1 Introduction

Since its early beginnings, research on ageing has not only striven to describe the course of ageing and to understand basic mechanisms of ageing processes, but also to add to the knowledge available so as to improve the process of ageing by changing the living situations of elders. One of the basic challenges of ageing research concerns the question whether active ageing is possible and if so, which factors enable individuals, social groups, and societies to grow older healthily and actively. In the beginning of the paper conceptual foundations of the construct "active ageing" will be discussed, considering also the relation between active ageing and quality of life (section 1). Three highly important domains of quality of life are chosen for discussion in this paper: health, social integration, and participation. Since active ageing relies on the optimization of opportunities for development over the life course, the main parts of this paper will focus on investments in active ageing in early phases of the life course (section 2), in later phases of the life course (section 3) and in societal frameworks (section 4). In these three sections different aspects of investments will be discussed which operate both on the societal and individual level. For governments, those factors which can be shaped by policies are of special interest. Hence, in the final section policy recommendations in the area of health, social integration, and participation are discussed (section 5).

1.1 Definitions of active ageing

Gerontology has seen many different conceptions of active ageing. A classic definition of active ageing was presented by Rowe and Kahn (1997) who used the term successful ageing: "We define successful ageing as including three main components: low probability of disease and disease-related disability, high cognitive and physical functional capacity, and active engagement with life" (Rowe & Kahn, 1997, p. 433; see also Rowe & Kahn, 1987). "Successful ageing" refers to those cases where ageing people are free of (acute and chronic) diseases, do not suffer from disability, are intellectually capable, possess high physical fitness and actively use these capacities to become engaged with others and with the society they live in. Concepts which have been used in gerontological research and which emphasize different aspects of the ageing process are healthy ageing (Ryff, 2009), productive ageing (Morrow-Howell, Hinterlong, & Sherraden, 2001), ageing well (Carmel, Morse, & Torres-Gil, 2007; European Union Committee of the Regions & AGE Platform Europe, 2009), optimal ageing (Aldwin, Spiro, & Park, 2006), and active ageing (Fernández-Ballesteros, 2008).

There is a strong normative element in these definitions of successful ageing. Successful, healthy or productive ageing are evaluated as more desirable than "normal" or even "pathological" ageing processes. Clearly, most people wish to grow old without being affected by chronic illnesses and functional disabilities. Despite the efforts to increase the proportion of healthy life expectancy, a substantial part of the old and very old population will have to face frailty and dependency. Hence, attention needs to be paid to the fact that normative definitions of "active ageing" should not lead to a degradation of and a discrimination against individuals and groups who do not reach the positive goal of "active ageing". A careful ethical debate has to accompany normative distinctions between ageing processes (see the discussion on this problem in the last section of this paper).

In contrast to the strongly normative definitions mentioned above, the WHO definition of active ageing is more inclusive in respect to different ageing trajectories and diverse groups of older people: "Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age" (WHO, 2002, p. 12). Similarly, the UNECE has emphasised the need to consider ageing processes from different perspective, taking into account all areas of life. For instance, in the Regional Implementation Strategy for the Madrid International Plan of Action on Ageing, the UNECE member states express the commitment to enhance the social, economic, political and cultural participation of older persons

and to promote the integration of older persons by encouraging their active involvement in the community and by fostering intergenerational relations (UNECE, 2002).

Several aspects of this discussion on active ageing are noteworthy: Focus, process, enabling factors, and domains. Active ageing focuses not only on individuals, but also on groups and populations. Individuals are able to grow older healthily and actively, and societies offer opportunities for active ageing. Secondly, active ageing is a process which aims at quality of life as people grow older. Active ageing is not a state which may be reached by only a few (and not by the many), but is a continuous undertaking to improve ageing trajectories. Thirdly, there is an emphasis on enabling factors and societal structures. Enabling factors and societal structures which shape ageing processes can be classified as personal factors (e.g. genetic endowment, personality), social factors (e.g. unequal distribution of income, goods, services and power), behavioural factors (e.g. life style), environmental factors (e.g. climate), and institutional factors (e.g. labour market regulation, social security, health care and long-term care systems). Opportunities for active ageing have to be created, by individuals themselves, by social groups and organisations, and by the state. Fourthly, active ageing covers broad domains of life. Highly important for quality of life are health, integration, and participation. Although health is a highly important precondition of active ageing, it has to be complemented by integration and by the opportunities for societal participation. As said above, integration and participation are used here in a very broad sense including social, economic and political participation, social inclusion and integration and intergenerational relationships.

1.2 General characteristics of ageing processes

Although the theoretical concepts discussed above stress different features of the ageing process, they resemble each other in important aspects (see also Baltes, 1987). These can be captured by general characteristics of ageing processes: life course perspective, heterogeneity, plasticity, contextuality, and social change.

Ageing as part of the life course: In gerontology, the process of ageing and the phase of old age is seen as part of the life course (Elder & Giele, 2009). Although there might be disruptive events in old age (like the onset of dementia), biographical trajectories through childhood, adolescence and adulthood shape the "third" and "fourth" phase in life. Hence, the cornerstones of successful ageing are already laid in early phases of the life course. It should be noted that chronological definitions of the "third" and "fourth age" are somewhat arbitrary. In gerontology, the beginning of the "third age" is often defined as the transition into retirement and/or the age of 65 years; the beginning of the "fourth age" is sometimes defined as the age of 85 years. While the majority of individuals in the "third age" have sufficiently good health to live independently in private households and participate actively in society, the prevalence of people who are frail, dependent and in need of care increases in the "fourth age" (see, for instance, chronological definitions and descriptions of these phases in the "Berlin Aging Study", Baltes & Mayer, 1999; Lindenberger, Smith, Mayer, & Baltes, 2010).

Heterogeneity of ageing processes: All definitions of active or successful ageing start from the observation, that there are large inter-individual differences between developing and ageing individuals. Over the life course, developmental trajectories lead to increasing inter-individual diversity, which might be explained by different life-styles or cumulated inequality (Ferraro & Shippee, 2009). Hence, in old age there are great differences between individuals in respect to health, physical capabilities, cognitive functioning, and social integration.

Plasticity in ageing processes: Despite the high relevance of biographical influences on the process of ageing, gerontological research has demonstrated over and again that the course of ageing does not occur inevitably, but can be altered and improved by adequate interventions. There is a large body of scientific evidence showing that interventions for successful ageing are effective (Braveman, Egerter, & Williams, 2011; Coberley, Rula, & Pope, 2011; Peel, McClure, & Bartlett, 2005; see also section 2 of this paper). It should be acknowledged, however, that the efficiency of interventions decreases in very old age.

Contexts of ageing processes: Although taking place within an individual person, ageing processes are influenced by factors on different levels (factors

related to the individual person, factors rooted in the environmental, cultural and societal context in which a person is living, e.g. Wahl, Fänge, Oswald, Gitlin, & Iwarsson, 2009). Interventions for successful ageing can be directed at individual behaviour (e.g. health behaviour, social activities) or at a person's context (e.g. influencing education, income, health via policies on education, labour market, housing or health care, e.g. Tesch-Römer & von Kondratowitz, 2006).

Social change and ageing: The process of ageing takes place within historical time. As societal conditions change over time so does the process of ageing. Growing old at the beginning of the 21st century is different in many respects from growing old at the beginning of the 20th century. Not only the average life expectancy has changed (and the fact that more members of a birth cohort grow old), but also living circumstances like health care systems and social networks (Ajrouch, Akiyama, & Antonucci, 2007).

1.3 Quality of life

Quality of life is one of the central concepts in ageing research (see for a discussion of the construct "quality of life" Diener, 2005; The WHOQOL Group, 1998; Veenhoven, 2005). Two different traditions can be distinguished in this respect: Concepts which define quality of life in terms of objective living conditions, and concepts which define quality of life in terms of subjective evaluation (Noll, 2000; 2010; Veenhoven, 2000). Similar distinctions have been made in the context of social gerontology (Walker, 2005).

Objective quality of life can be measured by the extent to which a person has access to and command over relevant resources. Resources like income, health, social networks, and competencies serve individuals to pursue their goals and direct their living conditions (Erikson, 1974). Hence, objective quality of life is high in those cases where income is high, health is good, social networks are large and reliable, and competencies as achieved by educational status are high. Objective quality of life can be measured by external observers.

Subjective quality of life, in contrast, emphasizes an individual's perceptions and evaluations. Individuals compare their (objective) living situation according to different internal values and standards. This means that people with different aspiration levels may evaluate the same objective situation differently. Subjective quality of life depends on the individual person – and lies in the "eye of the beholder" (Campbell, Converse & Rodgers, 1976). Hence, high subjective quality of life can be defined as subjective well-being (high life satisfaction, strong positive emotions like happiness, and low negative emotions like sadness).

The distinction between objective and subjective quality of life implies that the two concepts are not congruent and, hence, not redundant. The subjectively perceived quality of life may be low even when observers agree that the objective living situation may be characterized as very good. Vice versa, not all people living in (objectively) modest or poor living situations may be dissatisfied with their lives. These considerations lead to a theoretical combination of high and low values of both objective and subjective quality of life, resulting in a two-by-two table (Zapf, 1984; see Table 1). The combination of good objective living conditions and high subjective well-being can be called "well-being" (cell 1); the combination of poor objective living conditions and low subjective well-being can be called "deprivation" (cell 2). In both cases, there is a close association between objective and subjective quality of life. In terms of social policy, "deprivation" is the central focus of political interventions and "well-being" the intended outcome of interventions.

Table 1
Theoretical combinations of objective and subjective quality of life (cf. Zapf 1984)

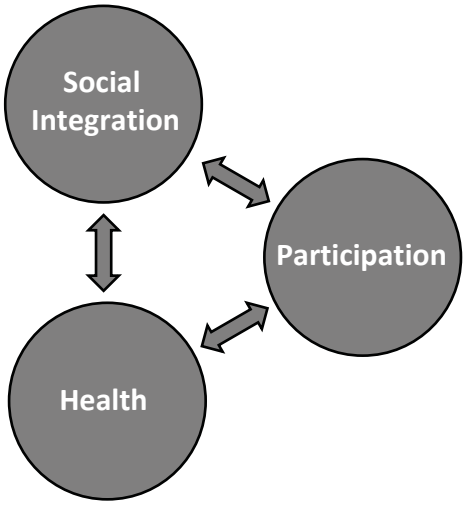
Objective Living conditions	**Subjective well-being**	
	High	*Low*
High	(1) Well-being	(3) Dissonance
Low	(4) Adaptation	(2) Deprivation

More complicated, however, are the constellations "dissonance" (cell 3) and "adaptation" (cell 4). "Dissonance" describes the combination of good living conditions and low subjective quality of life. Individuals categorized as "dissonant" may have high income, good health, and a large social network, but complain nevertheless. In terms of social policy, this group may ask for more support, but it seems unclear if there will be the intended effects in terms of well-being (dissatisfaction dilemma). "Adaptation" describes the combination of poor living conditions and high subjective quality of life. Individuals in this group constitute a particular problem for social policy as members of this group do not articulate dissatisfaction (as they feel well) although they might need support from an outside perspective (satisfaction paradox). Especially older people might be categorized as "adapted" and, as a consequence, overlooked by social policy.

On the background of this discussion, it was decided for the current paper to take into account both objective and subjective aspects of quality of life. Hence, when discussing the effects of active ageing attention will be paid to objective outcomes (aspects of the living situation of a person) and to subjective outcomes (evaluations of different life domains, life satisfaction, and emotional well-being). The discussion so far has been rather abstract, however, and has not treated the life domains in which quality of life can be seen. When considering quality of life, both objective and subjective evaluations take into account different life domains, e.g. health, income, social relations, societal infrastructure. It has been shown empirically that among the most important aspects of subjective quality of life are health and social integration (Diener & Suh, 1998). In respect to the goals of social policy, interventions should lead to active participation in society. Hence, in line with the tradition of social reporting, three highly important life domains are chosen for discussion in this discussion paper: health, social integration, and participation (see Figure 1).

These domains represent dimensions of quality of life in old age and influence each other in multiple ways (Motel-Klingebiel, Kondratowitz, & Tesch-Römer, 2004; Walker & Lowenstein, 2009). On the one hand, good health is the precondition for active social integration and participation in late life. On the other hand, it is well known that social integration and active participation positively influence the health status of older people.

Figure 1
Domains of active ageing and quality of life



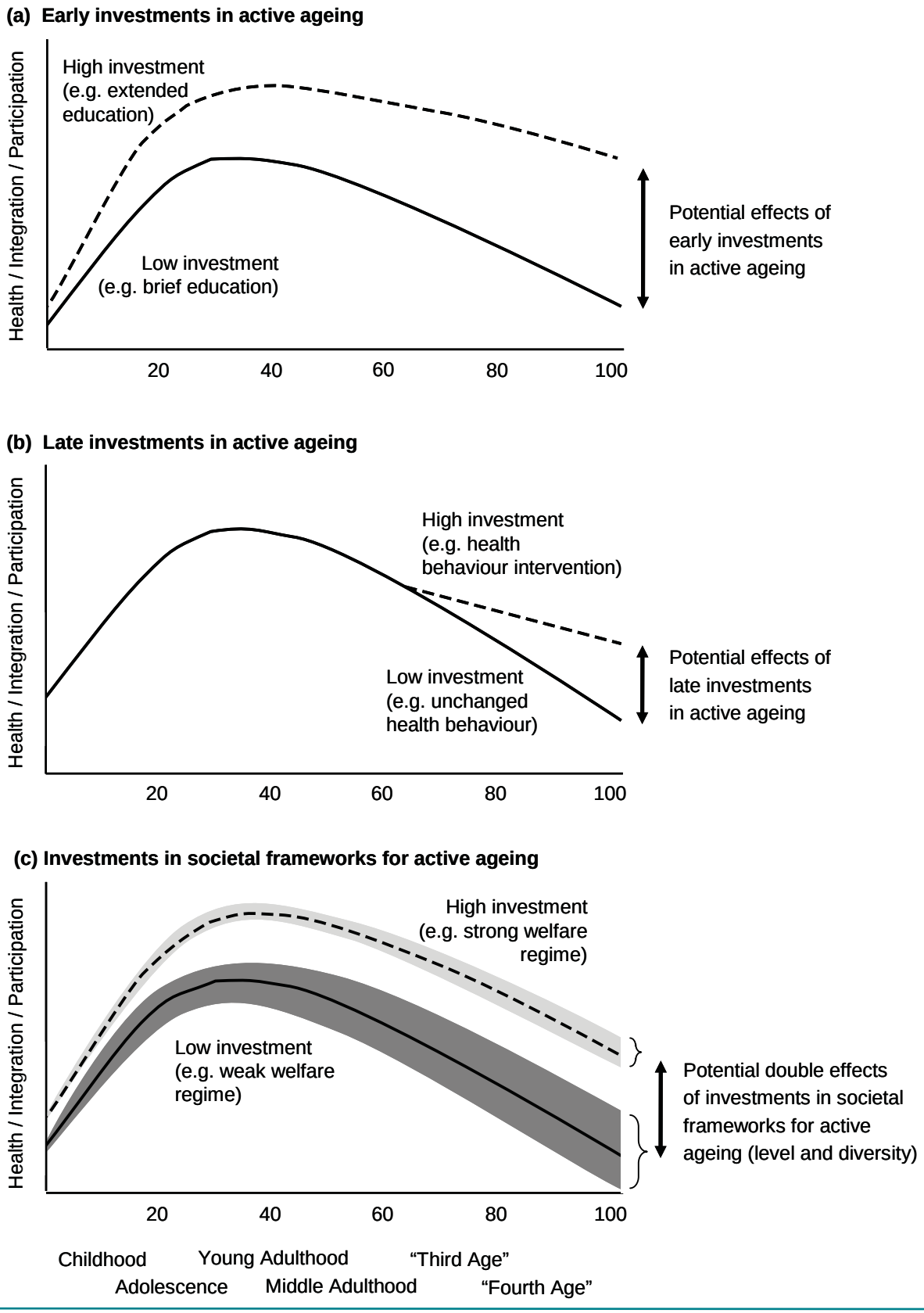
Hence, "active ageing" is conceptualized in this paper as process which leads to both objective and subjective quality of life in old age in the domains of health, social integration, and participation.

1.4 Investments in active ageing

These considerations have lead to decisions in respect to the argumentation in this discussion paper. The diversity in ageing trajectories shows that good health, stable social integration, and societal participation do not occur "naturally" in old age. While some people experience a good health status up to very old age, other people suffer from chronic diseases and may die prematurely. The existence of different trajectories indicate that certain factors may change the course of ageing – and that knowledge about these factors could be used in interventions (Berkman, Ertel, & Glymour, 2011). With respect to health, for instance, it has been argued, that individuals who start to perform physical activities early in life and maintain this over the life course will likely have better functional health throughout the lifespan, although a decline in late life is inevitable (Manini & Pahor, 2009). Central to the concept "active ageing" is the optimization of opportunities that could be enhanced through investments in active ageing (see Figure 2).

Investments in active ageing which focus on the individual person can be made during different phases in the life course ("early investments" in childhood and adolescence, "late investments" in middle and late adulthood). In addition to investments which

Figure 2
Hypothetical representations of three types of investments in active ageing: (a) early investments, (b) late investments, (c) investments in societal framework for active ageing



focus on the individual, investments may also focus on a population as whole and involve macro-level factors, like policies and institutional settings (these macro-level investments will be called subsequently "investments in societal frameworks"). It should be kept in mind that one might classify investments in active ageing along other lines as well (e.g. in respect to actors which take over responsibility for these investments, e.g. the state, the private sector, non-governmental organizations and individuals themselves). In the last section of this discussion paper, recommendations are mainly addressed to states as actors and policies as instruments for investments in active ageing.

Early investments, especially during the educational phase in childhood and adolescence, tend to have profound and long-lasting effects. Hence, the effects of early educational investments in active ageing will be analysed (see Figure 2a). It should be noted that the two (hypothetical) curves in Figure 2(a) show the developmental trajectories of two (hypothetical) people: One person has completed an extensive education, while the other person has completed a brief education only. In section 2 of this paper, empirical data will be presented on the long-lasting effects of early investments in education on health, social integration, and participation in old age. Educational status also reflects social inequality and diversity. In this respect, a number of other relevant aspects of social inequality could be taken into account, like gender (Arber, Davidson, & Ginn, 2003; Crimmins, Kim, & Solé-Auró, 2010; Tesch-Römer, Motel-Klingebiel, & Tomasik, 2008), income and wealth (Pinquart & Sorensen, 2000; Schöllgen, Huxhold, & Tesch-Römer, 2010) and migration status (Longino & Bradley, 2006; Warnes, 2010). In this paper, the focus is on educational status because differences in educational status have a profound effect on ageing trajectories and, indirectly, to other aspects of social inequality like (later) income and job status.

Late investments in adulthood and old age, however, are effective as well. Hence, the effects of late investments in active ageing, e.g. in middle adulthood, old age, or very old age, will be analysed. The two (hypothetical) curves in Figure 2(b) show the developmental trajectories of two (hypothetical) people: One person has taken part in a training intervention in later life, while the other person has not. Note that late investments in active ageing may be effective (there is a potentially positive effect in changing the ageing trajectory), but that the effects of late interventions in active ageing may be not as cost-effective as investments earlier in life. Investments in later life also involve both societal and individual efforts, like providing opportunities for life-long learning (societal efforts) and personal learning behaviour (individual efforts). In section 3 of this paper, empirical data will be presented on the effects of late investments on health, social integration, and participation in old age (most of these interventions concern individuals older than 65 years of age).

Finally, investments in the societal frameworks for active ageing are highly important. Contextual factors shape the opportunities for the development of active ageing. Hence, it will be of interest to compare societies which differ in the opportunity structures (e.g. welfare regimes) for active ageing. Figure 2(c) shows the potential effects of investments in societal frameworks for active ageing. Several assumptions form the basis for this figure. It is assumed that investments in societal frameworks for active ageing may vary across societies. For instance, societies with a strong welfare regime (e.g. with a comprehensive educational system, a strong social security system, and a reliable health system) may establish better opportunities for active ageing than societies with a weaker welfare regime. An educational system which strives to increase the overall educational status and diminish disparities in education might be a central avenue to foster active ageing in a population. Consequently, citizens of societies with a strong welfare regime may on average show higher levels of health, social integration, and participation in old age. Not only the mean level of active ageing may vary between societies, but also the diversity (due, for instance, to social inequality). It is assumed, that diversity due to social inequality will be lower in societies with a strong welfare regime. In addition, not shown in Figure 2(c), the relationship between variables may differ between countries (e.g. educational family background might correlate strongly in societies with a weak welfare regime with educational status of an individual – and in societies with a strong welfare regime the relationship might be lower). In section 4 of this paper, empirical data will be presented in respect to

the effects of societal investments on health, social integration, and participation in old age. In this section, special emphasis is given to the question if and how the strength of welfare state institutions like social security systems (i.e. employment, old age pensions) influences active ageing.