Kinship networks, kinlessness and friendship at different ages. An extensive analysis of the Italian case over a 20–year period

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Abstract

Kinship networks are a key informal infrastructure of support, yet demographic change is reshaping how many and which relatives people can rely on. Some people may lack kin completely or in part. Thus, we also consider friendship ties as potential compensatory sources of support. Using nationally representative surveys from 1998 and 2016, we describe age-specific configurations of close kin and friends among Italian adults. We measure the availability of close kin (partner, children, parents, siblings, grandparents, grandchildren), kinlessness, kinship size and diversity, and generational positioning. In 2016, complete kinlessness remains rare (about 1%) but is concentrated at older ages, whereas small, vertically "thinned" networks are more common. Kin availability peaks in midlife and declines at older ages. Between 1998 and 2016, the average number and diversity of kin decreased and generational profiles increasingly feature ascendants without descendants and a group of "generational solos." Friendship ties are widespread and more prevalent among those with fewer kin, but they do not fully offset emerging inequalities in kinship resources. These findings show how the changes occurred in longevity, low fertility, and partnership reconfigured informal support bases in an ageing, strong-family context.

Introduction

Kinship networks have long been recognized as a cornerstone of social life, shaping individual behaviors and identities across generations (Bengtson, 2001; Reher, 1998; Umberson & Thomeer, 2020), and providing emotional, practical, and financial support (Patterson & Margolis, 2023; Schwartz & Litwin, 2018). These networks evolve in tandem with major demographic and societal shifts. As noted by Margolis and colleagues (2025), kinship networks of contemporary older adults have been affected by the first and second demographic transitions. The transition from historically high to low levels of mortality and fertility has fundamentally reshaped the size and composition of kinship networks, altering the availability of kin (Murphy 2011; Verdery 2015). Fertility and couple formation postponement and decline and rising longevity have continued to affect kinship structures, together with divorce (Verdery et al., 2019). In economically advanced societies like Sweden, the Netherlands, and Germany, studies indicate declines in nuclear family size and a growing share of people without certain kin ties, particularly in midlife and old age (de Bel et al., 2025; Hünteler, 2022; Van Damme et al., 2025), contributing to a broader demographic shift toward smaller and older family networks (Alburez–Gutierrez et al., 2023; Kolk et al., 2023) that restructure the potential for family solidarity. Recent demographic projections signal that future generations will experience even smaller, older, and more complex kinship networks, with potential consequences for family support and social resilience (Alburez–Gutierrez et al., 2023; de Bel et al., 2025; ISTAT, 2025). In response to these demographic shifts, scholars have increasingly emphasized the need to understand not just the presence or absence of kin, but also the structure, size, and configuration of kinship networks (Alburez–Gutierrez et al., 2023; Hünteler, 2022; Kolk et al., 2023; Van Damme et al., 2025).

Prior research has often focused on older adults and on kinlessness, defined as the absence of key close kin such as a partner, children, and siblings (Carr, 2019; Margolis & Verdery, 2017; Pittavino et al., 2025; Verdery et al., 2019). Yet, kin availability matters throughout the entire life course. From early adulthood to late old age, the presence and types of available kin evolve in response to life transitions such as partnership formation, parenthood, and bereavement (Wrzus et al., 2013; Hünteler, 2022), with important implications for well–being and individual behaviors (Umberson et al., 2020). The life course perspective highlights the dynamic nature of kinship networks, as well as the varying roles that kin play at different ages (Wrzus et al., 2013). Similarly, the *Convoy Model* considers social relationships, including family, as a *convoy* that moves with the person over the life course and evolves at different ages, for instance, in size and composition (Antonucci et al. 2014). From this perspective, kin relationships and the timing of their formation and loss are crucial to understand vulnerability and support across the life span.

The structure of kinship networks, defined not just by size but also diversity and generational positioning, further shapes these dynamics. Some individuals may have horizontal ties (e.g., siblings),

others only vertical ones (e.g., (grand)parents, (grand)children), and the social functions of these relationships differ (Kolk et al., 2023). The configuration of kin ties influences both the availability of support and the directionality of obligations (Hünteler, 2022; Van Damme et al., 2025). Early life experiences of kin loss or absence, such as growing up without siblings or one's parents dying prematurely, can generate long–term vulnerabilities that unfold over the life course (Fletcher et al., 2018; Leopold & Lechner, 2015).

While kin relationships remain indispensable, individuals are embedded in a broader network of social ties that extend beyond family. Life course experiences also encompass interactions with friends, influencing the overall social connectedness of individuals (Djundeva et al., 2019; Kalmijn, 2003). Despite this recognition, the literature has often examined kinship and friendship networks separately, neglecting the interconnections that exist between the two. At different ages, the role of friends changes, offering alternative sources of companionship and support, especially when kin are unavailable (Böger & Huxhold, 2018; Höllinger & Haller, 1990; Mair, 2019; Ng et al., 2021; York Cornwell & Goldman, 2021). Studies show that people with fewer relatives tend to cultivate stronger friendship networks, especially in contexts where kin–based support is less normative (Mair, 2019).

This study makes four key contributions to the growing field of kinship research. First, we provide a relatively uncommon empirical analysis of kinship networks across all adult age groups. Second, we examine changes over a 20-year period (1998–2016). Prior research has mostly focused on older adults, single time points, or specific age ranges. We contribute by analyzing age-specific prevalence of different types of kin (partner, children, parents, siblings, grandparents, grandchildren), also examining various characteristics of kinship networks: kinlessness and kinship size, number of different types of ties available, and generational positioning. In addition, our analysis examines how kinship networks and their characteristics changed over nearly two decades in Italy, a country undergoing profound demographic shifts. Third, unlike most studies that limit analysis to kin, we also examine friendship ties, recognizing their potential as compensatory sources of support. This more inclusive framework reflects real-world social embeddedness. Fourth, Italy presents a unique empirical context, a country characterized by "strong" family ties (Reher, 1998) and rapid population aging, yet increasingly marked by rising childlessness, later-life divorce, and postponed partnership and parenthood (Aassve et al., 2024; Tanturri et al., 2015). By using data from the Italian Families and Social Subjects (FSS) surveys carried out in 1998 (ISTAT 2012) and 2016 (ISTAT 2020), this study provides a life-course-informed, and demographically grounded perspective of kinship and friendship networks over time and at different ages.

Background

Kinlessness at different ages

Kinship networks evolve across the life course through major transitions such as leaving the parental home, entering or exiting partnerships, becoming a parent, and experiencing the aging or death of relatives (Margolis & Verdery, 2017). Kinlessness in old age may reflect earlier partnership or fertility histories, or the fact of outliving all close kin. Younger individuals may also face weak or absent family networks, for instance, if they grew up without parents or siblings (Fletcher et al., 2018; Leopold & Lechner, 2015).

A life course perspective acknowledges that the prevalence, causes, and implications of kinlessness vary by age (Hagestad & Uhlenberg, 2007; Teerawichitchainan et al., 2024). This perspective helps identify critical periods for intervention and support across adulthood, not only at older ages. While it is more common and its consequences may intensify later in life, kinlessness is not solely an "older adult" issue (Margolis & Verdery, 2017). For example, midlife adults without partners and children may already experience social and emotional disadvantages linked to the absence of close kin (Teerawichitchainan et al., 2024). Moreover, midlife may represent a pivotal period for building compensatory resources (e.g., friendship) that can help mitigate the absence of kin later on (Hagestad & Uhlenberg, 2007). In this sense, a life course lens highlights both the continuity of kinlessness (how earlier life transitions shape later outcomes) and its contingency (how individuals adapt and respond at different stages of life). This broader framing enables a more nuanced understanding of kinlessness as an age–spanning condition that can evolve and be addressed throughout the life span.

Beyond kinlessness: Kinships size, structure, and generational positioning

Demographers increasingly treat kinlessness as just one—albeit extreme and, as such, particularly critical and interesting—of a broader set of structural kinship conditions that shape exposure to support and obligation across the life course. Three complementary dimensions have been especially prominent in the literature: kinship size, kinship structure, and generational positioning. Each has distinct demographic determinants and consequences, and each varies substantially by age.

The number of living kin, or kinship size, defines the opportunity structure for family exchanges at any age. Formal demography shows that changes in fertility and mortality levels—and crucially, their timing—reconfigure the expected counts and age distribution of relatives within an individual's network (Jiang et al., 2025). Register–based analyses confirm wide variation in the size of the "kinship universe" even within a single country and cohort (de Bel et al., 2025; Kolk et al., 2023).

Cross–national projections likewise document a global shift toward smaller kin pools, especially for cohorts exposed to sustained low fertility, implying fewer potential lineal ties later in life (Alburez–Gutierrez et al., 2023; Van Damme et al., 2025).

Beyond "how many," who those kin are—horizontal ties (e.g., partner, siblings) vs. vertical ties (e.g., parents, children, grandchildren)—and the number of generations simultaneously present (co–longevity) shape the distribution of potential roles at different ages (Dykstra & Hagestad, 2016). Many older adults simultaneously inhabit three–generation constellations (e.g., living parents, children, and grandchildren), though such configurations vary over time and at different ages (Margolis & Wright, 2017). Studies indicate that compositional profiles correlate with social stratification and demographic histories (Kolk et al., 2023; de Bel et al., 2025), reinforcing the value of analyzing structure alongside size.

Individuals move through positions in the family system as they lose parents or partner, or become parents/grandparents; the order and timing of these events produce distinct generational placement trajectories (Hünteler, 2022). A life–course perspective, therefore, asks not only whether someone has kin and of what type, but also which positions they occupy at a given age. Studies show that on–time transitions and richer generational embedding predict more favorable later–life outcomes, whereas early losses and foregone transitions (e.g., persistent childlessness) are structurally consequential even before old age (Hünteler & Hank, 2025). Classic life–course analyses emphasize that such trajectories are shaped by population processes and policy regimes, which jointly pattern interdependence between generations (Dykstra & Hagestad, 2016; Teerawichitchainan & Kelley, 2025).

A particularly interesting aspect of generational positioning concerns "generational solos", i.e., individuals who lack ascendant (no (grand)parents) and descendant (no (grand)children) generations at a given age. Solos are not necessarily fully kinless (e.g., they may have siblings), but they lack vertical anchors. Macro–level analyses frame "aging alone" as a structural outcome of demographic and family change, highlighting that policies still rely on the assumption that older adults will have lineal kin available (Mair, 2025). At the same time, research on childlessness clarifies that the absence of descendants does not imply social disconnection from family altogether: extended kin may still constitute an important part of a person's family constellation, even when vertical ties are absent (Kohli & Albertini, 2009). Research on friendship and friend–based support underscores how non–kin channels often gain salience when vertical positions are missing (Korkiamäki & Elliott O'Dare, 2021; Mair, 2019).

A life–course lens matters because kinship size, structure and generational positioning are experienced to a different extent at different phases of life. Because demographic forces have been

rapidly evolving, these dimensions must be tracked across ages and over time (Jiang et al., 2025; Kolk et al., 2023; Van Damme et al., 2025; Leopold et al., 2025). This multidimensional approach—now central in modern kinship scholarship—moves the field beyond kinlessness toward a fuller structural account of kinship resources and their life–course dimension.

The Role of Friendship Ties

As family structures become more varied and instances of kinlessness grow, scholars have increasingly emphasized the role of friendships as alternative sources of support and integration (Mair, 2019).

Classic theories of social networks suggest that in later life, social circles often shrink and become more centered on family, as peripheral ties drop away (Carstensen, 1992; Cornwell et al., 2008). Indeed, in Europe, about three–quarters of older adults' close confidant networks are dominated by kin ties (Litwin & Stoeckel, 2014). However, for those who lack immediate family, friends, neighbors, and "chosen" kin may step in to provide emotional closeness, practical help, and a sense of belonging (Johnson & Troll, 1994; Mair, 2019). Recent evidence confirms that modern social networks are characterized by complex nuclear and extended kin ties (Hünteler et al. 2026; Leopold et al., 2025) and that many kinless individuals cultivate robust non–kin networks. For example, older adults without a partner or children tend to have more friends in their social network than those with family, indicating a sort of "compensatory" mechanism (Mair, 2019; Newall & Menec, 2019). In a cross–national analysis of Europeans aged 50+ (Mair, 2019), those who lacked close kin reported significantly higher numbers of friends, especially in societies that place a high value on friendships. These findings challenge prevailing narratives of "aging alone" by demonstrating that the absence of (close) kin does not necessarily imply social isolation, as many kinless individuals maintain strong connections through non–kin networks.

That said, reliance on support from friends may not fully offset kinlessness or limited kin availability in all contexts. The availability and effectiveness of friends networks can vary by culture and individual circumstances. In more familistic societies, such as Italy and other Southern European countries, friendship ties, while valued, have not traditionally carried the same expectation of caregiving support as family ties (Reher, 1998). Cross–national research suggests that in countries where family bonds hold strong cultural significance, kinless older adults may face a heightened risk of inadequate support, as substitutive friendships or non–kin networks tend to be less prevalent also due to social stigma (Mair, 2019). By contrast, in societies that emphasize individualism and voluntary ties, friends may more readily fill support roles.

Even within the same society, not all kinless individuals can develop extensive friend networks; personality, health, socioeconomic resources, and opportunities for social engagement play a role (Rollings et al., 2023; Teerawichitchainan et al., 2024). One recent study in Singapore found considerable heterogeneity among childless adults (Teerawichitchainan et al., 2024): about one–third had "network–rich" profiles with many kin and non–kin ties and active social participation, while about one–fifth had "restricted" networks with few social connections, and only the latter group reported worse well–being outcomes. These results underscore that friendship and community ties are crucial supports, particularly for kinless individuals, but not everyone manages to harness them effectively.

Kin and Non–Kin Networks Across Time and Life Stages

Both kinship and friendship networks are dynamic, changing over historical time and across life stages. Over the past several decades, demographic trends have altered the landscape of kin availability in many countries. In general, declining mortality has increased the likelihood to survive to advanced ages with some kin (e.g. more individuals survive to see grandchildren and even great–grandchildren), whereas declining fertility and marriage rates have had the opposite effect, leading to smaller family sizes and more people entering later life without partner or children (Pittavino et al., 2025; Verdery et al., 2019; Zaidi & Morgan, 2017). The net outcome of these forces is context–specific, but global studies indicate a rising share of older adults with no immediate kin in nearly all world regions. For instance, Verdery et al. (2019) found that in countries like the Netherlands, Switzerland, Canada, and Ireland, over 10% of adults aged 50+ have neither a partner nor a biological child, whereas in parts of East Asia (e.g. China, Korea) the rates are still below 2%, a gap largely attributable to later onset of the fertility decline in Asia. In the United States, approximately 6–7% of adults aged 55 and older have no living spouse or child, and this proportion is projected to grow substantially as the low–fertility cohorts born in the 1960s and 1970s reach older age (Margolis & Verdery, 2017; Verdery et al., 2019). Recent Europe–wide analyses show a high prevalence of kinlessness at older ages, which is expected to increase further in the future as more individuals remain unmarried or childless and survive into their 80s and 90s (Pittavino et al., 2025). In short, the demographic context of kinship is in flux, with smaller families and more diverse living arrangements producing new configurations of who has kin available and who does not.

Individual life–course trajectories shape the availability of different types of kin at each age and the composition of social networks across life stages. Transitions such as couple formation, parenthood, divorce, widowhood, and retirement all impact the balance of kin and non–kin in one's support system. For example, entering a partnership usually enlarges one's kinship network, by

adding in–laws, and often reduces time invested in friendships, whereas losing a partner in later life may spur someone to lean more on adult children or, if children are absent, to seek greater support from other kin or friends (Antonucci et al., 2014; Carstensen, 1992; Cornwell et al., 2008; Johnson & Troll, 1994). Generally, in young adulthood, parents and siblings are typically the primary kin, and this phase of life is characterized by expansive social networks (dominated by peers and emergent romantic or affinity ties). Middle age often brings a focus on one's nuclear family (partner, children) and selected friends. Later life is associated with shrinking networks centered on close kin, and the presence (or lack thereof) of a partner and of adult children becomes the defining factor for kin support (Teerawichitchainan et al., 2024). Interestingly, Teerawichitchainan and colleagues (2024) found that for childless individuals in midlife and early old age, parents (if still living) often remain central providers of support, and when parents die, siblings or other relatives may step up – showing a continuity of family support that extends further into the child's adulthood than commonly assumed. However, once the "anchor" figures in a family network (parents, partner, siblings) are all gone, a person may have to rely predominantly on non–kin ties. Thus, the relative importance of friendships tends to peak in very late life for those with no remaining family, whereas for those with close kin, family support tends to dominate (Litwin & Stoeckel, 2014; Mair, 2019).

The Italian Context and International Relevance

Italy provides a compelling case study to explore kin and non–kin networks, given its combination of a strong family–oriented culture and rapid demographic changes. Traditionally, Italy, like other Southern European societies, is characterized by intense intergenerational ties and norms of familial support: adult children often live with parents until marriage and residential proximity often remains high thereafter, and older people typically expect care from within the family (Cisotto et al. 2025; Reher, 1998; Tomassini et al., 2004). This cultural context implies that kinlessness has historically been rare and socially consequential: not having family in Italy can mean exclusion from the primary support networks that most people rely on.

Yet Italy has experienced substantial family changes over the last few decades. Since the 1980s, fertility rates have fallen well below the replacement level; subsequently, slowly but continuously, marriage has been increasingly postponed or foregone, non–marital cohabitation has spread, and divorce has risen, with an acceleration at the beginning of the new century (Aassve et al., 2024). The share of childless Italians has more than doubled across recent cohorts—for example, about 21% of women born in the 1960s did not have children, compared to only about 11% in the 1950s cohorts (Tanturri et al., 2015). These trends together suggest that reduced kin availability and changes in their

structure and characteristics may be an emerging reality in Italy to a greater extent than in the past, potentially challenging the country's longstanding system of family–based support.

Although Italy is the empirical focus, the insights gained have broader international relevance. Many societies are grappling with the implications of smaller families and aging populations, despite differences in their cultural and institutional contexts. By situating the Italian findings in comparative perspective, we can highlight common patterns and unique specificities. For instance, if we find that Italian adults who lack kin frequently mobilize friends for support, that would resonate with observations in Northern Europe and North America (Mair, 2019), albeit with differing prevalence. Alternatively, if kinless individuals in Italy appear particularly vulnerable due to weaker non–kin networks, that underscores the importance of cultural context noted by cross–national studies (Mair, 2019; Verdery et al., 2019). In short, Italy's experience can shed light on the general dynamics of kinship and friendship in a rapidly changing familial landscape, while also pointing to the role of context in moderating those dynamics.

Study Contribution

By extending and integrating existing strands of literature, this study provides a comprehensive and innovative analysis of kinship networks, examining their size, structure, and age–specific patterns across the adult life course. While previous research has provided valuable insights—particularly regarding the prevalence of kinlessness among older adults (Margolis & Verdery, 2017; Verdery et al., 2019; Pittavino et al., 2025)—it has often adopted a narrow focus on later life, thereby overlooking the dynamic nature of kin availability during young and middle adulthood (Hagestad & Uhlenberg, 2007; Tosi & Van den Broek, 2025). In contrast, our work recognizes the importance of a life course perspective to examine kinship networks and broader support networks across all adult ages, capturing both early and late manifestations of limited kin ties and providing age–specific profiles of kin availability.

Furthermore, many existing studies focus on single time points, lacking the capacity to track how kinship structures evolve over time (Kolk et al., 2023; Hünteler, 2022). Our analysis addresses this gap by leveraging repeated Italian cross–sectional data from 1998 and 2016, a period marked by major socio-demographic transformations—including declining fertility, increasing childlessness, and rising divorce (Aassve et al., 2024; Tanturri et al., 2015)—which have reshaped the landscape of kinship availability. In addition, prior research has focused predominantly on countries with relatively "weak" family systems, such as those in Northern Europe or North America, where individualistic cultural norms and formal welfare states are more pronounced (Kolk et al. 2023). Compensatory mechanisms, such as a greater reliance on friends among kinless individuals, may not be equally

viable in all contexts. Mair (2019) actually shows that in more familistic societies, such as Italy, older people's friendship networks play a less prominent role in providing support. The question is whether and how these patterns change over time and for different age groups.

Critically, few studies to date have systematically examined both kin and friendship ties as separate parts of the broader support constellation (Hünteler, 2022; Kolk et al., 2023; de Bel et al., 2025). By explicitly including friendship ties alongside relationships with kin, such as partners, (grand)children, (grand)parents, and siblings, this study offers a more comprehensive understanding of the social support resources individuals may draw upon across different life stages. This is particularly relevant in an era where kinship networks are becoming smaller and more selective, and informal support increasingly relies on flexible, non–familial ties (Alburez–Gutierrez et al., 2023; Mair, 2019).

In sum, our study fills critical gaps in the literature by: i) expanding the focus beyond older adults to encompass the full adult life span; ii) examining kinlessness and kinship structures over a 20–year period of rapid demographic change; iii) incorporating extended family and friendship ties into a unified framework of potential support; iv) analyzing a strong–family–ties context such as Italy, where support from non–(close–)kin cannot be assumed. In doing so, we contribute not only to the understanding of kinship in Italy—a context rarely examined from this perspective—but also to broader international discourse on social connectedness and inequality in aging societies. Anticipating future support needs requires a nuanced understanding of how kin and non-kin networks interact, evolve, and potentially compensate for one another at different ages.

Data and methods

Our analyses rely on data from the Families and Social Subjects (FSS) survey, conducted by the Italian National Institute of Statistics (ISTAT) in 1998 and 2016 (ISTAT 2012; 2020). The FSS is a nationally representative repeated cross–sectional survey with retrospective components, covering private households residing in Italy and sampled from the Population Register. The sample is drawn using a two–stage design: first, primary sampling units (municipalities) are selected; second, households (in 1998) or individuals (in 2016) are randomly sampled within these municipalities. In 1998, all members of selected households were interviewed, whereas in 2016, one individual per household was interviewed. Applying the provided individual–level sampling weights, our estimates are representative of the resident population aged 18 and older in both rounds. Because the data do not include detailed information on country of birth or citizenship, we exclude non–Italian citizens as a proxy for migration background, given the potentially highly heterogeneous kinship and friendship networks by origin. The analytical sample consists of 45,904 individuals in 1998 and 23,387 in 2016.

The FSS survey questionnaire collects information on a wide range of demographic and socio–economic characteristics of individuals, both at the time of the interview and retrospectively. This

data richness enabled us to reconstruct the composition and size of individuals' kinship and friendship networks. We are able to account for a wide array of living family ties: parents, siblings, partners, children, grandparents, and grandchildren. We only consider co-residing partners (regardless of marital status) because Living Apart Together (LAT) relationships were not measured in 1998. The presence of these ties is directly captured through specific questions, though with some age–based restrictions. Information on siblings, cohabiting partners, and children is collected for respondents of all ages. The presence of parents is recorded only for individuals aged 18 to 69; grandchildren are reported only by respondents aged 35 and older; and information on grandparents is collected only up to age 49. Thus, we are compelled to make what we consider a reasonable assumption regarding the non-existence of ties beyond the specified age brackets considered in the survey. For each of the abovementioned "close kin" ties, both presence and number are recorded. Regarding friendship, the survey asks whether the respondent can rely on some friends in case of need. However, no data are available on the size of this additional supportive network.

We consider several measures of (close) kinship networks. First, we estimate the prevalence of *kin availability* as the percentage of individuals who have at least one living kin of each type: parent, sibling, partner, child, grandparent, grandchild. Second, we measure *kinship size* as the number of "close kin" available, in total and by type. Third, we consider *kinship diversity*, measured as the number of different types of kin available from 0 (kinless) to 3 or more. Fourth, we consider an additional measure that accounts for *generational positioning*, thus distinguishing *horizontal* kin ties (partner, siblings) from *vertical* kin, which are further distinguished into the ascending line (*ascendants*: parents, grandparents) and the descending line (*descendants*: children, grandchildren). Therefore, we calculate the prevalence of each of the following kinship network types in which a respondent can be embedded depending on the kin tie available: a) only ascendants; b) ascendants and horizontal; c) ascendants, descendants, and horizontal; d) descendants and horizontal; e) ascendants and descendants; f) generational solo (only horizontal kin); g) only descendants; h) kinless (none of the close kin considered).

The final stage of the analysis focuses on friendship ties. We assess the availability of at least one supportive friend, and examine whether friendship intersects with kinship networks or is more prevalent in the absence of kin.

All reported estimates are weighted using the individual–level sampling weights provided by ISTAT and presented in approximately 10–year age groups (18–29, 30–39, 40–49, 50–59, 60–69, 70–79, 80+), comparing the two survey waves. When relevant differences by sex are present, they are also discussed. Complete estimates, by age group and survey time, separated by sex and pooled, are reported in the Supplementary Materials (SM).

Results

Kin availability across ages

We begin our description of Italians' kinship networks by presenting, in Figure 1, the estimated percentages of individuals with specific living kin ties—namely, parents (mother and father combined, for brevity), partner, children, siblings, grandparents, and grandchildren, by sex and age group. Full estimates are available in Tables S.1a–S.1f of the SM. We first present results from the 2016 survey (shown on the right–hand side of the panels in Figure 1), followed by a discussion of the main changes compared to the 1998 survey. Unless substantial sex differences are observed, we refer to overall figures pooled across sexes.

The presence of living parents is widespread among younger individuals and remains high through early adulthood: nearly all individuals aged 18–29 and 30–39 report having at least one living parent. A first notable decline is observed after age 40, with around 90% still reporting at least one living parent, and after that, the proportion decreases markedly among those in their fifties: approximately two out of three individuals aged 50–59 have a living parent, dropping to one in four among those aged 60–69.

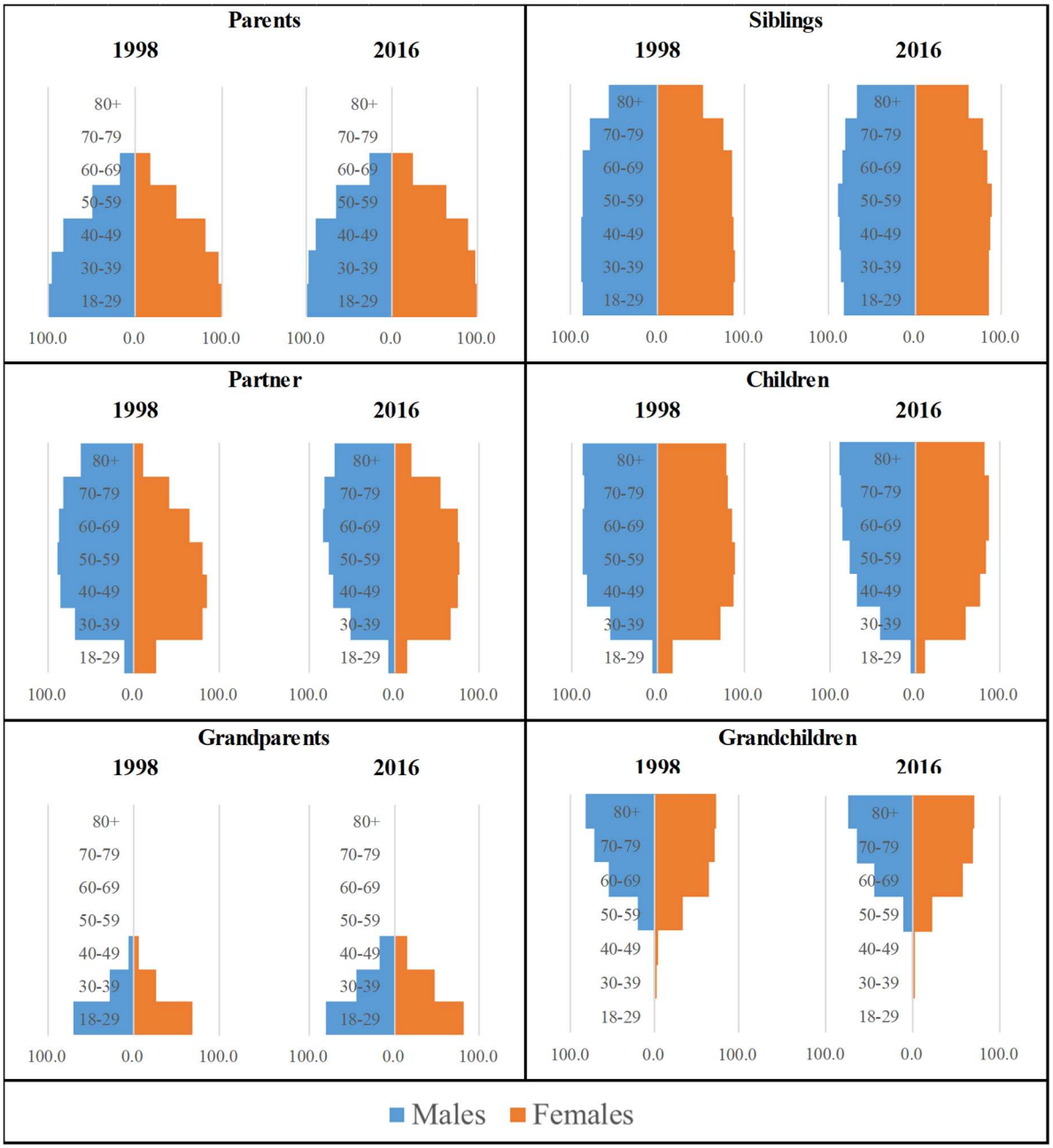
Turning to living siblings, this form of horizontal kinship is common across all age groups, although with expected differences. About 85% of Italians aged 18–39 report having at least one sibling, and the proportion rises slightly to 88% among those in their forties and fifties, reflecting the higher fertility rates of earlier generations. Although sibling availability declines with age due to mortality, it remains relatively high, with around 80–85% of individuals still reporting siblings up to age 80; thereafter, the proportion drops to 64%.

The percentage of individuals with a partner is relatively low among individuals in their twenties—6% for men and 15% for women—a result of the delayed union formation in the Italian context. This percentage increases sharply in the 30–39 age group, maintaining notable sex differences—51% of men and 67% of women report having a partner—then it reaches 75–85% among individuals aged 50–69. Beyond this age, the "pyramid" begins to narrow again, particularly on the female side. Among men, the availability of a partner remains above 80% even in the 70–79 age group, beginning to decline only thereafter.

The high average age at union formation and childbearing in Italy is reflected in the low prevalence of children among younger adults: only about 11% of women and 6% of men aged 18–29 have at least one child. Among women, this share rises sharply to around 60% in the 30–39 age group, while men reach comparable levels only after age 40 (42% in the 30–39 group and 68% in the 40–49 group). In older age groups, the proportion of individuals with living children remains high, an outcome of the historically high fertility rates of earlier cohorts (and relatively low child mortality).

The panels on grandparents and grandchildren in Figure 1 show a mirrored age pattern. Approximately 80% of Italians in their twenties have at least one living grandparent; however, this share declines rapidly to 46% among those aged 30–39 and just 16% among those aged 40–49. In parallel, the presence of grandchildren becomes relevant only after age 50: approximately 21% of women and 11% of men aged 50–59 report having grandchildren. This proportion more than doubles in the next age group and exceeds 70% for those aged 70 and over. Because the presence of grandchildren is recorded starting at age 35 and due to the extremely low prevalence in grandparents at ages 35-39 (Fig. 1), in the following figures we consider grandchildren availability only from age 40.

Figure 1 – Prevalence of specific living kin types by age group and sex (%), 1998 and 2016



Source: authors' elaboration of 1998 and 2016 FSS data. Weighted estimates.

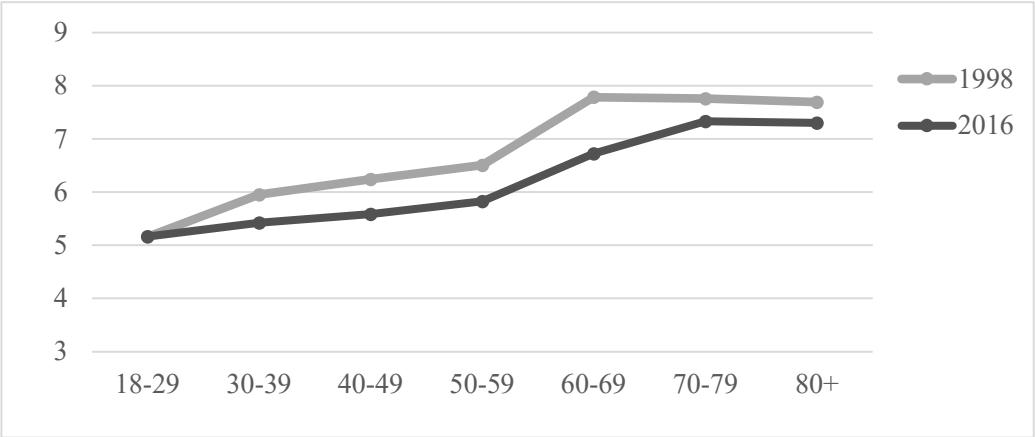
Note: The survey does not collect information about: the presence of parents beyond age 69; the presence of grandparents beyond age 49; the presence of grandchildren before age 35. Full estimates are available in Tables S.1a–S.1f of the SM.

Notably, the picture of kin availability in 2016 shows substantial changes compared to 20 years earlier, reflecting the fast demographic transformation of recent decades in Italy. Without delving into overly detailed figures, several broad patterns of substantial changes over time can be identified. Among younger individuals (ages 18–29 and 30–39), the most striking shift is the increased presence of grandparents in 2016, rising by 10 to 20 percentage points depending on the age group and sex. In contrast, the availability of other kin ties declined in the period considered: the presence of a partner

dropped by 4 to 18 percentage points, the presence of children decreased by about 13 percentage points among those in their thirties, and even sibling ties were slightly less common, with declines of up to 4 percentage points. Among adults in midlife (ages 40–49 and 50–59), a similar trend is observed. The presence of a partner and children is lower in 2016 than in 1998 (by 4–14 and 5–15 percentage points, respectively); however, a higher proportion of individuals reports having parents (increases of 6–16 percentage points) and siblings (2–4 points more). For Italians aged 60 and above, the most notable change is a 20–percentage–point increase in the share of men who still have a partner, followed by a significant rise in the presence of siblings, about 10 percentage points higher overall compared to 1998.

These patterns are summarized through the average number of available kin. The size of kinship networks tends to increase with age in both years considered (Figure 2. Full estimates are available in Tables S.2a–S.2f of the SM). In 2016, individuals enter adulthood with an average of 5 kin, a number that gradually rose to around 6 in midlife and exceeded 7 in later life. Compared to 1998, however, in 2016 Italians have "lost" nearly one kin tie, on average. This decline is relatively uniform across age groups but is most pronounced in later adulthood, resulting in an average reduction of 0.7 and 1.1. kin for those aged 40–59 and those aged 60–69, respectively.

Figure 2 – Average number of available kin by age group, 1998 and 2016



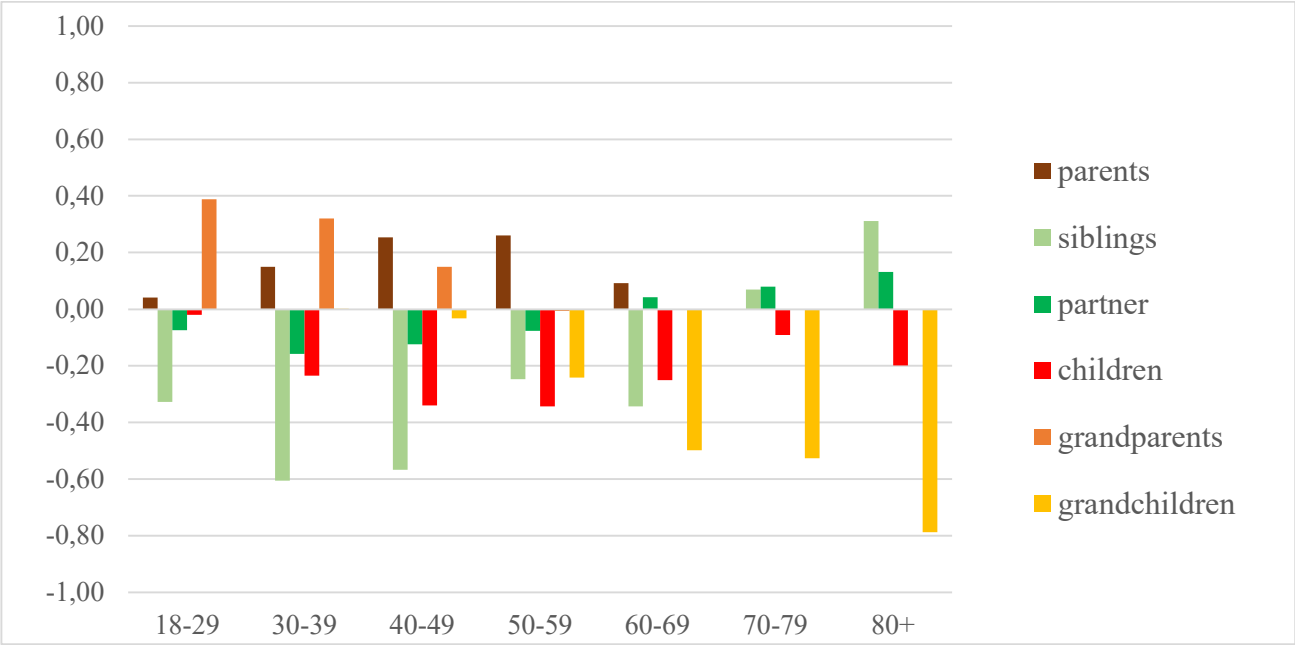
Source: authors' elaboration of 1998 and 2016 FSS data. Weighted estimates.
Note: Full estimates available in Tables S.2a–S.2f of the SM.

To better interpret changes over time, we examine shifts in kinship size disaggregating by kin type (Figure 3. Full estimates are available in Tables S.3a–S.3c of the SM). Among individuals aged 18–29, the overall size of the kinship network has not declined, thanks to an increased presence of grandparents that balanced the reduced availability of siblings. For individuals aged 30–39 and 40–

49, the observed decline in total kin availability is primarily driven by a sizeable reduction in the number of siblings (approximately –0.60), and a smaller decrease in the presence of children (–0.23 for those aged 30–39 and –0.34 for those aged 40–49). These losses are only partially offset by gains in the presence of parents (+0.15 and +0.25) and grandparents (+0.32 and +0.15, respectively).

Among individuals in their fifties, a decline is observed across nearly all kin types—except parents—with average losses of approximately 0.34 children, 0.25 siblings, and 0.25 grandchildren. A similar pattern is observed among those in their sixties, the age group experiencing the most substantial drop in kin availability, with an average decline of 1.1 kin ties. For them, about half of this decline is due to a reduced availability of grandchildren. For those aged 70–79 in 2016, the average number of grandchildren is 0.53 lower than for their counterparts in 1998. The difference increases to around 0.80 in the oldest age group. In addition, these older individuals have, on average, fewer children (–0.20). However, a higher availability of siblings (+0.31) among the oldest individuals in 2016 partially offsets the overall reduction in kinship size.

Figure 3 – Variation in the average number of kin between 1998 and 2016, by kin type and age group



Source: authors' elaboration of 1998 and 2016 FSS data. Weighted estimates.

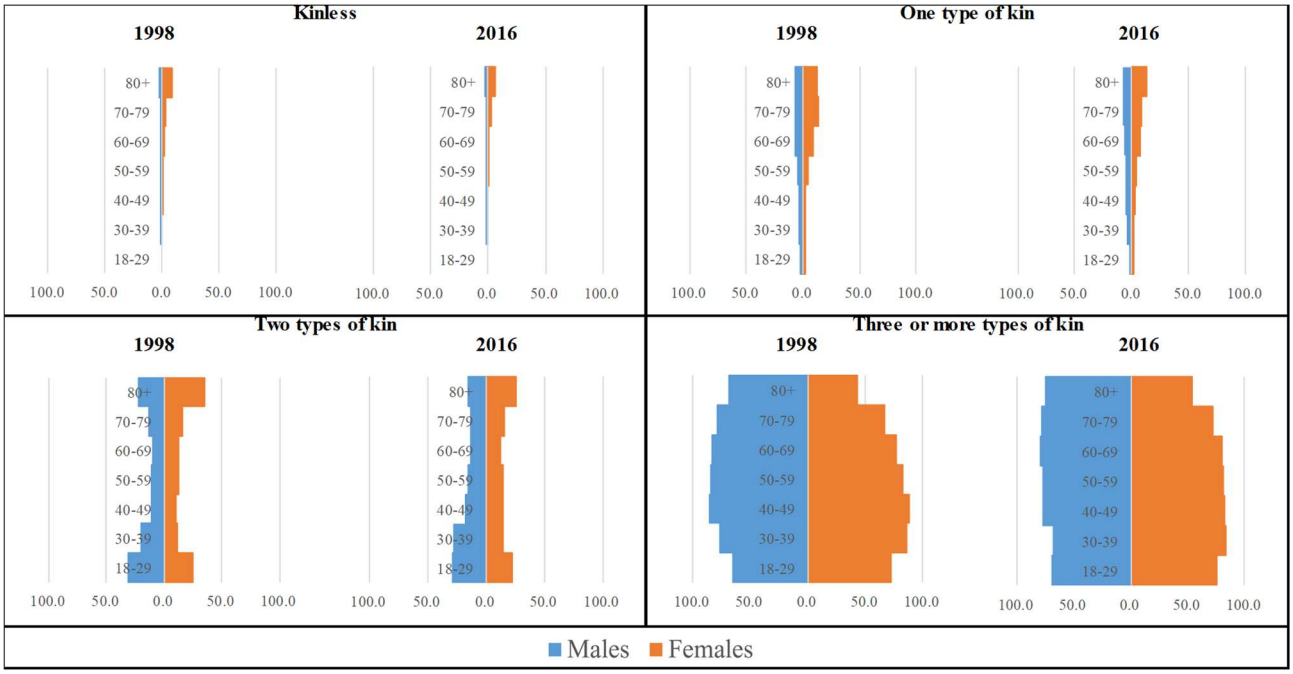
Note: Full estimates available in Tables S.3a–S.3c of the SM.

Kinlessness and kinship diversity

We now turn to results on kinship diversity, measured by the number of distinct kin types individuals have, ranging from complete kinlessness to three or more kin types. Figure 4 displays the percentage of Italians who have none of the considered kin ties—kinless individuals—as well as those who have only one, two, or three or more types of kin, independently of the number of kin for each type. Full estimates are in Tables S.4a–S.4f of SM. The results are presented by age group and sex, beginning with the 2016 data and then illustrating the differences that emerged during the considered period.

In 2016, approximately 1% of Italians is kinless, with important sex and age variations. While kinlessness is relatively rare until age 60 for both sexes, the percentage is equal 1.1% among men aged 60–69, rising to 2.5% among those aged 80 and over; for women, the share is higher, reaching 2.9% among those aged 70–79 and 6.8% among those aged 80 and over. Around 5.5% of Italians in 2016 have only one type of close kin available, again with relevant age and sex differences. Among men, this percentage exceeds the average already at ages 50–59 (6.1%), while for women, the most vulnerable profiles emerge from age 60 onward, rising to 9.0% at ages 70–79 and peaking at 13.5% among those aged 80 and above. Just under 18% of the population has two types of kin, while the majority, approximately 75%, has three or more types of family ties. At older ages, particularly from 70 onward, in 2016, many individuals maintain a certain diversity of kinship networks. Most people in this age group have three or more different types of kin ties.

Figure 4 – Percentage of people having no kin, one, two, three or more kin types, by age group and sex, 1998 and 2016



Source: authors' elaboration of 1998 and 2016 FSS data. Weighted estimates.

Note: Full estimates available in Tables S.4a–S.4f of SM.

When comparing these results with those for 1998, the pattern of change is twofold: over the two decades, kinlessness remains uncommon at all ages, but it declines slightly at older ages, while the distribution among those with kin has shifted toward having fewer kin types, especially at young and midlife ages. The share of kinless women was about 2 percentage points higher in 1998 in the oldest age group; although smaller, a similar decline is visible among men. This improvement is plausibly linked to increased survival of key "anchor" ties, most notably male partner and siblings. For younger individuals (till the age of 39), the widespread presence of parents, together with grandparents and siblings, continues to ensure a relatively diverse kinship structure, with the vast majority reporting three or more kin types in both years (with percentages ranging from 65 to 87% depending on age and sex). In contrast, adults aged 40 to 69 occupy a more transitional position. While kinlessness was and remains rare in this age group, there has been a noticeable increase between 1998 and 2016 in the share reporting only one or two kin types. The change is particularly evident among men in their forties and fifties: the percentage reporting only one kin type rises by about 1.2 and 1.6 percentage points, respectively, and the share reporting two kin types increases by up to around 7 percentage points. Although smaller, increases are also observed among women (roughly 1 to around 4 percentage points, depending on age group and the number of kin types considered). As shown earlier, middle–aged individuals are increasingly less likely to have parents or grandparents, but this loss is not being fully offset by the presence of children or grandchildren, reflecting broader demographic shifts in fertility and family formation.

The picture of kinship diversity is completed by changes in the share of Italians who have three or more kin ties, again revealing differences by age and sex. Overall, the proportion reporting three or more kin types declines over time (around −3 percentage points for men and about −1 percentage point for women). This decline is concentrated in the young− and midlife adults: among those aged 30–39, 40−49 and 50−59, reductions range from about 6.4 to 8.8 percentage points for men and from about 1.5 to 5.2 percentage points for women. By contrast, the reverse pattern appears at the youngest and oldest ages. Between 1998 and 2016, the percentage of men in their twenties and in their eighties and above reporting three or more kin types increases by about 3.3 and 7.0 percentage points, respectively, and the gain is even larger among older women (an increase of around 11 percentage points among those aged 80 and over).

Generational positioning

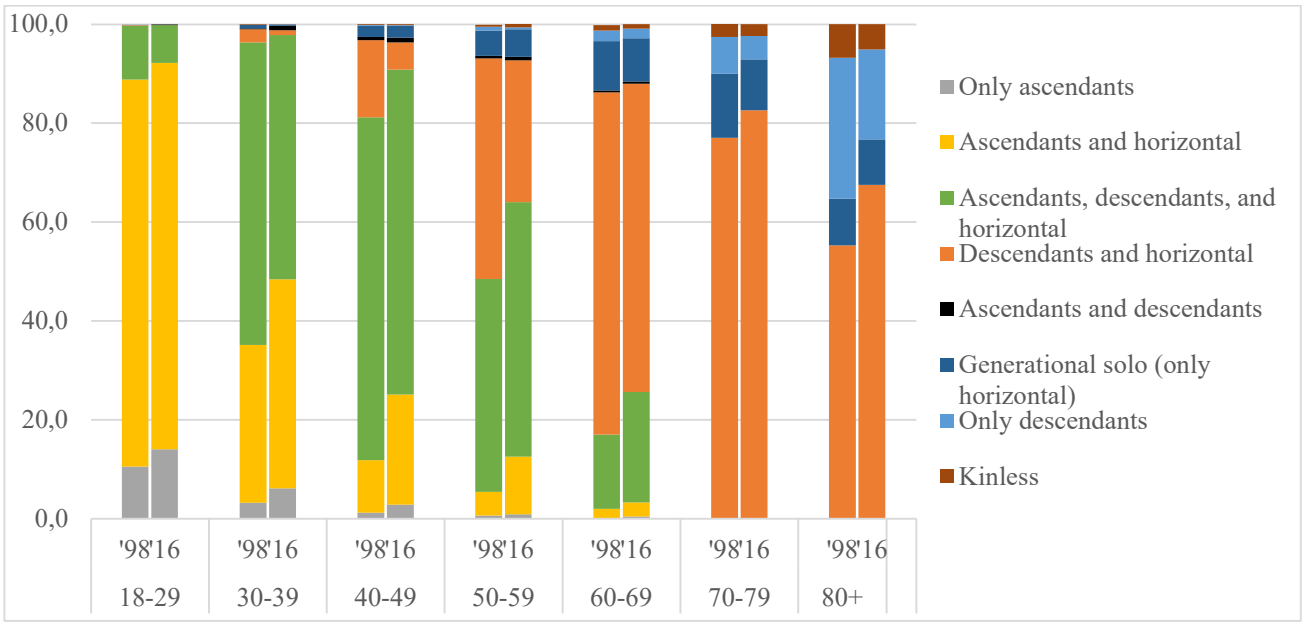
The last dimension of kinship networks analyzed considers the presence of kin grouped by the position they occupy in the generational placement, distinguishing various combinations of vertical and horizontal ties available to individuals. Vertical ties include "ascendants" (parents and grandparents) and "descendants" (children and grandchildren), while horizontal ties include siblings and partners. We analyze the prevalence of various combinations of these three kin categories, along with a separate group for kinless individuals, by age and contrasting the 1998 and 2016 configurations. Since sex differences mainly rely on the differential survival of women, we comment here figures pooled by sex (Figure 5), but detailed estimates by sex are reported in Tables S.5a−S.5f of SM.

Figure 5 offers a coherent life course perspective, complementing the patterns shown in the previous figures. In 2016, at younger ages (18−29), vertical ties, particularly ascendant ones, are most common and are often accompanied by horizontal ties, mainly siblings (a pattern experienced by more than 78% of individuals in this age group). Individuals aged 30−39 and 40−49 show a more diverse mix of vertical and horizontal ties. Ascendants are gradually joined by descendants (primarily children), and horizontal ties increasingly include the partner; therefore, around 50−65% of Italians in these age groups have all kinship lines, while those having only ascendants and horizontal ties decrease to around 42 and then 22%. In middle and later life, vertical ties dominate again, but naturally the balance shifts toward descendants replacing ascendants. Starting from the 60−69 age group, the most common combination of kin is represented by the presence of descendants and horizontal kin (62−82% depending on the specific age group), but also having only horizontal ties is not uncommon. Around 1 out of 10 in these age groups is generational solo. In the oldest age groups, the presence of horizontal kin progressively reduces, and the proportion of those who have only descendant kin starts to gain importance, from less than 5% for people in their seventies to around 18% after the age of 80.

The temporal comparison across the two time points is particularly revealing. The analysis highlights the impact of delayed life course transitions, particularly those associated with family formation, on the structure of kinship networks. A clear pattern over time emerges: among younger and young adult Italians, there has been a decline in the simultaneous presence of vertical (both ascendant and descendant) and horizontal ties (–12 percentage points for the 30–39 age group), accompanied by an increase in the prevalence of those with ascendants and horizontal ties (about 10 percentage points for both 30–39 and 40–49 age groups). In contrast, among individuals in midlife, the prevalence of Italians who simultaneously have all three lines (ascendants, descendants, and horizontal) has increased (+8.4 and +7.3 percentage points respectively for those in their fifties and sixties). The 1998–2016 period also marks a decrease in the share of those with only descendants

(especially in the oldest age group, which register a reduction of around 10 percentage points), replaced by those who report both descendants and horizontal kin (+12 percentage points in the same age group), confirming the growing variety and richness of kinship ties in later life.

Figure 5 – Percentage of different combinations of horizontal and vertical kinship ties, by age group, 1998 and 2016



Source: authors' elaboration of 1998 and 2016 FSS data. Weighted estimates.

Note: Full estimates available in Tables S.5a–S.5f of SM.

Friendship

As previously argued, individuals' social networks do not end within the close family but extend to friendships. We therefore first examine the presence of friends who rely on in case of need, by age and sex (Figure 6; full estimates in Tables S.6a−S.6f of SM), and then assess how the availability of friends intersects with that of specific types of kin (Figure 7; full estimates in Tables S.7a−S.7f of SM), again considering the two time periods.

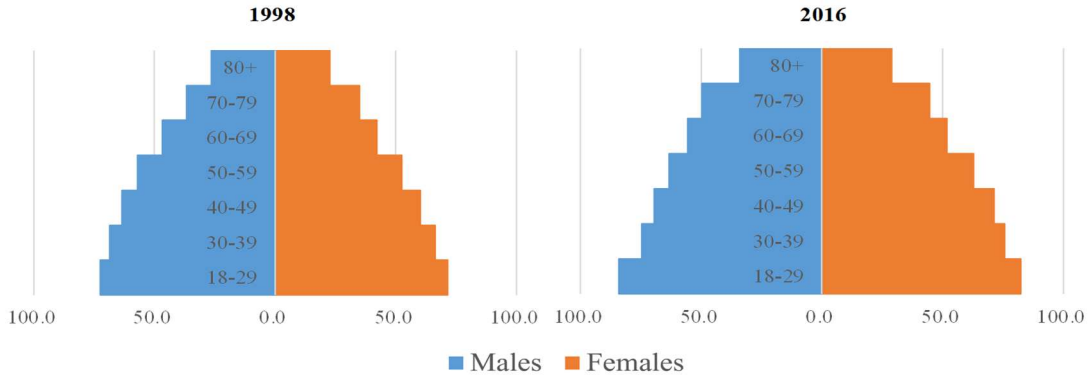
On average, in 2016, just over 62% of Italians reported having friends they can rely on in case of need (65% for men and 61% for women; Figure 6, graph on the right). As expected, friendship availability is strongly age–dependent: around 80% of individuals aged 18–29 report having at least one supportive friend, without notable differences between men and women, but this share declines steadily with age, falling to around 60% in the fifties and reaching just 30% among the oldest–old.

Differences by sex emerge especially at older ages: men are more likely than women to report having friends they can rely on, with a gap of about 5 percentage points after age 70.

Changes over time are also evident. Between 1998 and 2016, the percentage of Italians reporting at least one friend increased by 5.5 percentage points, with a somewhat larger rise among women (+6.1) than among men (+4.9). Among men, the increase is particularly pronounced among the youngest adults and those aged 70–79, whereas among women the most marked growth occurred in young and mid–adulthood.

According to the idea that friendship ties may act as a sort of compensatory source of support in case of close kin absence, we cross friends availability by the presence or absence of specific kin ties. Specifically, we focus on partner, children and grandchildren availability, because, in the wake of recent fertility and family trends, their presences registered a contraction in recent years, as documented above, rising interest on their intersection with friendship. In addition, we did not find substantial differences in friendship availability by the presence or absence of other ties (estimates available upon request).

Figure 6 – Percentage of people who declare having at least one friend they can rely on in case of need, by age group and sex, 1998 and 2016.



Source: authors' elaboration of 1998 and 2016 FSS data. Weighted estimates.
Note: Full estimates available in Tables S.6a–S.6f of SM.

On average, individuals who lack the kin ties considered are more likely to report having friends they can rely on, although patterns vary by sex and age, and depend on the kin type examined (Figure 7; full estimates in Tables S.7a–S.7f of SM). Unpartnered individuals (panel on the top) show friendship availability with a higher prevalence, especially at younger ages and among women (the gap is about 6–7 percentage points for women aged 18–29 and 30–39, and for men aged 18–29). A

notable exception is represented by men aged 30–39 and 40–49, for whom partnership is positively associated with friends' availability: in 2016, among partnered men aged 40–49, the prevalence of friends' availability is 70.7% against 66.5% found among their unpartnered counterparts.

Figure 7 – Percentage of people who declare having at least one friend they can rely on in case of need by presence of given types of kin, by age group and sex, 1998 and 2016

Source: authors' elaboration of 1998 and 2016 FSS data. Weighted estimates.

Note: Full estimates available in Tables S.7a–S.7f of SM.

When considering the presence of children (Figure 7, middle panel) overall, childless Italians report having supportive friends to a larger extent across almost all age groups. In this case, sex differences are even more pronounced. The gap in friendship availability by parenthood is substantially larger among adult women (aged 30 and over) than among men. Specifically, this gap ranges from 4.7 to 11.6 percentage points among women, compared with about 0 to 3 percentage points among men. Differences persist at older ages, with sizeable gaps also among men (fathers aged 80 and over report about 12 percentage points lower friendship availability than their childless counterparts). Instead, for individuals from the youngest age group (18–29), for whom parenthood is relatively uncommon (see Figure 1), having children is associated with a lower prevalence of friends for both men and women (a difference of 17 and 15 percentage points, respectively).

Finally, the presence of grandchildren (bottom panel of Figure 7) is associated with a lower prevalence of friends at all ages for both men and women. The magnitude of these differences is particularly large among those aged 40–49, although grandparenthood is rare in this age group. As for the temporal comparison between 1998 and 2016 surveys, graphs of Figure 7 reflects the overall increase in friendship previously noted (see again Figure 6), regardless of whether individuals have the kin ties considered.

Conclusion

This study documents how kinship networks and the availability of supportive friends are patterned across the adult life course in Italy, and how these patterns shifted between 1998 and 2016. In a context long characterized by "strong family ties" (Reher, 1998), Italy offers a particularly instructive case for understanding how rapid demographic change reshapes the social infrastructure on which everyday support and care depend.

Our results underscore a central demographic tension. Gains in longevity and the postponement of mortality have expanded the survival of "upward" and horizontal ties at certain ages (e.g., grandparents for young adults; partners and siblings in later life), while decades of very low fertility and changing family formation have compressed the pool of siblings and descendants available to cohorts moving through midlife and into older age (Alburez–Gutierrez et al., 2023; Kolk et al., 2023; Lesthaeghe, 2014).

Kin availability remains widespread across ages, and complete kinlessness is relatively rare in Italy. Yet, even low-prevalence outcomes become socially consequential when they occur at ages where needs for assistance rise, while welfare systems still assume the presence of family members and their provision of support (Hagestad & Uhlenberg, 2007; Mair, 2025). In 2016, kinlessness is concentrated among the oldest–old and is strongly gendered, reflecting women's longer life

expectancy and higher likelihood of outliving partners. More broadly, the distribution of kinship diversity reveals not only who has "some kin," but whether individuals have multiple kin types that can distribute obligations and buffer shocks. While most Italians still report three or more types of close kin, our comparison across time points shows a subtle but meaningful reconfiguration across the two investigated decades: kinlessness declines slightly at older ages, whereas the prevalence of having only one or two kin types rises in midlife. This midlife shift is consistent with delayed and foregone family transitions (partnership, parenthood) and with the gradual disappearance of ascendant generations, which is not fully compensated by descendants in cohorts exposed to sustained low fertility (Aassve et al., 2024).

The life–course view becomes even clearer when we move from size and structure to generational positioning. Early adulthood is dominated by ascendant and horizontal ties; midlife is the period in which vertical and horizontal lines most often coexist; later life increasingly depends on descendants and, for many, still on horizontal ties. Over time, this structure shows the imprint of demographic postponement. Among younger adults, the simultaneous presence of ascendants, descendants, and horizontal kin becomes less common, paired with a rise in profiles dominated by ascendants and horizontal ties—an expected correlate of later partnership and childbearing. At older ages, by contrast, the growing survival of partners and siblings appears to have reshaped later–life embeddedness, reducing profiles characterized by "only descendants" and increasing those combining descendants with horizontal ties. These findings reinforce calls in contemporary kinship demography to treat kinlessness as only one (extreme) end of a broader distribution of kinship size, diversity, and generational placement (Dykstra & Hagestad, 2016; Hünteler, 2022; Teerawichitchainan & Kelley, 2025).

Friendship ties add a crucial layer to this picture. The majority of Italians report having at least one friend they can rely on, but the prevalence declines sharply with age, and a gender gap emerges in later life, with men more likely than women to report supportive friendships. At the same time, friendship availability increased between 1998 and 2016, suggesting changes in the maintenance or meaning of non–kin ties. When disaggregated by kin availability, the patterns are broadly consistent with a compensatory pattern (Mair, 2019): individuals lacking a partner, children, or grandchildren are more likely to report having supportive friends. Yet this "compensatory" pattern is not uniform: for some groups, notably men in parts of midlife, partnership appears positively associated with friendship availability, aligning with evidence that shared networks and couple-based sociality can sustain friendships (Kalmijn, 2003). Taken together, these results caution against treating friendships as a simple substitute for kin. In a familistic setting, friends can be essential for social integration and certain forms of help, but they may not replicate the role of kin for sustained caregiving—especially

when disability, intensive care needs, or intergenerational transfers are involved (Dykstra & Hagestad, 2016; Litwin & Stoeckel, 2014; Reher, 1998).

Two implications follow for research and policy. First, the demographic "re–wiring" of kinship networks implies that vulnerability will increasingly be concentrated not only among the kinless, but also among those with narrow kinship diversity, weak vertical anchoring, or the absence of specific ties (e.g., partner or descendants) at critical ages. Monitoring these configurations is essential for anticipating support deficits in ageing societies. Second, kin availability is unlikely to be evenly distributed. Our results point to age and sex differences. Prior research shows that the number and characteristics (for instance in terms of age and education) of kin are socially stratified across the life course, with socioeconomic status and ethnicity shaping access to potential family resources (Andersson & Kolk, 2024; Daw et al., 2016; Margolis et al., 2025; Park et al., 2019; Tanskanen et al., 2025). If kin counts and kinship diversity are also stratified by education, income, and other socio-demographic dimensions, then demographic change will amplify social inequalities in later-life support rather than merely shifting average levels.

Our study is not without limitations. The FSS survey data provides unusually rich information on multiple kin types, but age limits in the questionnaire (e.g., parents measured only up to age 69; grandparents only up to age 49) constrain time comparisons at the oldest ages, arguably only marginally for the 1998–2016 contrast, but potentially more importantly for future monitoring as longevity increases and multigenerational overlap extends. In addition, our measures capture the availability of ties, not the quality, intensity of the relationships, or geographical proximity, dimensions known to shape the feasibility of support and the meaning of "having kin" in practice (Esteve et al., 2024; Patterson & Margolis, 2023). Integrating these aspects, along with richer measures of friendship network size and the inclusion of migration background, would allow gaining additional insights about how demographic change translates into actual support capacity.

The demographic facts documented here point in a clear direction: Italy's family–based model of welfare is confronting a slow but consequential reconfiguration of kinship resources, and the extent to which friendships, communities, and public provision can complement shrinking and unevenly distributed kinship networks will be central to both research and policy in the coming decades. Although our analyses focus on Italy, the underlying drivers behind the patterns we document are not uniquely Italian. Sustained low fertility, delayed and more diverse family formation, and rising longevity are reshaping kin availability and kinship diversity across many high–income societies, with growing attention to kinlessness and configurations characterized by limited kinship diversity as emergent forms of social vulnerability in later life (Alburez–Gutierrez et al., 2023; Dykstra & Hagestad, 2016; Hagestad & Uhlenberg, 2007; Kolk et al., 2023). In this sense, Italy can be read as

an early and particularly revealing case of broader transformations affecting developed populations. As the capacity of families to provide support becomes more heterogeneous, the distribution of risks and responsibilities shifts from being largely managed within kinship networks to being negotiated across a broader network of non–kin ties, local communities, and welfare institutions (Lesthaeghe, 2014; Mair, 2019). The key implication is that understanding how demographic change translates into unequal relational resources, and how societies can build complementary forms of support beyond the family, is a core challenge for ageing, low–fertility societies.

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Supplementary materials

Table S.1a – Prevalence of specific living kin types by age group (%), males, 1998

Age group	Parents	Siblings	Partner	Children	Grand parents	Grand children
18-29	99.8	87.4	10.7	6.0	69.2	n.a.
30-39	96.4	88.1	68.9	55.4	27.9	0.3
40-49	82.5	88.2	85.4	83.4	5.0	1.8
50-59	50.3	85.9	88.6	88.4	n.a.	19.5
60-69	17.3	87.2	86.7	87.4	n.a.	55.4
70-79	n.a.	78.9	81.6	86.5	n.a.	71.7
80+	n.a.	56.4	61.3	87.8	n.a.	83.1
Total	77.2	85.8	66.0	63.1	61.8	50.8

Table S.1b – Prevalence of specific living kin types by age group (%), females, 1998

Age group	Parents	Siblings	Partner	Children	Grand parents	Grand children
18-29	99.4	87.8	25.7	16.2	69.2	n.a.
30-39	96.1	89.3	80.9	72.8	26.7	0.2
40-49	80.5	87.2	86.1	88.1	5.5	4.9
50-59	47.8	86.7	80.9	89.4	n.a.	33.5
60-69	17.7	86.2	64.8	85.6	n.a.	64.2
70-79	n.a.	76.3	41.6	81.7	n.a.	72.5
80+	n.a.	52.5	10.7	80.4	n.a.	74.2
Total	76.4	84.4	60.8	70.4	65.0	55.5

Table S.1c – Prevalence of specific living kin types by age group (%), males and females together, 1998

Age group	Parents	Siblings	Partner	Children	Grand parents	Grand children
18-29	99.6	87.6	18.1	11.0	69.2	n.a.
30-39	96.3	88.7	74.9	64.1	27.3	0.3
40-49	81.5	87.7	85.7	85.7	5.3	3.3
50-59	49.1	86.3	84.7	88.9	n.a.	26.7
60-69	17.5	86.7	75.0	86.5	n.a.	60.1
70-79	n.a.	77.4	58.6	83.7	n.a.	72.2
80+	n.a.	53.7	26.5	82.7	n.a.	77.0
Total	76.8	85.1	63.3	66.9	63.5	53.3

Table S.1d – Prevalence of specific living kin types by age group (%), males, 2016

Age group	Parents	Siblings	Partner	Children	Grand parents	Grand children
18-29	99.8	83.4	6.6	4.4	80.6	n.a.
30-39	98.5	86.0	51.0	41.9	44.4	0.3
40-49	88.9	87.6	71.4	68.1	18.1	1.4
50-59	65.2	89.5	77.2	77.5	n.a.	11.4
60-69	26.7	84.2	83.9	86.3	n.a.	44.5
70-79	n.a.	81.6	81.5	87.2	n.a.	63.8
80+	n.a.	67.0	70.3	89.0	n.a.	75.3
Total	79.7	84.4	62.6	62.7	73.5	43.6

Table S.1e – Prevalence of specific living kin types by age group (%), females, 2016

Age group	Parents	Siblings	Partner	Children	Grand parents	Grand children
18-29	99.5	85.5	15.1	11.5	80.9	n.a.
30-39	98.0	85.4	67.1	60.4	48.1	0.4
40-49	90.1	87.6	75.3	76.5	15.4	2.2
50-59	64.1	88.8	76.9	84.4	n.a.	21.5
60-69	25.4	84.3	74.5	87.2	n.a.	57.0
70-79	n.a.	79.7	54.5	87.2	n.a.	68.7
80+	n.a.	62.6	20.9	83.0	n.a.	71.3
Total	80.0	83.1	58.2	70.9	75.7	48.7

Table S.1f – Prevalence of specific living kin types by age group (%), males and females together, 2016

Age group	Parents	Siblings	Partner	Children	Grand parents	Grand children
18-29	99.7	84.4	10.7	7.8	80.7	n.a.
30-39	98.3	85.7	59.1	51.1	46.3	0.3
40-49	89.5	87.6	73.4	72.2	16.8	1.8
50-59	64.6	89.2	77.0	81.1	n.a.	16.7
60-69	26.0	84.2	79.1	86.7	n.a.	50.8
70-79	n.a.	80.6	66.6	87.2	n.a.	66.5
80+	n.a.	64.3	39.7	85.3	n.a.	72.8
Total	79.8	83.8	60.3	67.0	74.6	46.3

Table S.2a – Average number of available kin by age group, males, 1998

Age group	average n. of kin
18-29	5.0
30-39	5.7
40-49	6.1
50-59	6.3
60-69	7.7
70-79	7.9
80+	8.0
Total	6.2

Table S.2b – Average number of available kin by age group, females, 1998

Age group	average n. of kin
18-29	5.3
30-39	6.2
40-49	6.3
50-59	6.7
60-69	7.9
70-79	7.7
80+	7.5
Total	6.6

Table S.2c – Average number of available kin by age group, males and females together, 1998

Age group	average n. of kin
18-29	5.2
30-39	6.0
40-49	6.2
50-59	6.5
60-69	7.8
70-79	7.8
80+	7.7
Total	6.4

Table S.2d – Average number of available kin by age group, males, 2016

Age group	average n. of kin
18-29	5.1
30-39	5.1
40-49	5.5
50-59	5.6
60-69	6.3
70-79	7.1
80+	7.7
Total	5.9

Table S.2e – Average number of available kin by age group, females, 2016

Age group	average n. of kin
18-29	5.3
30-39	5.7
40-49	5.7
50-59	6.0
60-69	7.1
70-79	7.5
80+	7.0
Total	6.3

Table S.2f – Average number of available kin by age group, males and females together, 2016

Age group	average n. of kin
18-29	5.2
30-39	5.4
40-49	5.6
50-59	5.8
60-69	6.7
70-79	7.3
80+	7.3
Total	6.1

Table S.3a – Variation in the average number of kin between 1998 and 2016, by kin type and age group, males

	Parents	Sibling	Partner	Children	Grand parents	Grand children
18-29	0.05	-0.36	-0.04	-0.01	0.41	0.00
30-39	0.14	-0.57	-0.18	-0.24	0.27	0.00
40-49	0.23	-0.54	-0.14	-0.35	0.19	-0.01
50-59	0.24	-0.20	-0.11	-0.41	-0.01	-0.17
60-69	0.11	-0.42	-0.03	-0.29	0.00	-0.51
70-79	0.00	-0.08	0.00	-0.16	0.00	-0.48
80+	0.00	0.30	0.09	-0.13	0.00	-0.66
Total	-0.05	-0.31	-0.03	-0.07	0.04	0.04

Table S.3b – Variation in the average number of kin between 1998 and 2016, by kin type and age group, females

	Parents	Sibling	Partner	Children	Grand parents	Grand children
18-29	0.03	-0.29	-0.11	-0.03	0.36	0.00
30-39	0.16	-0.65	-0.14	-0.23	0.37	0.00
40-49	0.28	-0.60	-0.11	-0.33	0.11	-0.05
50-59	0.28	-0.29	-0.04	-0.29	-0.01	-0.31
60-69	0.07	-0.27	0.10	-0.21	0.00	-0.48
70-79	0.00	0.19	0.13	-0.03	0.00	-0.55
80+	0.00	0.29	0.10	-0.24	0.00	-0.86
Total	-0.04	-0.27	-0.03	-0.05	0.02	-0.03

Table S.3c – Variation in the average number of kin between 1998 and 2016, by kin type and age group, males and females together

	Parents	Sibling	Partner	Children	Grand parents	Grand children
18-29	0.04	-0.33	-0.07	-0.02	0.39	0.00
30-39	0.15	-0.61	-0.16	-0.23	0.32	0.00
40-49	0.25	-0.57	-0.12	-0.34	0.15	-0.03
50-59	0.26	-0.25	-0.08	-0.34	-0.01	-0.24
60-69	0.09	-0.34	0.04	-0.25	0.00	-0.50
70-79	0.00	0.07	0.08	-0.09	0.00	-0.53
80+	0.00	0.31	0.13	-0.20	0.00	-0.79
Total	-0.05	-0.29	-0.03	-0.06	0.03	0.00

Table S.4a – Percentage of people having no kin, one, two, three or more kin types, by age group, males, 1998

Age group	Kinless	One type of kin	Two types of kin	Three or more types of kin
18-29	0.0	2.8	31.6	65.6
30-39	0.1	3.7	19.6	76.6
40-49	0.3	3.6	10.5	85.5
50-59	0.4	4.9	10.8	83.9
60-69	0.9	6.5	9.6	82.9
70-79	1.7	6.6	13.0	78.7
80+	2.4	7.1	22.2	68.2
Total	0.5	4.4	17.3	77.9

Table S.4b – Percentage of people having no kin, one, two, three or more kin types, by age group, females, 1998

Age group	Kinless	One type of kin	Two types of kin	Three or more types of kin
18-29	0.0	2.1	25.1	72.7
30-39	0.0	1.8	11.7	86.5
40-49	0.1	1.9	10.2	87.8
50-59	0.4	4.5	12.6	82.5
60-69	1.3	8.6	13.1	77.0
70-79	3.4	13.6	16.2	66.8
80+	8.8	12.8	35.2	43.3
Total	1.1	5.2	16.1	77.6

Table S.4c – Percentage of people having no kin, one, two, three or more kin types, by age group, males and females together, 1998

Age group	Kinless	One type of kin	Two types of kin	Three or more types of kin
18-29	0.0	2.5	28.4	69.1
30-39	0.1	2.7	15.6	81.6
40-49	0.2	2.8	10.4	86.7
50-59	0.4	4.7	11.7	83.2
60-69	1.1	7.6	11.5	79.8
70-79	2.7	10.6	14.9	71.8
80+	6.8	11.0	31.1	51.0
Total	0.8	4.8	16.6	77.7

Table S.4d – Percentage of people having no kin, one, two, three or more kin types, by age group, males, 2016

Age group	Kinless	One type of kin	Two types of kin	Three or more types of kin
18-29	0.0	2.6	28.6	68.9
30-39	0.1	4.4	27.2	68.3
40-49	0.4	5.2	17.7	76.7
50-59	0.9	6.1	15.4	77.5
60-69	1.1	6.6	13.1	79.2
70-79	1.8	7.5	12.9	77.9
80+	2.5	7.6	14.8	75.2
Total	0.8	5.5	18.8	74.9

Table S.4e – Percentage of people having no kin, one, two, three or more kin types, by age group, females, 2016

Age group	Kinless	One type of kin	Two types of kin	Three or more types of kin
18-29	0.0	1.9	23.0	75.0
30-39	0.0	1.7	14.6	83.6
40-49	0.0	3.0	14.5	82.6
50-59	0.5	4.0	14.5	81.0
60-69	0.7	7.6	12.0	79.6
70-79	2.9	9.0	16.0	72.2
80+	6.8	13.5	25.5	54.2
Total	1.3	5.4	16.6	76.7

Table S.4f – Percentage of people having no kin, one, two, three or more kin types, by age group, males and females, 2016

Age group	Kinless	One type of kin	Two types of kin	Three or more types of kin
18-29	0.0	2.3	25.9	71.8
30-39	0.1	3.1	20.9	76.0
40-49	0.2	4.1	16.1	79.6
50-59	0.7	5.0	14.9	79.3
60-69	0.9	7.1	12.5	79.4
70-79	2.4	8.3	14.6	74.7
80+	5.1	11.3	21.5	62.1
Total	1.1	5.5	17.6	75.8

Table S.5a – Percentage of different combinations of horizontal and vertical kinship ties, by age group, males, 1998

Age group	Only ascendants	Ascendants and horizontal	Ascendants, descendants, and horizontal	Descendants and horizontal	Ascendants and descendants	Generational solo (only horizontal)	Only descendants	Kinless
18-29	11.5	82.4	5.9	0.0	0.0	0.1	0.0	0.0
30-39	4.7	39.0	52.6	2.6	0.1	0.8	0.0	0.1
40-49	1.6	11.7	68.9	14.1	0.5	2.9	0.0	0.3
50-59	0.9	5.0	44.2	43.6	0.3	5.1	0.5	0.4
60-69	0.2	1.9	14.9	71.9	0.3	9.2	0.7	0.9
70-79	n.a.	n.a.	n.a.	84.8	n.a.	10.9	2.6	1.7
80+	n.a.	n.a.	n.a.	73.1	n.a.	8.5	16.0	2.4
Total	3.8	28.4	33.2	29.1	0.2	4.0	0.8	0.5

Table S.5b – Percentage of different combinations of horizontal and vertical kinship ties, by age group, females, 1998

Age group	Only ascendants	Ascendants and horizontal	Ascendants, descendants, and horizontal	Descendants and horizontal	Ascendants and descendants	Generational solo (only horizontal)	Only descendants	Kinless
18-29	9.6	74.1	15.9	0.2	0.0	0.1	0.0	0.0
30-39	1.7	24.9	69.7	2.8	0.2	0.6	0.0	0.0
40-49	0.7	9.4	69.8	17.2	0.6	1.7	0.4	0.1
50-59	0.4	4.6	42.1	45.5	0.8	5.2	1.1	0.4
60-69	0.1	2.0	15.1	66.9	0.5	10.8	3.3	1.3
70-79	n.a.	n.a.	n.a.	71.2	n.a.	14.5	11.0	3.4
80+	n.a.	n.a.	n.a.	47.2	n.a.	9.9	34.1	8.8
Total	2.3	21.1	36.0	30.4	0.3	4.9	3.8	1.1

Table S.5c – Percentage of different combinations of horizontal and vertical kinship ties, by age group, males and females together, 1998

Age group	Only ascendants	Ascendants and horizontal	Ascendants, descendants, and horizontal	Descendants and horizontal	Ascendants and descendants	Generational solo (only horizontal)	Only descendants	Kinless
18-29	10.5	78.3	10.9	0.1	0.0	0.1	0.0	0.0
30-39	3.2	31.9	61.2	2.7	0.2	0.7	0.0	0.1
40-49	1.2	10.6	69.4	15.6	0.6	2.3	0.2	0.2
50-59	0.6	4.8	43.1	44.6	0.5	5.1	0.8	0.4
60-69	0.1	1.9	15.0	69.2	0.4	10.0	2.1	1.1
70-79	n.a.	n.a.	n.a.	77.0	n.a.	13.0	7.4	2.7
80+	n.a.	n.a.	n.a.	55.3	n.a.	9.4	28.5	6.8
Total	3.0	24.6	34.6	29.8	0.3	4.4	2.4	0.8

Table S.5d – Percentage of different combinations of horizontal and vertical kinship ties, by age group, males, 2016

Age group	Only ascendants	Ascendants and horizontal	Ascendants, descendants, and horizontal	Descendants and horizontal	Ascendants and descendants	Generational solo (only horizontal)	Only descendants	Kinless
18-29	15.4	80.2	4.2	0.0	0.1	0.0	0.0	0.0
30-39	8.2	49.1	41.0	0.4	0.7	0.5	0.0	0.1
40-49	3.4	24.5	62.3	5.0	1.0	3.3	0.0	0.4
50-59	1.0	13.3	50.5	26.6	0.4	7.2	0.1	0.9
60-69	0.2	3.1	23.1	62.0	0.3	8.9	1.3	1.1
70-79	n.a.	n.a.	n.a.	85.8	n.a.	11.0	1.5	1.8
80+	n.a.	n.a.	n.a.	80.2	n.a.	8.2	9.1	2.5
Total	4.4	26.7	30.7	30.8	0.4	5.2	1.0	0.8

Table S.5e – Percentage of different combinations of horizontal and vertical kinship ties, by age group, females, 2016

Age group	Only ascendants	Ascendants and horizontal	Ascendants, descendants, and horizontal	Descendants and horizontal	Ascendants and descendants	Generational solo (only horizontal)	Only descendants	Kinless
18-29	12.5	76.0	11.2	0.0	0.3	0.0	0.0	0.0
30-39	4.0	35.5	57.7	1.6	1.1	0.1	0.0	0.0
40-49	2.1	19.9	69.2	6.1	1.0	1.5	0.1	0.0
50-59	0.7	10.1	52.4	30.6	0.9	4.2	0.6	0.5
60-69	0.5	2.7	21.6	62.7	0.6	8.7	2.4	0.7
70-79	n.a.	n.a.	n.a.	80.0	n.a.	9.8	7.3	2.9
80+	n.a.	n.a.	n.a.	59.8	n.a.	9.8	23.7	6.8
Total	2.7	20.3	33.5	33.0	0.6	4.7	3.9	1.3

Table S.5f – Percentage of different combinations of horizontal and vertical kinship ties, by age group, males and females together, 2016

Age group	Only ascendants	Ascendants and horizontal	Ascendants, descendants, and horizontal	Descendants and horizontal	Ascendants and descendants	Generational solo (only horizontal)	Only descendants	Kinless
18-29	14.0	78.2	7.6	0.0	0.2	0.0	0.0	0.0
30-39	6.1	42.3	49.4	1.0	0.9	0.3	0.0	0.1
40-49	2.8	22.3	65.7	5.5	1.0	2.4	0.1	0.2
50-59	0.9	11.6	51.5	28.7	0.7	5.6	0.4	0.7
60-69	0.4	2.9	22.3	62.4	0.4	8.8	1.9	0.9
70-79	n.a.	n.a.	n.a.	82.6	n.a.	10.3	4.7	2.4
80+	n.a.	n.a.	n.a.	67.5	n.a.	9.2	18.2	5.1
Total	3.5	23.4	32.2	31.9	0.5	4.9	2.5	1.1

Table S.6a – Percentage of people who declare having at least one friend they can rely on in case of need, by age group, males, 1998

Age group	Friends availability
18-29	72.5
30-39	68.5
40-49	63.5
50-59	57.1
60-69	46.6
70-79	36.6
80+	26.4
Total	59.7

Table S.6b – Percentage of people who declare having at least one friend they can rely on in case of need, by age group, females, 1998

Age group	Friends availability
18-29	71.4
30-39	66.5
40-49	60.3
50-59	52.4
60-69	42.2
70-79	35.1
80+	22.7
Total	54.9

Table S.6c – Percentage of people who declare having at least one friend they can rely on in case of need, by age group, males and females together, 1998

Age group	Friends availability
18-29	72.0
30-39	67.5
40-49	61.9
50-59	54.7
60-69	44.2
70-79	35.7
80+	23.8
Total	57.2

Table S.6d – Percentage of people who declare having at least one friend they can rely on in case of need, by age group, males, 2016

Age group	Friends availability
18-29	84.2
30-39	74.5
40-49	69.5
50-59	63.4
60-69	55.7
70-79	49.7
80+	34.1
Total	64.6

Table S.6e – Percentage of people who declare having at least one friend they can rely on in case of need, by age group, females, 2016

Age group	Friends availability
18-29	82.3
30-39	75.7
40-49	71.3
50-59	62.9
60-69	51.9
70-79	44.7
80+	29.0
Total	61.0

Table S.6f – Percentage of people who declare having at least one friend they can rely on in case of need, by age group, males and females together, 2016

Age group	Friends availability
18-29	83.3
30-39	75.1
40-49	70.4
50-59	63.1
60-69	53.8
70-79	46.9
80+	30.9
Total	62.7

Table S.7a – Percentage of people who declare having at least one friend they can rely on in case of need by presence of given types of kin, age group, males, 1998

Age group	with partner	without partner	with children	childless	with grandchildren	without grandchildren
18-29	68.9	72.9	65.1	73.0	n.a.	n.a.
30-39	69.2	66.8	68.0	69.1	n.a.	n.a.*
40-49	64.3	58.9	63.6	63.1	60.1	63.6
50-59	56.6	60.7	56.5	61.4	47.5	59.4
60-69	46.4	47.8	46.3	48.8	45.8	47.5
70-79	35.5	41.7	36.2	39.4	36.9	35.8
80+	24.6	29.2	25.6	31.8	25.9	28.5
Total	56.5	65.9	54.8	68.1	41.1	59.5

* As also noted in the text, because the presence of grandchildren is recorded starting at age 35 and due to the extremely low prevalence in grandparents at ages 35-39, with the exception of Figure 1/Tables S.1a-S1f, we consider grandchildren availability only from age 40.

Table S.7b – Percentage of people who declare having at least one friend they can rely on in case of need by presence of given types of kin, age group, females, 1998

Age group	with partner	without partner	with children	childless	with grandchildren	without grandchildren
18-29	64.3	73.8	59.8	73.6	n.a.	n.a.
30-39	65.8	69.5	64.8	71.0	n.a.	n.a.*
40-49	60.6	58.2	60.3	60.5	48.1	60.9
50-59	51.5	56.3	51.9	56.9	45.9	55.7
60-69	39.9	46.4	41.5	45.9	40.8	44.7
70-79	35.1	35.1	33.4	42.8	32.8	41.2
80+	20.8	22.9	21.5	27.4	21.9	24.8
Total	54.9	55.0	50.4	65.7	36.8	56.2

* As also noted in the text, because the presence of grandchildren is recorded starting at age 35 and due to the extremely low prevalence in grandparents at ages 35-39, with the exception of Figure 1/Tables S.1a-S1f, we consider grandchildren availability only from age 40.

Table S.7c – Percentage of people who declare having at least one friend they can rely on in case of need by presence of given types of kin, age group, males and females together, 1998

Age group	with partner	without partner	with children	childless	with grandchildren	without grandchildren
18-29	65.7	73.3	61.3	73.3	n.a.	n.a.
30-39	67.4	67.9	66.2	69.8	n.a.	n.a.*
40-49	62.5	58.5	61.9	62.0	51.4	62.3
50-59	54.1	57.8	54.1	59.2	46.5	57.7
60-69	43.4	46.7	43.8	47.1	43.0	46.1
70-79	35.3	36.4	34.6	41.6	34.5	38.9
80+	23.6	23.9	22.9	28.4	23.3	25.7
Total	55.7	59.8	52.4	67.0	38.5	57.9

* As also noted in the text, because the presence of grandchildren is recorded starting at age 35 and due to the extremely low prevalence in grandparents at ages 35-39, with the exception of Figure 1/Tables S.1a-S1f, we consider grandchildren availability only from age 40.

Table S.7d – Percentage of people who declare having at least one friend they can rely on in case of need by presence of given types of kin, age group, males, 2016

Age group	with partner	without partner	with children	childless	with grandchildren	without grandchildren
18-29	75.9	84.8	67.8	85.0	n.a.	n.a.
30-39	77.1	71.9	73.8	75.0	n.a.	n.a.*
40-49	70.7	66.5	69.5	69.5	36.3	70.0
50-59	62.0	67.9	62.7	65.7	54.8	64.5
60-69	56.2	52.8	56.3	51.6	54.0	57.0
70-79	50.0	48.6	49.1	53.9	47.8	53.1
80+	35.4	31.0	32.8	45.0	32.7	38.4
Total	60.8	70.9	58.8	74.3	46.9	64.7

* As also noted in the text, because the presence of grandchildren is recorded starting at age 35 and due to the extremely low prevalence in grandparents at ages 35-39, with the exception of Figure 1/Tables S.1a-S1f, we consider grandchildren availability only from age 40.

Table S.7e – Percentage of people who declare having at least one friend they can rely on in case of need by presence of given types of kin, age group, females, 2016

Age group	with partner	without partner	with children	childless	with grandchildren	without grandchildren
18-29	76.0	83.4	69.3	84.0	n.a.	n.a.
30-39	73.8	79.6	71.1	82.7	n.a.	n.a.*
40-49	71.7	70.0	70.2	74.9	51.4	71.7
50-59	62.6	64.0	61.9	68.3	53.7	65.4
60-69	51.4	53.4	52.2	50.0	49.5	55.2
70-79	42.8	47.0	43.6	52.4	42.9	48.7
80+	29.2	28.9	27.8	34.9	25.8	36.9
Total	60.9	61.2	55.7	73.9	42.1	64.1

* As also noted in the text, because the presence of grandchildren is recorded starting at age 35 and due to the extremely low prevalence in grandparents at ages 35-39, with the exception of Figure 1/Tables S.1a-S1f, we consider grandchildren availability only from age 40.

Table S.7f – Percentage of people who declare having at least one friend they can rely on in case of need by presence of given types of kin, age group, males and females together, 2016

Age group	with partner	without partner	with children	childless	with grandchildren	without grandchildren
18-29	76.0	84.2	68.9	84.5	n.a.	n.a.
30-39	75.2	75.0	72.2	78.1	n.a.	n.a.*
40-49	71.2	68.1	69.8	71.8	45.5	70.8
50-59	62.3	65.9	62.3	66.8	54.1	64.9
60-69	53.9	53.2	54.2	50.8	51.4	56.2
70-79	46.7	47.4	46.0	53.1	45.0	50.8
80+	33.4	29.3	29.8	37.8	28.5	37.4
Total	60.8	65.6	57.1	74.1	44.1	64.4

* As also noted in the text, because the presence of grandchildren is recorded starting at age 35 and due to the extremely low prevalence in grandparents at ages 35-39, with the exception of Figure 1/Tables S.1a-S1f, we consider grandchildren availability only from age 40.