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Parental Survival and Coresidence in South Korea, 2002-2024

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Abstract

Intergenerational coresidence in South Korea has declined less than rapid family change predicts. The current study examines whether this stability reflects persistent filial norms or a demographic offset - mortality decline expanding the supply of living parents even as the propensity to live with them falls – using eleven waves of the Korean Social Survey (2002-2024), a nationally representative survey that asks about parental survival and coresidence (N = 411,641 persons aged 20-79). A sequential logit model - parental survival, then coresidence given survival - underpins a counterfactual decomposition of the trend into compositional, survival, and coresidence contributions, complemented by Sullivan estimates of years lived with a coresident parent. Standardized for age and marital status, parental survival rose from 61% to 72% among men and from 57% to 69% among women, while conditional coresidence fell from 37% to 25% among men and was nearly flat among women. Men's coresidence fell by 6.9 percentage points: behavioral retreat (−8.1) and population aging (−6.8) were offset by the retreat from marriage (+3.8) and improving survival (+3.6); women's decline of 1.3 points conceals the same offset. Men's coresident years between ages 20 and 80 held near 12.5, while women's rose from 7.4 to 10.6. The apparent stability of coresidence thus reflects offsetting demographic forces rather than behavioral persistence, and a shared demographic improvement yields different returns for sons and daughters. Reading current coresidence rates as an index of family care capacity overstates its durability.

Keywords: intergenerational coresidence; parental survival; population aging; gender; decomposition; South Korea

1. Introduction

South Korea's demographic transformation is among the most rapid on record. Life expectancy at birth rose by more than twenty years over the past half century, and fertility fell from above six children per woman to below one. Intergenerational coresidence is where these changes meet family life most directly, because living together has been the principal means by which care is delivered across generations - from parents to young children, and from adult children to aging parents.

The expected consequence is a steep decline in coresidence. Rising incomes, educational expansion, and the normative dominance of the conjugal household should all have loosened the multigenerational family, as they did in the West (Goode, 1963; Ruggles, 2007). Coresidence in Korea has indeed declined, but by less than that account implies. Analyzing census microdata from 1980 to 2015, Kye and Choi (2021) found the prevalence of coresidence with parents to be remarkably stable once age structure was taken into account, attributing the stability to demographic forces working against normative change. While their interpretation was reasonable, that study had a critical limitation. Not living with a parent can mean two quite different things. While a person whose parents have both died has no parent with whom to live, a person whose parent is alive may choose not to coreside for various reasons. These two states have different implications for what coresidence trends tell us about family life, but both appear simply as the absence of a coresident parent in most observational data. The demographic offset invoked to explain stability (Kye & Choi, 2021) has therefore been conjectured rather than confirmed. The question is more than a Korean one. Watkins et al. (1987) argued that mortality decline lengthens the years in which parents and adult children are jointly alive, so that the demographic opportunity for coresidence can expand even as the normative propensity to take it up contracts; Ruggles (2007) later showed for the United States that the decline of coresidence could not be attributed to changes in the

availability of kin and had to be traced to changing behavior, a conclusion that presupposes exactly the separation of opportunity from propensity that most data cannot make. Korea is a strong case for making that separation. Mortality decline, marriage postponement, and the erosion of a patrilineal residence norm have all been unusually rapid - the combination now unfolding across East Asia - and the national social survey asks directly whether parents are alive.

This paper expands the previous study by measuring the demographic offset. The Korean Social Survey asks respondents directly whether their parents are alive and, if so, whether they live together, and it has done so in eleven waves between 2002 and 2024. I use these reports to separate the two components of non-coresidence, and model the two outcomes in the order in which they occur: parental survival first, coresidence conditional on survival. The overall prevalence of coresidence is the product of the two, which permits a decomposition of its trend into parental survival and conditional intergenerational coresidence.

This study proceeds in two stages. The main analysis is demographic. I ask how much of the change in coresidence is attributable to the changing probability that a parent is still alive, and how much to a change in the propensity to live with a surviving parent, accounting for the changes in age and marital composition. This demographic decomposition is the core of the paper, and I carry it out separately by sex, because the patrilineal features of Korean families give men and women very different exposure to the same demographic forces. Then, I proceed to analyze the two forces conventionally invoked to explain the retreat from intergenerational coresidence, educational expansion and the shift in attitudes toward filial support. By joining a demographic decomposition to an account of educational and attitudinal change, this study contributes to a fuller understanding of the retreat from

intergenerational coresidence. In doing so, the study speaks to a central debate in social gerontology: whether the family's capacity to care for older adults in rapidly aging East Asian societies rests on durable norms or on demographic circumstances that are themselves changing.

2. Background

2.1 A stable trend in need of explanation

Intergenerational coresidence in South Korea has fallen less than accounts of rapid family change would lead one to expect. Using one percent census microdata from 1980 to 2015, Kye and Choi (2021) found that the prevalence of coresidence with parents changed only modestly once age structure was taken into account, and interpreted the stability as the product of countervailing demographic forces: improvement in parental survival and delayed marriage worked to raise coresidence even as family norms moved toward the conjugal household.

That interpretation was reasonable but indirect. Census microdata record who lives with whom, but not whether an absent parent is alive. Two situations that carry entirely different meanings for family life - having no surviving parent, and having a surviving parent with whom one does not live - are therefore pooled into a single category. Whether the stability of coresidence reflects a demographic offset or a genuine persistence of filial living arrangements cannot be settled without separating them. This study takes up that distinction directly, using survey data that ask about parental survival as well as coresidence.

The distinction also matters for social gerontology. In East Asia coresidence has been the modal arrangement through which older adults receive care, and its persistence or decline is routinely read as a barometer of the family's willingness and capacity to provide it (Raymo

et al., 2015; Takagi et al., 2007). If the stability of coresidence rests on demographic circumstance rather than on filial commitment, projections of family care that extrapolate current coresidence rates will overstate what families can be expected to do as those circumstances change. Separating survival from residence is therefore a prerequisite for reading coresidence as a measure of care capacity at all.

2.2 Demographic forces

Coresidence with a parent presupposes a living parent, and the supply of living parents is itself a demographic product. Watkins et al. (1987) established the point formally: mortality decline lengthens the period of intergenerational co-survival, so that successive cohorts spend more of their adult lives with parents alive. A norm shift toward the conjugal household can therefore coexist with stable coresidence, because the opportunity for coresidence expands even as the propensity to take it up contracts.

This insight underlies a substantial literature on kin availability. Uhlenberg (1996) traced how twentieth-century mortality decline reshaped the supply of kin across the life course; Wachter (1997) used microsimulation to project kinship resources for older adults; Murphy (2011) documented the long-run consequences of the demographic transition for British kinship networks; and more recent work has extended the approach to kinlessness among older adults (Verdery & Margolis, 2017) and to the competing care demands of the sandwich generation (Alburez-Gutierrez et al., 2021).

A feature of this literature is worth emphasizing, because it locates the contribution of the present study. Kin availability is almost always estimated - from life tables, from microsimulation, from cohort reconstruction - rather than observed. Surveys that ask respondents directly whether their parents are alive are uncommon, and studies that use such

reports to separate the two components of non-coresidence are rarer still. The Korean Social Survey does ask, and this paper exploits this opportunity.

Delayed marriage operates on the other end of the life course. In Korea, leaving the parental home has historically been tied to marriage rather than to school completion or employment, a pattern characteristic of the strong-family regimes that Reher (1998) distinguished from the weak-family regimes of northwestern Europe. As the age at first marriage rose, young adults remained in the parental household longer (Kim, 2020), and the same dynamic has been documented across East Asia (Raymo et al., 2015). Consequently, rising non-marriage raises coresidence among the young. The present paper treats marital status as a compositional factor to account for this change.

2.3 Socioeconomic and cultural change

Against these demographic forces stand the socioeconomic and cultural changes usually invoked to explain the retreat from extended-family living. The classical formulation is Goode's (1963) account of the worldwide convergence toward the conjugal family under industrialization, and the long American decline in intergenerational coresidence documented by Ruggles (2007) is its representative.

Education occupies an ambiguous position in this account. Better-educated adults hold more individualistic attitudes, and command the resources to form independent households, which should reduce coresidence. But education is also associated with the timing of leaving the parental home and parental survival, which should increase coresidence. In addition, Friedman and Mare (2014) showed that the schooling of offspring is positively associated with the longevity of their parents, and Kye et al. (2014) and Arenas et al. (2017) documented that children's education is positively associated with the health of older adults

in Korea and Mexico. Educational expansion therefore acts on coresidence through two channels with opposite signs - raising the supply of living parents and delaying departure from the parental home while lowering the propensity to live with them - and its net effect is an empirical question rather than a theoretical one. The analytic strategy adopted here makes the two channels separately visible.

Attitudes toward filial responsibility have also moved noticeably. Thornton (2001) situated such shifts within a broader developmental paradigm, and Lesthaeghe (2010) within the second demographic transition; in East Asia the relation between family values and coresidence has been examined for Japan (Morgan & Hirosima, 1983; Takagi et al., 2007) and urban China (Logan & Bian, 1999). Korea's normative starting point was distinctive: the Confucian transformation traced by Deuchler (1992) and the ancestor-centered household described by Janelli and Janelli (1982) placed the obligation to support and coreside with parents primarily on sons, and on eldest sons above all. Whether the erosion of that obligation is large enough to account for observed changes in behavior is one of the questions this paper's extension addresses.

2.4 The gendered structure of coresidence

Korean intergenerational coresidence has been organized around sons. A married daughter was incorporated into her husband's household, so that coresidence with her own parents was rare by construction, and the aggregate sex difference in coresidence is largely a restatement of this patrilineal rule, an asymmetry documented across East Asia (Lee et al., 1994).

There are reasons to expect the gendered practices to have weakened. Son preference in Korea collapsed within a generation and has been supplanted by a mild preference for daughters (den Boer & Hudson, 2017), and comparative work within Chinese societies shows

that patrilocal and matrilocal coresidence coexist in proportions that vary with economic and institutional context rather than following a single cultural script (Chu et al., 2011). At the same time patrilineality persists in domains that are slower to change: eldest sons still claim the largest share of inheritances in contemporary Korea (Kim & Lim-Soh, 2024), and coresidence with the eldest son remains a recognizable pattern (Yoo & Russell, 2021).

What has not been established is how the demographic and the normative interact. If mortality decline enlarges the pool of surviving parents for sons and daughters alike, but the propensity to convert a surviving parent into a coresident parent is governed by a patrilineal rule that is itself eroding, then the same demographic improvement may yield different consequences for the two sexes, and these should change over time. Testing that proposition requires exactly the separation between survival and coresidence that this paper provides.

2.5 The present study

This paper makes three contributions. First, it measures parental survival directly, and so separates the two components of non-coresidence that Kye and Choi (2021) cannot distinguish. Second, it models the two outcomes in the order in which they occur - survival first, coresidence conditional on survival - and decomposes the resulting trend into compositional, survival, and coresidence components. Third, it asks how much change in coresidence with parents is accounted for by the two socioeconomic and cultural forces most often invoked, educational expansion and shifting attitudes toward filial support.

3. Data and Methods

3.1 Data

I use eleven waves of the Korean Social Survey (KSS), a large-scale, nationally

representative survey conducted by the Ministry of Data and Statistics. The KSS rotates topical modules across waves; the family module, which carries the items on parental survival and coresidence, was fielded in 2002 and biennially from 2006 through 2024. The 1998 wave carries the same items but asked the attitude question in a non-comparable form, so the analysis begins in 2002. Sample sizes are large, ranging from 38,489 person-records in 2024 to 85,129 in 2006. The KSS microdata are person-level files covering all members of sampled households, so the household roster is complete. I restrict the analysis to persons aged 20 to 79 with complete information on marital status, education, and the attitude item; the attitude item is missing for 239 cases (0.06%), and marital status and education are complete. The resulting analytic sample contains 411,641 person-records, ranging from 30,349 in 2024 to 60,659 in 2006.

3.2 Measuring parental survival and coresidence

The KSS is well suited to this study because it asks directly whether the respondent's parents are alive, an item absent from the census microdata used by Kye and Choi (2021). Respondents report whether both parents, only the father, only the mother, or neither is alive, and, conditional on at least one surviving parent, whether they live together. These items are asked only of the household head and the head's spouse. Across the eleven waves, 357,277 person-records carry a non-missing response to the parental survival item, and 357,234 of them - 99.99% - are heads or spouses. Analyzing only direct respondents would therefore discard between 15% and 20% of persons aged 20-79, and the loss is substantial and far from random. Those excluded are disproportionately young unmarried adults residing in a parent's household - precisely the group most likely to coreside with their parents.

I recover this information from the household roster. The relationship-to-head code

identifies parent-child dyads within the household, which determines coresidence directly. A child of the head coresides with a parent by construction, since the head is that person's parent and is present by definition; this case is deterministic and accounts for most of the recovery. A grandchild coresides with a parent if a child of the head is also present, and otherwise lives in a skip-generation household. A sibling of the head coresides if a parent of the head is present, and a parent of the head coresides if a grandparent is present. I cannot determine the status for grandparents of the head because there is no relationship code to use, but they are unlikely to coreside with their parent. Other relatives and non-relative household members cannot be placed and are excluded.

Two cautions apply. First, relationship categories in several waves combine a person with his or her spouse (for example, married child and spouse), so the in-marrying spouse, whose own parents live elsewhere, is counted as coresiding; this inflates coresidence slightly, by well under 1% of the sample. Second, inference for grandchildren and siblings assumes that the linking relative present in the household is in fact that person's parent, which is probable but not certain.

The relationship coding scheme changed across waves - nine categories in 2002, fourteen in 2008, and a standard ten-category scheme in the remaining waves. I harmonized these using the original codebooks. Together these procedures reduce the share of persons aged 20-79 whose parental coresidence cannot be determined from 15%-20% to between 0.4% and 1.1%, depending on the wave.

3.3 Assigning parental survival to non-coresiding household members

Constructing the three-state outcome requires one further step. The roster establishes coresidence, but for household members who do not coreside with a parent it says nothing

about whether that parent is alive. Four groups are involved, and I treat them differently according to what the data allow.

For siblings of the head the answer is observed rather than assumed. A sibling of the head has the same parents as the head, so I assign these respondents the head's own reported parental survival. Of 2,506 such cases, the head reports a surviving parent in 84% and no surviving parent in 16%. Grandparents of the head are coded as having no surviving parent. The group is both small and very old (115 cases, median age 75), and assignment should not be consequential. Grandchildren in skip-generation households (378 cases) and children-in-law (179 cases) are coded as having a surviving parent living elsewhere; together these are 0.13% of the sample.

The remaining group is larger and genuinely uncertain: 10,925 coresident parents of the head, whose own parents are reported by no one. Their median age is 70 and 72% are aged 65 or older, so most will have lost both parents; but the youngest among them plausibly have a surviving parent living elsewhere. I therefore estimate three variants. Variant 1 drops them from the analysis. Variant 2 codes all of them as having no surviving parent. Variant 3 codes those under 60 as having a surviving parent living elsewhere and those aged 60 and over as having none. Because the results do not vary across the assumptions due to the small share of this group, I present the analyses using Variant 3. Table 1 reports the number and share of cases involved in each wave. The scale of the issue declines sharply over the period. Coresident parents of the head fall from 4.1% of the analytic sample in 2002 to 1.6% in 2024, as three-generation households became rarer, and the group also ages, so the assumption becomes both less consequential and more accurate in later waves. The cases actually reassigned by Variant 3 - those under 60 - never exceed 0.5% of a wave and fall to 0.1% by 2024.

<Table 1> about here

3.4 Analytic strategy

The outcome has three states - no surviving parent, surviving parent but not coresiding, and coresiding. The first two forms of non-coresidence are what the census data collapse into one. Coresidence is defined only conditional on having a surviving parent: a person whose parents have both died cannot live with a parent. A multinomial logit that places the three states side by side therefore misrepresents the data-generating process.

I instead estimate a sequential logit, which has been a standard model in analyzing educational attainment (Mare, 1980, 1981). The first equation models parental survival for the full sample; the second models coresidence among those with a surviving parent; and the overall prevalence of coresidence decomposes exactly as $P(C) = P(S) \times P(C|S)$. This structure maps directly onto this distinction. The first equation captures the demographic opportunity for coresidence - the supply of living parents that mortality decline has been expanding - while the second captures the propensity to take that opportunity up, the terrain of family norms and household formation behavior. The product form is what allows the stability puzzle to be addressed rather than restated: a relatively flat prevalence series is compatible with rising opportunity and falling propensity, and the sequential structure makes each component observable.

The main analysis deliberately restricts the covariates to demographic characteristics - age and marital status, estimated separately for men and women. These are the two compositional forces identified in Section 2.2: population aging moves adults into ages where surviving parents are scarce, and delayed marriage keeps young adults in the parental home. Entering them lets the decomposition hold both constant, so that the rate terms isolate changes in the schedules rather than changes in who is at risk. The equations are best read as

exposure equations rather than causal ones: they describe the demographic opportunity structure within which coresidence occurs, not its determinants.

Both equations use the same covariates: survey year, age in five-year groups with ages 70-79 combined, marital status (never married, currently married, widowed, divorced or separated), and every two-way interaction among the three. Interacting year with age and with marital status matters substantively, because it allows the age and marital gradient of parental survival and conditional coresidence to change shape across waves; interacting age with marital status allows the effect of marriage to differ between a person in their thirties and one in their seventies. Only the three-way interaction is excluded. That exclusion is deliberate as well as practical: without it, the change in each schedule between 2002 and a later year separates additively into a component common to all groups, a component specific to age, and a component specific to marital status, which is what makes the decomposition below possible; with it, cells defined jointly by year, age, and marital status become too thin to estimate in the equation for coresidence among survivors. Logit is used rather than a linear probability model because parental survival spans almost the entire unit interval, so a linear specification places a large share of the counterfactual predictions outside [0,1] - over a third of the year-2024 survival predictions, including every case aged 20-24 - which cannot be reconciled with forming the product of the two probabilities. Rather than presenting coefficients that are not comparable across equations (Mood, 2010), I report predicted probabilities throughout.

Following the demographic models, I bring in the socioeconomic and cultural forces by adding two characteristics to the demographic specification. Educational attainment enters in four categories - less than high school, high school, some college, and college or more - combining the highest level attended with completion status. Attitudes toward the support of

older parents enter in three categories: the parents themselves, the family, and society, the last combining shared family-and-society responsibility with government or society alone. Both are interacted with survey year in the same way as age and marital status, so that their gradients may change across waves rather than shifting by a constant amount. The compositional term then resolves into four parts - age, marital status, education, and attitudes - each in turn divided between the survival and coresidence channels. The extended specification shows how much of what the demographic specification attributes to residence behavior is in fact carried by the changing distributions of schooling and filial attitudes.

3.5 Counterfactual decomposition

To separate the contribution of changing parental survival from that of changing coresidence behavior, I decompose the trend in the following way. The predicted prevalence of coresidence in a given wave is the average, taken over the individuals observed in that wave, of the product of the two probabilities implied by the fitted equations:

$$P_t = \frac{1}{N_t} \sum_i s(i,t) c(i,t)$$

where Pt is the predicted prevalence of coresidence in year t; N_t is the number of respondents observed in that year; s(i, t) is the predicted probability that person i has at least one surviving parent; and c(i, t) is the predicted probability that the same person coresides with a parent given that at least one survives. Both probabilities are evaluated at that person's own age and marital status.

Averaging at the individual level rather than multiplying two aggregate rates matters. Both probabilities decline with age, so they are strongly positively correlated across individuals, and the product of the two marginal means understates prevalence - by as much as 0.044 in these data.

Counterfactual series are constructed by replacing one or both of the year-specific

components with their 2002 counterparts before forming the product, while retaining each year's own age and marital composition. Replacing the survival component assigns each person the survival probability the 2002 equation would have given them while keeping their own year-*t* coresidence probability; replacing the coresidence component does the reverse; and replacing both yields a series that varies only with the changing age and marital composition of the population, and in the extended model the changes in education and attitudes added.

Three factors change between 2002 and any later year: the composition of the population, the survival equation, and the coresidence equation. I introduce them one at a time, which gives a chain of differences that sums exactly to the total change, with no residual term, in the spirit of classical demographic decomposition (Kitagawa, 1955; Das Gupta, 1993). I introduce them in the order that follows the substantive logic of the model - first the changing composition of the population, then its changing survival, and last its changing coresidence behavior. This gives

$$P_t - P_{2002} = [P_t^{SC} - P_{2002}] + [P_t^{C} - P_t^{SC}] + [P_t - P_t^{C}]$$

where the first bracket is the compositional term, the second the survival term, and the third the coresidence term.

The compositional term is the change that results from letting only the population composition take its year-*t* form; the survival term is the further change from also letting parental survival take its year-*t* form; and the coresidence term is the remaining change from letting conditional coresidence follow as well. Because each term is evaluated with the factors ahead of it in the sequence already at their year-*t* values, any interaction among the factors is absorbed into whichever term comes later, and a different ordering would divide those interactions differently. The composition-survival-coresidence ordering used here

places the demographic factors first and residence behavior last, which is the natural reading for the questions this paper asks.[1]

3.6 Life years of coresidence: Sullivan's method

The decomposition describes prevalence at each survey date. To express the same three states in life-course terms, I combine the survey with period life tables using Sullivan's method (Sullivan, 1971). For each survey year and sex, single-age person-years lived between exact ages 20 and 80, taken from the complete life tables published by Ministry of Data and Statistics, are weighted by the survey prevalence of each parental status in the corresponding five-year age group. Summing over ages and dividing by the number of survivors at age 20 yields the expected years lived between ages 20 and 80 in each state - with no surviving parent, with a surviving parent in the same household, and with a surviving parent living elsewhere - and the three components sum to the temporary life expectancy between ages 20 and 80. These are period quantities: they describe a synthetic cohort subjected to the mortality and coresidence schedules of a single year, not the biography of any actual cohort.

4. Results

4.1 Descriptive analysis

Table 2 describes the analytic sample at four waves spanning the study period. Mean age rises by more than seven years between 2002 and 2024, with the share aged 60-79 nearly doubling to 36.6%; the currently married share falls from 71.2% to 65.4% while the never-

[1] The choice affects mainly the survival term; the coresidence term is nearly invariant to it, and an order-free Shapley average, which apportions the interactions symmetrically, tells the same qualitative story. Under every treatment the coresidence term is much the largest in absolute value for men and the survival term is positive for both sexes.

married and the divorced or separated grow; the college-graduate share more than doubles to 28.6%; and the share agreeing with the family responsible for supporting older parents collapses from 72.1% to 18.3%, with society absorbing the difference.

<Table 2> about here

Table 3 reports the three-state distribution by wave for persons aged 20-79. The most visible change is the growth of the population without a surviving parent, from 34.2% in 2002 to 39.2% in 2024. Coresidence with a surviving parent moved little by comparison, from 19.2% to 15.4%, with year-to-year fluctuation of a percentage point or two around a gently declining path. Non-coresidence with surviving parents changed least, from 46.6% to 45.4%.

<Table 3> about here

The aggregate stability of coresidence is the central puzzle. It sits alongside a large increase in the share with no surviving parent, which by itself should have pushed coresidence down substantially. Men and women differ sharply (results not shown). Pooling waves, 20.5% of men aged 20-79 live with a parent, against 13.5% of women. This gap reflects the patrilineal character of Korean intergenerational coresidence: when a married couple lives with parents, those parents are usually the husband's, so the wife is recorded as not coresiding with her own parents.

Figure 1 disaggregates the three states by ten-year age group, separately for men and women, and the age-specific series depart sharply from the aggregate ones. Within every age

group the share without a surviving parent fell - among persons in their fifties, from 53.9% in 2002 to 33.5% in 2024 - even as the aggregate share rose, because the population shifted into the older ages where parental loss is concentrated. Coresidence shows the mirror image: below age fifty it rose within every age group, most strikingly among persons in their thirties (from 17.7% to 28.5%), even as the coresidence of the sample as a whole drifted down. The two sex blocks differ mainly in level: from their thirties onward men coreside with a parent far more often than women at every age, while in the twenties the sexes have converged as young women's coresidence rose. Neither aggregate nor age-specific trends can be read on their own as statements about behavior; separating the compositional, survival, and behavioral strands is the task of the decomposition that follows.

<Figure 1> about here

Figure 2 adds the marital dimension, showing the three-state distribution by sex, age group and marital status in 2002 and 2024. The marital gradient in coresidence is large at every age and overwhelms the changes over time within any cell: never-married men in their forties live with a parent at rates near half in both years, whereas among the currently married the share never reaches a fifth for men and is rarer still for women. Delayed marriage therefore moves adults between cells with very different coresidence regimes, which is why the decomposition treats marital status as a compositional factor. The figure also previews the behavioral finding: within nearly every cell, men's coresidence is lower in 2024 than in 2002, while women's cells move little.

<Figure 2> about here

4.2 Life years with and without surviving parents

Figure 3 presents the three parental states as expected years lived between ages 20 and 80, combining each survey year's life table with its prevalence: the upper panels show years, the lower panels shares of the span. The span itself lengthened: life expectancy between ages 20 and 80 rose from 51.7 to 55.7 years for men and from 56.1 to 58.0 for women. Its division changed more. Years lived without a surviving parent fell in absolute terms - from 20.0 to 18.0 for men and from 24.8 to 20.3 for women - even as the span grew, so that years lived with at least one parent alive expanded from 31.7 to 37.7 for men and from 31.3 to 37.7 for women. Mortality decline added about six years of shared adult lifetime with parents over the observation window. For adult children these are years of potential obligation as well as of companionship: the co-survival of the generations that the literature on the sandwich generation treats as the demographic root of care demands (Alburez-Gutierrez et al., 2021).

Years of coresidence did not fall. Men spent 12.4 of the span's years living with a parent in 2002 and 12.5 in 2024, a stable share of 22-24%. Women's coresident years rose by two-fifths, from 7.4 to 10.6, lifting their share from 13.2% to 18.3%. Most of the added years with a surviving parent accrued as non-coresident years - from 19.3 to 25.2 for men and from 23.9 to 27.1 for women - but the coresident portion held firm for sons and grew for daughters, so that the sex gap in coresident years narrowed from 1.7 to one to about 1.2 to one. This is the duration counterpart of a narrowing that the decomposition below attributes to sons' falling propensity rather than to any behavioral advance among daughters.

These figures are comparable with the census-based estimates of Kye and Choi (2021), which cover the adult life course without observing parental survival. Where the observation periods overlap, the two sources agree closely for men but diverge for women - sharply in the earlier years, less so over time. The reason is measurement. Household rosters

cannot separate own from in-law parents, so the census counts a married woman living with her husband's parents as coresiding with parents, whereas the survey counts only her own. The two sources accordingly disagree most where patrilocal coresidence was most common and draw together as it receded; the measurement gap is itself a trace of the erosion of patrilineal residence that the decomposition identifies.[2]

<Figure 3> about here

4.3 Two countervailing components

Decomposing the outcome shows why aggregate coresidence changed so little. The first two columns of Table 4 report the component probabilities, standardized over the pooled distribution of age and marital status so that they isolate the year effect in each equation. Parental survival rose substantially. Among men, the probability of having a surviving parent increased from 0.606 in 2002 to 0.719 in 2024; among women, from 0.569 to 0.686. This is the expected consequence of mortality decline: successive cohorts reach any given age with a higher probability that their parents are still alive.

Conditional coresidence moved in the opposite direction for men, falling from 0.370 to 0.249. Among men with a surviving parent, in other words, the propensity to live with that parent declined by roughly a third over the period. For women the conditional probability was nearly flat: 0.217 in 2002, rising to about 0.23 in the mid-2010s before settling at 0.206 in 2024.

[2] I also checked the life years counting parents-in-law as well, assigning the spouse's reported parental survival and coresidence to household heads and vice versa. This broader measure closes most of the gap with the census estimates; the remainder is consistent with the recovery missing children-in-law in three-generation households. The in-law component of women's coresidence prevalence shrinks from 4.7 percentage points in 2002 to 1.2 in 2024. Results are available upon request.

<Table 4> about here

The two sexes are therefore converging, but through sons' retreat rather than daughters' advance. In 2002 men were 1.7 times as likely as women to live with a surviving parent; by 2024 the ratio had narrowed to about 1.2. The decline of coresidence is concentrated among sons, while daughters' propensity held steady, a pattern consistent with the erosion of patrilineal residence norms.

4.4 Decomposing the trend

The unadjusted and standardized series for parental survival move in opposite directions, and the contrast is instructive. Without adjustment, the observed share of men aged 20-79 with a surviving parent falls from 0.680 in 2002 to 0.625 in 2024. Standardized for age and marital status, the same probability rises from 0.606 to 0.719. The pattern is the same for women: 0.638 to 0.591 unadjusted, and 0.569 to 0.686 standardized.

The reversal is entirely compositional. The Korean adult population aged rapidly over this period, and older respondents are far more likely to have lost their parents. Aggregate figures therefore show parental survival deteriorating even as age-specific survival improved markedly. Any account of intergenerational coresidence that works with unadjusted prevalence will misread the demographic foundation of the trend.

Table 5 reports the decomposition of the change in predicted prevalence into its six components, separately by sex. Two of the six dominate for men. The coresidence rate term, at -0.081, is the largest single contribution responsible for the change between 2002 and 2024: it is the change in prevalence produced by the fall in the propensity to live with a surviving parent, evaluated in the year-2024 population with its enlarged supply of surviving

parents. Working against it, the shift of the population into ages where parents are less likely to be alive contributes -0.068 through the survival channel, while the retreat from marriage contributes +0.038 through the coresidence channel and rising survival rates a further +0.036. The two remaining components are small for men: age composition acting through coresidence (+0.003) and marital composition acting through survival (+0.003). For women the age term is substantial in both channels, -0.031 through survival and -0.026 through coresidence, a point taken up below.

<Table 5> about here

The most noticeable result of the decomposition is that the compositional change, which nets to -0.024 for men and -0.020 for women, is far smaller than its parts. It is the partial cancellation of two large demographic forces pulling in opposite directions. Population aging moves adults into ages where parents have usually died, and it would on its own have reduced men's coresidence by 0.065 and women's by 0.057. The retreat from marriage moves adults into statuses in which coresidence with a surviving parent is far more common - never-married and, to a lesser extent, divorced or separated adults coreside at much higher rates than the married - and it would on its own have raised men's coresidence by 0.041 and women's by 0.037.

Both forces – population aging and delay in marriage – have grown stronger over the period rather than settling into a stable balance. Among men, the age-through-survival term widens from -0.008 in 2006 to -0.068 in 2024 and the marriage-through-coresidence term from +0.008 to +0.038; the pattern is the same for women. The partial cancellation observed in 2024 is therefore closer to a coincidence than to an equilibrium, and it need not persist: if

the retreat from marriage decelerates before population aging does, the compositional term will turn still more sharply negative.

The two rate terms retain the gender asymmetry warranting explanation. The survival rate term is positive for both sexes but more than three times larger for men (+0.036) than for women (+0.011). The coresidence rate term, by contrast, is -0.081 for men against -0.003 for women. Women's rate term is essentially zero, so what movement there is in their coresidence is not a change in propensity: their small net decline is the residue of population aging incompletely offset by the retreat from marriage. What separates the sexes remains residence behavior, and the behavioral change is located primarily among sons.

4.5 Extension: Education and family values

Table 6 reports the decomposition of the changes between 2002 and 2024 under the extended specification alongside the demographic one, estimated on the same sample, with each compositional term divided between its survival and coresidence channels. The two demographic compositional terms are almost unchanged by the addition of education and attitudes: for men the age term is -0.065 under both specifications and the marriage term differs little, and for women both terms are identical to three decimals. The partial cancellation of population aging against the retreat from marriage documented in Section 4.4 is therefore not an artifact of omitting socioeconomic and cultural characteristics. It survives their inclusion intact.

<Table 6> about here

Education behaves as the two-channel account of Section 2.3 anticipates, and the

channel split makes this visible directly. For men, education contributes +0.014 through the survival equation and -0.009 through the coresidence equation, so its net contribution is only +0.005: better-educated men are more likely to have a surviving parent and less likely to live with one, and the two effects largely cancel. Reporting the net alone would suggest, misleadingly, that educational expansion did not matter. For women both channels are positive, +0.007 and +0.003, so educational expansion worked modestly in favor of daughters' coresidence. This asymmetry is one route through which the sexes have converged: schooling pushed sons out of the parental household and daughters, if anything, toward it.

Attitudes contribute -0.023 through composition for men, making them the second largest negative compositional component in the extended decomposition after population aging, and it is spread across both channels: -0.008 through survival and -0.014 through coresidence. Entering them shrinks the coresidence rate term for men from -0.081 under the demographic specification to -0.058, a reduction of about 28%. The collapse in the share of the population holding the family responsible for supporting older parents does therefore register in the decomposition, but only once it is allowed to enter as a compositional factor with a time-varying gradient of its own. For women the attitudinal contribution is negligible, -0.003.

The more consequential result is how much remains. Even with education and attitudes entered with their own year interactions, the coresidence rate term for men is -0.058, still the largest behavioral quantity in the decomposition. Educational expansion and attitudinal change together account for an appreciable share - about 28% - of the behavioral decline among men, yet the greater part is accounted for by neither. For women the coresidence rate term is -0.003, confirming that their trend is compositional rather than

behavioral.

5. Discussion and Conclusion

Coresidence with parents in South Korea declined only modestly between 2002 and 2024, and among women it barely declined at all. Read at face value, that near-stability suggests filial living arrangements resilient to decades of economic and cultural transformation. The decomposition tells a different story, and this is the first finding of the paper. The modest net change is the residue of forces several times larger, and they run in both directions: a substantial retreat from coresidence conditional on having a surviving parent, and the aging of the population, set against improving parental survival and the retreat from marriage.

For men the arithmetic is clear. The behavioral retreat contributed -0.081 to the change in prevalence and population aging a further -0.068, while the retreat from marriage contributed +0.038 and improving survival rates +0.036. Components raising coresidence total about +0.08 and those lowering it about -0.15; the observed decline of 0.069 is what remains. Two implications follow. The apparent resilience of coresidence is not evidence of stable filial obligation but the arithmetic consequence of large offsetting movements. And the offset may change in the future: it rests on mortality improvement that must eventually decelerate and on a retreat from marriage that cannot continue without limit. When either slows, the behavioral decline already under way will pass through to observed coresidence undamped. Policy that reads current coresidence rates as an index of family care capacity may be misled.

The policy implications follow directly. Family coresidence has served as the implicit buffer in East Asian arrangements for the care of older people, and the near-stability of aggregate coresidence lends that assumption apparent support. The decomposition shows the

buffer to be thinner than it looks: the propensity of sons to live with a surviving parent fell by a third in two decades, and the aggregate has been held up by forces - improving parental survival and delayed marriage - that will not continue indefinitely. Projections of the family's capacity to provide care should therefore rest on the conditional propensity rather than on prevalence, and should anticipate a steeper decline in coresidence than the prevalence series alone implies.

The second finding is analytic. A decomposition that reports only the net compositional change would dismiss population composition as unimportant; separating its parts shows that the small net is the residue of two of the largest components in the analysis - population aging and the retreat from marriage - working against each other. Both have strengthened over the period rather than settling into balance, so the cancellation is a feature of the present moment rather than a structural constant. This is the quantified form of a mechanism that Kye and Choi (2021) could only infer from census data, and it identifies the two demographic clocks whose relative speeds will govern the trajectory of coresidence.

The third finding concerns gender. The same demographic improvement produced very different consequences for sons and daughters, because in a sequential process an additional surviving parent converts into an additional coresiding pair only in proportion to the conditional probability of coresidence, which has been roughly half as large for women throughout the period. Demographic opportunity is distributed evenly across the sexes; its conversion into coresidence is governed by a patrilineal rule that allocates the obligation to sons. That rule is eroding, but through sons' retreat rather than daughters' advance: women's rate term is essentially zero, and the stability of their outcome owes to the retreat from marriage offsetting population aging. The convergence in outcomes is real, yet on this evidence it is not a reallocation of filial obligation toward daughters; the behavioral change is

located among sons.

These results carry beyond Korea. The combination that generates them - rapid mortality decline, marriage postponement, and a patrilineal residence norm that assigns coresidence to sons - is shared by Japan, Taiwan, and China, where census-based accounts of intergenerational coresidence face the same inability to distinguish parental death from separate residence (Raymo et al., 2015). The sequential framework used here predicts that in each of these societies aggregate coresidence will understate the behavioral retreat among sons, that the retreat from marriage will mask population aging in the compositional term, and that daughters' coresidence will appear to converge on sons' before any reallocation of filial obligation occurs. The decomposition also speaks to the long-running question, posed for the United States by Ruggles (2007) and given its demographic formulation by Watkins et al. (1987), of whether the decline of coresidence is demographic or behavioral: in Korea it is both, and the demographic components very nearly cancel, so that the behavioral change becomes visible only once the two are separated.

Educational expansion and the shift in attitudes toward filial support together absorb about 28% of the behavioral decline among men, with attitudes carrying most of that share once they are allowed a time-varying gradient of their own. Education contributes almost nothing on net - not because it is irrelevant, but because its two channels offset, raising the supply of surviving parents while lowering the propensity to coreside, the former consistent with the association between offspring schooling and parental longevity reported by Friedman and Mare (2014). For women both channels are positive, so educational expansion worked modestly in favor of daughters' coresidence. Education is therefore not simply a solvent of the extended family; it is one of the mechanisms through which the gendered structure of coresidence has been converging. What is left unexplained is the greater part of

the retreat among sons.

A methodological observation generalizes beyond this case. Unadjusted and standardized series for parental survival move in opposite directions: population aging masks mortality improvement so completely that the sign reverses. Any analysis of intergenerational structures that works with crude prevalence will misread the demographic foundation of the trend it describes.

Two lines of further work follow. The first is to bring sibship size into the analysis, which would complete the demographic account: fertility decline should raise each surviving child’s chance of being the one who coresides, a channel these data cannot isolate. The second is to ask what sustains the behavioral retreat among sons, since the two forces most often invoked - educational expansion and the decline of familistic attitudes - account for less than a third of it. Housing costs, the geography of employment, and the substitution of formal long-term care for family care are the obvious candidates, and none can be examined with these data.

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Table 1 Coresident parents of the household head, whose own parental survival is not observed, by wave

Year	Analytic N	Head's parents: n	% of N	Under 60: %	Aged 60+: %	N if excluded (Variant 1)
2002	57,135	2,350	4.11	0.48	3.63	54,785
2006	60,659	2,117	3.49	0.47	3.02	58,542
2008	38,099	953	2.50	0.32	2.18	37,146
2010	32,593	949	2.91	0.40	2.52	31,644
2012	31,610	787	2.49	0.35	2.14	30,823
2014	31,844	757	2.38	0.34	2.04	31,087
2016	33,242	705	2.12	0.24	1.88	32,537
2018	32,583	650	1.99	0.32	1.68	31,933
2020	32,589	644	1.98	0.25	1.73	31,945
2022	30,938	515	1.66	0.16	1.50	30,423
2024	30,349	487	1.60	0.13	1.47	29,862

Note: Ages 20-79. Head's parents are household members whose relationship to the head is parent and who do not coreside with a parent of their own. Under Variant 3 those aged under 60 are coded as having a surviving parent living elsewhere and those aged 60 and over as having none. Variant 1 excludes the entire group.

Table 2 Descriptive statistics for the analytic sample, selected waves, KSS

	2002	2010	2018	2024
Women (%)	52.9	52.3	51.8	50.7
Mean age	44.4	46.8	49.3	51.7
Age group (%)				
20-29	18.5	14.0	12.9	11.3
30-39	22.8	21.3	16.4	13.0
40-49	23.8	23.9	20.7	18.2
50-59	15.5	18.6	21.9	21.0
60-69	13.1	12.8	16.6	22.8
70-79	6.3	9.4	11.5	13.8
Marital status (%)				
Never married	18.3	16.9	19.5	21.4
Currently married	71.2	71.4	67.7	65.4
Widowed	8.1	7.7	6.9	6.3
Divorced or separated	2.5	3.9	5.9	6.9
Educational attainment (%)				
Less than high school	37.3	28.6	24.1	20.2
High school	35.2	32.3	30.3	30.4
Some college	13.8	19.2	20.9	20.8
College or more	13.8	19.8	24.7	28.6
Responsibility for supporting older parents (%)				
Parents themselves	9.6	13.2	20.4	16.8
Family	72.1	36.4	26.4	18.3
Society	18.3	50.4	53.1	64.8
N	57,135	32,593	32,583	30,349

Note: Persons aged 20-79 whose parental status can be determined (Variant 3), with complete information on marital status, education, and the attitude item. Entries are column percentages except mean age and N. For attitudes, society combines family and society together with government or society alone.

Table 3 Distribution of parental status, persons aged 20-79, KSS 2002-2024 (%)

Year	No surviving parent	Surviving parent, not coresiding	Coresiding	N
2002	34.2	46.6	19.2	57,135
2006	34.1	47.9	18.0	60,659
2008	33.8	51.5	14.8	38,099
2010	34.4	48.6	17.0	32,593
2012	36.5	47.7	15.8	31,610
2014	37.6	46.0	16.4	31,844
2016	38.4	44.8	16.8	33,242
2018	36.9	47.3	15.8	32,583
2020	38.0	44.6	17.4	32,589
2022	37.5	46.9	15.5	30,938
2024	39.2	45.4	15.4	30,349

Note: Ages 20-79, Variant 3. Cases whose parental status cannot be determined (other relatives and non-relative household members) are excluded, as are cases with incomplete covariate information; together they account for 0.4% to 1.1% of each wave.

Table 4 Standardized component probabilities and prevalence of coresidence, by sex

Year	P(S)	P(C|S)	P(C)
Panel A. Men			
2002	0.606	0.370	0.245
2006	0.620	0.357	0.231
2008	0.629	0.310	0.186
2010	0.643	0.340	0.212
2012	0.646	0.310	0.188
2014	0.657	0.310	0.195
2016	0.664	0.311	0.201
2018	0.680	0.268	0.182
2020	0.692	0.287	0.203
2022	0.711	0.253	0.181
2024	0.719	0.249	0.176
Panel B. Women			
2002	0.569	0.217	0.145
2006	0.592	0.211	0.135
2008	0.605	0.193	0.113
2010	0.617	0.221	0.132
2012	0.621	0.217	0.131
2014	0.631	0.227	0.136
2016	0.638	0.227	0.138
2018	0.653	0.217	0.135
2020	0.665	0.223	0.146
2022	0.674	0.205	0.131
2024	0.686	0.206	0.132

Note: P(S) is the probability of having at least one surviving parent and P(C|S) the probability of coresiding given a surviving parent; both are standardized over the pooled distribution of age and marital status P(C), the prevalence of coresidence, is computed as the average of the individual products of the two probabilities and therefore does not equal P(S) x P(C|S). Ages 20-79, Variant 3.

Table 5 Six-component decomposition of the change in coresidence since 2002, by sex

Year	Composition				Rates		Total
	Age: survival	Age: coresidence	Marriage: survival	Marriage: coresidence	Survival rates	Coresidence rates	
Panel A Men							
2002	-	-	-	-	-	-	-
2006	-0.008	-0.008	0.001	0.008	0.004	-0.010	-0.014
2008	-0.016	-0.013	0.000	0.005	0.006	-0.041	-0.059
2010	-0.021	-0.011	0.001	0.010	0.010	-0.022	-0.033
2012	-0.033	-0.012	0.001	0.015	0.010	-0.038	-0.057
2014	-0.040	-0.007	0.002	0.019	0.014	-0.038	-0.050
2016	-0.044	-0.005	0.002	0.024	0.017	-0.038	-0.044
2018	-0.044	0.000	0.003	0.025	0.021	-0.068	-0.062
2020	-0.053	0.006	0.003	0.030	0.026	-0.053	-0.041
2022	-0.058	0.002	0.003	0.034	0.033	-0.078	-0.064
2024	-0.068	0.003	0.003	0.038	0.036	-0.081	-0.069
Panel B Women							
2002	-	-	-	-	-	-	-
2006	-0.005	-0.013	0.002	0.009	0.002	-0.004	-0.010
2008	-0.007	-0.019	0.002	0.007	0.003	-0.018	-0.032
2010	-0.011	-0.021	0.003	0.011	0.004	0.001	-0.013
2012	-0.014	-0.022	0.004	0.014	0.004	-0.000	-0.014
2014	-0.018	-0.022	0.004	0.016	0.005	0.006	-0.009
2016	-0.021	-0.023	0.004	0.019	0.006	0.007	-0.008
2018	-0.021	-0.024	0.005	0.021	0.007	0.001	-0.010
2020	-0.024	-0.020	0.006	0.026	0.009	0.005	0.001
2022	-0.027	-0.025	0.006	0.027	0.009	-0.005	-0.014
2024	-0.031	-0.026	0.007	0.030	0.011	-0.003	-0.013

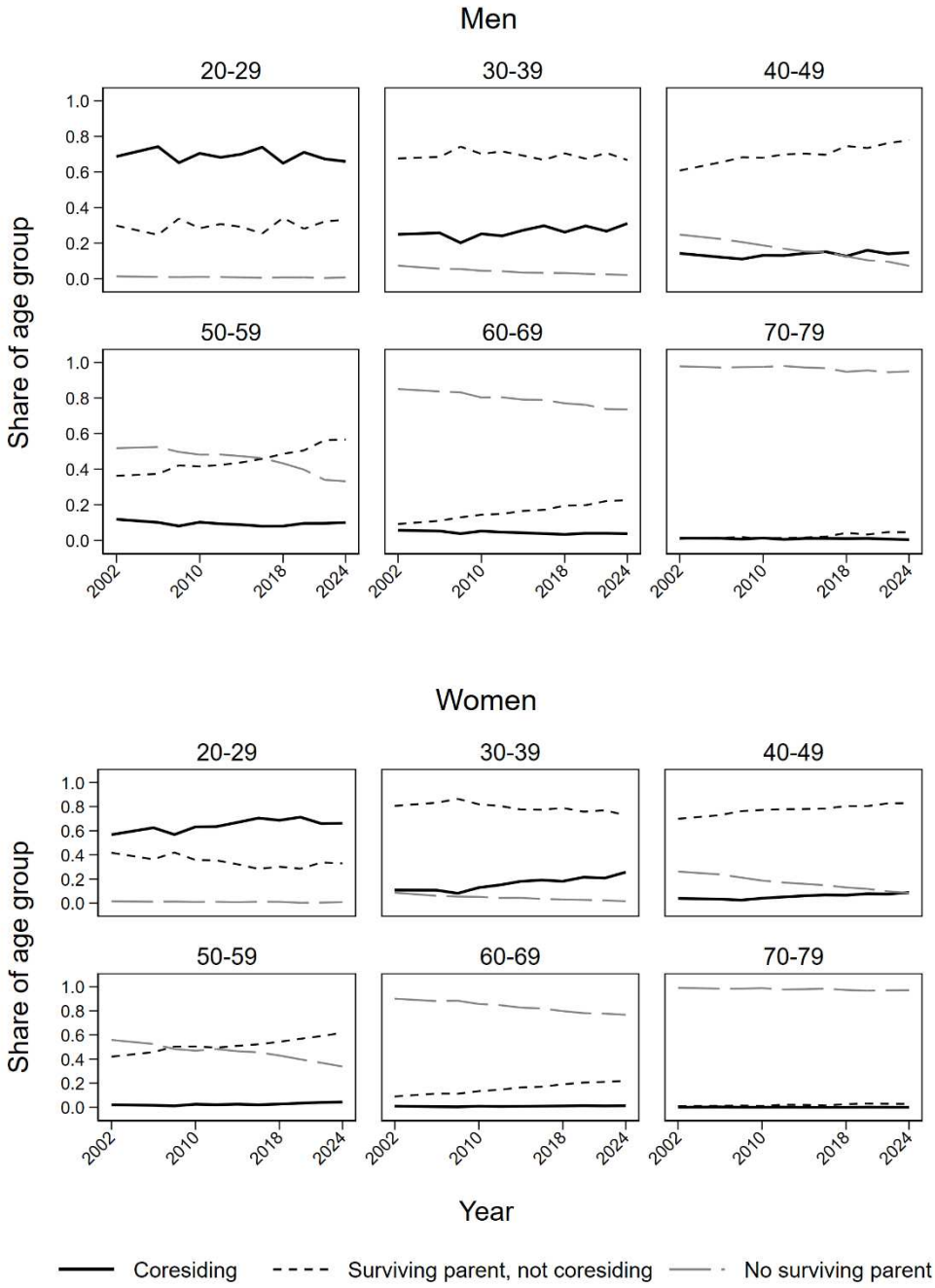
Note: Decomposition of the change in predicted prevalence since 2002 into six components that sum to the total. Age and Marital denote the two steps of the compositional change - replacing the 2002 age margin, then the 2002 distribution of marital status within age groups - each divided between the survival and coresidence channels through which composition acts. Survival and Coresidence rates are the corresponding changes in the two fitted schedules, introduced in that order. Ages 20-79, Variant 3.

Table 6 Decomposition of the 2002-2024 change in coresidence under the demographic and extended specifications, by sex

	Demographic Model			Extended Model		
	Survival	Coresidence	Total	Survival	Coresidence	Total
Panel A. Men						
Composition						
Age	-0.068	0.003	-0.065	-0.068	0.003	-0.065
Marital status	0.003	0.038	0.041	0.004	0.038	0.042
Education	-	-	-	0.014	-0.009	0.005
Attitudes	-	-	-	-0.008	-0.014	-0.023
Subtotal	-0.065	0.041	-0.024	-0.059	0.017	-0.042
Rate change	0.036	-0.081	-0.044	0.033	-0.058	-0.025
Residual			0.000			-0.002
Total change			-0.069			-0.068
Panel B. Women						
Composition						
Age	-0.031	-0.026	-0.057	-0.031	-0.026	-0.057
Marital status	0.007	0.030	0.037	0.007	0.030	0.037
Education	-	-	-	0.007	0.003	0.009
Attitudes	-	-	-	0.001	-0.004	-0.003
Subtotal	-0.024	0.004	-0.020	-0.017	0.002	-0.014
Rate change	0.011	-0.003	0.007	0.008	-0.003	0.005
Residual			0.000			-0.004
Total change			-0.013			-0.013

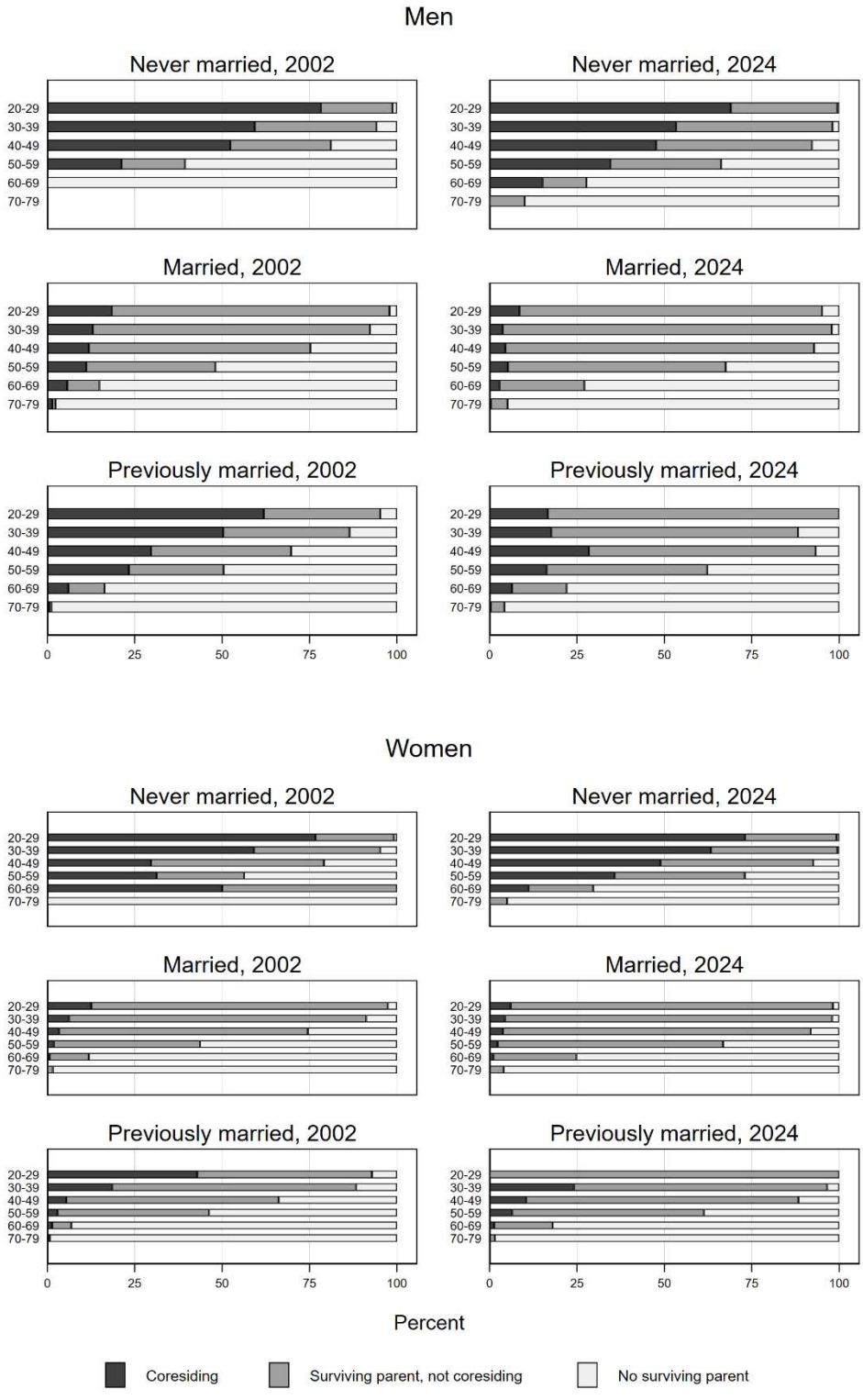
Note: Contributions to the change in predicted prevalence between 2002 and 2024. The demographic specification contains survey year, age group, and marital status; the extended specification adds educational attainment and attitudes toward parental support; all covariates are interacted with survey year, and the two specifications are estimated on the same sample. Compositional terms replace the reference-year distribution of each characteristic in the order listed and are divided between the survival and coresidence channels through which composition acts; the demographic entries are those of Table 5. Rate change is the corresponding change in the two fitted schedules. Residual is the small part of the compositional change carried by combinations of characteristics that do not occur in 2002. Components sum to the total up to rounding; dashes mark characteristics absent from the model. Ages 20-79, Variant 3.

Fig. 1 Distribution of parental status by age group and sex, 2002-2024



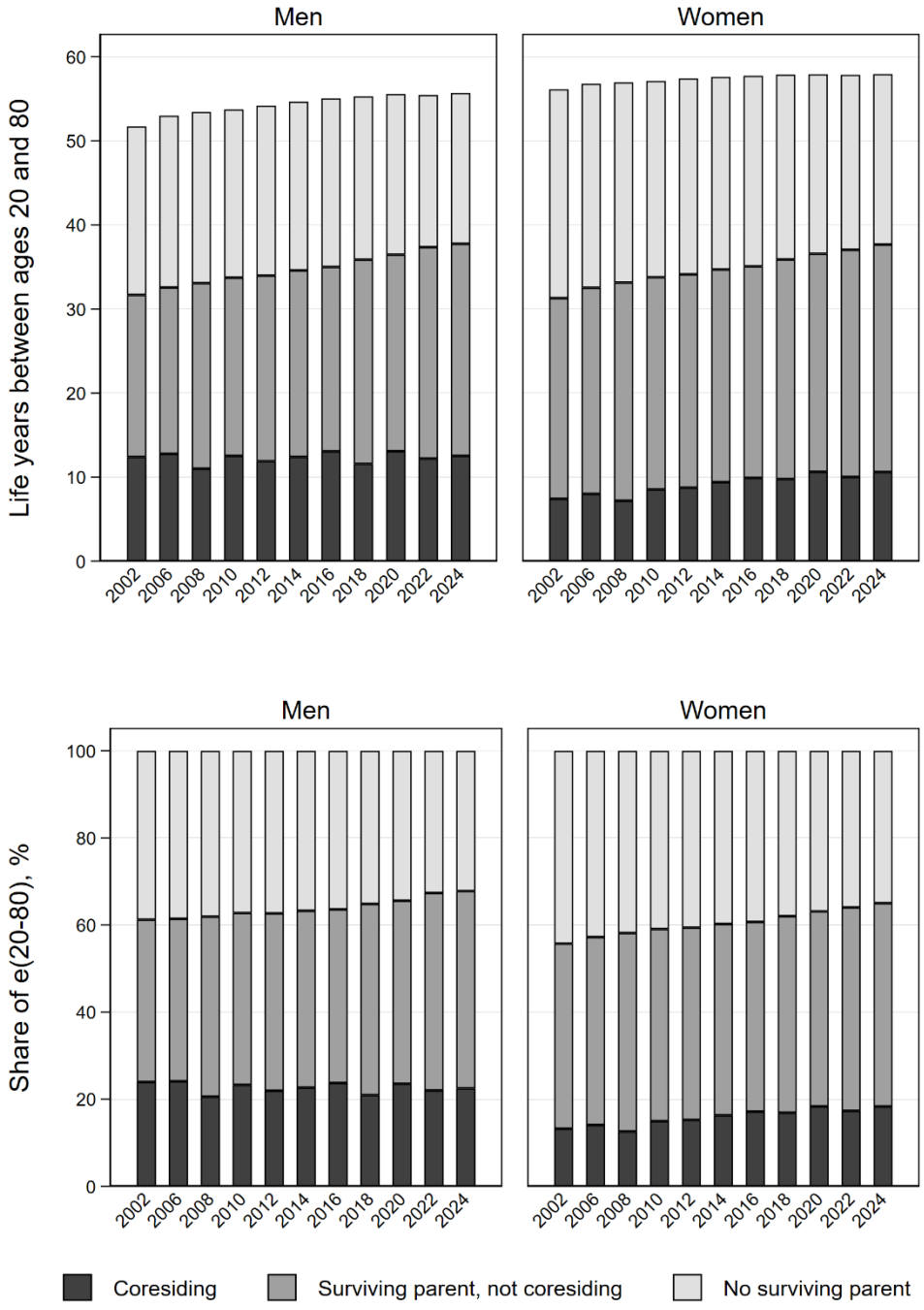
Note: Persons aged 20-79 whose parental status can be determined (Variant 3). Each panel shows the share of the ten-year age group in each of the three states, for men (upper block) and women (lower block).

Fig. 2 Distribution of parental status by sex, age group and marital status, 2002 and 2024



Note: Each bar shows the percentage distribution of the three states within the sex, marital-status, age-group, and year cell; bars sum to 100. Previously married combines the widowed and the divorced or separated. Cells with no sample cases are left blank, and cells with fewer than 30 observations - never-married aged 60 and over and previously married in their twenties - should be read with caution. Ages 20-79, Variant 3.

Fig. 3 Life years between ages 20 and 80 by parental survival and coresidence status, 2002-2024



Note: Sullivan estimates combining the complete life tables of Ministry of Data and Statistics (single ages) with survey prevalences of the three states (five-year age groups, ages 20-79, Variant 3, unweighted). Upper panels show expected years lived in each state between exact ages 20 and 80, which sum to the temporary life expectancy; lower panels show the same quantities as percentage shares of life expectancy. Coresidence refers to the respondent's own surviving parent.