Enabling environments for active and healthy ageing in EU countries

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A. Zaidi. Enabling environments for active and healthy ageing in EU countries. Gerontechnology 2014;12(4):201-208. doi:10.4017/gt.2014.12.4.003.00 The active ageing discourse and its relationship with the goal of promotion of human capabilities are discussed in this paper. It is argued that the loss of certain kinds of personal capabilities (such as physical strength) is inevitable as a person grows old; this decline is exaggerated and generalized by different layers of social, economic and physical environments in which older people live. A combination of low personal capabilities and restricting environments can therefore hold back older persons in taking advantage of opportunities available to them and/or in being resilient to threats that affect them. One of the key societal challenges is therefore to facilitate age-friendly enabling environments to mitigate the adverse impact of unequal experiences of ageing. The evidence presented here provides a first snapshot of the differential extent of enabling environments that predominate European Union countries. A key finding is that the Central and Eastern European countries exhibit the highest potential for improvements in enabling environments for active and healthy ageing.

Keywords: older people; human capabilities; active and healthy ageing; Europe

People are inherently vulnerable when they lack the capabilities necessary for them exercising choice and freedom in doing things they value and/or in coping with threats they face without suffering damage¹⁻³. The persistent nature of such restrictions in capabilities and their adverse impact is accumulated over the lifetime of an individual⁴. The discriminations – on the basis of socio-economic class, religion, ethnicity, gender, caste, age and other such factors – render people lacking social and economic opportunities and security during earlier life, the adverse impact of which accumulates into exclusion in old age.

Nussbaum⁵ provides a useful distinction between different types of capabilities. Basic capabilities are the ones with which a person is born and they can be considered permanent. Internal capabilities are the ones that a person develops throughout his life. For example, the ageing process would lead to acquisition of capabilities (such as skills and knowledge, and experience). At the same time, a deterioration of some of the internal capabilities is also inevitable because of ageing (for example, loss of physical strength). Combined capabilities refer to the combination of internal capabilities and the facilitation and constraints of the external physical and social environments (also referred to as structural constraints). Note here that the combined capabilities notion links closely with the different levels of empowerment and resilience discussed by Wild and her colleagues⁶, at the level of individuals, household, family, neighbourhood, community

and society. Likewise, the framework of Lloyd-Sherlock⁷ points not only to the importance of the life course influences on well-being of older people, but it distinguishes between personal (internal) human development and that of the role of structural and institutional development that helps people accumulate health and assets for their old age.

The personal (or internal) capabilities of older persons are determined by their command over financial resources, health, education and employment⁸⁻⁹, and they are affected not just by experiences during earlier phases of life but also through the intrinsic process of ageing and by events that trigger changes during old age¹⁰. Moreover, older people's capabilities and functioning are also limited because of the restricting social and physical (external) environment in which they live - so, older persons who might otherwise be equally endowed with personal capabilities may still face differing levels of vulnerabilities based on their identity, activity or their spatial location. A combination of low personal capabilities and restricting physical and social environment can therefore hold back older persons in taking advantage of opportunities available to them and/or in being resilient to threats that affect them.

The pursuit of human development is synonymous with a process of deepening of human progress in which capabilities are enhanced in various dimensions, and at various levels¹¹. The process of human development therefore ad-

dresses vulnerabilities by empowering people to overcome threats when and where they may arise. But equally important is the fact that human development enables not just the individuals but also their economic, social and physical environment to have higher levels of external capability and resilience in avoiding the effect of shocks, or recover more quickly from hazards.

This paper reviews the importance of the economic, social and physical environment in promoting active ageing in the Member States of the European Union (EU). It draws from the work undertaken in the context of the 2012 European Year for Active Ageing and Solidarity between Generations (EY2012), which put a renewed focus on the potential of active ageing as a policy strategy¹². Most notably, within the activities of the EY2012, the United Nations Economic Commission for Europe (UNECE), the European Commission's Directorate General for Employment, Social Affairs and Inclusion and the European Centre Vienna jointly undertook a major research project to collect evidence on active ageing outcomes and capability to actively age across 27 EU countries by constructing the composite quantitative measure called the Active Ageing Index (AAI). This paper draws from the methodology report of the AAI project which is a joint publication with the European Centre colleagues¹³. It builds on the work currently undertaken at Southampton University for the second phase of the AAI project.

ACTIVE AGEING INDEX, ITS DOMAINS AND INDICATORS

The AAI offers policy makers, researchers, students, and businesses a flexible analytical framework that helps to depict the contribution of older people, and to draw out lessons for policies, programmes and institutions across European countries. In its design, the AAI draws from the definition offered by the World Health Organization (WHO) during the Second World Assembly on Ageing¹⁴, and uses a methodology similar to the Human Development Index of the United Nations Development Programme¹⁵. The AAI also offers a transversal breakdown by gender in order to highlight the specific public policy goals of reducing gender disparity in positive experiences of active ageing.

The indicators needed for actual experiences of active ageing must capture the employment experience of older people, before and after retirement age, but also their unpaid activities toward care provision to family members, volunteering and political participation. Other indicators required relates to the independent, healthy and secure living. The external environment that determine the capacity and enabling environment for active ageing include the remaining

life expectancy (RLE), the proportion of RLE spent in good health, access to health and dental care; education, training, and access to information and communication technology; and information on those aspects that determine the enabling age-friendly environments of a country. The strength of the AAI analytical framework is that it brings together all these perspectives, offering policy makers a sound base to devise evidence-based strategies to manage the challenges of population ageing.

Framed by these considerations, the AAI used the following four domains: (i) Contributions through paid activities: Employment; (ii) Contributions through unpaid productive activities: Participation in society; (iii) Independent, healthy and secure living, and (iv) Capacity and enabling environment for active ageing.

A composite index is calculated for each of these domains as well as for all four domains together, separately for men and women (*Table 1*).

This paper analyses the differences across EU countries on the basis of the indicators included in the 4th domain: capacity and enabling environment for active ageing. These indicators are chosen as they can be considered as factors that enable active ageing. The most fundamental enabling factor will be to be able to live a longer life (i.e. life expectancy) in a healthy condition (e.g. share of life expectancy lived in good health, not just physical health but also mental well-being). Among the other enabling factors are those that can also be considered as active ageing capital: the use of ICT, social connectedness and educational attainment. Thus, the following six indicators have been included in measuring the enabling environment for active ageing in European countries: (i) Remaining life expectancy achievement at age 55; (ii) Healthy life years in the remaining life expectancy at age 55; (iii) Mental well-being, for persons aged 55+, using WHO's ICD-10 measurement; (iv) Use of ICT by persons aged 55-74; (v) Social connectedness with friends, relatives or colleagues for persons aged 55+; and (vi) Educational competences of older persons aged 55-74.

The mental well-being of older population aged 55+ complements the measure of physical health captured via the healthy life expectancy measure, with the help of a WHO index that measures self-reported feelings of positive happy moods and spirits. The use of ICT indicator aims to measure the degree to which older people's environments enable them to connect with others with the help of information and communication technologies, thus reflecting one crucial

| | 1. Employment | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| 1.1 | Employment rate for 55-59 | | | | | | | |
| 1.2 | Employment rate for 60-64 | | | | | | | |
| 1.3 | Employment rate for 65-69 | | | | | | | |
| 1.4 | Employment rate for 70-74 | | | | | | | |
| 2. Participation in society | | | | | | | | |
| 2.1 | Voluntary activities: percentage of population aged 55+ providing unpaid voluntary work through the | | | | | | | |
| | organisations | | | | | | | |
| 2.2 | Care to children, grandchildren: Percentage of population aged 55+ providing care to their children and/or | | | | | | | |
| | grandchildren (at least once a week) | | | | | | | |
| 2.3 | Care to older adults: Percentage of population aged 55+ providing care to elderly or disabled relatives (at | | | | | | | |
| | least once a week) | | | | | | | |
| 2.4 | Political participation: Percentage of population aged 55+ taking part in the activities of a trade union, a | | | | | | | |
| | political party or political action group | | | | | | | |
| 3. Independent, healthy and secure living | | | | | | | | |
| 3.1 | Physical exercise: percentage of population aged 55+ who engage in physical activity and sport at least five | | | | | | | |
| | times a week | | | | | | | |
| 3.2 | Access to health and dental care: percentage of population aged 55+ who report no unmet need for | | | | | | | |
| | medical and dental examination | | | | | | | |
| 3.3 | Independent living arrangements: percentage of persons aged 75+ living in single or couple households | | | | | | | |
| 3.4 | Relative median income: ratio of the median equivalised disposable income of people aged 65+ to the | | | | | | | |
| | median equivalised disposable income of those aged below 65 | | | | | | | |
| 3.5 | No poverty risk for older persons: percentage of people aged 65+ who are not at the risk of poverty using | | | | | | | |
| | 50% of the national median equivalised disposable income as the poverty threshold | | | | | | | |
| 3.6 | No severe material deprivation for older persons: percentage of people aged 65+ not severely materially | | | | | | | |
| | deprived | | | | | | | |
| 3.7 | Physical safety: percentage of population aged 55+ who are not worried about becoming a victim of | | | | | | | |
| | violent crime | | | | | | | |
| 3.8 | Lifelong learning: percentage of older persons aged 55-74 who received education or training in the 4 | | | | | | | |
| | weeks preceding the survey | | | | | | | |
| 4. Capacity and enabling environment for active and healthy ageing | | | | | | | | |

- 4.1 Remaining life expectancy achievement of 50 years at age 55
- 4.2 Share of healthy life years in the remaining life expectancy at age 55
- 4.3 Mental well-being (for older population aged 55+
- 4.4 Use of ICT by older persons aged 55-74 at least once a week (including everyday)
- 4.5 Social connectedness: Percentage of older population aged 55+ who meet friends, relatives or colleagues at least once a month
- 4.6 Educational attainment of older persons: Percentage of older persons aged 55-74 with upper secondary or tertiary educational attainment

aspect of their capacity for active ageing. Social connectedness indicator represents a key element of an active and fulfilling life, vital to human health, both mentally and physically. The specific measure used here focuses on social meetings by choice, thus duty or work related meetings are excluded. The education competence indicator captures relatively higher levels of education: upper secondary, post-secondary non-tertiary, and tertiary education. These educational attainments reflect the acquisition of key competences in the form of knowledge, skills and attitudes which provide added value for social cohesion and active citizenship of older people by offering flexibility and adaptability, satisfaction and motivation¹³.

CAPACITY AND ENABLING ENVIRONMENT Key findings

This section outlines the key findings for EU countries using the composite measure for the domain of enabling environment for active ageing. The top-performing EU countries are the two Nordic countries: Sweden and Denmark. They are followed by three of the other rich countries of Europe: Luxembourg, the Netherlands and the United Kingdom. Notably, Ireland, Finland and Belgium are not far behind (*Figure 1*, left hand side). In contrast, a majority of the less resourceful countries of Central and Eastern Europe (CEE) exhibit the highest potential for further improvements in providing enabling environments for active and healthy ageing.

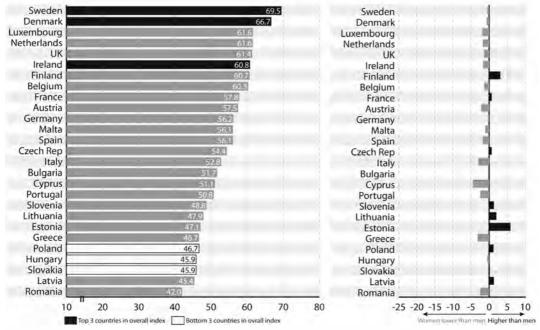


Figure 1. Ranking of EU countries using the 4th domain of the Active Ageing Index, for the total population and for differences between men and women¹³

It does not come as surprising that those countries which are in the top five places in terms of the overall AAI (all domains together) are also ahead in the particular domain of enabling environments for active ageing. The exception is Luxembourg, which does remarkably well in terms of enabling environment for active ageing, but then seems to fall short of fulfilling its potential in the overall AAI. The same could also be said of Belgium and Spain, which rank considerably higher in the domain of enabling environment for active ageing relative to their ranking in the overall index.

Differences between women and men in the index values of this domain are relatively small (Figure 1, right hand side). That said, the index values for women are lower than that of men in the majority of countries indicating better enabling environments for active ageing for men. There are some countries, for instance Estonia, Finland, Lithuania and Slovenia, where the opposite is the case.

Contribution of individual indicators

A closer look at the data for indicators (*Table 2*) shows that France, Italy and Spain have the highest life expectancies at the age of 55, but a great share of this life expectancy is apparently lived in poor health, both physical and mental. This inverse relation is not always the case though. Sweden has, for instance, a high life expectancy at 55 and yet good health indicators for its older

population. Members States from CEE and Portugal seem to have the worst of two indicators: relatively lower life expectancy at 55 and a relatively poor health condition for this subgroup.

Figure 2 shows the relative contribution of four individual indicators to the enabling environment for each country. Note here that the higher or lower contribution of a particular indicator does not necessarily reflect higher or lower performance on the indicator. It signals the relative extent to which a given indicator determines the domain index values for the countries, and ultimately their rankings in the domain.

As for the relative contribution of the remaining life expectancy at 50 indicator, the Southern European countries have a relative contribution in excess of 40%. Malta in particular scores high for the remaining life expectancy and healthy life expectancy indicators, and Romania and Bulgaria score high for the contribution of the healthy life expectancy.

As for the other enabling factors – use of ICT, social contacts and educational attainment – each indicator seems to tell a different story as far as the country ranking is concerned. Overall, however, social connectedness is one of the indicators with greater scope for improvement for countries and one where there are substantial cross-country differences. Portuguese and Spanish fare very well in maintaining social connect-

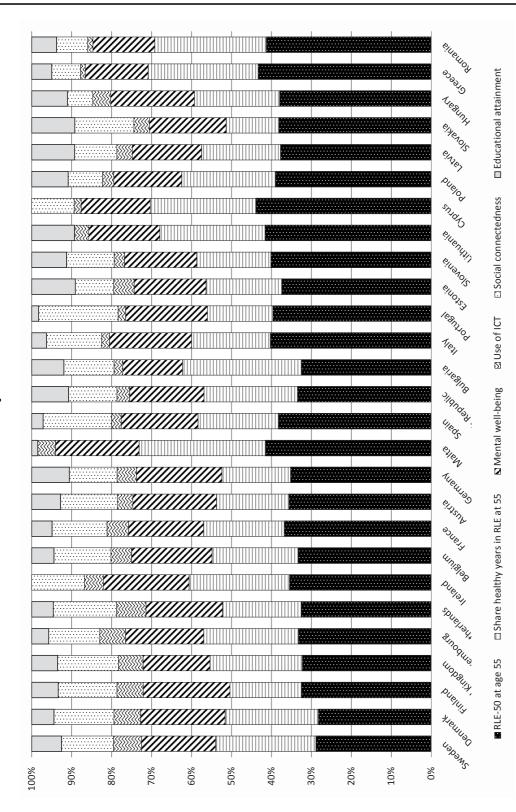


Figure 2. Contribution of indicators to the 4th domain (Capacity and enabling environment for active and healthy ageing) of the Active Ageing Index, men & women together 13; RLE=Remaining Life Expectancy

Table 2. European Union overview of the indicators in 4^{th} domain of the Active Ageing Index: 4.1=Remaining life expectancy achievement of 50 years at age 55; 4.2=Share of healthy life years in the remaining life expectancy at age 55; 4.3=Mental well-being; 4.4=Use of ICT; 4.5= Social connectedness; 4.6= Educational attainment; n.a.=not available

| Country | Indicator | | | | | |
|--------------------|-----------|------|------|------|------|------|
| Country | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 |
| Belgium | 55.6 | 59.5 | 734 | 54.0 | 64.1 | 53.2 |
| Bulgaria | 46.6 | 68.6 | 62.6 | 18.0 | 47.8 | 62.8 |
| Czech Republic | 50.6 | 57.6 | 61.0 | 31.0 | 47.5 | 83.4 |
| Denmark | 53.2 | 68.7 | 87.2 | 71.0 | 72.7 | 80.3 |
| Germany | 55.4 | 43.1 | 740 | 49.0 | 47.8 | 85.7 |
| Estonia | 49.4 | 42.4 | 52.4 | 37.0 | 31.1 | 80.4 |
| Ireland | 56.6 | 62.2 | 77.1 | 39.0 | 69.6 | n.a. |
| Greece | 66.0 | 56.6 | 48.6 | 11.0 | 27.3 | 39.3 |
| Spain | 58.6 | 52.6 | 67.7 | 28.0 | 70.9 | 28.0 |
| France | 59.2 | 52.8 | 67.4 | 51.0 | 58.3 | 50.4 |
| Italy | 58.0 | 48.2 | 67.6 | 22.0 | 54.7 | 32.3 |
| Cyprus | 57.0 | 56.1 | 56.6 | 17.0 | 38.1 | n.a. |
| Latvia | 46.4 | 42.0 | 60.3 | 28.0 | 38.3 | 72.4 |
| Lithuania | 46.6 | 61.6 | 48.0 | 23.0 | n.a. | 67.1 |
| Luxembourg | 56.0 | 62.9 | 77.0 | 67.0 | 57.0 | 50.3 |
| Hungary | 46.8 | 43.8 | 61.1 | 34.0 | 22.9 | 68.8 |
| Malta | 57.0 | 68.1 | 61.2 | 37.0 | n.a. | 15.7 |
| Netherlands | 66.0 | 64.6 | 73.6 | 73.0 | 68.8 | 69.2 |
| Austria | 66.2 | 46.6 | 762 | 43.0 | 68.2 | 70.4 |
| Poland | 50.0 | 49.8 | 496 | 22.0 | 30.8 | 69.2 |
| Portugal | 54.8 | 41.0 | 64.1 | 19.0 | 75.6 | 14.2 |
| Romania | 46.0 | 53.0 | 42.8 | 9.0 | 24.0 | 50.1 |
| Slovenia | 54.4 | 41.4 | 51.7 | 25.0 | 45.1 | 71.0 |
| Slovakia | 47.6 | 29.2 | 64.6 | 30.0 | 61.1 | 79.9 |
| Finland | 66.8 | 60.6 | 81.7 | 64.0 | 62.1 | 61.8 |
| Sweden | 56.8 | 77.1 | 82.9 | 75.0 | 65.5 | 75.3 |
| United Kingdom | 56.2 | 61.9 | 68.8 | 58.0 | 67.6 | 63.0 |
| Mean | 53.4 | 53.4 | 839 | 38.3 | 51.5 | 58.6 |
| Standard Deviation | 4.4 | 10.7 | 12.3 | 19.8 | 16.9 | 19.8 |
| n | 27 | 27 | 27 | 27 | 25 | 25 |
| Minimum | 45.6 | 29.2 | 42.8 | 9.0 | 22.9 | 14.2 |
| Maximum | 59.2 | 77.1 | 87.2 | 75.0 | 75.6 | 85.7 |

edness in old age, but this is far from being the case for Greek and Cypriot older people who are much less likely to maintain social contacts with friends or relatives. This makes them closer to the Germans and CEE counterparts, which are in general far more socially isolated.

Finally, with regard to educational attainment, Portugal, Malta, Spain, Italy or Greece do not just compare unfavourable with the EU average, but they are also relatively far behind that average (the difference ranging from 20% points for Greece to 40% points in the case of Portugal). In contrast, this is one indicator where Member States from CEE and also Germany do best. The relative contribution of educational attainment is high in Latvia, Lithuania, Slovakia and Estonia (close to 10%) and remarkably low in Portugal (1.7%).

Relationship with employment of older workers

In evaluating active ageing outcomes in other specific domains, it is important to also account for differentials in the enabling environment for active ageing across these countries. For example, it is only fair to compare active ageing outcomes between Sweden and Romania by factoring in differences in terms of the enabling environment.

The scatterplot in Figure 3 shows how employment of older workers links with the index of the enabling environment for active ageing. The results show that the correlation between these two measures is not strong (r=0.33), implying that the employment outcomes for older populations are driven by factors other than those included here in measuring the enabling environment for active ageing. For example, the differences across BENELUX countries show that despite the same score on the enabling environ- ment for active ageing index for the three countries, Luxembourg and Belgium have much lower employment outcomes for older workers than those observed for the Netherlands. These results

raise the all-important question what insights Belgium and Luxembourg can draw from the labour market and pension policies of the Netherlands.

Participation in society and the enabling environment

Figure 4 plots the relationship between the participation in society and the enabling environment for active ageing. There is high correlation between these two aspects (r=0.79) which implies that the active ageing capacity and enabling environment as captured by indicators chosen are strong associates of social participation outcomes for older populations across EU countries. Notable results are observed for Ireland and Italy, whose social participation index score is higher in comparison to other countries of comparable active ageing capabilities.

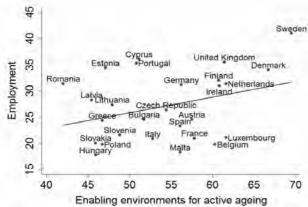


Figure 3. Relating employment domain index with the capacity-and-enabling-environment-for-active-ageing index¹³

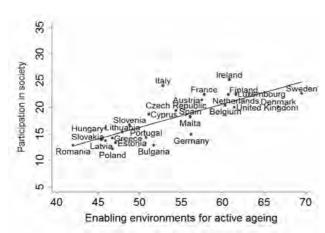


Figure 4. Relating participation in society and enabling-environment-for-active-ageing indices¹³

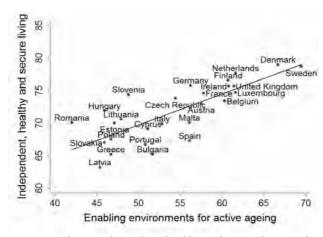


Figure 5. Relating independent, healthy and secure living with the enabling-environment-for-active-ageing index⁹

Independent, healthy and secure living Figure 5 shows that the relationship between independent, healthy and secure living measures and the enabling environment for active ageing is also strong. This high correlation (r=0.77) shows that the active ageing capacity is strongly associated with the independent living outcomes. Notable results are that Spain

associated with the independent living outcomes. Notable results are that Spain, Italy and Greece and also Bulgaria and Latvia score relatively low in the independent, healthy and secure living in comparison to other countries of comparable active enabling environment.

SYNTHESIZING DISCUSSION

The active ageing policy discourse and its relationship with the goals of promotion of human capabilities are highlighted in this paper. Reference is made of different internal capabilities of older people that are influenced by individual, and unequal, experiences of ageing. It is argued that the loss of certain kinds of internal capabilities (such as physical strength) is inevitable as a person grows old, but this decline in internal capabilities is exaggerated and generalized by the social, economic and physical environments in which older people live. For example, the negative stereotypes of older people as well as restrictions in the public social and health care institutions exacerbate reduction in personal capabilities of older people. The environments that make the experiences of ageing unequal could relate to micro level associations within the family, to meso level associations with the neighbourhood and communities and to macro level associations to public policy and institutional environments of the country.

Active ageing discourse goes strongly against the culture of 'dependency policies', as argued most convincingly by Alan Walker and his colleagues¹⁶⁻¹⁷. The rationale underlying active ageing policies is about setting in place the conditions to empower older people to live active lives with degrees of independence and security. The multifaceted design of a comprehensive active ageing policy discourse allows the setting of policy goals to maintain, and even raise, the well-being of older individuals. It also strengthens social cohesion in the society and solidarity between generations, and improves financial sustainability of public welfare systems.

As discussed elsewhere by the author¹⁸, under such conditions, care for the elderly is seen as a positive - much less a burden - and a source to empower older people to free themselves from dependency and social isolation. One of the key challenges for the societies is therefore to facilitate age friendly enabling environments to reduce the exposure to not just the risks but also to mitigate the adverse impact of earlier life cycle experiences and trigger events in old age. The evidence presented in this paper provides a first

snapshot of the differential extent of enabling environments that predominate in EU countries. In particular, the less resourceful countries of Central and Eastern Europe exhibit the highest potential for further improvements in providing an enabling environment for active and healthy ageing. A more detailed analysis of the framework identifying multiple layers of enabling environments necessary for sustainable ageing policies is warranted for further progress within this field of gerontechnology.

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References

- Sen AK. Equality of what? In: McMurrin S, editor, Tanner Lectures on Human Values. Cambridge: Cambridge University Press; 1980; pp 195–220
- Sen AK. Commodities and Capabilities. Amsterdam: North-Holland; 1985
- Sen AK. Development as Freedom. New York: Knopf; 1999
- Mayor KU. New Directions in Life Course Research. Working Papers Nr. 122, Mannheimer Zentrum für Europäische Sozialforschung; 2009
- Nussbaum M. Women and Human Development: The Capabilities Approach. Cambridge: Cambridge University Press; 2000
- Wild KJ, Wiles L, Allen RES. Resilience: thoughts on the value of the concept for critical gerontology. Ageing and Society 2013; 33(1): 137-158; doi10.1017/S0144686X11001073
- Lloyd-Sherlock P, Nussbaum M. Capabilities and older people. Journal of International Development 2002;14(3):1163-1173; doi:10.1002/jid.958
- Gorman M, and Zaidi A. with contributions from Azad B, Beales S, Kulcsar A, Knox-Vydmanov C, Mihnovits A, Mikkonen-Jeanneret E, Ong P, Scobie J, Skinner M. Global AgeWatch Index 2013: Insight Report. London: HelpAge International; 2013

- Zaidi A. Global AgeWatch Index 2013: Purpose, Methodology and Results. London: HelpAge International; 2013
- Zaidi A. Vulnerabilities in old age: A review. Background paper for the Human Development Report 2014. UNDP. New York: UNDP; 2014
- 11. UNDP. The Rise of the South: Human Progress in a Diverse World. Human Development Report 2013. New York: UNDP; 2013
- Council of the European Union. Council Declaration on the European Year for Active Ageing and Solidarity between Generations (2012): The Way Forward, 17468/12, SOC 992, SAN 322, 7 December 2012; Brussels: Council of the European Union
- 13. Zaidi A, Gasior K, Hofmarcher MM, Lelkes O, Marin B, Rodrigues R, Schmidt A, Vanhuysse P, Zolyomi E. Active Ageing Index 2012: Concept, Methodology and Final Results. Methodology Report Submitted to European Commission's DG Employment, Social Affairs and Inclusion, and to Population Unit, UNECE, for the project: Active Ageing Index (AAI), UNECE Grant No: ECE/GC/2012/003. 2013; Vienna: the European Centre for Social Welfare Policy and Research
- World Health Organisation (WHO). Active Ageing A Policy Framework. A contribution of the World Health Organization to the Second United Nations World Assembly on Ageing, Madrid, April 2002.
- UNDP. Human Development Report 1990, Published for the United Nations Development Programme (UNDP). New York: Oxford University Press; 1990
- Walker A. Commentary: The Emergence and Application of Active Ageing in Europe. Journal of Ageing and Social Policy 2009;21(1):75-93; doi:10.1080/08959420802529986
- 17. Walker A, Maltby T. Active Ageing: A Strategic Policy Solution to Demographic Ageing in the European Union. International Journal of Social Welfare 2012;21(Suppl):S117–S130; doi:10.1111/j.1468-2397.2012.00871.x
- 18. Zaidi A. Surveying the Aging Landscape. The Journal. Washington: AARP International; 2014