

Expectations vs. Actuality in the Levels of Support from Children:

Tracing Cohorts in Taiwan from 1965 to 1999

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Introduction

One of the challenges in tracing the consequences of population aging is measuring the degree of socioeconomic change that often accompanies the demographic trends and understanding how these two broad forces intersect with each other. Particularly salient is the degree to which family structure and intergenerational arrangements are changing along with the broader demographic and socioeconomic shifts. In many developing societies, there is a strong tradition that family members will provide for individuals as they age and require economic, emotional, and physical support. At the same time, there is concern that as these societies industrialize and urbanize, long established family traditions of support will break down, leaving the elderly vulnerable to insufficient economic and personal support.

Surveys of the older populations are relatively new and panel studies that enable more careful cause-and-effect analysis of intergenerational relations are even more recent, limiting our time perspective on how families adjust and accommodate to their changing socioeconomic and demographic environments. The studies we do have show that these accommodations are ongoing on several fronts, with greater and more rapid change on certain dimensions than others. As example, comparisons of attitudes of parents and children on preferred living arrangements and related family dynamics carried out in Taiwan and Baoding, PRC, in the 1990s show both considerable change across several dimensions and surprising persistence on other attitudes and preferences (Cornman, 1999; Cornman et al., 2003). A comparative analysis of the well-being of the older population on a wide variety of measures in four Asian countries is given in Hermalin (2002).

One strategy for gaining a longer time perspective of the effect of rapid sociodemographic change on family dynamics and preferred arrangements is to utilize relevant questions on expectations and attitudes often embedded in the fertility oriented surveys conducted in many parts of the developing world starting in the 1960s and continuing into the 1990s in many countries. In a number of these surveys, respondents were asked questions about expectations for living with children in old age, their expected sources of financial support in old age, and related items designed to tap the likelihood that old age support was a motive for

sustaining high fertility. Questions of this type were asked in the Value of Children Study (Arnold et al., 1975), many Knowledge, Attitudes and Practice (KAP) and fertility surveys conducted in the developing world, and to a more limited extent, some of the World Fertility Survey (WFS) countries (Cleland and Scott, 1987). Some of the longest time series of these attitudes were developed in Japan and Taiwan, where identical or very similar questions were used in repeated cross-sections. (For an overview of these data see Hermalin (2002, Chapter 13), Ogawa and Retherford (1993) and Chang and Ofstedal (1991).)

These data become all the more interesting with the advent in many of these same countries of surveys of the older population, which enable one not only to study the expectations of certain cohorts when they were young, but also to see the extent to which these earlier expectations were borne out when these individuals reached old age. In the broadest sense, these two sources permit an analysis on the part of the actors involved of expected future social change on several key dimensions and to test how accurately members of a society perceive the ongoing changes. Where rich time series of these expectations exist, as in Taiwan, one can trace how these expectations change over time in response to changing life course events as well as period events in the larger society.

Data and Methods

The data to be used in this analysis are the long time series of fertility and family surveys conducted in Taiwan from 1965 to 1998 as well as the panel study of the elderly, started in 1989, with the most recent round in 1999. The fertility surveys in Taiwan were very broadly conceived to include many aspects of family dynamics as well as the more usual fertility and family planning information (see Thornton and Lin, 1994). The relevant questions here include the expectations for living with married sons (or children) when old, the expected sources of financial support when old, including help from children, and more general attitudes about children's willingness to live with parents after they are married. This paper focuses on the first of these attitudes. Table 1 presents some of the basic data for the expectation of living with married sons when older for several birth cohorts over time by education. (The actual questions asked are shown in the notes to the table. The detailed responses and the number of cases involved are given in the Appendix.) The earlier surveys (through 1980) were addressed to

married women between the ages of 15 to 44 (but sometimes ages 20 to 40). The surveys for 1986 and 1998 used a sample of ever married women and a broader age range.

The panel study of the older population covered those 60 and older in 1989 with detailed questions about health, living arrangements, sources of support, as well as preferences and attitudes about living arrangements and other topics. In the 1996 round a new panel of those aged 50-67 was added and the entire sample was reinterviewed in 1999 with a similarly detailed questionnaire (Hermalin, 2002, Appendix A).

The major analytic strategy to be employed is a cohort analysis in which several birth cohorts will be traced across surveys to determine how their expectations varied over time and then to identify the same cohorts in the surveys of the older population to compare these expectations with actual living arrangements (and expressed preferences at older ages). It is also possible to study these cohorts by characteristics, like education, which are fixed by early adulthood, in order to gauge the degree of variation within each cohort and the importance of these characteristics in affecting expectations. The definition of cohort in these analyses goes beyond date of birth as those observed at each point in time will be affected by their marital status, and the dates of entry and exit from marriage, as described below.

The long time series of expectations available for Taiwan, but for few other countries, also allows one to study the degree to which overall changes in expectations are due to intercohort vs. intracohort sources and, more generally, to observe the extent to which expectations remain static over time, change in a linear fashion, or follow a more complex trajectory. We report on both the regression and algebraic decomposition strategies suggested by Firebaugh (1997), to show that over a 20 year period most of the sharp change in expectations that occurred was due to intracohort change rather than intercohort differences. This result is also supported by the data in Table 1, which generally show little variation across birth cohorts, sharp differences by education, and significant shifts over time for each of the birth cohort/education categories.

In addition to tracing expectations by cohort and characteristic, and comparing these expectations to actual outcomes, we also illustrate some of the sharp shifts in attitudes that have occurred over time by focusing on the trends in the *age differences* in expectations from 1965 to 1998, and discuss these as possible harbingers of changes in living arrangements among the older population.

For the most part the paper utilizes descriptive analyses of trends and contrasts to highlight the dynamics of change in expectations and the degree of concordance with actual living arrangements, making occasional reference to several regressions that examine some of the factors at work.

Theoretical and Measurement Issues

In the broadest sense we are concerned with the formation and alteration of subjective expectations and their concordance with eventual behavior. Expectations can be considered one type of subjective phenomena, which have been defined by a National Research Council panel as “those that, in principle, can be directly known, if at all, only by persons themselves, although a person’s intimate associates or a skilled observer may be able to surmise from indirect evidence what is going on ‘inside’ (Turner and Martin, 1984, p. 8, as cited by Manski, 2001). Subjective phenomena figure prominently in the social and behavioral sciences, although the specific subjective concepts at issue often vary considerably by discipline. At times “attitudes,” defined as “latent predispositions to respond or behave in particular ways toward attitude objects” (Alwin and Scott, 1996) or “people’s global and relatively enduring . . . evaluations of objects, issues, or persons” (Petty, 2001), have been treated as encompassing the realm of subjective phenomena. The considerable literature on attitude formation, change, measurement, and concordance with behavior is relevant to the study of expectations and other subjective phenomena.

At the same time it is often useful to distinguish among various types of subjective phenomena and Turner and Martin (op cit) make reference to “affect, aspirations, attitudes, disappointments, dispositions, emotions, frustrations, fulfillment, happiness, hopes, intentions, motives, opinions, plans, preferences, quality of life, satisfaction, and values.” A moment’s reflection will reveal that many of these concepts come into play in thinking about the formation and maintenance of expectations of coresiding with children at some future date. Within the study of fertility in demography, distinctions between desired number of children (as reflecting demand), intentions or expectations (which reflect preferences as well as constraints), and expression of ideal family size (as a measure of social norms) proved useful in understanding the chasm between family size desires and births (Thomson, 2001).

Similar distinctions have been made in general modeling of the relationship between attitudes and behavior. As reviewed by Eagly and Chaiken (1998), an important distinction in

attitude research is between *attitudes toward behavior* and *attitudes toward targets*. In models in which behavior is the outcome, as in the theory of reasoned action (Ajzen and Fishbein, 1980) attitudes toward behavior are an important determinant of intentions, along with other factors, and the resultant intentions are the major determinant of behavior. Other work on the relation of attitudes and behavior has brought out the advisability of using multiple items of attitudes and behavior (the principle of aggregation) and that the attitudes and behavior in question should be *compatible* with respect to action, target, context, and time (Manstead, 2001).

As shown in the notes to Table 1, the data on expectations for coresidence are based on a single question (not including appropriate filters in 1986 and 1998), and we do not know about the intensity or certainty of these intentions. In addition, there is a long period between the time of eliciting the expectation and when the behavior in question will take place, allowing for the introduction of many new factors and considerations, as discussed below. For these reasons, the analyses presented here should not be regarded as a rigorous test of the predictive validity of such questions but rather as a broader assessment of how expectations respond to social change and whether there is general concordance with the behaviors that emerge some years later.

New research on expectations to coreside and related intentions can benefit from the strong study designs in place and underway in several countries, as well as new insights on how to measure expectations. Many studies of the older population now use panel designs, with repeated interviews, for a broad age group, such as 50 and over. Such a design would provide an opportunity to trace individuals and learn how these attitudes form and change. In addition, new research might include probabilistic measures coming into wider play by economists in their studies of subjective expectations (Manski, 2001; Dominitz and Manski, 1999). In this approach, respondents are asked to indicate a numerical probability about the likelihood of the event rather than verbal categories such as “very likely,” “pretty likely,” etc., or a “yes” or “no” response. This type of question has been employed in the Health and Retirement Study to elicit the subjective probability of living to a certain age, entering a nursing home, job loss and other events, and in a number of other studies as well, as described by Dominitz and Manski, 1999.

If we translate the generalized models that trace the conversion of attitudes into intentions and then into behavior to the specific situation under study here, we can point to several factors that come into play in the formation of expectations and their stability over time. At the outset, we can expect a woman’s expressed preferences to be strongly influenced by several background

characteristics that reflect how traditional her environment is. As the data to be presented show, a high percentage of these cohorts will have had experience coresiding with parents-in-law and may be doing so at the time of interview. In addition, her preferences will be influenced by the degree of involvement with the world outside the family, reflected in such characteristics as place of residence, education, father's occupation, her own work history and living arrangements before marriage, and the degree of independence she has had in dating and arranging her own marriage. Thornton and Lin (1994, Chapters 5 and 6) show how these and related characteristics varied across marriage cohorts and their degree of interrelationship.

More currently, her response will be influenced by the perceived likelihood of having a married son, her spouse's preferences for coresiding, and her perception that a married son will want to coreside and be able to do so. These contingencies, perceptions and preferences are subject to alteration as she ages, with influences coming from several sources. As she ages, uncertainty about number of children and sons is reduced, and she also develops more and more insight into the talents, aspirations, and personalities of her children and the closeness of their relationship. She is also likely to be influenced by the rapid cultural, socioeconomic and demographic change ongoing in Taiwan. As discussed below, Taiwan from the early 1960s on was rapidly transformed from an agricultural society to an industrial economy, with associated changes in urbanization, education, occupational structure, income levels and communication channels. It is reasonable to assume that such dramatic changes would have sizable effects on the way people anticipate the future, and that these broad currents would impinge on the perceptions and preferences that constitute her expectations at any given time. A third influence worth noting are the behaviors and attitudes of her family and community. The cohorts whose expectations and behaviors we are examining were born during periods of high fertility in Taiwan. The individuals in question will have on average many siblings, aunts and uncles and cousins at different stages of the life cycle, whose own family dynamics in terms of coresidence will be known to them, and can serve to inform them of what's possible, within the more general forces of social change. Given the relative independence of all these forces and their differential degree of influence, the path of expectations for a given birth cohort would be expected to vary over time and not necessarily in a linear fashion.

In more formal terms, the foregoing indicates that age, period, and cohort factors come into play in the determination of these expectations. As is well known, one cannot obtain a

unique decomposition of the three factors without heroic assumptions (Firebaugh, 1997; Glen, 1976). One can of course gain insights into the role of various background characteristics, current family structure, and other potential influences, like media exposure or neighborhood interaction, where these are explicitly measured but this line of analysis is reserved for a future paper. [Some analyses of the characteristics affecting these expectations are given in Chang and Ofstedal (1991) and Weinstein, et al., (1994, 320-322), and they tend to confirm the influence of more traditional characteristics on expecting to coreside.] Rather we focus on one characteristic—education—which is fixed quite early in these women’s lives and can therefore be used as a defining feature of the birth cohorts. Education has been shown to be closely related to the other background characteristics. As we trace these fixed birth/education cohorts over time, the factors influencing expectations will be manifestations of age and period, including life cycle effects, extended family influences and the broader societal climate.

The advantages and limitations of coresidence with a married son or child as an indicator of traditional familial arrangements and the well-being of the elderly merits some attention. With growing interest in the well-being of the elderly in developing countries with rapid demographic aging, the proportion of the older population coresiding with children has been widely used as an indicator of well-being, in that it points to continued adherence of long-standing traditions. As such it is useful for tracing anticipated and actual social change. It is also a measure that can be fairly easily obtained from censuses and large-scale surveys containing household structures, facilitating the generation of trend data and analyses by various sociodemographic characteristics. But as Hermalin (2002, 120-122) and others have noted, it is a very limited measure of well-being, serving more precisely as an intermediate factor that can influence health, income, work, leisure, and other direct components of well-being. More importantly perhaps, a structural definition of living arrangements confounds form with function, and fails to provide insights into the content of the relationships. “Older parents living with married children may be recipients of considerable financial and emotional support, or they may be mainly aiding their children and grandchildren with child care, shopping and meal preparation” (Hermalin, 2002, p. 121). From the standpoint of this analysis, it is possible that a young woman, who in 1970 expects to live with a married child, will in 1999 appear to have that expectation fulfilled, but the content of that coresidence in terms of costs and benefits will be very different from what she had in mind. (We return to this issue in the Discussion section.)

A final measurement issue should be noted. Although the concordance between expected coresidence and actual coresidence seems straightforward, the questions posed to the younger women as to when in the future they might live with a child were quite general as to time. As shown in the notes to Table 1, the questions ask about coresidence when the respondent is “old,” along with other possible options. When we trace a particular cohort into the late 1990s, we observe them at an instant in time. Some women and couples who are not living with their children at ages 65-69 in 1999 may begin to do so at a later date. Conversely, some women and couples, most likely a smaller number, who are currently living with a married child, may cease to do so if their child moves away for a job-related or other reason. To reflect the open-endedness of when and how long an older woman or couple will coreside with a married child, we compare expectations with both actual arrangements and potential levels of coresidence, calculated from questions posed to the older respondents about preferences and expectations for future coresidence.

The Taiwanese Socioeconomic and Demographic Context

Expectations are formed and changed within a cultural socioeconomic and demographic context and this section highlights a few key features of Taiwanese society and its rapid transformation during the last third of the twentieth century. (This summary draws on more detailed treatments given in Fricke et al., 1994; Hermalin et al., 1994; Knodel et al., 2002; Hermalin et al. 1992.)

The Chinese who settled Taiwan from the 17th through the 19th century brought with them the patriarchal/patrilineal family system that had as its ideal large joint and extended households of parents with married sons and their families, with authority mainly residing in senior male members (though shared to some extent by a senior female as long as the husband was alive) (Fricke et al., 1994). As is well known, mortality patterns and economic circumstances limited the size and generational scope of families in practice and a sizable proportion of families at any one time were either nuclear (husband, wife and unmarried children) or stem (husband, wife and one married son—often the oldest) rather than joint (parents with more than one married son).

The occupation of Taiwan by Japan from 1895 to 1945 did little to change basic family organization or to alter the basic structure of rural society (Barclay, 1954; Cohen, 1976;

Hermalin, 1976). The Japanese focused on improving agricultural production and invested in public health, rail and other infrastructure, but educational and occupational opportunities for the Taiwanese were extremely circumscribed. For example, the proportion of the Taiwanese population which was agricultural decreased only slightly from around 60 percent early in the century to about 50 percent in 1940 (Hermalin et al., 1994).

In 1949 and several years thereafter, Taiwan experienced a migration of approximately one million Nationalist military and civilian supporters from the Mainland. The Mainlanders, as they are often referred to, were mostly young males, and though the total migration was about 13 percent of the population, it was a much higher percentage of the young adult population. Accordingly, as these cohorts have aged, the Mainlanders represent a significant proportion of the current elderly and their special history needs to be taken into account in any investigation.

It is reasonable to assume that the extent to which older parents were coresiding with a married child during the 1960s and 1970s, when younger couples were forming their expectations, would be an influential context. Data on the level and trend of such arrangements are not available until 1976. The percentages of those 65 and older living with a married child between 1976 and 1985 as developed by Lo (1987) from the Survey of Income and Expenditures, are as follows, with more recent years added from the 1989 panel study of the elderly, described above: ¹

1976	66.9%
1978	64.5
1980	60.6
1982	59.6
1984	56.8
1985	55.3
1989	56.0
1993	51.5
1996	52.8
1999	52.0

The figures show that at the earliest point of observation, two thirds of the older population (65 years and above) were living with a married child, but there has been a slow but steady downward trend since then and during the 1990s the proportion has remained around one-half.

As noted above, the traditional Chinese family stressed coresidence with married sons, ideally from the time of the son's marriage. Coresidence with married daughters was very rare and generally not approved. As the fertility trends suggest, the women of reproductive age being interviewed come from large families, so very few of their parents will not have sons. Where there is no married son, coresidence with a married daughter does take place. Knodel and Ofstedal (2002, 155-158) show that only 6 percent of older Taiwanese lived with a married daughter in 1996; but in the small proportion of cases of those who have only married daughters, the percentage rises to 32 percent. This is much lower than the proportion living with married sons, showing the effect of the strong patrilocal tradition, even when other options are not open. At the same time this percentage does show some openness and it is interesting to conjecture how gender preferences for coresidence may change with the coming generations of older people who have few children. (See Hermalin et al., 1990 for a discussion of possible mating strategies among children from small families that would facilitate coresidence.)

The questions used in this analysis generally asked about expectations for living with married sons, although some talked about married children (in a context that would have presumed sons) and at times there were some separate questions about living with daughters, which have not been analyzed. In addition, in the surveys of the elderly, questions about their current preferences do include options for coresidence with married daughters and married children in general, in addition to married sons. These other preferences were chosen by only a small percentage of respondents. Preliminary analyses did look at expectations of living with married children (vs. married sons) and compared these expectations with coresidence with married sons or daughters, but there was essentially no difference from the analyses based on sons.

In addition to direct estimates of coresidence levels, the fertility and family surveys being analyzed contained a number of indirect estimates of the broader trends, obtained by asking the female respondent whether she and her husband lived with the husband's parents at marriage and/or presently, and whether the husband's parents were living with any married son, if they

were not in the respondent's household. Select data from these sources are shown below, with more detail available in Weinstein et al., 1994:

Percentage of Husband's Parents Who Live with a Married Son,
as Reported by Taiwanese Respondents Aged 20-39^a

1973	82.1
1980	76.5
1986	70.2

^a From the fertility and family surveys described above addressed to currently married women, but restricted to Taiwanese respondents, given the special migration and family situation of Mainlanders.

Source: Weinstein et al., 1994, pg. 318

	Percentage of Couples Living with the Husband's Parents <u>at Time of Survey^b</u>	Percentage of Couples Who Lived with Husband's Parents at <u>Least One Month after Marriage^c</u>
1965	60	--
1967	55	90
1973	56	85
1980	48	78
1986	42	70

^b See note ^a above. Includes a small percentage coresiding with wife's parents. Source: Weinstein et al., 1994, p. 311

^c See note ^a above. Restricted to husbands under age 45 with at least one of husband's parents alive at time of interview. Source: Weinstein et al., 1994, p. 308

These data show quite clearly that at the time of eliciting women's expectations about living with children when old, they had considerable experience with coresidence. A very high percentage had spent at least one month living with her husband's parents, between 40 and 60

percent were currently coresiding, and they were aware that in most cases their parents-in-law were coresiding with other children, even if not living with them. Of course, as suggested above, the impact of this degree of contact on their own attitude formation could be expected to depend on the material and emotional nature of the relationships. While the high degree of contact observed between parents and children might be reassuring in terms of the maintenance of tradition, stressful and difficult relationships within the household, coupled with awareness of the strong winds of social and economic change overtaking the country might prompt many of the young women to prefer more independence in older age and to see this as a feasible goal.

These rapid demographic, social and economic changes ongoing over the period of observation are summarized in Table 2. Looking first at the demographic indicators, fertility levels have decreased dramatically, as is well known. By the time of our first survey observation in 1965, the total fertility rate was 4.8, down from a high of 6.6 in 1952. Fertility continued to decline rapidly over the next 20 years so that by 1984, Taiwan was at replacement level, and the period total fertility level has been below 2 since 1985. Mortality levels also dropped throughout the period being examined as shown by the steady improvement in expectation of life. As a result of these combined trends, the rate of population growth has slowed considerably and there has been a shift in age structure toward the older ages, with 12 percent of the population aged 60 and over as of 2000, with a projected increase to 26 percent in 2031. Also worth noting is that the country has become much more urban over time, with the percent of the population residing in cities of 100,000 or larger rising from 38 percent in 1970 to 59 percent in 1997; and there has been a sharp advance in the mean age at marriage, for females from 22.8 years in 1970 to 26.5 years in 1990, reflected in the declining proportion of those married at ages 20 to 24.

The main contours of Taiwan's rapid industrialization are shown in the top panel of Table 2 (additional details are given in Hermalin et al., 1994). Gross national product doubled every decade starting in 1960 (through 1990) and per capita GNP followed the same rapid upward path. The rise in the index of industrial production was especially rapid, close to doubling between 1960 and 1965, more than doubling from 1965 to 1970, and advancing more than three fold in the next decade. Agricultural production also had steady gains at the same time that the proportion of the labor force working in agriculture declined steadily throughout the period, from over 50 percent in 1952 to under 10 percent in 1997.

Equally important as the economic transformation to people's lives and their thoughts about the future were the rapid changes in educational opportunities and the channels of communication. Attendance rates at both the high school and college levels advanced rapidly for both males and females. In 1952 only 12 percent of males and 4 percent of females 15-17 years of age were attending high school, by 1970 the figures were 48 percent and 35 percent, respectively, and by 1986 close to 70 percent of both sexes were in attendance. Similarly, college attendance advanced to the point where more than one-quarter of both sexes aged 18-21 were in attendance by 1986. Channels of communication through television and print media also grew rapidly in the 1960s and 1970s. In 1964, only 1 percent of households had television, by 1970 it was 37 percent, 74 percent in 1973, and by 1980 there was an average of one set per household. Newspaper and magazine subscriptions per household also increased rapidly over this period and telephones became more widely available.

This wide array of rapid change on the demographic, social, and economic fronts doubtlessly had substantial impact on people's lives and the way they thought about their future and their society's future. This impact would be differential, depending on age, education, residence and many other characteristics but it left few untouched in some way. It is against this backdrop that we examine the trends and differentials in expectations for coresiding with married children.

Trends in Expectations

Table 1, introduced earlier, is the basic data matrix for tracing expectations about coresiding with children in old age. Five-year birth cohorts, ranging from 1925 to 1949, are observed periodically between 1965 and 1998, though only two are measured throughout this interval. The five cohorts will be between 50 and 74 years of age in 1999, the most recent point, at present, when we can observe their actual living arrangements. (A new panel of the longitudinal study was conducted in 2003, so a later observation will be available in the near future.)

It is to be noted that, although the women in each cohort share the same five-year birth period, the composition may shift over time. Not only is there the potential for change through selective mortality and migration (of minor consequence for these groups and this setting), but entry and exit from marriage can affect the targeted population. The surveys between 1965 and

1980 were addressed only to currently married women. This means, for example, that women in a given birth cohort who married between 1970 and 1973 could not have been interviewed (i.e., represented) in 1970. (All the surveys in question are independent cross-sections, except for a panel plus independent subsample design used for the 1967 and 1970 surveys. This means that we are referring to representative samples of women with certain characteristics captured at different points of time and not the same women repeatedly reinterviewed). We experimented with utilizing birth and marriage year cohorts to adjust for this factor, but it had too little effect on the trends to merit the added complexity and loss of cases.

The levels and trends are shown by educational attainment, a characteristic that is well-fixed for these cohorts when women reach their late teens.² Earlier analysis showed that education had considerable influence and we use it along with birth cohort as a defining feature. Although educational enrollment levels were rapidly advancing throughout the period of observation, as shown in Table 2, for these cohorts of women, many born in rural settings, educational opportunities were quite limited. A large number obtained no education (or no formal education); and many did not complete primary school.

As of 1970, for example, the educational composition of the five cohorts was as follows:

	<u>1925-29</u>	<u>1930-39</u>	<u>1935-39</u>	<u>1940-44</u>	<u>1945-49</u>
No Education	52.8%	41.0	37.5	31.9	23.2
1-6 Yrs	39.4	46.5	52.5	51.0	61.1
6 or More Yrs	7.8	12.4	10.0	17.1	15.7

In general there was a steady improvement in educational attainment from the oldest to the youngest cohorts, but even for the youngest cohort that we can trace to an older age, relatively few went beyond primary school.

Several important observations about the levels, trends and differentials in expectations follow from Table 1:

1. Even at the earliest point of observation, 1965, there is already a sharp differential in expectations by education, although the Taiwanese industrial transformation is only recently underway and the absolute level of education among the most educated is quite low. Among those with no formal education, about 90 percent in each cohort in 1965 expect to live with a married son when old, while among those with 6 or more years, consistently less than 50

percent expect to coreside and this dips down to 30 percent for one cohort. For those with some primary schooling, the level of expectations is intermediate to the two end points, but is generally closer to those with no education.

2. There are quite rapid declines in the proportions expecting to live with a married son between 1965 and 1980, which occur within each educational level, so that sharp differentials remain. The declines are particularly sharp in the interval between 1970 and 1973, a surprisingly large change for such a short period. Further investigation revealed no obvious source for the steep decline. Methodologically, survey procedures and questionnaire wording remained the same. On the broad socioeconomic front, the 1967-73 period was a period of particularly rapid transformation, as shown in Table 2. Not only did per capita income continue to rise rapidly, but the advances in communication and mass media indexes were particularly noticeable. Between 1970 and 1973 magazine and newspaper readership increased by a third, and the percentage of households with television sets increased from 37 percent to 74 percent in these three years.

It is not unlikely that the new ideas and images disseminated by the media had noticeable effects on people's thinking about the rate and nature of social change and the pattern of future life styles. The parallel sharp changes in related attitudes and expectations over this period tend to support this surmise. For example, the percentage of those who replied that children were just as willing or more willing to live with parents after marriage dropped sharply between 1970 and 1973 for each cohort and educational level (see Table 3); and the percentage of women reporting that they expected to rely on children for financial support in old age also dropped noticeably between 1970 and 1973.

The declines between 1970 and 1973 for those with 1-6 years of education is proportionally faster than the other two categories (particularly relevant to those with no education), so that by 1973 and thereafter they represent a distinct intermediate position.

3. For the cohorts available, there is continued decline in the percentages who plan to live with a married son from 1973 to 1980 though at a reduced pace, and 1980 is generally the low point in the time series in terms of expectations.
4. There appears to be a modest upturn in the proportion expecting to live with married sons between 1980 and 1986. Again, it is not easy to pinpoint the reasons. From the period perspective, it is true that growth in industrial production slowed down in the early 1980s,

partly in response to the 1979 oil shock and partly to the restructuring of the economy from an emphasis on heavy industry toward more high-tech industries (Hermalin et al., 1994). Also, growth in the indexes of mass media and communication was more modest for the most part, given their sharp earlier advances. It is interesting that Weinstein et al. (1994) report a modest increase from 1980 to 1986 in the proportion of young married women saying a newlywed couple should live with the husband's parents, after a sharp drop so reporting between 1973 and 1980, suggesting a general shift in thinking that permeated a number of related attitudes.

From an aging or life course perspective, it should be noted that by 1986 the cohorts we can observe then are 37 to 51 years of age. They are for the most part done with childbearing; for many their children are far along in school and the nature and tone of parent-child relationships are more clearly defined. Also, many of these women will have siblings and other relatives who will be entering older ages and from whom they can observe the household structures taking shape.

One indicator perhaps that aging and life course factors come more into play at this point is that the proportion of respondents giving a "depends" response declines between 1980 and 1986. The figures shown in Table 1, as the footnotes indicate, do not include those who gave "depends" or other ambiguous responses. A more detailed breakdown, for example, for the 1940-44 and 1945-49 cohorts, in total, are shown below:

	Percent Expecting to Live with Married Son when Old			
	<u>1940-44 Cohort</u>		<u>1945-49 Cohort</u>	
	<u>1980</u>	<u>1986</u>	<u>1980</u>	<u>1986</u>
Always/when old	46	58	38	54
Depends	44	19	49	21
Never, Other	9	24	13	25

The table shows that both the "yes" category (Always/When Old) and the "no" category (Never, etc.) advanced at the expense of the "depends" response. A scoring of these responses that gave a more positive score to "depends" than to "never" might indicate relatively little

change in the overall valence of positive sentiment, depending, of course, on the scores employed. (We make use of a scoring procedure below.)

To sum up the main findings from Table 1, expectations for future coresidence with married sons is highly differentiated by educational level. These expectations are far from static, and may not be linear, and in trying to go behind the numbers, there seems to be evidence of both period and life course factors helping to shape these attitudes.

Intercohort vs. Intracohort Change and Models of Change

Inspection of Table 1 shows quite clearly that each of the birth cohorts changed considerably over time and that differences across cohorts tend to be muted vis a vis differences by education. This pattern suggests that any examination of intra- vs. intercohort sources of change for the broad age group of women under examination would reveal that intracohort change was the more important factor.

We tested this surmise in a number of ways, following the algebraic and regression approaches suggested by Firebaugh (1997). [For another application of this approach to attitudes about aging in the United States, see also Silverstein et al. (2001).] The preliminary algebraic decompositions carried out for women 20 to 40 over the periods 1970 to 1980 indicated that over 70 percent of the change was due to intracohort change.

In carrying out the regression decompositions we followed a number of strategies. Given the suggestion from Table 1 that expectations for coresiding rose from 1980 to 1986, so that the entire period was not linear, we fitted a second degree logistic equation, which contained interview year, interview year squared, and birth year as regressors, and examined the two periods 1965 to 1980 and 1980 to 1986 separately. For the first period, of the decrease in the logit of expectation between 1965 and 1968 (signifying a decrease in the odds of expecting to live with a married son) about 85 percent was due to intracohort change and only 15 percent was due to cohort replacement.

For the period between 1980 and 1986, intracohort change would have served to increase the odds of expectations of coresiding by 25 percent, while cohort replacement alone would have reduced the odds by 10 percent. In Firebaugh's terms, aggregate change would have outpaced

individual change in the first period because both factors have the same sign, but in the second period this would not have been the case, because of the opposite effects (Firebaugh, 1997).

The same analysis was carried out with OLS regression, in which the dependent variable was scored as follows: “3” if the respondents said “always or when old” in answer to the expectation question; “2” if she answered “depends,” and “1” if she did not expect to live with a married son when old. The reason for this scoring was to reflect the sharp movement in those answering “depends” between 1980 and 1986, noted above.

The same second-degree equation revealed similar intra- and intercohort effects as the logistic. In the 1965-1980 period 85 percent of the effect was due to intracohort change and only 15 percent to cohort replacement. In the 1980-86 period, however, the OLS results show both factors working in the same direction to reduce expectations, with 78 percent of the change due to intracohort change and only 22 percent due to cohort replacement.

We also use logistic and OLS regressions to model the educational trends shown in Table 1. We introduced the three levels of education into the equation (as two dummy variables), along with interview year and interview year squared, and interactions between the educational variables and the time measures in order to allow each educational level to have its own trend line. The results of this modeling are shown graphically in Figures 1 and 2, the former for the logistic and the second for the OLS, with the detailed scoring of expectations. The top portion of each figure shows the actual expectation trend while the lower portion presents the trends estimated from the regressions.

It will be seen that the second-degree equations capture the trends quite well. The upturn in expectations between 1980 and 1986 in the actual trends in Figure 1, discussed above, is captured by the regression. Both the actual and estimated trends reveal that the most educated category changed relatively little over the time period compared to the other two levels, and shows how the intermediate educational category becomes more distinct over time.

Figure 2, which shows the same data for the more detailed scoring of expectations, shows a similar picture but the upturn between 1980 and 1986 is largely absent, except for the least educated category in the actual chart. Rather the Figure suggests that there was relatively little change in expectations in the 1980-86 period.

Table 1 indicates little difference across cohorts at each point of observation in comparison with the sharper differences by educational level. This pattern was confirmed by the

regression equations. In equations containing interview year, birth cohort, and educational level, the birth cohort variable was not significant in both the logistic and OLS forms.

Women's Preferences and Living Arrangements in the 1990s

The major focus of this analysis is to contrast the levels of expectations of women in their earlier years with their actual living arrangements in the 1990s. We can observe the cohorts of women shown in Table 1 at three points in the late 1990s: 1996, 1998, and 1999. The 1996 and 1999 date arise from the panel Survey of the Health and Living Status of the Elderly initiated in 1986 with a representative sample of those 60 and older, as described above.

In addition to the surveys of the elderly, the eighth fertility and family survey conducted in 1998 included ever-married women up to 60 years of age, presenting another opportunity to observe the behavior and relevant attitudes of some of the earlier cohorts.

Not all the cohorts observed in Table 1 were observed in sufficient numbers in all three data collections of the later 1990s. Those available for analysis are presented schematically below:

<u>Birth Cohort</u>	<u>1996 Survey</u>	<u>1998 Survey</u>	<u>1999 Survey</u>
1925-29	a		X
1930-34	X		X
1935-39	X	X ^b	X
1940-44	X	X	X
1945-49		X	X ^b

^a This cohort was observed in 1996 but questions on preferred living arrangements were asked only of the new younger panel introduced that year.

^b Not all five years of the birth cohort are represented. In 1998, only the birth cohorts of 1938 and 1939 are observed; in 1999, only the birth cohorts of 1945 and 1946.

It will be noted that the cohorts, whose expectations we have been tracing, will be between 50 and 74 years of age as of 1999, so that we must await further panels to observe their behaviors at older ages.

From the three surveys we can measure the relevant birth cohorts' living arrangements, as well as their responses to preferences and expectations about coresidence asked in each survey.

In the two panels of the survey of the older population, respondents were asked about their preferences as follows:

1996: When you are old (70 or older) what would be your preferred living arrangement?

(1) Live on your own or with spouse (2) Live with a married son (3) Live with a married daughter (4) Live with married children (5) Have married children living in same area (6) Live in old-age home (7) Alternately live with different sons (8) Other arrangement

1999: In the following I have a list of common living arrangements for older people. Which one is your preferred living arrangement?

(1) Live on your own or with spouse (2) Live with a married son (3) Live with a married daughter (4) Live with married children (5) Have married children living in same area (6) Live in old-age home (7) Alternately live with different sons (8) Other arrangement

In 1998, the relevant question focused on expectations and followed the pattern used in 1986 shown in Table 1, since most of the sample were women in their childbearing years or those with younger children:

Table 4 presents a summary of the preference and expectation responses from the three late 1990s survey. Many of the women observed at this time will now have married sons and a significant proportion will be living with them. It is expected that their current family status and living arrangements will strongly influence their expressed preference, so these factors are controlled in the table. The original analysis was carried out for each birth cohort and educational level, but it was observed, as with Table 1, that differences across cohorts were rather small compared to the educational differences. To preserve cases and make the analysis less cumbersome, it was decided to sum across cohorts within educational level. The 1999 data are summed to match the available cohorts in 1996 and 1998 to facilitate comparisons, so different subsets are used for that year.

The results confirm the importance of current living arrangements on expressed expectations and preferences. Those already living with a married son indicate overwhelmingly that they expect to do so (as shown in the top panel). The preference questions asked in 1996 and 1999 also show that a large majority of those living with a married son prefer to do so, but roughly 20 percent of each cohort grouping express a preference for some alternate living arrangement, with the most educated group noticeably more negative than their counterparts.

These results remind us that for some elderly coresiding with a child, this may be an economic, health or support necessity but they would prefer more independence or an alternate arrangement; while for others a coresiding arrangement that once was promising and acceptable may have developed stresses that has led to a negative evaluation. This reiterates the earlier point that the mere fact of coresidence should not be taken as promoting the well-being of the older population, and it will be increasingly necessary to look at the content of the relationships.

For those with married sons but not coresiding with them, the expectation for doing so or preferring to do so is quite modest. Less than a third say they expect to do so, with almost half giving a contingent “depends” response. For the preference question the proportion at this life cycle stage who report a preference for living with a married son is between 32 and 43 percent, with sharply lower percentages for those with 6 years or more of education. It is somewhat surprising that these percentages are substantially lower than those given by those who have sons, but no married sons as yet. We interpret these patterns and differences as reflecting several forces. One, of course, is the preference for independent living that exists among a portion of the elderly, especially the more educated. Beyond that, for some portion of those with married sons but not coresiding, this reflects geographic or real estate constraints or personality and compatibility issues that they do not see as likely to change. For those whose sons are not yet married, the potential for coresidence is still somewhat ambiguous, and they can be hopeful that the location, financial, and personality conditions will allow a favorable outcome.

Table 5 looks at the actual and potential levels of coresidence for the education/birth year cohorts we have been following in 1996, 1998, 1999. For the actual percentage coresiding data are given for all ever-married women with a son, as well as for those who already have a married son. For the former measure, the percentages tend to decline as we move to the younger cohorts since fewer women will have a married son, though the differences are muted among the two or three older cohorts. For the proportion based on those with a married son, the proportions vary little by cohort. For each measure, those with the most education are less likely to coreside, while the differences between the two lower educational categories tend to be rather small.

For the birth cohorts born in 1940-44 or earlier, the proportion of all ever married women coresiding with a son varies between 40 and 50 percent in broad terms, while the proportion of those with a married son coresiding varies between 50 and 66 percent. The number of cases in a

specific cohort/education category is often quite small, so some instability across estimates is to be expected.³

As noted earlier in the paper, the questions about expectations ask in effect whether a woman expects to live with a married son when old, but is otherwise not specific as to when that coresidence might start (nor how long it might last, though the presumption is that it would remain intact once started). The women in Table 5 range between ages 50 and 74 in 1999, and it is likely that a substantial number of women, particularly at the younger ages, who are not coresiding when observed will do so at a later date. To relate earlier expectations with actual outcomes, this contingency must be allowed for. Ideally, one way to estimate future coresidence is to develop age-specific transition rates from the longitudinal data or, barring this, to use an appropriate modification of the Sullivan prevalence technique for estimating healthy life expectancy (Sullivan, 1971) to estimate coresidence at older ages. At present it does not appear that the underlying data are sufficiently detailed or stable to generate useful estimates through these approaches, though we will be investigating this further.

As an alternate, we utilized the preference and expectation data in Table 4 to generate some “brute force” estimates that we regard as reasonably plausible. More specifically, we generated a potential range of coresidence over a woman’s older life as follows:

For the 1996 and 1999 preference data:

The high estimate is calculated by adding to all those currently living with a married son, one half of those who prefer to live with a married son, among those not yet living with a married son or who do not as yet have a married son. This estimate assumes in effect that all those living with a married son will continue to do so, and about half of others will achieve their preference.

The low estimate reflects that some of those coresiding prefer not to. It assumes that of those currently living with a married son, only those who prefer to and one-half of those who prefer not to will eventually live with a married on, and the other groups are treated as before.

For the 1998 data, the high estimate includes those in each family composition category who say “always,” plus one half of those who say “depends.” The low estimate only counts those who say “always.”

The estimates of potential from the 1998 expectation data produce a higher range than those from the 1996 and 1999 preference data because of the fairly large proportion of those who say “depends.” It appears that when faced with a preference question, some portion of the

respondents who are uncertain of their expectations will give primary preference to a living arrangement other than with a married son.

Broadly stated, the potential range of eventual coresidence for all ever married women with a son obtained from the 1996 and 1999 preference questions is from 50 to 60 percent for the birth cohorts earlier than 1945, while the estimated range from the 1998 data is from 60 to 75 percent.

Table 6 brings together the expectations over time with the actual and estimated potential of living arrangements just discussed. The first column reports the highest reported expectations for coresidence observed between 1965 and 1980 for each birth/education cohort. Because of the general decline in expectations observed over this period, this is often from an earlier point within this period. Column 2 presents the 1986 reported expectations. It is at this point that the women are generally done with reproduction, are well along with child rearing, but few have married children as yet.

The next three columns present the actual and potential living arrangements. Column 3 shows the actual level of coresidence with a married son in 1999, while the next two columns present a potential level. Column 4 gives the high end of the estimated range as calculated from the 1999 preference, while Column 5 gives the mid-point of the range as calculated from the 1998 expectation data.

The next set of columns present ratios of various combinations of expectations to actual or potential levels of coresidence. The ratio of the highest expectation to the actual level in 1999 shows that the expectations measured 20-30 years earlier were far above the eventuality. For cohorts born before 1945, expected levels at this early point are 60 to 100 percent or more above actual levels, with the two lowest educational categories particularly in excess, for the most part, compared to the highest educational category.⁴

When the early expectations are compared to the estimated potential levels, however, the ratios are sharply reduced. For the same cohorts, the expected levels are generally 40 to 50 percent above the lower potential level, and 12 to 20 percent above the higher potential estimate for the two lower educational categories. For the most educated category, the ratio ranges from being on target for many of the cohorts to about 20 percent above the estimated potentials.

The remaining ratios place the 1986 expectations in the numerator and because these were considerably below the earlier expectations, the ratios are considerably reduced. Comparing

the 1986 expectations to the 1999 actual living arrangements shows that for those with the most education, their expectations are pretty much on target, while for the two lower educational categories, the excess is in the range of 40 to 60 percent. When comparing the 1986 expectations to estimates of future levels, the concordance between expectations and eventual outcomes is even stronger. For the lower estimate of potential, only the lowest educational category shows an excess of expectation over actual, in the range of 14 to 27 percent, while the middle educational level is right on target, and the highest educational level appears to have expectations that are below what may develop. For the higher estimate of potential, the expectations in 1986 of all the educational groups are at or below the estimated outcome.

We discuss the implications of these findings and the earlier analyses in the next section.

Discussion

In summing up and interpreting the findings, we start with the major focus of this paper, the degree of concordance of expectations of living with children and eventual coresidence. One can interpret Table 6, just presented, as indicating that expectations of coresidence expressed in the 1960s and early 1970s were quite wide off the mark if one compares the high point of expectations then to actual coresidence observed in the late 1990s. But as the earlier analysis indicated, these expectations were quite volatile, and by 1986 the women interviewed appeared to have a fairly realistic sense of what might eventuate, and the comparison of the 1986 expectations to either of the two estimates of potential coresidence show generally close concordance between expected and actual. The most educated category, which consistently expressed lower expectations for coresidence as well as lower actual (and potential) levels, generally shows a higher degree of agreement between the subjective and objective measures, though there is some hint in the last column that their actual levels of coresidence may eventually exceed their expressed expectations.

These findings taken together with the earlier picture of substantial change in expectations over time for the cohorts under scrutiny point to an equilibrating process in which young parents refine their preferences and expectations as they advance across the life cycle, taking into account both the emerging norms and trends in the larger society, as well as the tastes and constraints facing them and their children.

Though not shown in this paper, more detailed analyses of the factors associated with coresidence among older respondents in the 1990s point to emerging needs as major determinants. As Knodel and Ofstedal (2002, p. 177) state, “we hypothesize that coresidence with married children will be more responsive to the financial, health, and social needs of older parents than is the case for coresidence with unmarried children.” Their analysis shows that elderly parents with a low level of income are more likely to coreside with married children than those with more adequate income, as are those who are widowed, and those who are retired (*ibid*, p. 177-178). In addition, after taking these and other factors into account, those with more education also show lower levels of coresidence with a married son in Taiwan. This and related analyses suggest that those with more education more often prefer independent living and their income and occupational attainments permit them to achieve this more often than those with lower education levels. This combination of effects would help explain the continuing sharp differentials by education in both the expressed expectations and preferences, as well as the differentials in actual coresidence. Further analysis exploring the broader range of variables available is a natural next step.

At the outset we cautioned that the fact of coresidence does not in itself speak to the context of the ongoing relationships, and the analysis just reviewed of the role of needs in driving coresidence reaffirms this distinction. In this connection it is worth noting from Table 4 that about 20 percent of women coresiding with married sons in 1996 and 1999 indicate a preference for some alternate living arrangement.

Different perceptions of the benefits and costs of coresidence may help explain the finding that, although the level of coresidence of the older population with children and married children remains quite high in Taiwan as shown in Table 5, expectations of younger women about future coresidence have been steadily decreasing. Table 7 shows the expectations for living with a married son by age, between 1965 and 1998, utilizing the same surveys and questions used throughout this paper, but introducing the attitudes of the younger women interviewed in 1998. Viewed this way, expectations of future coresidence have been declining quite sharply throughout the 33-year period except for the up-tick between 1980 and 1986. Particularly noteworthy are the very low proportions of the younger women in their twenties and thirties who expect to live with a married child in their old age, despite the fact that a substantial proportion of their grandparents are coresiding and a fairly high proportion of their parents are still

expecting to coreside. These younger women in 1998 are the most educated of all the cohorts and doubtlessly have a strong desire for independent living. It should also be recalled from Table 2 that these younger women have low fertility, so that they are aware that the availability of children with whom to coreside will be quite limited. In addition, they have probably observed that the costs and benefits of coresidence have shifted over time, with many older parents taking on substantial responsibility for meal preparation and grandchild care to assist their busy dual wage-earner sons and daughters-in-law (Hermalin et al., 1998; Biddlecom et al., 2002)

These reported shifts in expectations along with the changing intrahousehold allocations of duties and responsibilities may presage a more rapid decline in the level of coresidence in the coming years, subject to the general economic climate, the cost and availability of housing and related factors that come into play as this complex decision resolves itself on the family level.⁵

From a methodological viewpoint, this analysis, by drawing on broadly conceived fertility and family surveys over thirty years, shows the potential value of conducting surveys that investigate a wide array of demographic and family dynamics rather than a narrowly defined issue, as well as the potential value of utilizing studies conducted in the past to elucidate important trends and relationships that speak to today's problems and concerns.

Footnotes

¹ Although there are some differences in definition between the two sources, they are sufficiently similar to establish the broad trends.

² There are a number of other characteristics fixed at birth or early in life that can be used when tracing cohorts. For census based data relevant to population aging see Hermalin and Christenson, 1992. For replicated surveys the characteristics will depend on the content of the surveys. For the surveys under analysis here, in addition to such items as place of birth or where they lived in early childhood, there is considerable potential in such items as father's occupation, sib structure, and items about the woman's early employment experience, and whether her marriage was arranged, which speak to how traditional her early environment was.

³ It should be noted that we are observing the same cohort as it ages from 1996 to 1999. Women and couples in these cohorts can experience life cycle changes in terms of the marriage of a son, and coresidence, and this is especially true for the younger cohorts. Some older women may start to coreside over this period but it is also possible that recently married sons who have coresided for a few years after marriage will be leaving to set up their own households. These shifts plus the small number of observations for the youngest cohort make for instability in the estimates.

⁴ The ratios of the highest expectation to actual for the youngest cohort are even higher, as expected, since many of these women do not as yet have married sons with whom to coreside.

⁵ In this connection, Weinstein et al (1995, p. 320) report a gap in the 1970s and 1980s between the attitudes women expressed about living with the husband's parents and actual coresidence. For example in 1973, 85 percent of Taiwanese couples lived with the husband's parents after marriage, but only 59 percent said that a newlywed couple should live with the husband's parents. In 1986, the comparable figures were 70 percent for actual coresidence and 42 percent expressing a favorable attitude toward this practice. The authors suggest that these discrepancies might point to a further decline in this practice, but they also note that it implies that respondents are more traditional in their behavior than in the attitudes they report.

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Table 1 Taiwan: Percent of Married Women^a Expecting to Live with Sons When Older by Birth Cohort and Education—
Select Years, 1965-1998

Birth Cohort/Age in 1999 and Educational Level	% Expecting to Live with Sons When Older ^b									
	<u>1965</u>	<u>1967</u>	<u>1970</u>	<u>1973</u>	<u>1980</u>	<u>1986</u>		<u>1998</u>		
						C.M. ^c	E.M. ^d	C.M. ^c	E.M. ^d	
<u>1925-29 – 70-74</u>										
No Education	93	89	83	-	-	-	-	-	-	-
1-6 years	67	84	76	-	-	-	-	-	-	-
> 6 years	29	28	41	-	-	-	-	-	-	-
All	81	83	77	-	-	-	-	-	-	-
<u>1930-34 – 65-69</u>										
No Education	93	90	85	73	-	-	-	-	-	-
1-6 years	76	79	74	59	-	-	-	-	-	-
> 6 years	38	36	33	30	-	-	-	-	-	-
All	82	81	73	60	-	-	-	-	-	-
<u>1935-39 – 60-64</u>										
No Education	91	90	80	69	-	80	80	66	72	72
1-6 years	80	83	74	54	-	58	58	67	71	71
> 6 years	49	35	40	28	-	35	31	[33] ^e	[38] ^e	[38] ^e
All	82	80	74	57	-	64	64	61	66	66
<u>1940-44 – 55-59</u>										
No Education	89	91	83	68	67	72	73	72	71	71
1-6 years	78	80	75	52	48	58	58	61	63	63
> 6 years	47	45	37	27	21	27	27	39	38	38
All	80	81	71	53	46	57	58	62	61	61
<u>1945-49 – 50-54</u>										
No Education	90	89	86	71	50	80	79	73	71	71
1-6 years	79	81	71	55	41	58	58	51	50	50
> 6 years	46	34	40	24	23	32	31	21	26	26
All	80	77	70	51	38	54	54	47	47	47

Notes

- ^a Surveys from 1965 through 1980 covered only currently married women. Surveys in 1986 and 1998 covered ever married women, and data for both currently and ever married are presented (see text for discussion).
- b The questions asked in the series of surveys are as follows:
- 1965, 1967: Do you expect to live with your children or grandchildren when you are old? Would you say definitely yes, probably yes, probably no, or definitely no? [Data reported are those saying “definitely yes”]
- 1970, 1973, 1980: When your sons have grown up and are married, do you expect to live together: (a) only for a few years after sons marriage; (b) all the rest of your life; (c) only when you are old; (d) never; (e) combination of (a) and (c); (f) uncertain; (g) depends. Those answering (b), (c), or (e) are treated as expecting to live with sons when older.
- 1986, 1998: The response categories in 1986 and 1998 parallel those for 1970-1980, but respondents were first screened as to whether they had sons or married sons, and then asked a series of questions about living with married sons continuously, and, if not, when they planned to live with them, rather than a single question.
- ^c CM = currently married
- ^d EM = ever married
- ^e less than 20 cases

Table 2 Taiwan: Indicators of Demographic, Social, and Economic Development, 1952-1997

	1952	1960	1965	1970	1973	1980	1986	1990	1997
Economic indicators									
GNP index ^a	100.0	179.1	281.4	449.3	649.3	1138.8	1806.0	2503.0	3820.3
Per capita GNP ^b (NT\$)	21,432	29,387	39,844	56,468	77,041	118,162	170790	226,485	324,656
Total industrial production index	100.0	240.9	463.6	1102.3	1917.4	3900.8	5903.8	7050.0	9928.8
Agricultural production index	100.0	147.6	194.3	245.5	282.1	360.4	398.6	445.8	464.6
Labor force in agriculture, forestry, fishing (%)	56.1	50.2	46.5	36.7	30.5	19.5	17.0	12.9	9.6
Education indicators: School Attendance Rate (%)^c									
<u>Senior High (ages 15-17)</u>									
Males	11.7	21.8 (1958)	29.4 (1964)	47.8	53.4	57.4	70.0	U	U
Females	3.6	8.9 (1958)	17.6 (1964)	35.1	48.1	56.3	73.9	U	U
<u>College (ages 18-21)</u>									
Males	2.1	5.5 (1958)	11.3 (1964)	21.5	24.3	22.5	26.9	34.4	48.1
Females	0.3	1.5 (1958)	4.8 (1964)	16.3	18.2	22.7	29.6	33.9	54.2
Communication and transportation indicators									
Newspaper/magazine per 100 households	U	U	21.0 (1964)	31.1	41.6	68.8	93.1	84.3	73.9
Telephone subscribers per 100 households	U	U	1.5 (1964)	4.4	12.9 (1974)	51.1	85.2	93.1	97.5
Television sets per 100 households ^d	U	U	1.4 (1964)	37.1	73.8	102.0	106.7	98.3	99.2
Household amenities									
Households served with electric lighting (%)	U	83.0	86.2	96.3	U	99.7	99.7	99.7	U
Population served with Tap water (%)	28.8	29.7	38.3	43.7	46.3	66.8	79.1	83.6	89.3
Health indicators									
Male Life expectancy at birth	U	62.3 (1961)	65.1	66.7	67.6	69.6	71.0	71.3	72.0
Female Life expectancy at birth	U	66.8 (1961)	69.7	71.6	72.5	74.5	75.9	76.8	77.8
Population per doctor	1584 (1955)	1661	1901	2240	1844	1323	1086	913	749
Demographic indicators									
Total population (in thousands)	8128	10792	12628	14676	15565	17805	19455	20353	21683
Population in cities of 100,000+ (%)	U	U	36.6 (1968)	37.9	41.4	47.2	52.3	55.4	58.5
Female labor force participation rate	U	U	34.4 (1968)	35.5	41.5	39.3	45.5	44.5	45.6
Total Fertility Rate	6.62	5.75	4.83	4.00	3.21	2.52	1.68	1.81	1.77
% Women Married 20-24	U	62	58	50	45	40	32	26	19

Note: "U" indicates unavailable

a. Based on total GNP at 1991 prices before adjustment for terms of trade.

b. Per capita GNP at 1991 prices before adjustment of terms of trade. The 1997 per capita GNP at current prices was equivalent to \$13,198 (US).

c. Number of students at each level divided by number in each age-sex group. Figures for 1990 and 1997 may not be directly comparable to earlier years.

d. Figures for 1990 and 1997 refer to color television sets only.

Sources: Taiwan Statistical Data Book; Statistical Yearbook of the ROC; Report on the Survey of Family Income and Expenditure in Taiwan Area of Republic of China; & Taiwan Demographic Factbook.

Table 3 Taiwan: Attitudes toward Children's Willingness to Live with Parents after Marriage, by Birth Cohort, Survey Year, and Education

Birth Cohort and Education	<u>Percentage Giving Each Response by Survey Year</u>											
	<u>More or Just as Willing</u>			<u>Less Willing</u>			<u>Much Less Willing</u>					
	1970	1973	1980	1988	1970	1973	1980	1988	1970	1973	1980	1988
1925-29												
No education	53	-	-	-	46	-	-	-	2	-	-	-
1-6 years	33	-	-	-	58	-	-	-	9	-	-	-
>6 years	12	-	-	-	82	-	-	-	6	-	-	-
1930-34												
No education	60	34	-	-	37	59	-	-	2	7	-	-
1-6 years	47	30	-	-	49	65	-	-	5	5	-	-
>6 years	14	11	-	-	76	79	-	-	10	11	-	-
1935-39												
No education	64	35	-	-	34	60	-	-	2	5	-	-
1-6 years	44	25	-	-	52	67	-	-	4	8	-	-
>6 years	26	14	-	-	66	83	-	-	8	4	-	-
1940-44												
No education	67	41	-	13	33	54	-	83	0	5	-	3
1-6 years	55	27	-	21	41	68	-	64	4	5	-	14
>6 years	29	15	-	17*	66	76	-	75*	5	8	-	8*
1945-49												
No education	87	42	34	24	12	55	62	72	1	3	5	4
1-6 years	65	35	27	11	35	61	67	83	1	4	5	6
>6 years	31	15	21	26	69	80	72	60	0	4	7	14

* Based on less than 20 cases.
Source: Surveys described in Table 1

Table 4 Taiwan: Expectations and Preferences about Living with Married Sons by Composition, Education, and Birth Cohort, 1996, 1998, 1999

Cohort and Education Level	All Women				Living with Married Son				Has MS Not Coresiding				No Married Son			
	1995-1949 Cohorts		1998 Expectations ^a		1996		1999		1996		1998		1996		1999	
	Always/Old	Depends	No	Yes	Always/Old	Depends	No	Yes	Always/Old	Depends	No	Yes	Always/Old	Depends	No	N
<u>1935-1949 Cohorts</u>																
No Education	71.0	15.8	13.1	97.2	2.8			36.2	36.2	27.6	74.1	11.1	14.8	183		
1-6 years	57.2	27.4	15.4	95.9	4.1			24.6	60.6	14.8	44.9	29.2	25.8	306		
> 6 years	32.8	28.5	38.7	93.8*	6.2*			15.0*	45.0*	40.0*	26.7	28.7	44.6	137		
All	55.9	24.3	19.8	96.2	3.8			28.1	48.2	23.7	44.0	25.8	30.1	626		
<u>1996 and 1999 Preference for Living with Married Son</u>																
<u>1996</u>	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	N	
<u>1930-44 Cohorts</u>																
No Education	71.1	28.9	84.8	15.2	48.8	51.1	70.4	29.6	429							
1-6 years	61.5	38.5	74.5	25.4	40.2	59.8	64.5	35.5	353							
> 6 years	33.7	66.3	45.4*	54.5*	32.4	67.6	28.9	71.1	101							
All	63.0	37.0	78.5	21.5	43.3	56.7	58.9	41.1	883							
<u>1999</u>																
<u>1930-44 Cohorts</u>																
No Education	63.2	36.8	79.2	20.8	38.1	61.9	72.9	27.1	419							
1-6 years	62.7	37.3	82.7	17.3	37.3	62.6	73.3	26.7	343							
> 6 years	35.7	64.3	66.7	33.3	12.8	87.2	45.8*	54.2*	98							
All	59.9	40.1	79.7	20.3	34.3	65.7	67.5	32.5	860							
<u>1935-49 Cohorts</u>																
No Education	64.6	35.4	80.0	20.0	41.3	58.7	68.0	32.0	314							
1-6 years	63.4	36.5	79.1	20.9	43.1	56.9	66.7	33.3	301							
> 6 years	36.4	63.5	60.0	40.0	15.4	84.6	43.8	56.2	96							
All	60.3	39.7	78.0	22.0	38.1	61.9	62.1	37.9	711							
<u>1925-49 Cohorts</u>																
No Education	60.0	40.0	78.0	22.0	34.1	65.9	67.7	32.3	673							
1-6 years	59.4	40.6	79.1	20.9	36.6	63.4	67.6	32.4	539							
> 6 years	36.3	63.4	71.7	28.3	13.0	87.0	41.2	58.8	157							
All	57.0	43.0	77.9	22.0	32.3	67.7	62.2	37.8	1369							

Note: For questions posed, see Table 1 and text.

^a Those already living with a married son could only report that they would continue to do so, or do so when old, or say “depends.”

* Based on less than 25 cases.

Table 5 Taiwan: Percent of Women Living with Married Son by Composition, Education and Birth Cohort and Potential Levels, 1996, 1998, 1999

Cohort and Education Level	1996		1998		1999	
	Actual	Potential Range	Actual	Potential Range	Actual	Potential Range
	All ^a	All Women ^a	All ^a	All Women ^a	All ^a	All Women ^a
<u>1925-29</u>						
No Education	--	--	--	--	54.5	55-61
1-6 years	--	--	--	--	44.0	48-54
> 6 years	--	--	--	--	36.8	38-40
All	--	--	--	--	49.3	51-57
<u>1930-34</u>						
No Education	55.9	62-66	--	--	53.9	56-62
1-6 years	56.2	60-66	--	--	49.5	53-57
> 6 years	34.8*	39-46*	--	--	30.4*	30-35*
All	54.1	59-64	--	--	50.0	52-57
<u>1935-39</u>						
No Education	48.1	61-64	43.5	72-79	50.0	58-63
1-6 years	45.1	50-58	32.2	71-77	46.7	56-59
> 6 years	26.9	31-40	12.5*	36-56	30.8	33-40
All	45.1	54-59	35.2	61-75	47.0	55-60
<u>1940-44</u>						
No Education	48.6	60-65	41.3	71-80	51.0	58-64
1-6 years	41.4	54-58	41.9	63-75	41.3	53-58
> 6 years	13.5	21-25	26.1	41-51	24.5	32-35
All	40.1	51-56	38.8	62-73	42.9	52-57
<u>1945-49</u>						
No Education	--	--	30.0	70-76	33.3*	40-45*
1-6 years	--	--	24.6	50-66	37.7	47-54
> 6 years	--	--	2.6	27-44	23.8*	29-36*
All	--	--	19.6	47-62	33.7	42-48

^a Ever married women with a son.

* Based on less than 25 cases.

Notes for Table 5:

For 1996 and 1999, the high estimate of potential coresidence is calculated by adding to all those currently living with a married son, one half of those who prefer to live with a married son, among those not yet living with a married son or who do not as yet have a married son. The low estimate assumes that of those currently living with a married son, only those who prefer to, and one-half of those who do not prefer to, will eventually live with a married son, and the other groups are treated as before.

For 1998, the high estimate includes those in each family composition group who say “always” or “when old” plus one-half of those who say “depends.” The low estimate counts only those who say “always” of “when old.”

Table 6 Taiwan: Summary Measures Comparing Expectations to Live with Married Son with Actual and Potential Coresidence

Cohort and Education Level	Expectations		Coresidence with Married Son		Ratios			
	Highest Level 1965-80 %	1986 Level %	Actual Level 1999 %	Potential Levels (1) % (2) %	Highest/Actual	1986/Actual	High to Potential (1) (2)	1986 to Potential (1) (2)
<u>1925-29</u>								
No Education	93	--	54.5	61	1.71	--	1.52	--
1-6 years	84	--	44.0	54	1.91	--	1.56	--
> 6 years	41	--	36.8	40	1.11	--	1.02	--
All	82	--	49.3	57	1.66	--	1.44	--
<u>1930-34</u>								
No Education	93	--	53.9	62	1.72	--	1.50	--
1-6 years	79	--	49.5	57	1.60	--	1.39	--
> 6 years	38	--	30.4*	35	1.25	--	1.09	--
All	82	--	50.0	57	1.64	--	1.44	--
<u>1935-39</u>								
No Education	91	80	50.0	63	1.82	1.60	1.44	1.20
1-6 years	83	58	46.7	59	1.78	1.24	1.41	1.12
> 6 years	49	31	30.8	40	1.22	1.01	1.22	1.07
All	82	64	47.0	60	1.74	1.36	1.37	1.21
<u>1940-44</u>								
No Education	91	73	51.0	64	1.78	1.43	1.42	1.20
1-6 years	80	58	41.3	58	1.93	1.40	1.38	1.16
> 6 years	47	27	24.5	35	1.92	1.10	1.34	1.02
All	81	58	42.9	57	1.89	1.35	1.42	1.19
<u>1945-49</u>								
No Education	90	79	33.3*	45	2.70	2.37	2.00	1.23
1-6 years	81	58	37.7	54	2.15	1.54	1.50	1.40
> 6 years	46	31	23.8*	36	1.93	1.30	1.28	1.28
All	80	54	33.7	48	2.37	1.60	1.67	1.48

Notes: Column 2: Gives the highest reported percentage of a birth/education cohort expecting to live with a married son.

Column 4: This potential level of coresidence is the high end of the estimated range for 1999 (see Table 5)

Column 5: This potential level is the midpoint of the estimated range of coresidence calculated from the 1998 expectation data (See Table 5)

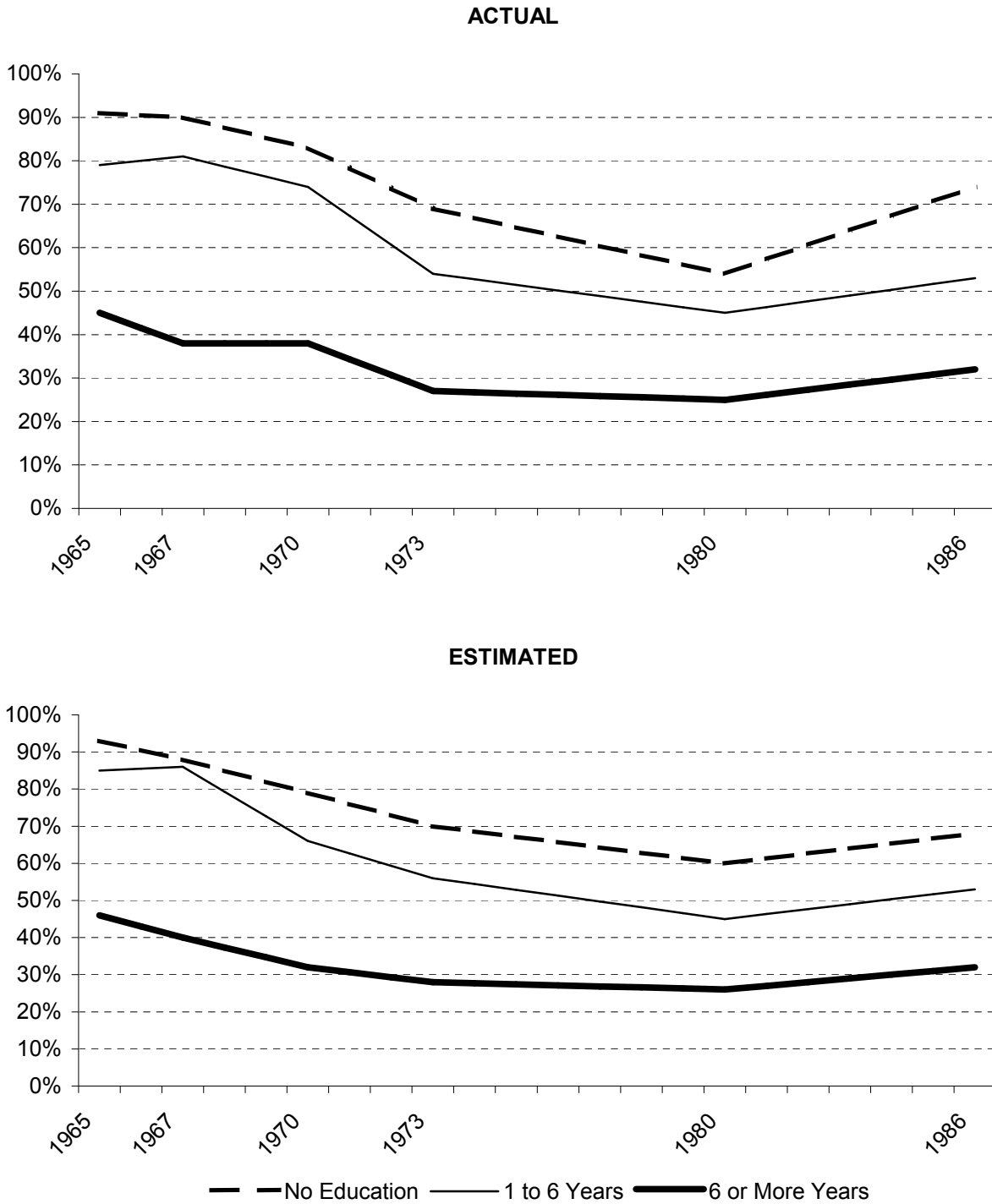
* Based on less than 25 cases.

Table 7 Taiwan: Percent of Currently Married Women Expecting to Live with Married Son in Old Age by Age of Women, Select Years 1965-1998

Age	1965	1969	1970	1973	1980	1986	1998
20-24	80.5	76.0	70.3	52.6	39.9	42.7	28.4
25-29	80.5	76.9	70.9	50.5	34.1	41.2	20.4
30-34	82.4	82.6	74.0	54.1	38.0	43.9	22.4
35-39	81.2	79.8	73.2	58.1	45.9	53.5	25.0
20-39	81.2	79.2	72.4	53.9	38.8	48.4	23.3
40-44	--	--	--	--	--	56.8	35.1
45-49	--	--	--	--	--	62.3	41.3
50-54	--	--	--	--	--	--	49.4
55-59	--	--	--	--	--	--	65.4
N	3,186	4,192	2,456	5,540	3,821	4,171	2,563

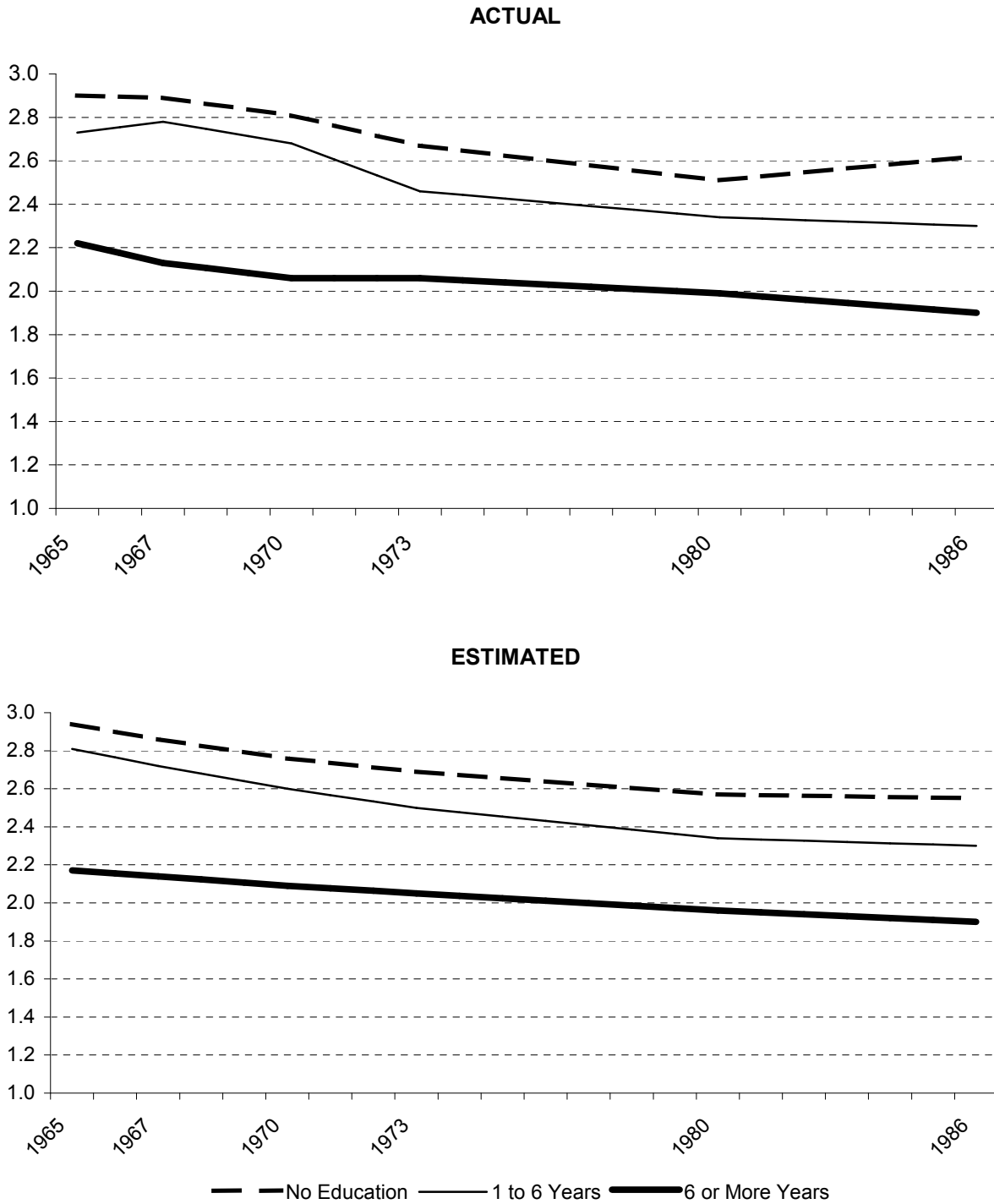
Source: See Table 1 for surveys used and questions.

Figure 1. Trends from 1965 to 1986 in Expectation of Living with Children When Older for Currently-Married Women Ages 20 to 40, by Education
Logistic Equation



Note: Expectation levels are measured as percent saying "Always" or "When Old". Estimates determined from 2nd degree logistic equation, including survey year and survey year squared, educational level and interactions as regressors.

Figure 2. Trends from 1965 to 1986 in Expectation of Living with Children When Older for Currently-Married Women Ages 20 to 40, by Education
OLS Equation



Note: Expectation levels are measured by scoring 1 for "No"; 2 for "Depends" and 3 for "Always, or When Old". Estimates determined from 2nd degree OLS regression equations, including survey year and survey year squared, educational level and interactions as regressors.

Appendix Table 1

Percent of Married Women Expecting to Live with Sons When Older by Cohort-Survey Years, 1965-1998

	1965			1967			1970			1973		
	Def. Yes	Prob. Yes	No other	Def. Yes	Prob. Yes	No other	always/old	deps.	no	always/old	deps.	no
1925-29	80.8	13.0	5.9	0.2	82.8	5.6	6.4	5.2	77.1	17.9	5.1	--
1930-34	81.5	11.4	6.3	0.9	81.0	7.1	4.7	7.2	73.3	17.5	9.2	7.1
1935-39	82.3	12.2	5.3	0.2	80.0	7.1	5.0	8.0	74.0	18.3	7.7	7.4
1940-44	79.8	15.2	4.4	0.6	81.0	7.0	3.4	8.6	71.2	20.7	8.1	9.9
1945-49	80.4	14.7	4.4	0.5	76.8	7.9	5.0	10.4	69.9	22.9	7.2	11.0
1950-54	88.1	9.5	2.4	0.0	74.4	10.6	4.4	10.6	--	--	--	8.0

	1980		1986		1998		
	always/old	deps. no	always/old	deps. no	always/old	deps. no	
1935-39	a	a a	63.8	18.8	17.5	65.6	17.2
1940-44	46.3	44.3 9.4	57.5	18.9	23.7	61.4	20.9
1945-49	37.6	49.2 13.1	54.1	21.0	24.9	47.1	28.3
1950-54	34.1	52.1 13.8	46.7	22.5	30.9	39.0	31.5
1955-59	40.1	46.4 13.5	40.5	23.3	36.2	32.8	30.5
1960-64	a	a a	42.3	24.2	33.6	25.0	32.7
1965-69	--	-- --	a	a	a	19.6	33.6
1970-	--	-- --	--	--	--	24.0	31.6

Note: 1986 and 1998 data include ever married women, while the rest data include currently married women.

"a" cases less than 50

"--" data not available

Appendix Table 2

Number of Married Women Expecting to Live with Sons When Older by Cohort-Survey Years, 1965-1998

	1965			1967			1970			1973		
	Def.	Prob.	No	Def.	Prob.	No	Def.	Prob.	No	Def.	Prob.	No
1925-29	341	55	25	1	193	13	15	12	168	39	11	--
1930-34	624	87	48	7	778	68	45	69	477	114	60	32
1935-39	742	110	48	2	897	79	56	89	547	135	57	108
1940-44	757	144	42	6	1060	92	45	112	533	155	61	150
1945-49	513	94	28	3	838	86	54	113	232	76	24	162
1950-54	37	4	1	0	203	29	12	29	--	--	--	56
total	3014	494	192	19	3969	367	227	424	1957	519	213	508

	1980			1986			1988		
	always/old	deps.	no	always/old	deps.	no	always/old	deps.	no
1935-39	4	4	1	241	71	66	61	16	16
1940-44	407	389	83	347	114	143	159	54	46
1945-49	370	484	129	374	145	172	145	87	76
1950-54	439	671	178	467	225	309	172	139	130
1955-59	276	319	93	407	234	363	160	149	179
1960-64	1	3	1	243	139	193	120	157	203
1965-69	--	--	--	21	16	12	85	146	203
1970-	--	--	--	--	--	--	75	99	139
total	1497	1870	485	2100	944	1258	977	847	992