Ageing & Society **26**, 2006, 105–134. © 2006 Cambridge University Press
doi:10.1017/S0144686X05004484 Printed in the United Kingdom

Ageing and vulnerable elderly people: European perspectives

EMILY GRUNDY*

ABSTRACT
This paper considers the processes and circumstances that create vulnerability among older people, specifically to a very poor quality of life or an untimely or degrading death. Models of ageing processes are used to define vulnerable older people as those whose reserve capacity falls below the threshold needed to cope successfully with the challenges they face. Compensatory supports may intervene to mitigate the effects of challenges and to rebuild reserve. The dimensions of reserve, challenges and compensation are discussed, with emphasis on demographic and other influences on the availability of family and social support. Policy initiatives to reduce vulnerability can focus on each part of the dynamic process that creates vulnerability, namely, ensuring that people reach later life with 'reserve', reducing the challenges they face in later life, and providing adequate compensatory supports. The promotion through the lifecourse of healthy lifestyles and the acquisition of coping skills, strong family and social ties, active interests, and savings and assets, will develop reserves and ensure that they are strong in later life. Some of the physical and psychological challenges that people may face as they age cannot be modified, but others can. Interventions to develop compensatory supports include access to good acute care and rehabilitation when needed, substitute professional social and psychological help in times of crisis, long-term help and income support. Our knowledge of which interventions are most effective is however limited by the paucity of rigorous evaluation studies.

KEY WORDS – vulnerability, quality of life, family support, demography, ageing.

Introduction

The European population's age structure is older than that of any other world region and is set to age further during the next few decades. By 2020, close to one-quarter of the population in several European countries will be aged 65 or more years (United Nations Organisation 2002). In many countries, the proportion and number aged 85 or more years is growing even more rapidly, and this age group will form as large a

* Centre for Population Studies, London School of Hygiene and Tropical Medicine, UK.

https://doi.org/10.1017/S0144686X05004484 Published online by Cambridge University Press

percentage of the population as those aged 75 or more years in the 1950s or 1960s. The assumption of many European policy makers is that these demographic changes call for greater expenditure on support systems of various kinds (Organisation for Economic Co-operation and Development (OECD) 1999). An underlying premise is that elderly people, or at least subgroups of them, are 'vulnerable', in that without such support their quality of life would be seriously compromised. Early policies to improve the wellbeing of older people were based on an implicit assumption that being old was itself a source of vulnerability. The British *National Assistance Act 1948*, a bulwark of its new welfare state, referred to people 'who by reason of age *or* infirmity are in need of assistance' (rather than age *and* infirmity). Recent policies in several European countries have emphasised, however, the need to target services and resources on particularly needy members of the older population (Sundström and Tortosa 1999), and modern gerontological texts emphasise the diversity of the older population and of ageing processes. Some policy makers now also emphasise the need, in a changing demographic context, for older people to retain or acquire resources, such as private pensions, which will reduce their vulnerability – or need for assistance – in old age (OECD 1999). This paper examines the age-related sources of vulnerability and the groups of older people that are most affected. It begins by considering what is meant by vulnerability and how it relates to various models of ageing processes.

Ageing and vulnerability

Vulnerability means 'capable of being physically or mentally wounded or assailable' (*New Collins Dictionary* 1982). The condition is neither age-specific nor age-related; everyone is vulnerable to a degree, but old age involves greater risks of exposure to specific challenges and, crucially, of a reduced capacity to respond. From a biological perspective, ageing (or senescence) of the individual brings decrements in the homeostatic mechanisms that enable adaptive responses to environmental challenges; the eventual outcome of this process is death (Evans 1988). The near-exponential increase in the probability of death from late adolescence to advanced old age is a powerful indicator of this process, although one should note that cohort differences in mortality risks show a less regular age-related pattern, and at the oldest age groups the rate of increase in the risk of death levels out (Grundy 1997; Thatcher 1997).

A generation ago, gerontologists suggested that changes attributed to senescence should be universal in the species, degenerative, progressive

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and intrinsic (*e.g.* Strehler 1977). The application of all these criteria is problematic, however, and probably the concept of increased risk is more important than that of universality (Brouwer 1992). For example, most elderly people do not develop Alzheimer's disease, but the risk of developing it increases markedly with age. The pace of senescent change varies considerably among the systems of the body and between individuals and groups (Shock 1983). For these reasons, the use of 'biological' indicators of ageing rather than chronological age has been proposed, but there are practical limitations to this approach; and at the population level, age is a sensitive indicator of health status and other attributes of vulnerability (Siegel 1992). Biomedical models of ageing have been challenged by social scientists for the apparent assumption of inevitable decline, but the evidence of increased susceptibility to disease with age is overwhelming (Ferrucci, Windham and Fried 2005). The homeostasis model's stress on the complex interplay between individual (or host) factors and environmental influences is particularly useful.

In this paper, vulnerable older people are defined as those whose reserve capacity falls below the threshold needed to cope successfully with the challenges that they face. The difference may arise either from severe depletion (lack of reserve resources) or from particularly serious challenges. This definition of vulnerability takes account of host and environmental factors and their interactions but begs the question of 'vulnerable to what?' (for further discussion, see Schröder-Butterfill and Marianti 2006). The obvious answer – death – is inadequate, for death is the inevitable and unavoidable conclusion of senescence. Instead, a multifaceted but specific conceptualisation is employed, namely, vulnerability to a very poor quality of life or to an untimely or degrading death. Quality of life is of course a subjective concept and difficult to measure (Baltes and Baltes 1990; Bowling 1993, 1995; Morgan *et al.* 1987), but both reports of older people's views and the policy objectives articulated by those who work with older people (Age Concern England 1992) stress several key elements, as exemplified in the United Nations Organisation's (1991) *Principles for Older Persons*: material resources, family, friends and social ties, care when needed, health, and opportunities for autonomy and self-actualisation.

Reserve

The 'reserve' that an individual brings to later life reflects a lifetime's accumulation and depletion of resources and skills. Important dimensions of reserve include mental and physical health status, family relationships and social networks, coping strategies, personality and social skills, wealth,

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other material resources, and legal or moral rights to various forms of inter-generational or collective support. This conceptualisation takes account both of structuralist dimensions and the 'actor' dimensions discussed by Schröder-Butterfill and Marianti (2006), as it is not just the resources available to an individual that are important, but their ability to draw on them. The level of these reserves in later life may in some cases be largely determined by lifecourse factors. Health status, for example, reflects genetic factors, early-life environments and exposures to favourable or unfavourable environments (using environment here to mean any external factor), and health-related behaviour throughout life (McGue *et al.* 1993; Sayer *et al.* 1998; Grundy and Holt 2000).

Similarly, family resources and social support networks are the outcomes of lifetime experiences. Most obviously, an elderly person's number of children is fixed before later life and can only diminish (except in very rare cases, or exceptionally in some societies at certain times where adult adoption was a response to childlessness, *e.g.* Japan). Social support in old age depends to an extent on 'convoys of support' that are built up over a lifetime of reciprocal exchange (Antonucci and Jackson 1989). In western societies, material assets in later life also depend to a large extent on income and asset accumulation earlier in life, and opportunities for self-actualisation may be influenced by education and skills acquired throughout life.

This does not mean that there are no opportunities for increasing or developing reserves in old age. Many studies have shown the plasticity of ageing processes once thought immutable. Regular training can, for example, improve muscle strength and functional ability (McMurdo 2000). New relationships can be forged and new skills learned, but there are both biological and social limits to plasticity (Baltes 1998), and just as increasing age makes it harder to regain the same level of functional health after a challenge such as an acute illness, so too some roles and activities once lost are hard to replace. There are, for example, few opportunities for very old widows to remarry, because women predominate at the oldest ages. Although 'disengagement' theories of ageing are now discredited, an appropriate response may be to focus on particular activities and roles and discard others, *viz.* 'selective optimisation with compensation', the process of prioritising functions and finding compensatory strategies for maximising their utility (Baltes 1998; Baltes and Baltes 1990). Those who adopt this strategy appear to have greater life satisfaction and a higher quality of life (Freund and Baltes 1998).

Lifecourse perspectives have attracted considerable attention, but it is also important to acknowledge the very important effect of *current* circumstances and behaviour on the wellbeing of older people. These

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include, for example, the availability of health and welfare services, the generosity or otherwise of pension provision, the physical environment which may impede or facilitate access, and, very importantly, the broader social environment. Catastrophic events, including environmental disasters like the 2004 tsunami and the hurricanes and earthquakes of 2005, the collapse of pension funds or of civic or political systems, may override life-course strategies for security in older age. Even in such extreme circumstances, however, accumulated characteristics, such as personal coping strategies and family and friendship networks, are important influences on the level of vulnerability.

Challenges and compensatory supports

The challenges or threats that are faced in later life are both acute, such as bereavement, accidents or victimisation, and more insidious, such as decrements in health, income and social roles. Many commentators have noted that although the reserves or resources of older people may be less than the young's, many of the challenges that they face are greater (Evans 1988). They may, for example, live in poorer-quality housing, in neighbourhoods with fewer resources, or face discrimination in accessing health care (Bowling *et al.* 2001), as well as being at greater risk of acute illness. Moreover, some life events which cause most upset, such as the death of a spouse or age peers, or having to give up one's home and move to an institution, are most likely to occur in old age. One should note that although retirement is popularly believed to be a stressful life event (Kasl 1980), careful investigation has found that it has little effect on psychological wellbeing (Atchley 1977; Talaga and Beehr 1989).

An important third element in the dynamic between reserve and challenge is the compensatory supports or interventions that are activated to mitigate their effect and to restore reserve. Examples include intensive rehabilitation after a fall or an acute illness, adaptations or assistive devices in the home that enable those with physical impairments to undertake daily tasks; bereavement counselling; and taking up a new relationship or activity. Complex interactions between the domains of reserve mean that compensation among them is possible (or the reverse). For example, the effect of health-related limitations to physical mobility on an older person's quality of life may be mitigated or compounded by their reserves of family support and social networks. Not being able to go out unaided is likely to have less impact on the quality of life of a person who has frequent visits and many people who help them to go out (as to shop), than on a person who lacks these resources. Conversely, the consequences of physical mobility limitations may be very serious for someone with poor

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support networks, for whom the inability to go out may hamper their maintenance or development of social ties, which further increases the risk of isolation.

The following sections of the paper seek to specify the principal dimensions of reserve among older people and the groups that are most vulnerable. The focus is on Britain, but there will be comparisons with other counties, by reference both to the research literature and to comparative data for western European countries that have been selected with reference to Esping-Andersen's (1990) typology of the continent's welfare regimes. Apart from the United Kingdom, which has a 'liberal' regime that emphasises means-testing and market forms of support, the comparator countries are, for the 'corporatist' group with insurance-based benefits, Austria and Germany; for the 'social democratic' group that emphasises universal, individual entitlements, Sweden and The Netherlands; and for the 'southern' group with poorly-developed state provision of welfare services and much reliance on family support, Italy and Portugal.

Eastern European countries are considered here only in passing, partly because of data restrictions and partly because the particular circumstances of older people in the transition countries merit specific detailed examination. Particular attention is however paid to demographic and other influences on the availability of family and social support as important elements of reserve, because changes in these are often assumed by policy makers to increase the vulnerability of older people (European Commission 1995). The predominant data sources are censuses and large surveys, which although providing representative and generalisable information, are less useful for unpicking the complexity of individual-level strategies and motivations (these are discussed in other papers in this special issue which draw on rich qualitative data).

Income and material resources

In all European countries, the proportion of older people in paid work has fallen substantially in recent decades and is now very low (Quinn and Burkhauser 1994). Employment among those in late-middle and early-old age has also fallen, and the actual average age of retirement is generally several years younger than the 'official' retirement age. In France in 1995, for example, the average ages of retirement for men and women were 59 and 58 years (compared with 65 in 1960) (OECD 1999). Several European countries, including some that recently promoted early retirement to reduce unemployment, now realise the serious implications of an increasing older population and ever-younger labour market exits, and

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have introduced policies to reverse the latter trend, but their effectiveness is unknown.

Townsend (1981) identified the exclusion of older people from the labour market through mandatory retirement policies as a key factor in the imposed 'structured dependency' of older people. Many surveys have identified groups of older workers who would like to continue in work, but it is not clear how many would choose to work full-time for longer if given the opportunity. The rising number of early retirees has not been restricted to those made redundant or with health problems, but has also spread to many with above-average assets and greater choice – including that for a leisure-orientated lifestyle (Disney, Grundy and Johnson 1997). Whether or not people's choices would be different if unconstrained, the fact is that currently many older workers have *no* choice about when to leave the labour market. Importantly, the very limited opportunities for paid work in later-life mean that incomes in old age are dependent on transfers of resources from younger people (in many European countries through pay-as-you-go pension schemes), on past accumulation and investment of assets (private pensions and savings) and, to a limited extent in Europe, on transfers from relatives. The resources that older people have are therefore a combination of tangible assets, such as savings and property, and intangibles, notably the moral rights derived partly from their past contributions to the economy and their support of previous, smaller, generations of retired people.

In most European countries, poverty and old age are no longer synonymous. Among the selected European countries, only in Austria, Italy and the United Kingdom do more than 10 per cent of older people have incomes below half the median (Figure 1), and in most the rates of poverty among elderly people are not much higher (or in The Netherlands lower) than in the population as a whole (although they are higher in some southern European countries and in eastern Europe) (Winqvist 2002). Worries about money are nonetheless widespread: the European Union (EU) *Age and Attitudes Survey* found that 44 per cent of older people thought that 'not having enough to live on and financial worry' was the main problem facing their age group (Walker 1993). A less positive side of generally improving incomes, in the UK and some other European countries, is growing income inequality among older people (Falkingham 1998). Certain groups have much above median rates and risks of poverty, including women, the very old (especially very old, unmarried women), those with lifetime low incomes, and some minority ethnic groups (Winqvist 2002).

Many western Europeans now enter retirement with much greater material resources than previous generations. Ownership of a home has

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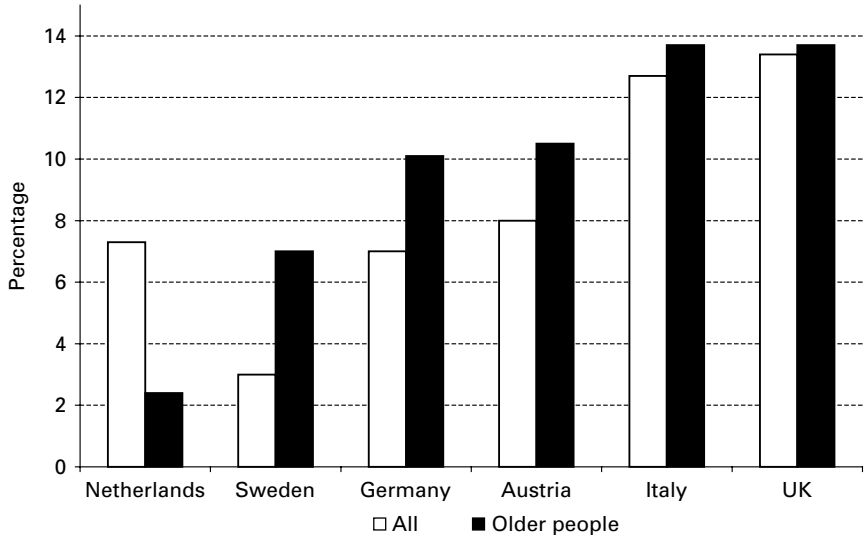


Figure 1. Share of elderly population with incomes at or below the median, late 1990s–2000.
Source: *Luxembourg Income Study* (data for Portugal not available).

become a widespread asset and an important bulwark, but it is important to remember that older individuals' assets and incomes almost invariably diminish as they age, and that opportunities to replenish resources are limited. Although some 'young' elderly people may increase their assets through inheritance, inter-generational continuities in socio-economic status generally mean that the better-off are most likely to benefit. The 1994 *British Retirement Survey* found, for example, that 19 per cent of people aged 60–74 years had inherited property during the previous five years, but the percentages were seven among those who had had unskilled occupations and 30 among former professionals (Disney, Grundy and Johnson 1997).

In Britain in 2002–03, state social security benefits (including the old age pension) were the dominant source of income in households headed by a person aged 65 or more years (*n.b.* some members are of working age) (Figure 2). In households headed by a person aged 75 or more years, over 80 per cent of household income was drawn from pensions and other state benefits. The reliance of older people on transfers and returns on investments means that they are 'vulnerable', in the sense that their incomes depend on decisions made by others, *e.g.* governments and pension-fund managers, and may be influenced by shocks or trends over which they have no direct control, *e.g.* mismanagement, inflation and stock-market swings. Importantly, too, it is not possible for older adults to

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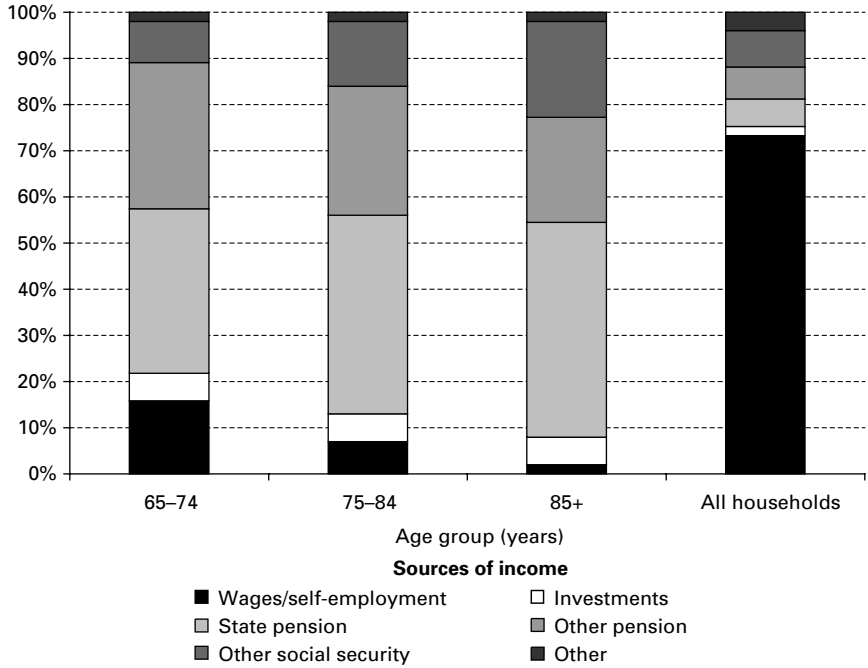


Figure 2. Components of household income (gross) by age of head of household, United Kingdom 2002–3. *Source*: United Kingdom *Family Resources Survey*.

'go back' and take different decisions about asset accumulation. As the other papers in this special issue show, in non-western populations many older people rely heavily on direct transfers from children and other young relatives, rather than indirect inter-generational transfers mediated by state pension schemes. In European countries, nonetheless, family support is also important for mediating vulnerability in old age.

Family and social support

Numerous studies of what older people say is most important for both their social lives and as potential sources of help have attested the importance of family ties (Bowling 1995; Scott 1997). Older people are diverse, however, and the availabilities of various relatives and frequencies of family contacts differ greatly among their subgroups and in European countries. Most obviously, many more men than women have a spouse. Marital status is closely associated with economic security, living arrangements, psychological wellbeing and the receipt of care, and being married is an

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important advantage, at least for men (Pizzetti, Manfredini and Lucchetti 2005; Waite 1995). Different demographic legacies and circumstances mean that the proportion of widows in European countries varies (Grundy 1996*a*). In the late 1990s, for example, a majority of women aged 60 or more years in Russia, the Ukraine and Hungary were widows, compared with only two-fifths in Spain and Sweden. Such variations reflect the age composition of the older population (older in northern Europe), the overall levels of mortality and of sex differentials in mortality (highest in Russia and the Ukraine), variations in the average spousal age-gap, different remarriage rates after widowhood, and other differences in nuptiality. As widowhood is necessarily preceded by marriage, countries with large proportions of never-married people, such as Ireland, have relatively low proportions 'at risk' of being widowed, while in other countries, such as Sweden, divorce is becoming a significant 'competing' risk.

In several western countries, the marriage rates among those born after 1920 (and before 1955) were substantially higher than in earlier cohorts, so the proportion of young older people who never-married has been falling. In England and Wales, for example, the proportion of single (never-married) women aged 65–74 years decreased from 14 to seven per cent between 1971 and 1991 (Grundy 1996*b*). While the proportion that never married has fallen, and is projected in the short-term to fall further, in recent cohorts the marriage rate has declined. This means, in the long term, that the proportion that never married will increase again. An anticipated increase in the proportion of divorced older people, which will necessarily follows from today's high rates of divorce at younger ages, also presents a future challenge. The effect of divorce on the informal support of older people, and more generally on inter-generational relationships, is likely to become an important issue in many countries, particularly as there is evidence that children brought up by divorced parents have, as adults, relatively weak links with their parents (especially fathers) (Dykstra 1997; Grundy and Shelton 2001; Tomassini *et al.* 2004).

Children and childlessness

As noted above, older people report family ties as central elements of their lives, and the availability of family support is an important element of reserve. It is therefore important to consider trends and differentials in the availability of different family members, particularly children. Declines in fertility, unless wholly compensated for by improvements in infant mortality, necessarily imply a shift to an older age structure and a

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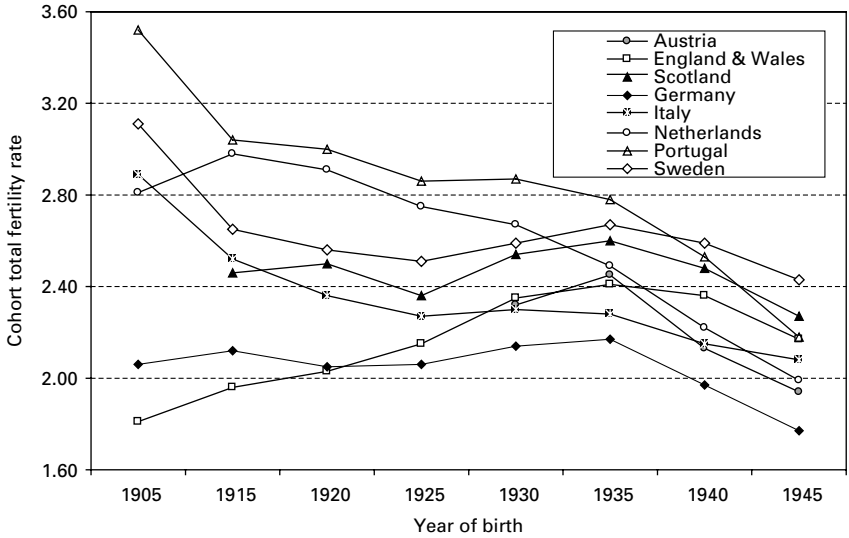


Figure 3. Cohort Total Fertility Rate, women born 1905–1945, selected European countries.
Source: FAMSUP database (see Acknowledgements).

reduced ratio of young to old. If, however, fertility decline is achieved largely through reductions in the proportions of women having many children (or high order births), such changes will not result in a rising proportion of childless women. As shown in Figure 3, 'Cohort Total Fertility Rates' (CTFR), the average number of births per woman given the rates of fertility during their childbearing years, have fallen from highs for women born during the mid-1930s to lows for those born in the 1940s (and to even lower figures for those born during the later 1950s). Over these three decades, however, some countries, such as Portugal, have shown a consistent downward trend in fertility; others, such as England and Wales, have experienced a rise and then a fall; and others again, such as Germany, have shown little change until a very recent decline.

Among those born between about 1935 and 1955 in several European countries, a lower proportion remained childless as compared to earlier or later cohorts (Figure 4). Model results for England and Wales show first a considerable increase, and then a fall, in the proportions of women who ever had a child and, given the relevant mortality parameters, in the proportion who had a child alive when they reached 80 years-of-age (Figure 5). If lack of a child is a source of vulnerability, then the current cohorts are less vulnerable than either their predecessors were or their successors will be. Falls in mortality in recent decades also mean that a

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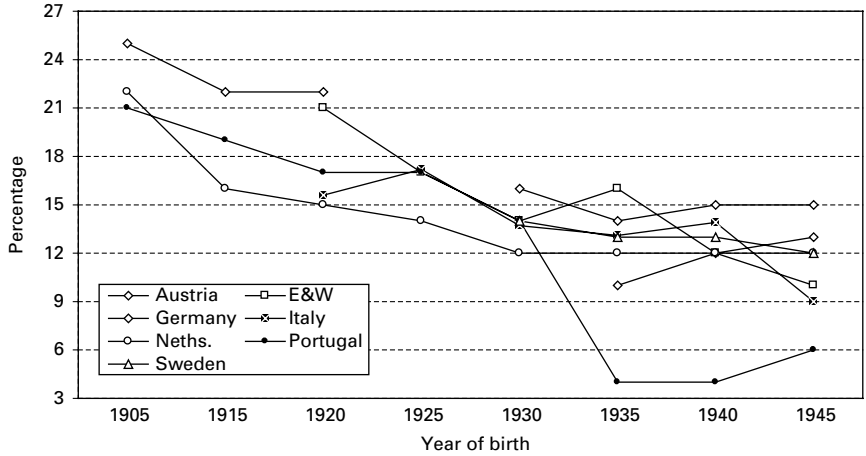


Figure 4. Percentage of women who have never given birth by age 45 by birth cohort, women born 1905–1945, selected European countries. *Source*: FAMSUP database.

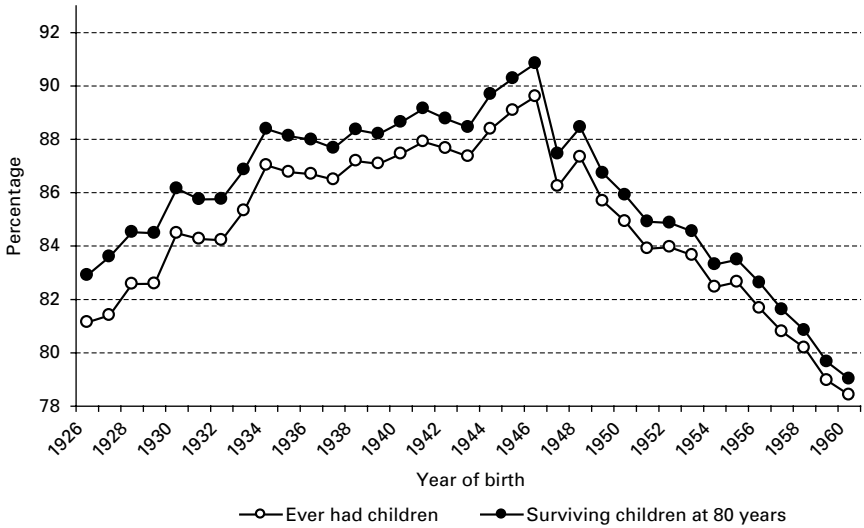


Figure 5. Percentage of women born in 1926–60 who ever had children and with surviving child(ren) at age 80 years, England and Wales.

higher proportion of children now survive to their parents' old age, including extreme old age, than ever before. If one asks whether having never married and being childless increases vulnerability to certain undesirable outcomes in old age, the answer seems to be 'yes', particularly among men. The risk of entering an institution, for example, is much

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TABLE 1. *Associations between severe lack of social support and marital status and living arrangements, England 1993–95*

	Men		Women	
	65–79 years	80+ years	65–79 years	80+ years
	Odds ratios			
Marital status				
Never-married	2.84***	4.30***	1.97***	1.57
Married	1.00	1.00	1.00	1.00
Widowed or divorced	1.49***	1.02	1.01	0.88
N	(3,288)	(628)	(4,218)	(1,255)
Living arrangement				
Lives alone	1.89	1.32	1.11	0.97
Lives with spouse	1.00	1.00	1.00	1.00
Lives with others	1.46	1.39	1.12	0.67
N	(3,287)	(628)	(4,205)	(1,248)

Note: Controlling for age, physical health and smoking.
Significance level: *** $p < 0.001$.
Source: Author's analysis of data from the *Health Survey for England*, 1993–95.

higher among the never- than the ever-married (Dolinsky and Rosenwaike 1988; Carrière and Pelletier 1995; Grundy and Glaser 1997). Never-married older men in England are at much higher risk of reporting poor social support than ever-married men (based on a 21-point instrument), and the differential was greater than the difference in risk between those living alone and those living with others (Table 1). Among women, the associations between marital status and perceived social support were less marked among those aged 65–79 years, and insignificant among those aged 80 or more years.

In interpreting these results, it is important to be aware of selection effects. It is possible that in the current cohort of older people, the few men who never married had particular psychological characteristics that reduced their chances of both marriage and of forming other close relationships. In her seminal London study of the social factors that influenced the risk of depression in old age, Murphy (1982) found that it was not those who *currently* lacked a confidante so much as those who had *never had* a confidante, a small group, who had the highest risks. Moreover, as with other aspects of potential vulnerability, structural and cultural constraints, and the strengths or weaknesses in other domains of reserve, have modifying or compounding effects. Childless and unmarried women, for example, seem to be more successful than men at developing and maintaining alternative strong bonds, as with siblings, friends or church groups (Wenger, Scott and Patterson 2000).

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Living arrangements and living alone

Some commentaries assert that older people who live alone are vulnerable. Since the Second World War in many European countries, there has been a strong increase in the proportion that live alone and a strong decrease in co-residence in complex or multi-generational households (Keilman 1987; Pampel 1992; Grundy 1996*a*). Sundström (1994) reported that, in Norway and Finland respectively, 44 and 55 per cent of older people lived with a child during the 1950s, compared with 11 and 14 per cent during the 1980s. Changes in demographic parameters – such as the age at completion of childbearing, average life expectancy at 65 years-of-age, and the age composition of the older population – accounts for some of this change, but it is clear that other factors are important. The three most commonly advanced are: declines in kin availability, an increased preference for privacy, and improved economic status, so that more older people with a preference for privacy and an independent household can *realise* the choice (Burch and Matthews 1987; Inglehart 1990; Pampel 1992). Policy changes, which in some cases have expanded the provision of health and support services, including supported housing options, may also have been important.

The evidence for 'cultural' and attitudinal differences in living arrangements, including the extent of co-residence, comes from both cross-national comparative studies and investigations of differences among ethnic groups, social groups and regions within countries. Figure 6 shows the marked differences among just a few countries, for example, the proportion of older women in Portugal who live alone is one-half of that in Germany or Sweden. Many other studies have shown comparable national diversity (Wall 1989; Pampel 1992; Grundy 1996*a*). The proportions of older people who live with a child are much higher in southern and eastern Europe than in northern Europe. Has the trend towards more residential independence increased the proportion of older people who are vulnerable and, if so, is this proportion larger in northern than in southern Europe?

Much of the research on this topic has focused on the implications of the choice of living arrangements for the provision of assistance when needed (Cafferata 1987; Arber, Gilbert and Evandrou 1988; Chappell 1991). At least in Britain, those who need help *and live alone* are more likely to receive formal services (including privately-arranged and paid-for help) than those with a co-resident (Figure 7). One study found that the allocation of statutory care services was influenced more by household composition than the genders of either the older person or the carer (Arber *et al.* 1988). During the mid-1980s in Britain, older people who lived

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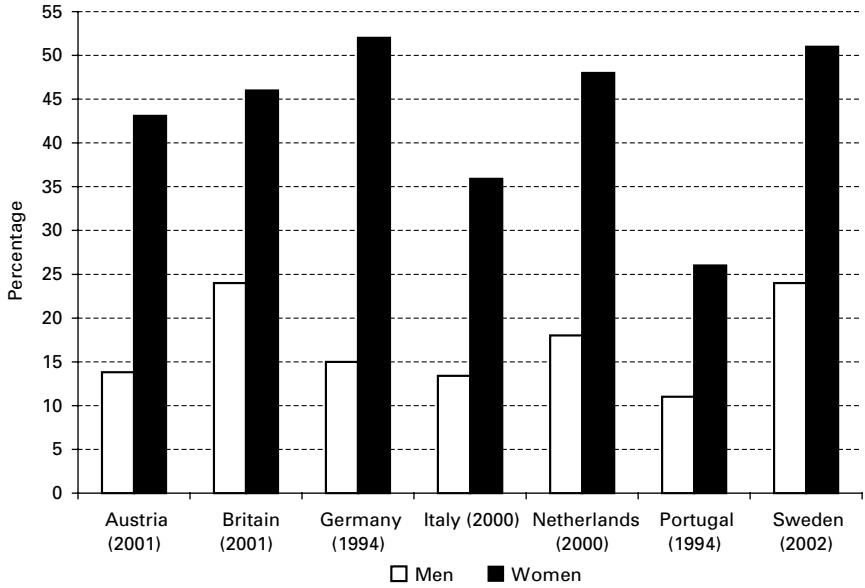


Figure 6. Proportion of older people living alone, late 1990s/2000. *Source*: FAMSUP database (see Acknowledgements).

alone were five times more likely to receive home-help support than those who were married. This is an example of a formal service that compensates for the absence of reserve – in this case a co-resident. One consequence of policies that favour those living alone, however, may be to disadvantage family carers and this may weaken the reserves of older people who live with others.

As well as their implications for the availability of care when needed, living arrangements have wider consequences for the wellbeing of older people. The vulnerability of some older people who live alone was made clear by the large number of deaths among this group during the heat wave in France in 2003 (Crumley 2003). This points to an important role of co-residents that influences a vulnerable person's health and well-being, surveillance. Findings from research on the associations between marital status and health, and also social ties and health, suggest other mechanisms by which living with others has beneficial effects on health, including the provision of meals, nursing care when ill, support and companionship (Umberson 1992; Hahn 1993). While there is persuasive evidence that living with a spouse confers various health-related benefits, at least for men, it does not necessarily follow that living with anyone else confers similar advantages or has health benefits in comparison to living alone.

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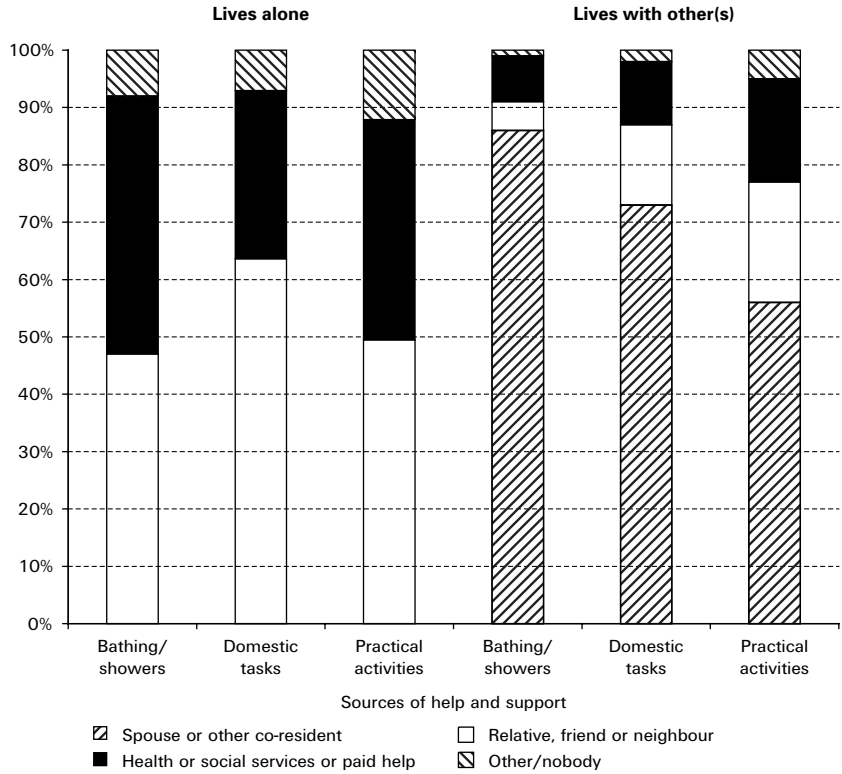


Figure 7. Usual source of help for people aged 65 or more years over unable to do various tasks unaided, by whether living alone or with others, Great Britain 2001. *Source*: General Household Survey 2001 (ONS 2003).

There is fragmentary evidence that living alone is associated with various health-related disadvantages. Murphy (1997), for example, reported that in Britain rates of long-standing illness *in middle age* were higher among those who lived alone compared with those in other types of household. Mor *et al.* (1989), using data from the *United States Longitudinal Study of Aging*, found that after controlling carefully for initial health status, older people living alone had a higher risk than others of functional decline. A prospective study of elderly white women *with* severe impairment at baseline in Baltimore, Maryland, found that those who lived alone experienced significantly greater deterioration in functional status than those living with others, particularly those living with non-spouse others (Sarwari *et al.* 1998). On the other hand, among the women *without* severe impairment at baseline, the reverse was the case – those living alone experienced the least deterioration. One must therefore distinguish groups

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with different reserves when trying to identify people who are vulnerable, and to take account of the differential operation of compensating mechanisms and coping strategies. Fratiglioni *et al.* (2000) found an increased risk of developing dementia among elderly Swedes living alone, but the results also suggested that it was those who both lived alone *and* lacked other close ties who were particularly disadvantaged; in short, a compensatory or substitution effect between co-residents and non-resident contacts was indicated.

These and other findings have shown associations between living alone or with few people and various indicators of poor health, particularly poor mental health, although in only a few has the relationship been demonstrated among older people. Studies of elderly people more commonly show that those who live alone, at least in the oldest age groups, are healthier than their counterparts who live with adults other than a spouse, and a few studies have shown that they are healthier than married adults (Crimmins and Ingegneri 1990; Glaser, Murphy and Grundy 1997; Hébert, Brayne and Spiegelhalter 1999). The differentials presumably arise, not because there are harmful effects of living with a relative (although this is possible for older people who attach a strong value to independence), but rather through selection; those with serious health problems are no longer able to live separately. In this sense, care, whether from the family or a formal source, partly compensates for the health deficit, although the overall effect on quality of life may be negative. It is important to note that the extent to which living alone or lacking close relatives is a potential source of vulnerability will vary according to the availability of other compensating supports and, almost certainly, according to the cultural context.

Living arrangements and family support are also important influences on the circumstances of death. The chance of dying at home, the preferred location for many people and one that is associated with the quality of the death (Curtis *et al.* 2002), is relatively high for those with more than one family supporter and relatively low for those who live alone. Grundy *et al.* (2004), for example, found that older people who died from cancer in England and Wales during 1991–95 were significantly and substantially more likely to die at home if they lived with a spouse or other adult than if they lived alone.

Other family links

Co-residence is but one indicator of family resources, and perhaps of decreasing importance. The availability of, and contacts with, relatives who live in different households are now more important. Data on

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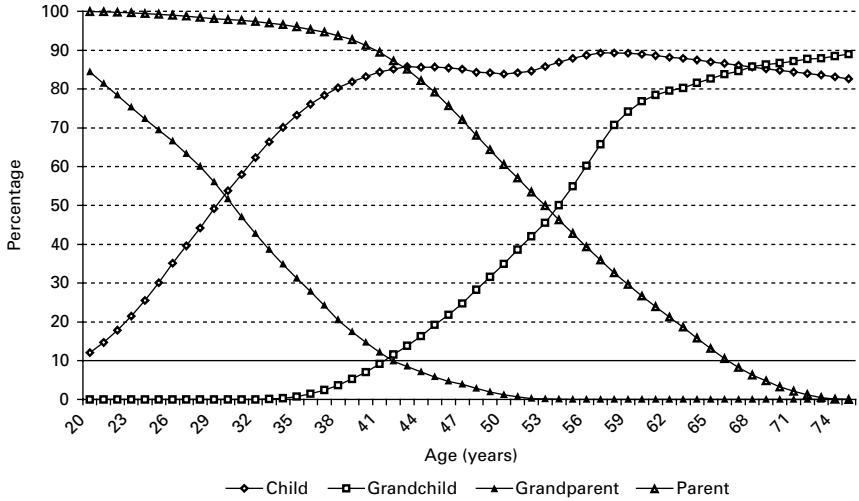


Figure 8. Proportions of the population with different types of living kin by age, GB 1999.
Source: Grundy, Murphy and Shelton (1999: 21).

extra-household links are sparse, but a recent British survey included questions on kin and kin-contacts (Grundy, Murphy and Shelton 1999; Murphy and Grundy 2003). It found that only six per cent of adults had neither a parent nor a child alive, although the proportion was 16 per cent for those aged 70 or more years. Figure 8 shows the proportions at different ages with specified living relatives (the plotted lines have been smoothed to reduce the variations from sampling error). It is shown that by the age of 60 years, over one-half of the sample were grandparents, a resource *gain* in mid- or later life. Most adults were members of families of at least three generations, and quite large minorities of very old people were members of four-generation families. Levels of contact were high; about one-half of those with a child alive saw them at least weekly, and adult children reported similar levels of contact with elderly parents. On the other hand, 60 per cent of those aged 70 or more years living alone had no close relative living within half-an-hour's travel. This group might be considered vulnerable, in that in an emergency or when ill, they lack a family member close-by. That said, it is possible that other supports are available, for example, more distant relatives, neighbours, friends or formal services.

Several studies have suggested that frequent family contact, as well as co-residence, is more usual in southern than northern Europe (Reher 1998; Murphy 2004; Tomassini *et al.* 2004). Analyses of the 1993 *Eurobarometer Survey* data (European Community Observatory 1993), which

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take no account of whether respondents had the relative in question, show that in Italy, 71 per cent of elderly people reported daily contact with family members, compared with only 14 per cent in Denmark. Interestingly, there was less variation in the percentage of elderly people who reported infrequent or no contact with family members, and the proportions reporting loneliness appeared, if anything, to be *inversely* associated with the extent of contacts. The same survey also found that the proportion of very isolated older people – those reporting few contacts with anyone – ranged from two per cent in Nordic countries to six per cent in Greece. These counter-intuitive findings are consistent with the results of the other studies of western populations that have found high rates of loneliness among older people living with their relatives (Wenger 1984). It is also possible that in societies with high levels of family interaction, it is harder for those who lack such contacts, whether from demographic mischance or choice, to forge and maintain alternative bonds; in short, compensatory supports may be lacking. There is some evidence that satisfaction with, and expectations of, family contact vary by region and cultural group. In contrast to Wenger's findings from Wales, Zunzunegi, Beland and Otero (2001) found that older Spanish people living with relatives appeared the most contented with their lives. Differences in expectations may mean that in 'family-orientated' societies, older people who lack such ties, or lack the kind of contact they feel is appropriate, have a relatively low quality of life.

Wider social networks

Social networks are sets of linkages among defined groups of people, and it is a person's social network that constitutes the pool of potential *social support* in its many forms, including emotional closeness, practical help, advice and social interactions. Social networks and the social support drawn from them are associated with differentials in health, life satisfaction and mortality, and clearly are important influences on quality of life (House, Robbins and Metzner 1982; Grundy and Bowling 1996). Studies from diverse localities suggest that the size of older people's social networks ranges between five and seven (Bowling, Farquhar and Grundy 1995*a*, 1995*b*). Older women tend to have larger networks than men and, not surprisingly, relatives, neighbours and friends feature more than former workmates. Adult children and neighbours are the most numerous categories in support networks (Knipscheer *et al.* 1995). Those who lack children have greater proportions of siblings, friends and neighbours in their networks and, in western populations, single women seem especially able to compensate for having fewer close kin by

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maintaining stronger links with non-relatives (Wenger, Scott and Patterson 2000).

Social networks are built up over the lifecourse and, although they may change with time, long-standing socio-demographic, cultural and personality factors are important influences on their composition. The highly-educated have networks that include more friends and fewer relatives, and they see relatives less frequently (Wenger 1996; Murphy 2004). In developed countries, 'dense' networks composed largely of relatives – in which most members are known to each other – seem to be the most efficient at providing emergency help to older people facing a crisis, but research evidence suggests that the range of available resources, from emotional support, practical help and advice to companionship, is in fact higher in networks which include both relatives and friends (Bowling and Grundy 1998). Moreover, loneliness seems to be more common in networks that are primarily composed of relatives (Dykstra 1990), while friends are important for subjective outcomes, such as self-esteem and morale (Wenger 1996).

Data from longitudinal studies show changes in network size over time, with decreases being more usual than increases (Bowling and Grundy 1998). A longitudinal study of very old people living in Hackney, an inner London borough, showed that 42 per cent of survivors experienced a decrease in the size of their social network over three years, while only 16 per cent had a larger network at follow-up than at baseline (Bowling, Farquhar and Grundy 1995*b*). Declines in network size may not necessarily imply declines in available support, as the remaining members may increase their contributions, albeit often at some personal cost to the care provider(s). Advancing age and increasing disability may also change the nature of social relationships, and can jeopardise their established reciprocity. In Britain, one-quarter of those aged 75 or more years (and one-half of those aged 85 or more years) reported that they never went out to visit family and friends, and instead relied on being visited (Office for National Statistics 2003).

Although older people are therefore in general well supported by family and friends, certain groups have relatively few social resources and are vulnerable to isolation or a lack of support. The vulnerable groups include very old people, especially those with disabilities that prevent them leaving their house freely and who lack friends; divorced and single elderly men, particularly those who have never forged or have lost close ties, and perhaps those separated from close relatives by migration. Although new relationships, and new younger relatives, are acquired in later life, old age brings for the majority a reduction in the number of close ties. Reserves of support are frequently challenged by events such as bereavement, health

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TABLE 2. *Indicators of health and disability problems by age and sex, Great Britain 2001/2002*

Indicator	Gender	Age group (years) 65–69	70–74	75–79	80–84	85+	65+
		Percentages					
Health in general in preceding year 'not good'	M	19	23	31	33	31	25
	F	17	24	28	32	36	25
Reported inability to manage one or more locomotion activities alone[1]	M	8	10	12	18	35	12
	F	9	16	21	29	50	21
Reported inability to usually manage bathing/showering/washing all over alone (%)	M	3	3	6	7	18	5
	F	3	7	7	14	23	9
Psychological morbidity[2] (England)	M	11	11	10	18	17	12
	F	15	11	17	15	20	15
Taking three or more prescribed medications (England)	M	17	21	25	25	23	21
	F	18	20	23	31	30	22

Notes: The data are for the private household population only. M males, F females. 1. Getting up and down stairs; getting around the house; going out of doors and walking down the road; getting to the toilet; getting in and out of bed. 2. Score of 4 or more on the *General Health Questionnaire* (for England only, as for use of medications).
Sources: 2001 *General Household Survey*, Office for National Statistics 2003; analysis of 2002 *Health Survey for England* data.

deficits resulting in mobility restrictions and, in some cases, health-related moves that are accompanied by restricted opportunities for compensating support.

Health, autonomy and 'self-actualisation'

Health is of overwhelming importance in understanding the vulnerability of older people, especially as differentials in health status are associated with both material resources and social supports, *i.e.* with other key dimensions of older people's reserve. All indicators of poor health show a strong association with age, with a higher prevalence of morbidity and disability in the oldest age groups (Medical Research Council Cognitive Function and Ageing Study 2001). Table 2 presents recent British data on differentials in health status indicators by gender and five-year age groups. Disability, or the inability to undertake certain functions such as bathing or walking down the road, is shown to be most strongly associated with gender and age. One-half of all women aged 85 or more years had one

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or more locomotion difficulties, compared with less than 10 per cent of those aged 65–69 years. It is well established that, although women have lower mortality than men, they are more at risk of disability in later life, especially from musculo-skeletal impairments; overall they spend a larger proportion of their later life with some functional limitation (Robine, Jagger and Romieu 2001). Although disability is strongly age-related, not all older people have disabilities, and not all disabilities are permanent or immutable. Longitudinal studies have shown that there are some older people who experience improvements in health or functional ability, but many more experience decrements, and the overall pattern is of decline, although for many it is not rapid (Strawbridge *et al.* 1992; Grundy and Glaser 2000). More encouragingly, there is also evidence to suggest that death in advanced old age is associated with a shorter period of serious prior disability than death in early old age, which suggests that improvements in longevity may be associated with reductions in the proportion of life spent with serious disability (McGrail *et al.* 2000).

Apart from age and gender, there are substantial variations in the health of older adults by social and socio-economic characteristics. As already discussed, those with the poorest social support have been found to have poor health, particularly poor mental health, and some research suggests that they have higher risks of death (for a review see Bowling and Grundy 1998). Numerous studies attest that socio-economic differentials in both mortality and indicators of health are apparent in older as well as younger adults, although the differentials tend to be less marked (Marmot and Shipley 1996; Martelin, Koskinen and Valkonen 1998; Grundy and Sloggett 2003).

The most vulnerable groups with regard to health appear again to be the very old, particularly very old women (Smith and Baltes 1998), those with the lowest incomes and a background in less-skilled occupations (which may have involved exposure to unhealthy environments, lack of job control and low pay), and those with low social support. Analyses of life-history data have also shown that past experiences of traumatic events, such as dismissal from work, divorce and remarriage, and death of a child, are associated with worse health in later life (Grundy and Holt 2000; Krause 2005), although clearly some factors may raise the risks of both these events and poor health. Because health is associated with socio-economic status and with social support, older people who have low reserve in one domain may also have low reserves in others. Even though poor social support and disadvantaged socio-economic circumstances are positively associated, the proportions with multiple deficits and high vulnerability to a very poor quality of life may be quite low.

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In analysing the data from the Hackney longitudinal study of very old people referred to above, Grundy and Bowling (1999) examined quality of life multi-dimensionally, with information on physical health, the ability to undertake the activities of daily living, psychological morbidity, activity levels, life satisfaction, perceived autonomy, adequate warmth in the home, whether people liked the area in which they lived, fears about security; social networks and social support. Two-thirds of the men and one-half of the women had poor scores or indicators on fewer than three of the nine domains, and over one-third of men and one-quarter of women had good scores on at least six. By the follow-up, when the sample was aged 87 or more years, there had been only modest deterioration. The small group with multiple problems in most areas of life were by definition in poor physical and mental health (these were the criteria by which they were identified). They also had smaller social networks, more experience of recent adverse events, and a far higher prevalence of reported loneliness.

Low incomes, poor social support and health problems all challenge older people's independence (*i.e.* the capacity to do things unaided) and autonomy (*i.e.* the capacity to make and have implemented decisions about their lives). Such limitations have a serious effect on quality of life, particularly for those who attach a high value to individualism and self-determination. Personal autonomy may be further restricted by particular individual characteristics and, more importantly, by the failure of others to provide opportunities for self-determination, particularly for those with disabilities. The groups most at-risk include those with life-long learning disabilities, whose survival to old age has greatly improved in recent decades; those with acquired cognitive impairment, the risk of which is very strongly age-related; and the residents of care-homes. A minority may experience not only no or little opportunity for autonomy, but also abuse or neglect (Homer and Gilleard 1990). Clearly such problems need to be tenaciously investigated and addressed, as do wider traits in society that inhibit older people's capacity for self-actualisation and development. Examples include a general or localised lack of accessible cultural and recreational facilities; low levels of social capital and high rates of crime; restricted opportunities for active citizenship; and the disparagements of ageist discrimination, which may restrict older people's access to medical care (Bowling *et al.* 2001), an issue addressed in the recent *National Service Framework for Older People* for England and Wales (Department of Health (UK) 2001). It should be recognised, of course, that autonomy and independence are characteristically western values, and are espoused to a varying degree by those of different educational and cultural backgrounds and

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in different countries – in some they are much less valued than others (Torres 1999).

Discussion

As conceptualised here, vulnerability arises if the balance between reserve capacity and environmental challenge falls below a level that ensures a reasonable quality of life and/or avoidance of an early or 'bad' death. The most vulnerable groups include the very old, those with low incomes, those with poor social ties and a history of poor social ties, and those with limited opportunities or capacities to exercise autonomy. All of these sources of vulnerability intersect. Policy initiatives to reduce vulnerability can focus on each part of the dynamic process that creates vulnerability, namely ensuring people reach later life with reserve, reducing the challenges they face in later life, and providing adequate compensatory supports. Thus the promotion throughout the lifecourse of healthy lifestyles and the acquisition of coping skills, strong family and social ties, active interests and, of course, savings and assets, all will help to ensure that people's reserves are and remain strong in later life. Some of the physical and psychological challenges which people face as they age cannot be modified, but others can. Interventions could, for example, include environmental improvements to reduce the risk of falls, social and policing programmes to reduce street crime, or influenza-immunisation programmes. The third major scope for intervention is in providing compensatory supports to help people cope with challenges and to prevent reductions or to rebuild their reserves. Such interventions include access to good acute care and rehabilitation when needed, substitute professional social and psychological help in a crisis (if desired), the provision of long-term help, and income support.

Many such programmes exist in European countries, but most – particularly social care interventions – have evolved haphazardly and have not been thoroughly evaluated. Nonetheless, several preventive and compensatory interventions have been shown to be effective in preserving or partially restoring the reserves of older people, and so to reduce their vulnerability. These include physical exercise and training programmes (Young and Dinan 2005), smoking-cessation programmes, and monitoring people with diabetes (Wanless 2004). Some community initiatives to improve the physical environment seem to have social and health benefits for all, including older people (Halpern 1995). There is also evidence that some educational, home visiting and physical exercise

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interventions are effective in reducing loneliness among older people (Cattan *et al.* 2005).

Of course, the aim of nearly all medical, nursing or social care interventions is indirectly related to maintaining reserve or providing some compensatory support. Unfortunately, in some spheres we still know relatively little about the effectiveness of interventions. A recent review of studies of bereavement counselling found, for example, that there was insufficient evidence to make specific recommendation about how bereaved people should be supported (Forte *et al.* 2004). The widespread extension of the schemes that are designed to reduce vulnerability in the expanding older population will undoubtedly require both money and vision. We also need to invest in research to learn what is most effective, recognising that the heterogeneity of the older population may often mean that different approaches are needed for particular groups. Given the changing demographic composition of Europe's population, such planning is now essential.

Acknowledgments

This paper has drawn on research funded by the UK *Economic and Social Research Council* (Grants L128251040 and R000237776) and by the *European Science Foundation* through a Scientific Network on 'Family Support for Older People: Determinants and Consequences' (FAMSUP). It is based on a paper prepared for the *Asia-Europe Foundation Workshop* on 'Old Age Vulnerabilities: Asian and European Perspectives', Malang, Indonesia, July 2004, and another, 'Ageing, intergenerational solidarities and age-specific vulnerabilities', that was presented at the *Institute for Population Network for Integrated European Population Studies* workshop, Rome, 20–21 April 2001. The FAMSUP Network developed a database of demographic and service related statistics drawn from national census, vital registration and survey sources and larger international collections, particularly New Cronos. For further details see Glaser, Grundy and Tomassini 2004 and Tomassini *et al.* 2004.

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Accepted 9 September 2005

Address for correspondence
Emily Grundy, Centre for Population Studies, 49–50 Bedford Square,
London School of Hygiene and Tropical Medicine,
London WC1B 3DP, UK.

e-mail: Emily.grundy@lshtm.ac.uk

https://doi.org/10.1017/S0144686X05004484 Published online by Cambridge University Press