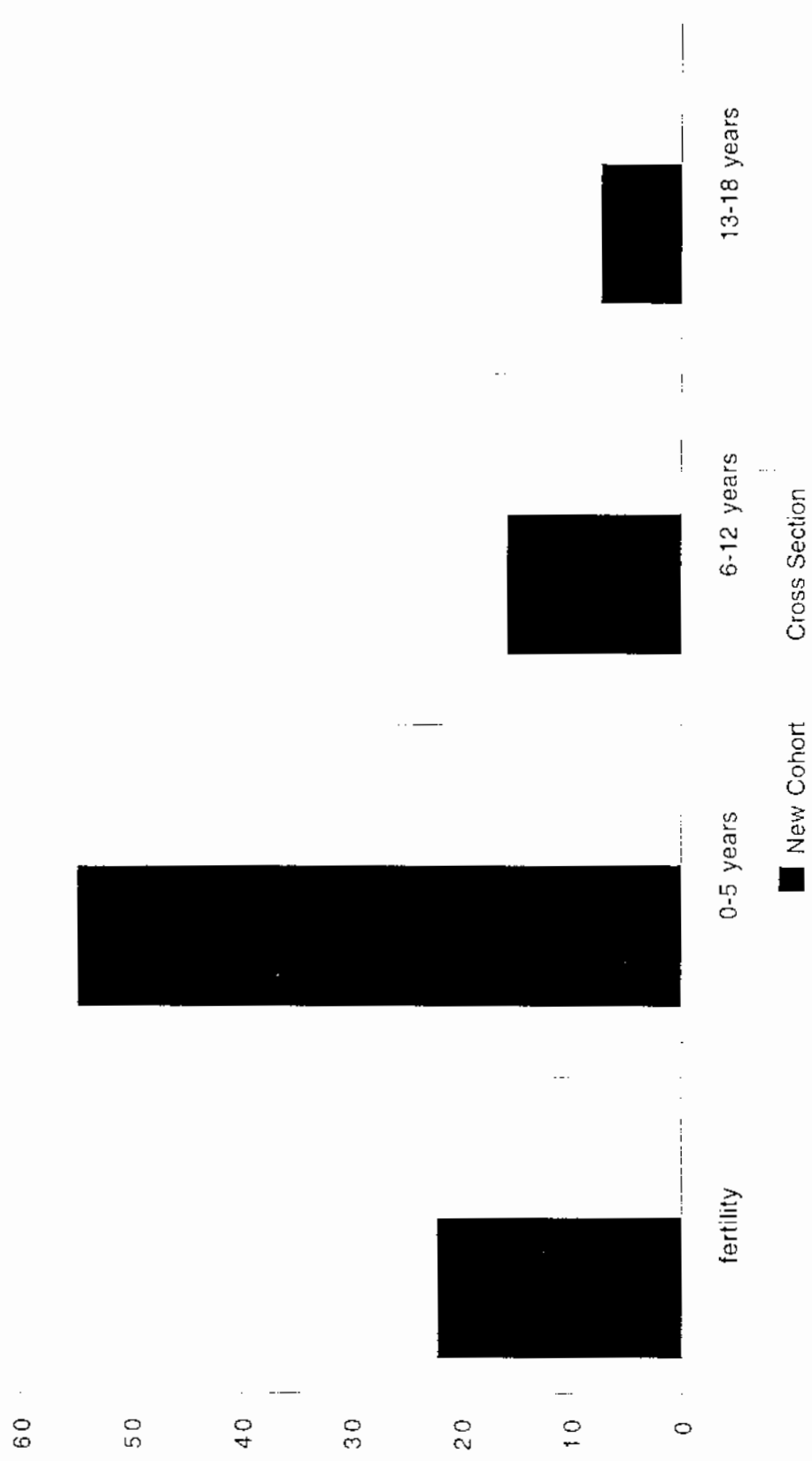


Chart 4

Compare Distribution of Household Sizes for the New Cohort and the Cross Section

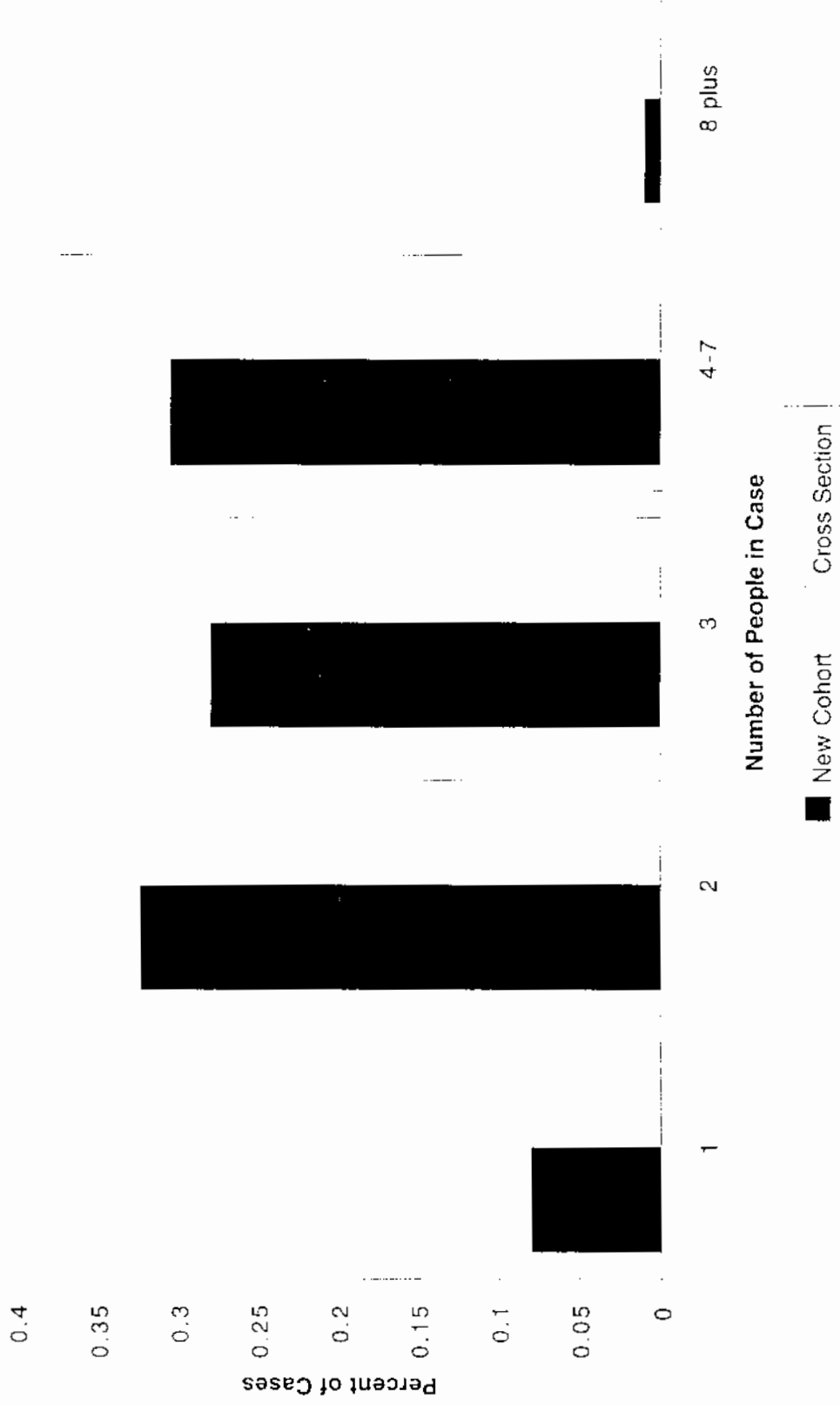


Chart 5

Compare Total Time on Aid for Eldest Member to Total Time on Aid for Youngest Member for the New Cohort and the Cross Section

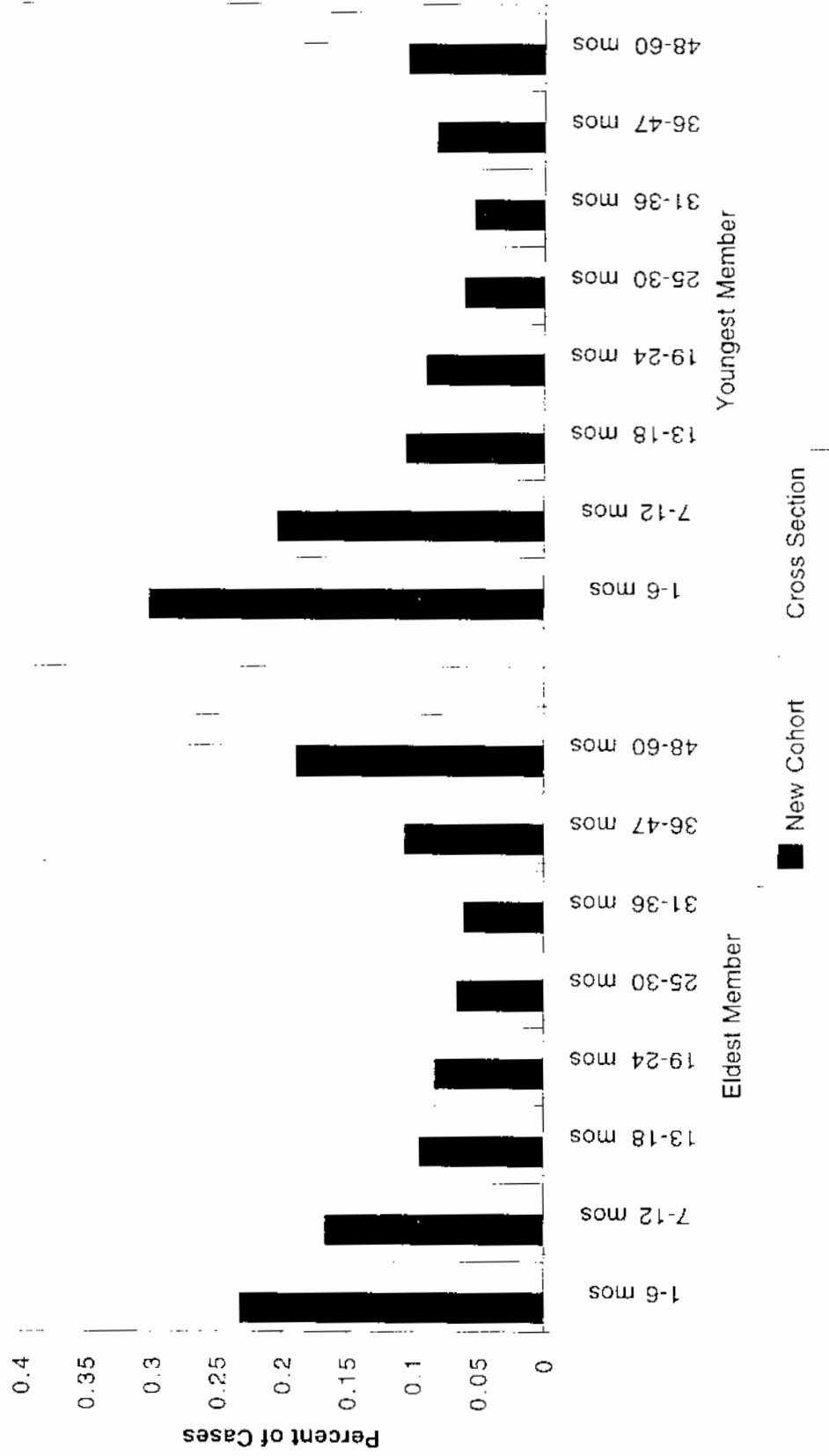


Chart 6

Compare First Duration of Eldest Member with a 3 month Break to First Duration of Eldest Member with a 1 Month Break

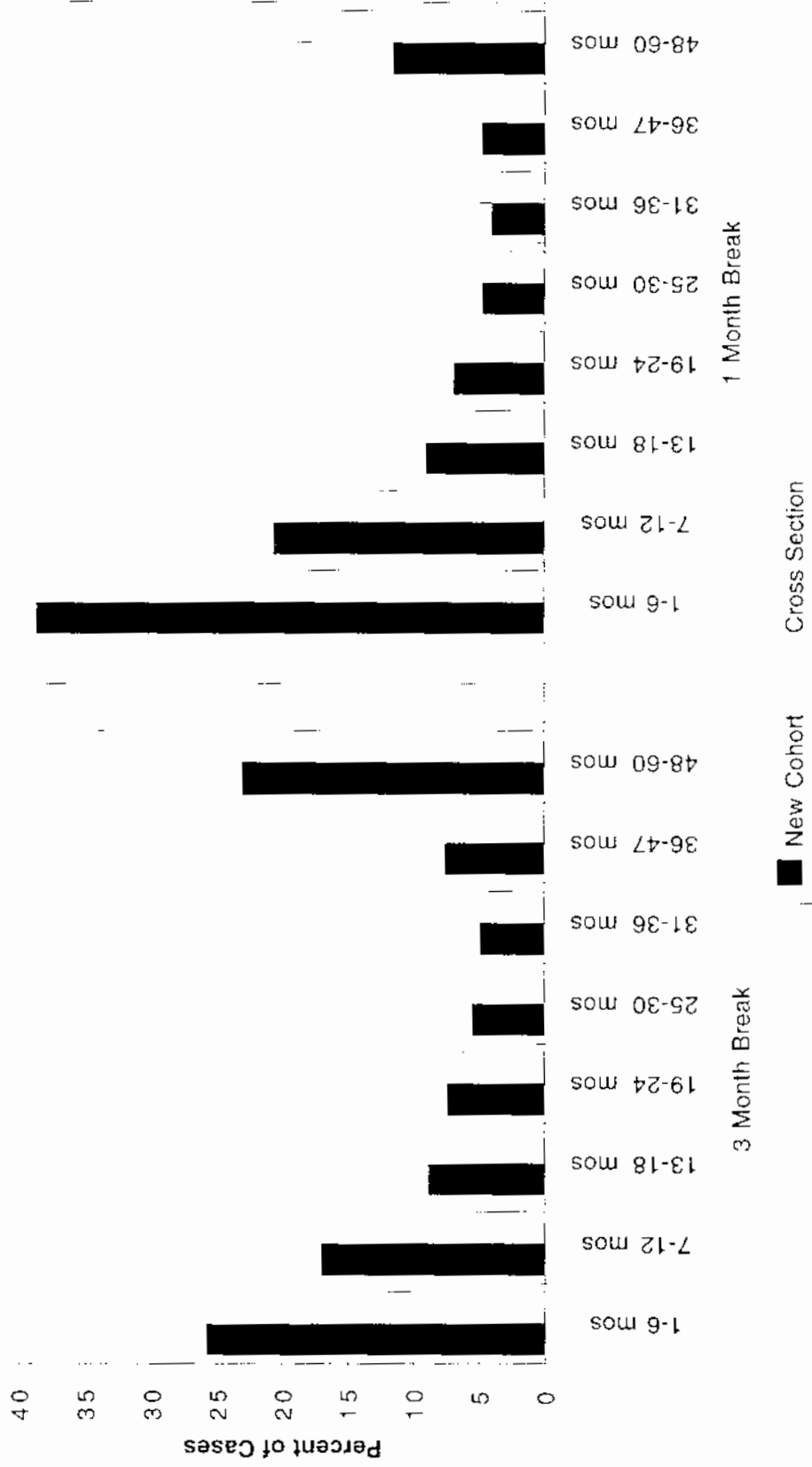


Chart 7

Compare Survival Rates for Whites and Non-Whites in Both Samples

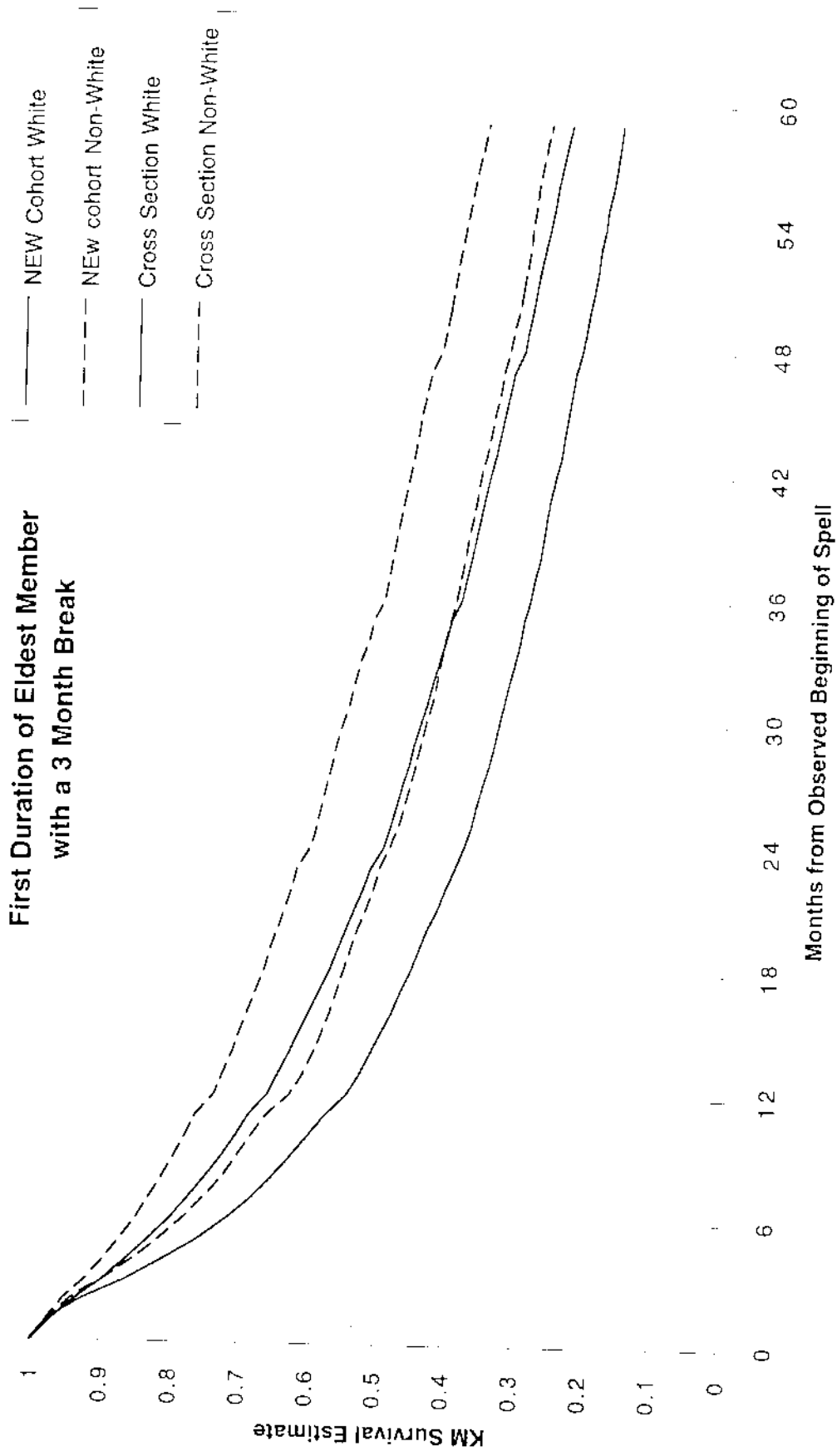


Chart 8

Compare Survival Rates for Whites to Non-Whites in Both Samples

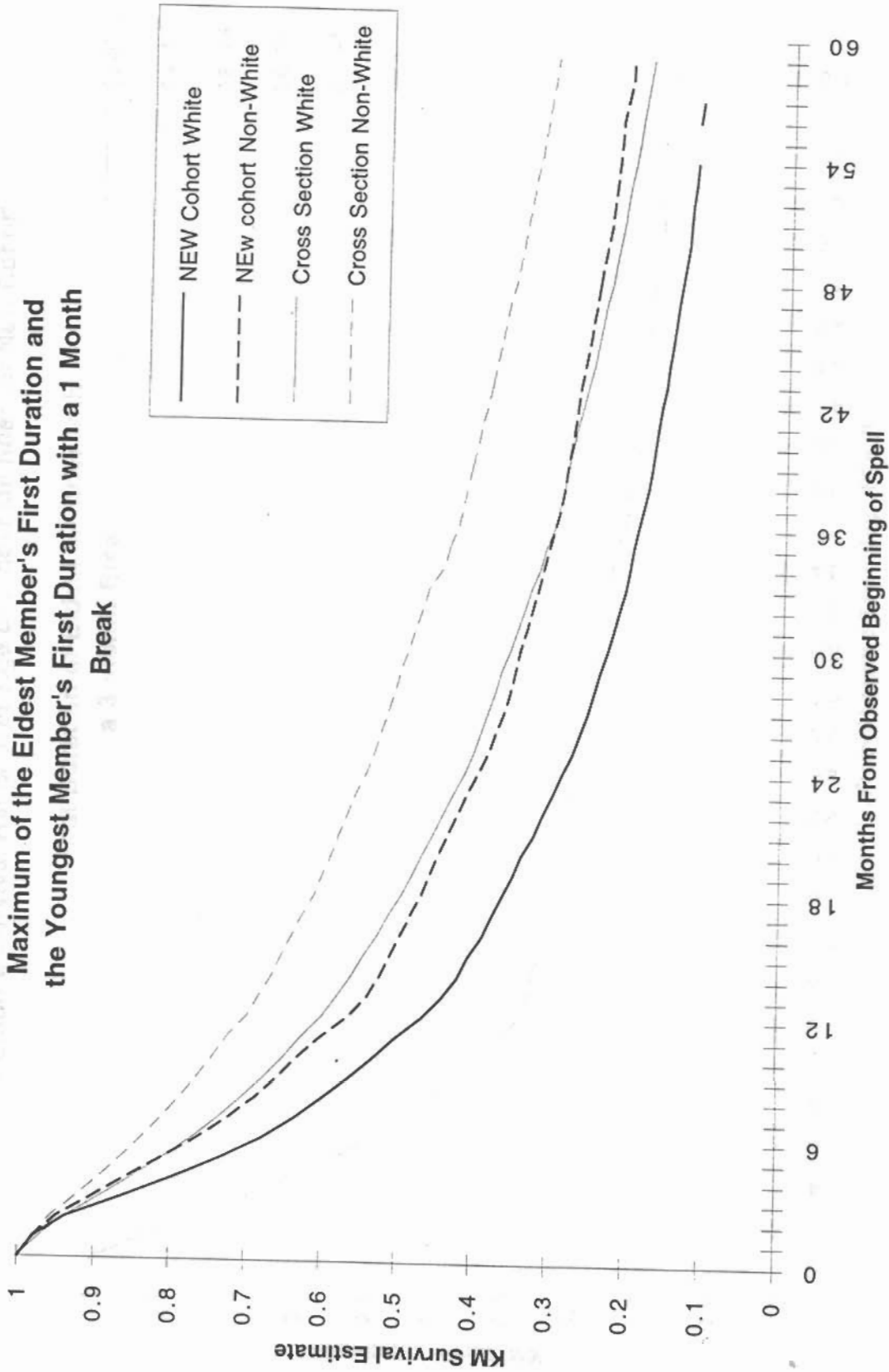


Chart 9

Compare Survival Rates over Age of Eldest Member for New Cohort

First Duration of Eldest Member with
a 3 month Break

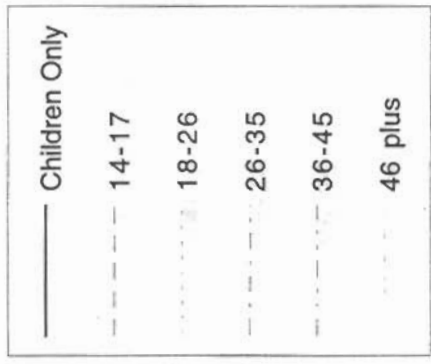


Chart 10

Compare Survival Rates over Age of Eldest Member for New Cohort

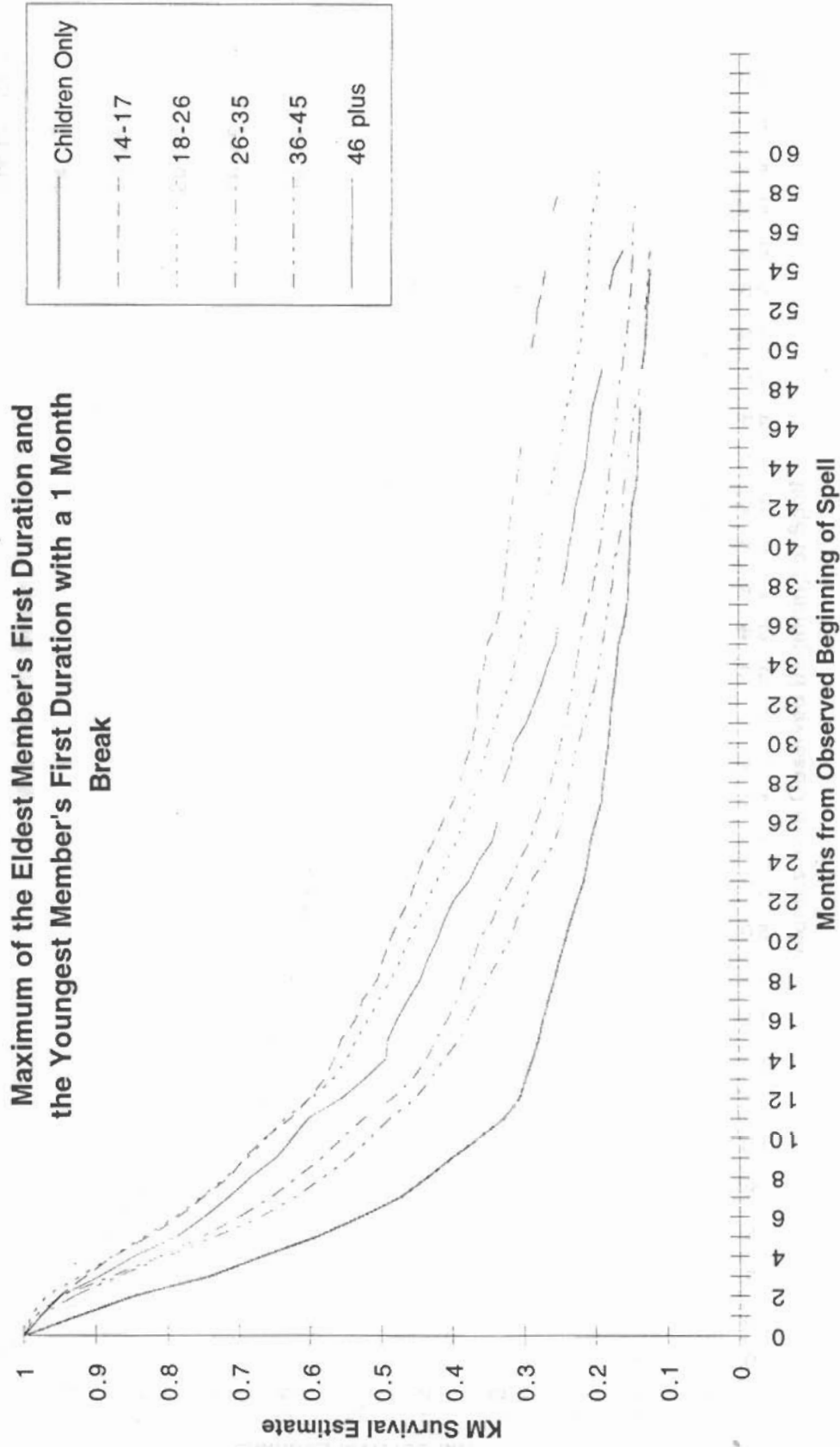


Chart 11

Compare Survival Rates over Age of Eldest Member for Cross Section

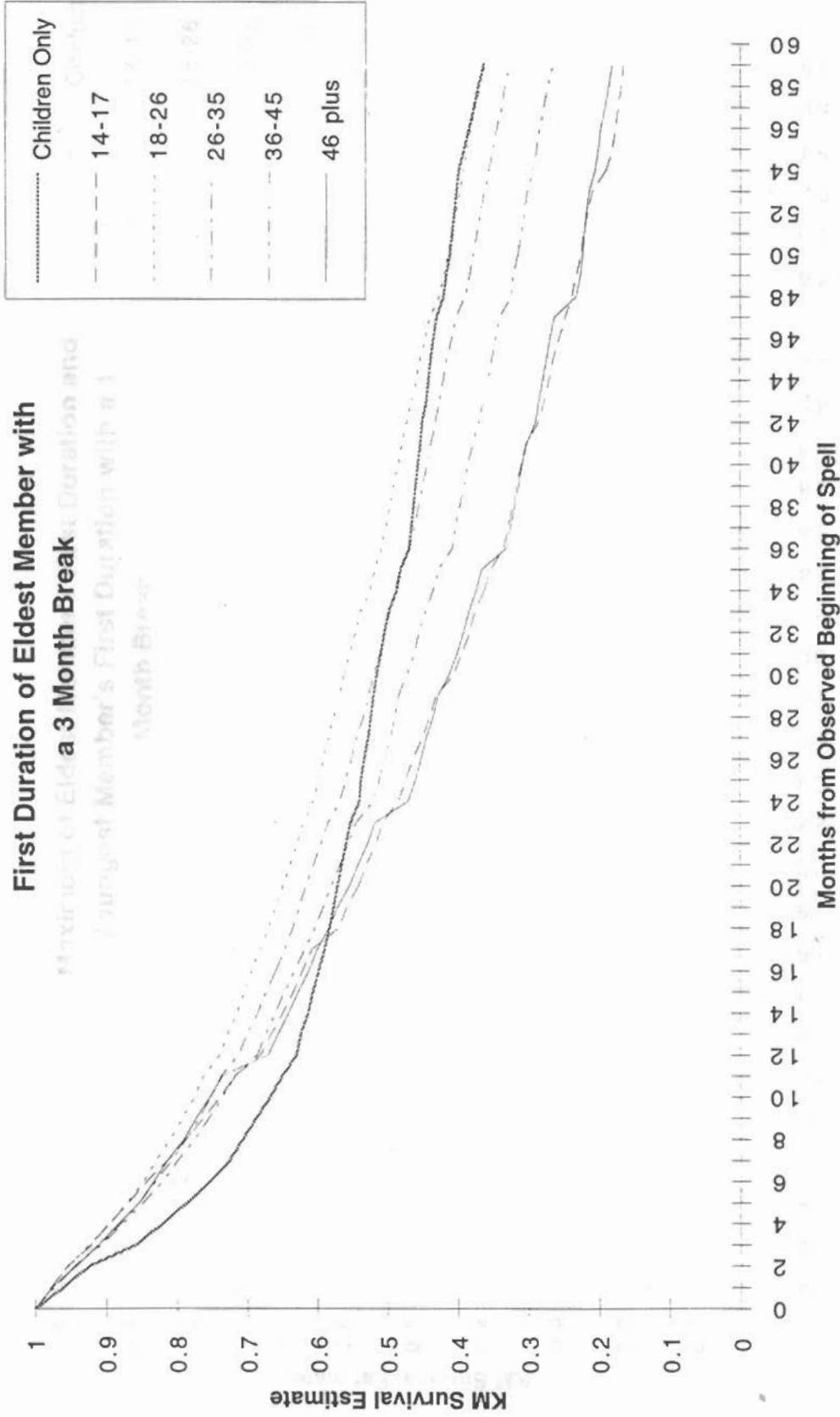


Chart 12

Compare Survival Rates over Age of Eldest Member for Cross Section

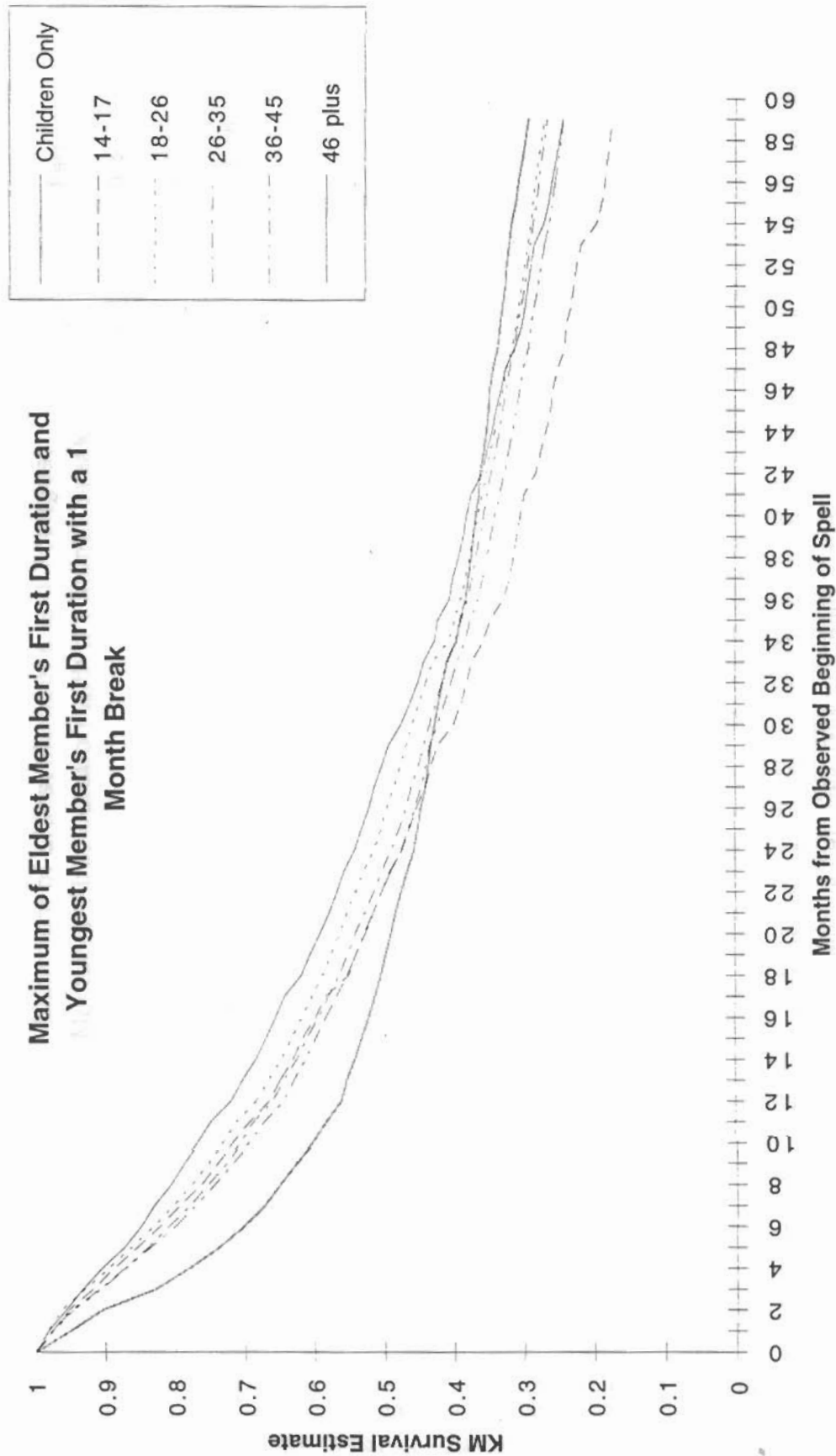


Chart 13

Compare Survival Rates over Age of Youngest Member for New Cohort

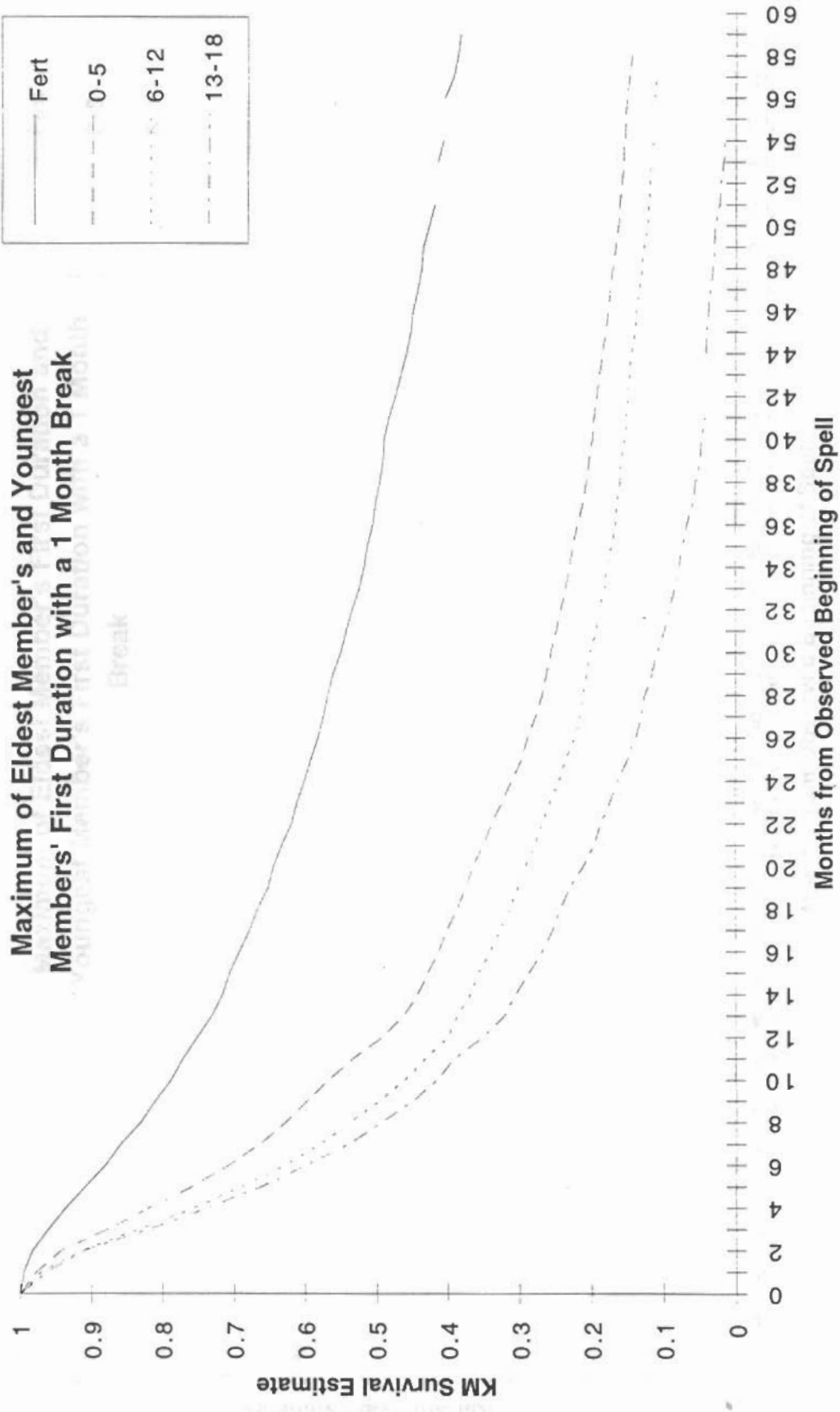


Chart 14

Compare Survival Rates over Age of Youngest Member for Cross Section

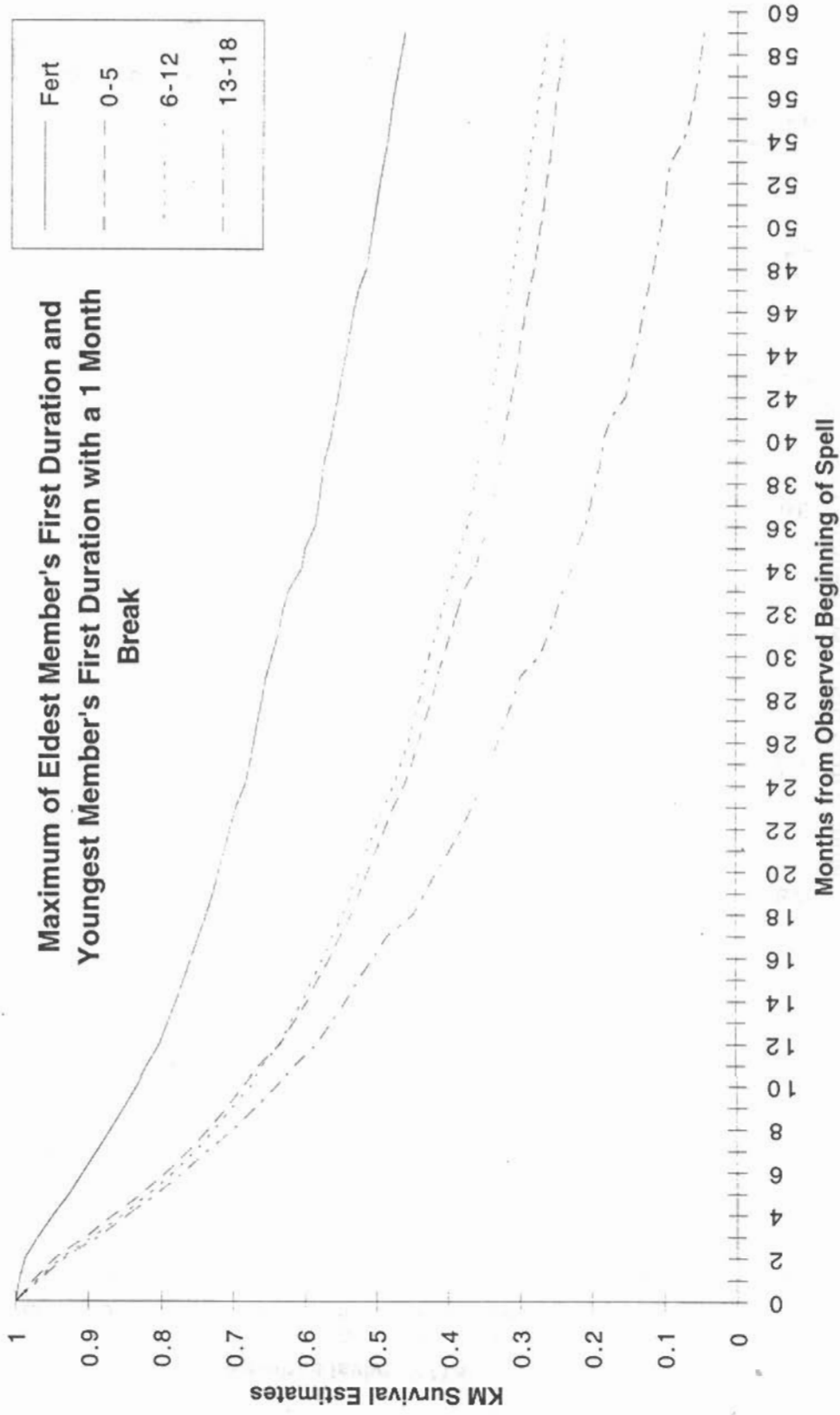


Chart 15

Compare Survival Rates over Age of Youngest Member for New Cohort

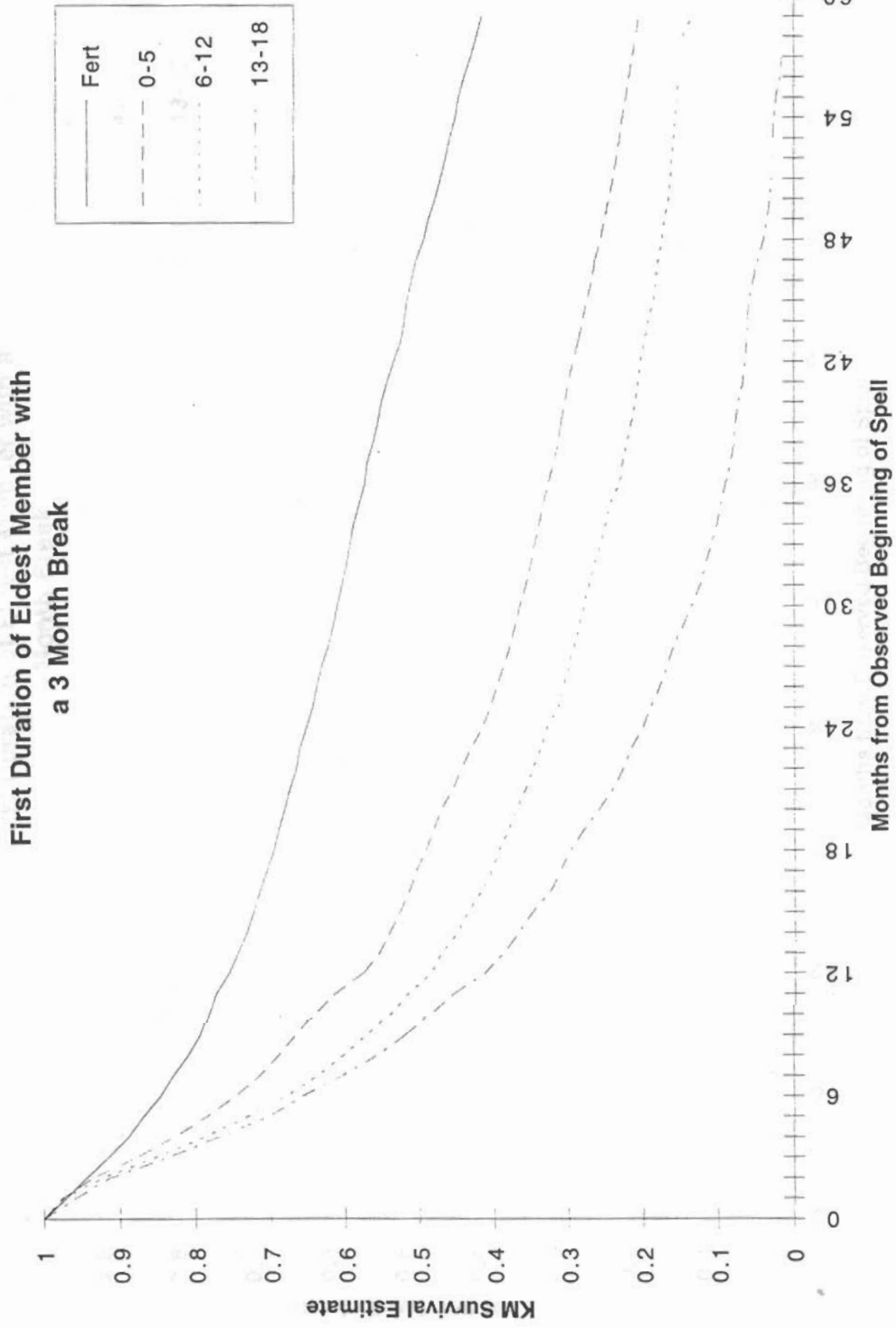


Chart 16

Compare Survival Rates over Age of Youngest Member for Cross Section

