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European Forum on
Population Ageing
Research

Review



Models of Quality of Life: A Taxonomy, Overview and Systematic Review of the Literature

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May, 2004

This work was commissioned and funded by the European Forum on Population Ageing Research/European Group on Quality of Life Extending quality of life in old age (EQUAL) (Walker 2002)

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Preface

The remit of this review of the literature was to document the current ‘state of the art’ in relation to the definition of the concept of quality of life (QoL), and with relevance to public policy. In view of a history of changing and overlapping terminology in quality of life research (see later), this review of the concept necessarily included a broad range of concepts and search terms. Measures of quality of life are outside the scope of this review and readers are referred to Sirgy (2002), Bowling (2001, 2004) and Haywood et al. (2004) for reviews of generic and specific measures.

Part 1 – the taxonomy – was written by Ann Bowling, and was based on electronic and manual searches of the literature over time, and supplemented with grey literature sent by members of the European Forum on Population Ageing Research. Literature from an initial, broad (exploratory scoping) systematic review, conducted by Jackie Brown and Terry Flynn, was also included. This was based on Psychlit and Medline databases from 2000 to 2003, with search terms quality of life or well-being or life satisfaction or health status and older or older or senior or aged or ageing or aging (2465 records). AB conducted a further broad search using these terms for non-English language literature (abstracts only, translated electronically). Most of the literature from the systematic reviews investigated health related quality of life and clinical outcomes. Only literature which made a contribution to the conceptual development and definition of QoL has been included here. While a wide range of relevant concepts are described in this report, discussions of them are relatively brief given the enormity of the scope of the review. It is acknowledged that each merits a report in its own right. Not all concepts used in the context of quality of life were used as electronic search terms given the vast amount of specialised literature on each, and which would have made this task completely unwieldy.

Part 2 – the systematic review – was undertaken and written by Jackie Brown and Terry Flynn, and is deliberately focused on individual’s perceptions of QoL due to the enormous volume of literature on QoL. This was compatible with the Commission brief which requested that special attention should be given to older people’s views. The details of their search strategy are described in an Annex to their paper. This detailed focus on people’s views is justified on the grounds that incorporating public opinion is regarded as good practice in research and in public policy.

Acknowledgements

We would like to thank Professor Alan Walker, his colleagues, and members of the European Forum on Population Ageing Research for commissioning this review; and also the reviewers for their helpful comments.

Part 1. A taxonomy and overview of quality of life¹. Ann Bowling

Introduction

Ageing in the 21st century

The increasing numbers of older people, higher expectations of 'a good life' within society, and policy interest in the potential for reducing public expenditure, has led to international interest in the enhancement, and measurement, of quality of life in older age, and in the related concepts of well being, successful, positive and active ageing, and ageing well. Quality of life in general is attracting increasing research and policy interest. For example, Fernández-Ballesteros (2003) reported on the enormous increase in publications on well being from the 1930s to the 1990s, and on the quality of life literature in searches across five databases (Medline, Psychlit, Sociofile, Biosis and one on Ecology) from 1967 to 1995 (Fernández-Ballesteros 1998a).

Public policy is increasingly likely to be concerned with enabling older people to maintain their mobility, independence, their active contribution to society, and to respond effectively to the physical, psychological and social challenges of older age; in effect, to add quality to years of life. This reflects a shift of emphasis away from the previously negative paradigm of old age in the social and clinical sciences, in which the focus of research is on ill health, functional decline and poverty in older age. It moves towards a more positive view of old age as a natural component of the life span (O'Boyle 1997), and as a period of life to be celebrated in which one is freed from a number of structured social roles (employment, parent of dependent children) and free to explore areas and activities which can provide personal fulfilment. However, limited resources, opportunity and the ill-health or frailty of partners can also restrict this.

The policy interest in quality of life in older age is illustrated by the British ESRC's programme of research 'Growing Older', and the focus of the European Fifth Framework programme of research, Key Action 6 'The ageing population and disabilities', which aims to enhance the functional independence of older people and extend quality of life in old age. As associated EQUAL project, aimed to bring together leading social scientists from Germany, Italy, the Netherlands, Sweden and the UK to review the factors which extend or limit quality of life among older people (Walker 2002).

What is quality of life?

Quality of life (QoL) is a multi-level and amorphous concept, and is popular as an endpoint in the evaluation of public policy (e.g. outcomes of health and social care). While the main domains of quality of life identified in the literature are relevant to adults of all ages, these can vary in priority among people in different age groups (Bowling 1995a, 1995b). But the wider research community has accepted no definitive theoretical framework of quality of life, and no single research framework has been utilised in its investigation. Thus, despite a plethora of research on a wide range of objective and subjective indicators of QoL, there is no widely accepted or supported theory or measurement instrument of quality of life.

Quality of life has been defined in macro (societal, objective) and micro (individual, subjective) terms (Rosenberg 1992; Bowling 1995a; 1995b; 1996; Bowling and Windsor 2001). The former includes income, employment, housing, education, other living and environmental circumstances.

¹ This review examines the state of the art literature on quality of life as a theoretical concept.

The latter includes perceptions of overall quality of life, individual's experiences and values, and has included related, proxy indicators such as well-being, happiness and life satisfaction. Models of quality of life are also not consistent, ranging from needs based approaches derived from Maslow's (1954; 1968) hierarchy of human needs (deficiency needs: hunger, thirst, loneliness, security; and growth needs: learning, mastery and self-actualisation), to classic models based solely on psychological well-being, happiness, morale, life satisfaction (Andrews 1986; Andrews and Withey 1976; Larson 1978), social expectations (Calman 1983) or the individual's unique perceptions (O'Boyle 1997). Quality of life is thus a complex collection of interacting objective and subjective dimensions (Lawton 1991).

Veenhoven (2000) distinguished between *opportunities* (chances) for a good life and the good life (outcomes) itself, and postulated four categories of quality of life: i. liveability of the environment (environmental chances/social capital); ii. life-ability of the individual (personal capacities/psychological capital); iii. external utility of life (a good life must have an aim other than the life itself, or higher values); iv. inner appreciation of life (inner outcomes of life/the perceived quality of the life). Each area of quality of life can also have knock on effects on the others. For example, retaining independence and social participation may promote feelings of emotional well-being, but the former are partly dependent on retaining health and adequate finances. These can also be influenced by local transport facilities, type of housing, community resources to facilitate social participation and social relationships. Thus, quality of life is multidimensional and its parts affect each other as well as the sum. It is also a dynamic concept, which poses further challenges for measurement. It is made up of both positive and negative experiences and affect, and values and self evaluations of life may change over time in response to life and health events and experiences. For example, consciously or unconsciously people may accommodate, adapt or adjust, to deteriorating circumstances, whether in relation to health, socio-economic or other factors, because they want to feel as good as possible about themselves. The roots of this process are in control theory, with goals of homeostasis.

An important mediator of this adaptation process is 'response shift', whereby internal standards and values are changed – and hence the perception of quality of life (Sprangers and Schwartz 1999). Thus when measuring change in quality of life, several variables need to be taken into account, including actual changes in circumstances, including the circumstances of interest (e.g. health), stable or dispositional characteristics of the individual (personality); behavioural, cognitive or affective processes which might accommodate the changes, such as making social comparisons, reordering of goals and values; and response shift. Of course, measured changes can also be affected by regression to the mean, social desirability bias, and cognitive dissonance reduction (preference for the circumstances experienced) – without affecting internal standards (Sprangers and Schwartz 1999). Such responses might also potentiate response shift. Social desirability bias might also be a personality characteristic, and this might facilitate people when they are adjusting to deteriorating health or circumstances, and lead to an optimistic perception of a higher quality of life (Diener et al. 1991; Sprangers and Schwartz 1999). The literature on coping mechanisms is also relevant here, with the evidence that personality characteristics such as optimism and self-mastery are related to coping mechanisms and subsequent adjustment (Pearlin and Schooler 1978; Scheier and Carver 1987; Brissette et al. 2002). Albrecht and Devlieger (1999) focused on the issue of why so many people with serious and persistent disabilities report their quality of life to be good or excellent, when their lives would be viewed as undesirable by external observers. Their in-depth interviews with people indicate that consideration of quality of life was dependent upon finding a balance between body, mind and the self (spirit) and on establishing and maintaining harmonious relationships, supporting the theory of homeostasis.

As the concept of quality of life spans a wide range of topics and disciplines, it has been measured using a diverse range of indicators. Most disciplines have based their concepts and measures on experts' opinions, rather than those of lay people (Rogerson et al. 1989; Bowling 2001). This has the consequence that there is little empirical data on the extent to which the items included in most measurement scales have any relevance to people and their everyday lives. In addition, a pragmatic approach prevails in the literature, and clarification of the concept of quality of life is typically by-passed, and justified with reference to its abstract nature, and the selection of measurement scales often appears ad hoc.

Quality of life and ageing

There is no consensus on a definition of quality of life in older age, whether among the younger, fit elderly population or among the frailer elderly population. Arnold (1991) proposed that quality of life assessment in frailer, older people should include physical functioning and symptoms, emotional, behavioural cognitive and intellectual functioning, social functioning and the existence of social support, life satisfaction, health perceptions, economic status, ability to pursue interests and recreation, sexual functioning, energy and vitality. Darnton-Hill (1995) also emphasised the importance of income in determining life expectancy and quality of life in older age. A composite, multi-faceted perspective is required. Lawton (1982; 1983a; 1983b) argued that *well-being* in older people may be represented by behavioural competence (e.g. measured by indicators of health, cognition, time use and social behaviour), *perceived quality of life* (e.g. measured by the individual's subjective evaluation of each domain of life), psychological well-being (negative and positive affect) (e.g. measured by indicators of mental health, cognitive judgements of life satisfaction, positive-negative emotions) and the external, objective (physical) environment (e.g. housing and economic indicators). He thus developed a quadripartite concept of the 'good life' for older people (Lawton 1983a), which he later changed to '*quality of life*' as the preferred overall term, accounting for all of life. The model is still popular and has been recently tested in Europe and reported to successfully discriminate between older Swedish and Polish populations (Jaracz et al. 2004). Thus his early theoretical framework remains firm over more than 20 years.

Overall, while quality of life is inevitably subjective and dependent upon individual perceptions, the most frequently reported empirical associations with both well-being and quality of life in older age are good health and functional ability, a sense of personal adequacy or usefulness, social participation, the existence of friends and social support, and level of income or other indicator of socio-economic status (e.g. housing tenure) (Maddox 1963; Lowenthal and Haven 1968; Markides and Martin 1979; Kushman and Lane 1979; Usui et al. 1985; Bowling et al. 1996; Breeze et al. 2001). In turn, this literature indicates overall that subjective self-ratings of psychological well-being and health are more powerful than objective economic or socio-demographic indicators in explaining the variance in quality of life ratings (Bowling and Windsor 2001).

Grundy (2001) argued that 'The reserve' an individual brings with him or her in later life reflects a lifetime's accumulation, and depletion, of resources and skills'. These might include health status, personal social support and community social capital, personality and psychological outlook and coping strategies, social skills and material resources – many of which may be largely determined by life course factors (i.e. experiences and circumstances occurring throughout life), and some are at risk of diminishing with older age (e.g. income after retirement, risk of ill health, widow(er)hood). Of course, there is some plasticity in older age, for example health behaviour can influence health status, and new roles and activities can be started. But, as she pointed out, it is often difficult to begin to accumulate reserves in older age. Social relationships and support, like material resources, tend to be built up over a lifetime. Longitudinal data show that network sizes decrease significantly

in older age. One study of very old people living at home in East London reported that the networks of 42% of survivors had shrunk by follow-up two to three years later, while it had only increased for 16% (Bowling et al. 1995; Bowling and Grundy 1998). Of course, while life course influences are strong, and influence the present, actual current circumstances themselves, such as level of income, housing, health and social capital have a main impact on people's well-being and perceptions.

In addition, perceived quality of life in older age can reflect one's expectations. The current generation of older people are likely to have low expectations given the challenges and hardships they faced in the first half of the 20th century. Schieman and van Gundy (2000), using data from the 1996 and 1998 General Social Surveys in the USA, found that older people reported below average socio-economic standing than younger people, but they reported greater levels of satisfaction with their income and financial situation (and this then suppressed an increase in depression and distress among older adults). Thus their ratings of their own quality of life are likely to reflect the lowered expectations of this generation, and they may therefore rate their lives as having better quality than a person in the next generation of older people in similar circumstances would do. Caution is needed by researchers when reporting high levels of perceived quality of life for most sample members.

Older people's views

Bowling and Gabriel (2004) compared theoretically derived QoL indicators from their national survey of older people (Bowling et al. 2002), with respondents' own definitions of quality of life. The variables which explained most of the variance in quality of life ratings, were: social comparisons and expectations, personality and psychological characteristics (optimism-pessimism), health and functional status, personal social capital (social activities, contacts and support, loneliness) and external, neighbourhood social capital (perceived quality of neighbourhood facilities and safety). Socio-economic indicators contributed relatively little to the model. The main themes which were categorised from survey respondents' replies to open ended question on the constituents of the 'good things' that gave quality to life were, in order of magnitude: social relationships, social roles and activities, solo activities, health, psychological well-being, home and neighbourhood, financial circumstances, and independence. Poor health was most often mentioned as the thing that took 'quality away' from their lives. Similarly, the main themes which were categorised from subsequently conducted in-depth interviews with the sub-sample of respondents on the 'good things' that gave quality to life were, in order of magnitude: social relationships, home and neighbourhood, psychological well-being, solo activities, health, social roles and activities, financial circumstances and independence. Poor home and neighbourhood, poor health and poor social relationships were most often mentioned as the things that took quality away from their lives. Between them, these models suggest that QoL is built on psychological characteristics, health and functioning, social activities, neighbourhood, as well as perceived financial circumstances and independence, and influenced by social comparisons and expectations.

Each of these areas of quality of life is of relevance not only to younger adults, and to the majority of older adults who live in their own homes, but also to the small proportion who lives in long stay care homes (Beaumont and Kenealy 2004). These influences on quality of life were also supported in research on ethnic differences and inequalities in quality of life at older ages in the UK (Nazroo et al. (in press). But different social groups also have different priorities. For example, social relationships and work may be prioritised more highly by younger adults, and health more highly by people aged 65 and over (Bowling 1995a; 1995b; 1996). Scharf et al. (2003), in their survey of the quality of life of older people living in deprived neighbourhoods in England, reported how this

group, and those in some ethnic minority groups, finances, social deprivation, crime, social isolation and loneliness were the main issues. People who have social care needs, and particularly those living in institutions might also prioritise the ability to control their lives and the way they structure their days most important, along with a sense of self, features of the environment as well as their relationships and activities (Qureshi et al. 1994; Tester et al. 2000). Fernández-Ballesteros (1998b), on the basis of surveys of older people living at home and in institutional homes in Spain, reported that social integration was valued in terms of QoL among those living in the community, and the quality of the environment was favoured by those living in institutions. Autonomy, privacy, independence, choice, self-esteem, respect from others, the quality of the internal and external environment, social participation as well as provision of adequate help when required, can be threatened when people move into institutions (e.g. hospitals, nursing and residential care homes) and when people develop chronic illnesses which limit severely their everyday activities (Clark and Bowling 1989; 1990; Weidekamp-Maicher 2001).

It should also be pointed out that many older people provide care for their spouses, especially when chronically and terminally ill (Schofield and Bloch 1998), and they themselves may suffer from ill health (Bowling and Cartwright 1982). Most people with chronic disability live at home, and some will require help with everyday and/or personal tasks. The provision of informal care can lead to considerable physical and emotional stress, and impact negatively on the carer's quality of life (Hughes et al. 1999), although it can also lead to satisfaction and feelings of reciprocity (Murray et al. 1999). Few measures of quality of life have been developed for this group, with the bulk of research being on specific domains (e.g. stress, health and so on). This is an area which requires a broader focus in research.

Implications for definition and measurement

This all implies that the definition and measurement of quality of life needs to take a wider societal or political perspective into account which reflects the opportunities available in a society. The quality of life of older people is generally measured using scales developed for use with younger people, with the exception of domain specific scales of physical functioning (Bowling 2001). But older people can develop specific problems which impair mobility and merit specific measurement (e.g. with eyesight, hearing, continence and feet). They require multi-dimensional assessment, which respects the person's autonomy, individuality and significance of independence (O'Boyle 1997). As O'Boyle (1997) has also pointed out, elderly people are heterogeneous, and while ageing may be associated with deterioration of health, it has also been associated with greater variation in subjective measures of psychological well-being than younger adults (Stewart et al. 1996).

There are also many older people who consider their health and quality of life to be good (Browne et al. 1994; Nybo et al. 2001), and thus a traditional pathology based approach to measurement will under-estimate their level of health, well-being and quality of life accordingly. This makes it unlikely that a single measure of quality of life, although convenient, will be suitable for administration to older people in all situations, and applying measures to populations for whom they were not designed is likely to result in floor and ceiling effects (O'Boyle 1997). This is especially apparent when considering the circumstances of people living in residential and nursing homes, as well as very frail people living at home, and where issues of autonomy and control over life become more acute, and assistive devices to facilitate greater independence rather than increasing dependency on others, are important (Lawton 1991; Liberman 1991; Wetle 1991; Abeles 1991).

Overlap with successful ageing and related concepts

The theoretical debate about the constituents of quality of life and its measurement overlap with those relating to the constituents of successful, positive or optimal ageing, active ageing and ageing well. The retention of independence, social activity, growth, control over life, social role functioning, cognitive competence, adaptability, in addition to moral, well-being and life satisfaction, which have all been suggested as key constituents of both quality of life and of successful ageing (Larson 1978; Andrews 1986; Baltes and Baltes 1990; Day 1991; Lawton 1996; Fry 2000). Indeed, Schieman et al. (2001), on the basis of secondary analysis of US General Social Surveys, reported that lower perceived control over life, together with widowhood and less education, contributed to an increase in depression among the oldest old members of the samples studied. Perrig-Chiello (1999) reported that, on the basis of results from the Basle Inter-Disciplinary study of Aging, psychological well-being was more strongly associated with a feeling of control/mastery over life than with physical well-being among the 'oldest-old', in comparison with the 'youngest old' sample members. Indeed, studies of the values of people aged 50 and over and 65 and over have all documented their emphasis on maintaining their independence, being able to carry out their daily activities and look after themselves; iller respondents were able to perceive themselves as independent if support services facilitated them in maintaining their physical independence and remain in their own homes (Hayden et al. 1999).

Stress process theory suggests that a high sense of perceived control promotes coping and increases resistance to adverse challenges in life, while low perceived control increases feelings of powerlessness and a belief that life is affected by fate (Mirowsky and Ross 1991; Pearlin 1999). The results of many cross-sectional surveys suggest that levels of perceived control increase during early adulthood, peak during middle age, and are lower among older adults (Gecas 1989), leaving older people potentially more vulnerable.

Definitions of successful ageing

Definitions of successful, positive and optimal ageing range from reaching one's potential and achieving physical, psychological and social well-being (Gibson 1995), the ability to adapt one's values to meet the challenges of later life (Clark and Andersson 1967), having the physiological and psychological abilities of younger people, and engaging with life (Rowe and Kahn 1987), cognitive efficiency, social competence and skills, self-mastery, adaptation, control and maintenance of productivity and achievement (Baltes and Baltes 1990; Bowling 1993). The achievement and maintenance of life satisfaction has been identified, along with physical health status, as essential for 'successful ageing' (Valiant 1990). Therefore, those who have not successfully aged are those who lack the range reserves they need to cope with the challenges they face. Baltes and Baltes (1990) emphasised one's psychological resources, especially to be able to employ compensatory strategies when facing the dynamic between challenges and depleting reserves – of finding compensatory strategies – 'selective optimisation with compensation'. For example, when selected activities have to be discarded (e.g. due to ill health or bereavement) strategies need to be activated in order to find new ones and to maximise the chances of maintaining reserves. There is some supportive evidence that these strategies are associated with higher levels of life satisfaction and quality of life (Freund and Baltes 1998). The need to compensate also has policy implications for older people who face discrimination in access to effective health and social services. Health interventions, including physical or cardiac rehabilitation services, could be offered in order to help people maintain their reserves, but there is evidence of age discrimination in relation to their provision (Bowling et al. 2001).

The concept of successful ageing, then, is based on the central argument that more important than concepts of universality of ageing, or inevitable decline, is the increased risk (or vulnerability)

with age of reserve capacity falling below the threshold needed to cope successfully with the challenges faced in older age (e.g. bereavement, poor quality of death, reduced mobility and health, quality of life, depleting social networks, income) (Grundy 2001). The evidence on risk, and on the plasticity of ageing processes, within limits, suggests that theories of homeostasis require some modification (Brouwer 1990; Grundy 2001). For example, as Grundy (2001) pointed out, while the risk of developing Alzheimer's disease increases markedly with age, most older people do not develop this condition. Again, while functional decline is associated with increasing old age, regular aerobic exercise has been reported to increase the maximal aerobic power in women aged over 79 (Malbut et al. 2002; and see editorial by Greig 2002), and strength training can improve muscle strength and physical functioning (McMurdo 2000).

Most debate on what is successful ageing is based on 'experts' views of the concept. For example, Brandstadter and Greve (1994) defined successful ageing as a dynamic process of balancing assimilative (maintaining activities), accommodative (flexible goal adjustment) and immunising (selective filtering) strategies with the aim of maintaining a realistic and practical sense of self. This is echoed the previously mentioned focus on the role of adaptation as a strategy for successful ageing: selection, optimisation and compensation (Baltes and Baltes 1990; Baltes et al. 1996). von Faber et al. (2001) (see earlier), defined successful ageing as 'a state of being', and operationalised as achieving optimal scores on indicators of physical, social and psycho cognitive functioning. However, their further qualitative interviews with a sub-sample of respondents revealed that older people viewed success as a process of adaptation, valuing well-being and social functioning more than physical and psycho cognitive functioning. Using this lay perspective, many more older people would be considered to have aged successfully. Similarly Tate et al. (2003) asked male respondents (mean age 78 in 1998) to define successful ageing and whether they felt they had aged successfully. While health and disease were frequently referred to in their definitions, major themes related to physical, mental and social activities promoted more by having interests, goals, and family relationships than their health. This body of research contradicts Tornstam's (1989) view that people develop a more transcendent perspective of life with older age, leading to a greater need for solitude.

Much of the research on successful ageing has been based on measures of life satisfaction and morale and a range of psychological characteristics. (Rowe and Kahn 1987; Day 1991; Fisher 1995). It has evolved from the development of life satisfaction and morale indicators for use in social gerontology during the 1960s and 1970s (Neugarten et al. 1961; Havighurst 1963; Bradburn 1969; Lawton 1975; Andrews and Withey 1976; Paltmore 1979). Apart from lack of agreement on indicators, and the discrepancy between lay and 'expert' definitions, the concept of successful ageing itself has also been subject to criticism, mainly because it is imbedded in the American, culture specific concept of success and failure (Torres 1999), rather than on individual values. It is possible that those who are less likely to have successfully aged in relation to these definitions (e.g. those with poor life satisfaction, the depressed, as well as those in poor health) may be less likely to consent to participate in surveys, or may drop out of longitudinal studies (although the evidence is variable), and may be more likely to die young – leaving behind the 'optimally' or 'successfully' aged.

Taxonomy of models of quality of life

The main models of quality of life in the literature are summarised below (see bullet points), and these are discussed later in more detail:

- **Objective indicators** have included standard of living, health and longevity, housing and neighbourhood characteristics. These are typically measured with indicators of cost of living, mortality rates, health service provision, education levels, neighbourhood structure and density, socio-economic structure and indicators of inequality and crime in the neighbourhood or other area unit of study (Flax 1972; Rogerson et al. 1989; Sherman and Schiffman 1991; Muntaner and Lynch 2002). Veenhoven (1999), on the basis of national comparisons from the World Database of Happiness, which indicated that the more individualized the nation, the more citizens enjoyed their lives, added 'individualisation of society' to the list, including indicators of individualistic values; people's capability to choose (measured by indicators of education and information), opportunities for freedom of political choice, (political and civil rights, including democratic rights), freedom of economic choice (security of finances, freedom to produce and consume what one wants, freedom to keep what one earns and freedom of exchange) and freedom of personal choices (choice in divorce, abortion, sterilization, homosexuality, prostitution, suicide, euthanasia).
- **Subjective indicators** include life satisfaction and psychological well-being, morale, individual fulfilment, happiness, measured using indicators of life satisfaction, morale, balance of affect, and self-worth (esteem) (Gurin et al. 1960; Bradburn and Caplowitz 1965; Bradburn 1969; Andrews 1973; Andrews and Withey 1976; Campbell et al. 1976; Lawton 1983a, 1983b; Bigelow et al. 1982; Rosenwaike 1985; Ryff 1989; Day 1991; Roos and Havens 1991; Suzman et al. 1992; Garfein and Herzog 1995; Clarke et al. 2000).
- **Satisfaction of human needs**, including objective circumstances (such as housing, security, food, warmth) and opportunities for self-actualisation, reminiscent of Maslow's (1954; 1962) theory of human need (physiological, safety, security, social and belonging, ego, status, self-esteem), measured by indicators of the individual's subjective satisfaction with the extent to which these have been met (Hörnquist 1982; Lehman 1988; Bigelow et al. 1991). This model and measurement approach is common in mental health research;
- **Psychological models**, including influencing and mediating variables (the distinction is still blurred in QoL research). These emphasise personal growth, cognitive competence, efficiency and adaptability, level of dignity, perceived independence; social competence, control, autonomy, self-efficacy or self-mastery (Larson 1978; Grundy and Bowling 1999; Bowling et al. 2003); as well as optimism-pessimism. They also include social comparisons-gap relativity models of past experience, present circumstances and aspirations for the future - the individual's achievement of their expectations, hopes and aspirations (Krupinski 1980), particularly in relation to social comparisons with others (Calman 1984; Michalos 1986; Garratt and Ruta 1999). Measurement is still relatively crude.
- **Health and functioning models**, typically based on measures of broader health status (often wrongly referred to as health related quality of life), depression scales and scales of physical functioning (activities of daily living and instrumental daily living) generally referred to negatively as scales of dis-ability) as patient/client-based outcome indicators of health and social care interventions (McKevitt et al. 2002).
- **Social health models**, measured with indicators of social networks, support and activities; integration within local community) (Bowling 1991; 1994; Bowling and Grundy 1998).
- **Social cohesion and social capital**, including societal, environmental and neighbourhood resources (including those which facilitate reciprocity and trustworthiness arising from

social connections between people (Putnam 2000)), fostered by the availability and type of community facilities and resources. Measures include objective indicators of indices of crime, pollution, cost of living, shopping facilities, access to areas of scenic quality, cost of owner occupied housing, education facilities, policing, employment levels, wage levels, unemployment levels, climate, access to indoor/outdoor sports, travel to work time, access to leisure facilities, quality of council housing, access to council housing cost of private rented accommodation (in order of perceived order importance to people's quality of life, Rogerson et al. 1989; Flax 1972; Rogerson 1995). Other indicators include access to convenient and affordable transport and the general characteristics of neighbourhoods. Subjective indicators include public values, perceptions and levels of satisfaction with area of residence, its facilities, transport, travel to work time, and perceptions of neighbourliness and safety from crime (Rogerson et al. 1989; Cooper et al. 1999).

- **Environmental models** are concerned with the studying aging in one's place of residence and the importance of designing enabling internal and external environments in order to promote the independence and active social participation of older people (Schaie et al. 2003). The area of environmental gerontology spans psychology, geography, architecture, health and social care, and related disciplines. While largely descriptive to date, these models are receiving increasing attention with the current societal and policy focus on maintaining independence and activity in older age.
- **Ideographic** or individualised, hermeneutic approaches based on the individual's values, interpretations and perceptions, satisfaction with their position, circumstances and priorities in life. These are explored using semi-structured, individualised interviews and qualitative techniques. (Bowling 1995a, b; 1996; Bowling and Windsor 2001; WHOQOL Group 1993; O'Boyle 1997; Browne et al. 1984; Garratt and Ruta 1999).

The next section expands on these models.

Overview of models of quality of life

Objective and subjective indicators and Social Indicators research

Objective indicators

Critical social gerontology in Europe holds that quality of life is influenced as much by objective social and economic circumstances as by the characteristics of the individual. While some investigators define *objective*, or non-experiential, indicators in terms of measurable economic indicators ('facts') including income, work and unemployment figures, others broaden this to include other objective data which encompasses all circumstances of life and living conditions. These include type of housing tenure/home ownership, ownership of consumer durables, overcrowding, leisure activities, social participation, health, environment and pollution, crime levels, levels of education, social class, age, gender and so on (Campbell et al. 1976; Wingo and Evans 1978; Boelhouwer 2002). A few investigators include subjective self-evaluations of the objective indicators, although this is more commonly defined as a subjective social indicator (e.g. measured with questions about levels of satisfaction with the indicator of interest). In this paper the term objective indicators is limited to the former external, structural features and characterises (not dependent on evaluations).

The objective approach is more common and is prevalent in Scandinavian countries (e.g. the Nordic Living Conditions Surveys studies) (Johansson 2002; Veenhoven 2002), although many other countries also monitor key indicators of living circumstances. In Britain, the Labour Government explicitly initiated monitoring of the quality of life, using 15 indicators selected by the public, business and environmental groups. The list includes economic output, investment, employment, poverty, education, life expectancy, housing, violent crime, car crime/burglary, climate change, air quality, road traffic, river water quality, wildlife – farmland birds, wildlife – woodland birds, use of derelict land, and regenerated rubbish (Department for Environment, Food and Rural Affairs, 2002). The most recent international data on quality of life has been produced by Mercer Human Resource Consulting (2003). They analysed 39 objective indicators of quality of life in 20 world cities, and which covered political, social, economic and environmental factors; personal safety and health, education, transport and other public services. They were grouped into the following categories:

- Political and social environment (political stability, crime, law enforcement)
- Economic environment (currency exchange regulations, banking services)
- Socio-cultural environment (censorship, limitations on personal freedom)
- Medical and health considerations (medical supplies and services, infectious diseases, sewage, waste disposal, air pollution)
- Schools and education (standard and availability of schools)
- Public services and transportation (electricity, water, public transport, traffic congestion),
- Recreation (restaurants, theatres, cinemas, sports and leisure etc)
- Consumer goods (availability of food/daily consumption items, cars)
- Housing (housing, household appliances, furniture, maintenance services)
- Natural environment (climate, record of natural disasters)

Associations with objective indicators

Higher levels of well-being have been reported to be associated in the expected directions with higher incomes and socio-economic status, employment, being married (without young children under the age of 5 in the household), nation of residence, good health and functional ability. Using objective indicators of life quality only, gender appears to influence quality of life, as older women are more likely than men to live alone, and to have a poorer level of functional ability, even when controlling for other socio-demographic variables (Haug and Folmar 1986). However, Michalos and Zumbo (2000) found that indices of actual and feared crime and indexes of neighbourhood problems only explained 5% of the variation in happiness scores, 7% of the variation in life satisfaction scores, and 9% of the variation in satisfaction with quality of life scores. When family and health indicators were added, crime related issues almost disappeared. However, the sample was largely middle class with a mean age of 45. But as Smith (2000) pointed out in her review of QoL, other studies have reported no differences in indicators of QoL between deprived and more affluent communities in the USA. People report high levels of well being regardless of economic circumstances (Headey and Wearing 1992). This may reflect lower expectations and standards of social comparison among poorer people (reflecting the importance of perceptions of what one has lost, or lacks, rather than what one has), although the areas of expectations and of the concept of relative deprivation is contentious (Veenhoven 1991; Headey and Wearing 1992).

The most consistent associations between objective variables and indicators of well-being across Europe and the USA are with health and functional status, particularly among older people (although this is often measured subjectively using self-rating scales and cannot be classified strictly as objective) and level of income (Markides et al. 1989; Kushman and Lane 1980; Usui et

al. 1985; Waters et al. 1989). Gardner and Oswald (2001), using data from the British Household Panel Survey between 1991 and 1998 reported that receiving a financial windfall of a threshold of £50,000 was associated with an increase in well-being of between 0.1 and 0.3 standard deviations. However, approximately one million pounds would be needed to move someone from near the bottom of the happiness frequency distribution to near the top. As they also cautioned, such gains in well-being are potentially contaminated by distress associated with the death of a close relative. However, the underlying importance of income in both determining health, life expectancy, health behaviour, lifestyle, leisure pursuits and quality of life in all age groups, and older age in particular, should not be underestimated (Darnton-Hill 1995). Adequate income has implications for health, standard of housing, education, nutrition, clothing, transport, opportunities for leisure and social participation. Of course, particularly in relation to older people, the influence of level of income reflects both past income, present income and accumulated income over their life course. Some studies have found strong associations between indicators of socio-economic inequality and perceived well-being and morale among older people (e.g. Breeze et al. 2002). More significant associations have been reported with area of residence and well-being, with older people who live in rural areas being more satisfied with their environments, regardless of material disadvantage, than urban residents (Lawton 1980). Wenger (1984) reported that elderly rural residents in the UK were more socially integrated in the community than urban residents, which might partly explain this association.

Blanchflower and Oswald (2001) in their time series analyses of USA and British subjective data, reported that, not only was reported happiness associated with higher income and being employed, but it was also greater for women, married people, and the more highly educated. In contrast, other investigators have reported that the more educated are also the least satisfied with their quality of life, and have reduced feelings of well-being, perhaps because they have higher expectations of the rewards of education which are not always met (supporting relative deprivation theory that as education increases then people's relative expectations and potential for dissatisfaction also increases) (Olson 1996; Clark and Oswald 1996; Oswald and Frank 1997; Bowling and Windsor 2001; Frey and Stutzer 2001). The debate about the validity of relative deprivation theory continues (Veenhoven 1991), with evidence supporting both sides of the argument. Relative deprivation theory is supported by research which shows that reported happiness increases fractionally, if at all, with economic growth and incomes in the developed world, and that as affluence and education increases then people's relative expectations and potential for dissatisfaction also increases (Olsen 1986; Easterlin 1995; Clark and Oswald 1996; Oswald and Frank 1997). Headey and Wearing (1992) have reported high levels of well-being regardless of economic circumstances. However, relative deprivation theory is also inconsistent with a large body of pertinent international data which shows that the better the living conditions in nations then the happier are their citizens (Veenhoven 1993).

Some argue that objective indicators are essential in order to make uniform assessments of people's circumstances and of met and unmet needs, which are undistorted by individual's perceptions, (Meeberg 1993). However, research has often cast doubt on the power of objective variables alone, in predicting quality of life ratings, especially in view of the paradox of well-being (the presence of subjective well-being in the face of objective difficulties which would be expected to predict unhappiness) (Mroczek and Kolarz 1998). Moderate correlations, at best, between objective indicators, including socio-demographic characteristics, and satisfaction with life have been reported (Campbell et al. 1976; Lemman 1983). Excluding health status which is often measured subjectively, investigators of well-being and happiness across Europe and the USA have reported that the combined effects of objective indicators, including age, sex, ethnic group, income, education and occupation, account for relatively little (6-8%) of the variance in their

measures of these concepts, and most variance is explained by subjective indicators (Inglehart and Rabier 1986).

Bowling and Windsor (2001) reported, on the basis of a population survey of adults in Britain, that their objective variables (age, sex, marital status, income, housing tenure, social class, economic activity, household size, having children and age of children, age left full-time education, region of residence) explained collectively just 5% of the variance in their model of overall quality of life ratings. Adding self-reported long-standing illness did not contribute anything to the model, suggesting this is not a sufficiently sensitive indicator of health status. However, the subjective variables entered (respondents' most commonly self-nominated important areas of life: relationships, finances, own health, health of close others, work, social life (with self-ratings of their own lives on each indicator from 'As good as can be' to 'As bad as can be')) explained a further 11% of the variance in overall quality of life ratings. That the total variance explained by both the objective and subjective variables in their model was still just 16% reflects the complexity of measuring quality of life. The study supported the power of subjective over objective indicators with the finding that while objective indicators of income and economic activity explained a small proportion of the variance in the model, respondents themselves self-nominated finances, standard of living and housing as one of the top six most important area of life (mentioned by 48%, rank 2 out of 6 areas nominated), and ability to work and satisfaction with work was mentioned by 26% (rank 5 out of 6 areas nominated). This is consistent with Bowling and Gabriel's (2004) finding, from their national survey of QoL in older age, that while actual income explained little of the variance in self-rated QoL, people nominated finances as one of the main contributors to quality of life.

One explanation for the relatively low predictive power of objective variables alone is that quality of life is their very omission of a subjective element which taps how these areas affect a person's life. It has also been argued that QoL is additive, reflecting the sum of one's experience, adjustment and satisfaction in several domains of life (Inglehart and Rabier 1986). Or possibly they are less relevant, and therefore have less explanatory power, in societies which have achieved a certain level of affluence, and subjective perceptions become more influential (as in Bowling and Windsor's (2001) findings). Of course, in addition the collection and interpretation of objective 'facts' is also subject to a series of subjective biases, errors, inaccuracies, and political and perceptual influences. Defenders of the objective approach argue that the data is needed to inform social policy, undistorted by, and independent of, public opinions surveys which can reflect random errors and biases (Johansson 2002). Burholt (2001) has summarised some of this literature, and emphasises the need for a multidimensional approach. Heylighen and Bernheim (2000) have defined the dimensions that make up well-being and quality of life, including happiness, as the sum of mainly relative subjective factors but with a small contribution from objective factors.

In sum, the objective approach is essentially a needs based approach, which assumes that there are basic needs in society, and that satisfying these needs determines people's well-being (Delhey et al. 2002). Most current approaches to quality of life incorporate both objective and subjective dimensions.

Subjective indicators

It is unlikely that human happiness and satisfaction can be understood fully without asking people about their feelings. In contrast to objective indicators, subjective indicators are those which involve some evaluation (e.g. expression of (dis-)satisfaction, values, and perceptions) of one's circumstances in life. Subjective or experiential social indicators are based on the model of

subjective well-being as defined by people's 'hedonic feelings or cognitive satisfactions' (Diener and Suh 1997). People are routinely engaged in evaluating themselves in relation to the life domains they consider to be of relevance, and important, to themselves. Subjective indicators institutionalise, or formalise, these natural tendencies.

Veenhoven (1991) has argued that making an overall judgement about the quality of one's life implies a cognitive, intellectual activity and requires the assessment of past experiences and estimation of future experiences: 'Both require a marshalling of facts into a convenient number of cognitive categories. It also demands an evaluation of priorities and relative values' (Veenhoven 1991). Quality of life assessment is also bi-polar, consisting of the independent dimensions of positive and also negative affect. The difficulty for research lies in capturing the relevant and important areas to most people. While social desirability and other biases inevitably threaten subjective measures (Veenhoven 2002), researchers have risen to the challenge with exhaustive, now classic investigations of the validity of measures of reported well-being – see later section on 'Life satisfaction' (Andrews and Crandall 1976). Hence, it is argued that subjective measures, for example of life satisfaction, are inadequate foundations for investigating quality of life (Hughes 1990), being distorted by the combination of 'informed opinion with spontaneous, uninformed or mainly emotional opinion' (Johansson 2002).

Other reasons for discontent with subjective indicators have been described, and counter-argued, by Veenhoven (2002) and include the difficulties of comparing people because of varying standards for comparison, shifting, standards over time (e.g. when living standards improve, standards for comparison might raise and lead to increasing dissatisfaction); also the partly unconscious and implicit criteria which underlie subjective appraisals (e.g. people may be able to state how satisfied they are, but be less certain why). While random errors are not always problematic, Veenhoven (2002) admits that social desirability bias can inflate self-ratings of income, social prestige and happiness; and interviewing biases, question sequence and response format can lead to systematic distortion of data (see Schwartz and Strack 1999).

There has been a long history of debate between proponents of objective ('hard facts') vs. subjective measures within Social Indicators Research (Veenhoven 2002), although it is currently more common to accept that objective living conditions and subjective evaluations of personal life circumstances are just two sides of the same coin (Delhey al. 2002), and both now tend to be included as indicators of life quality (Hudler and Richter 2002). As Veenhoven (2002) points out, despite criticism over the biases inherent in measuring subjective perceptions, subjective indicators are still needed in the setting of policy goals, based on what people need and want, and evaluations of success in terms of public support. Objective indicators alone do not provide sufficient information.

Social Indicators Research

The Social Indicators movement emerged in the 1960s in USA, and later in parts of Europe, as a reaction to the traditional reliance on economic indicators to tap society's well-being, and the then dominant post-war, societal goal of increasing materialism. Noll (2002b) dates the movement from the mid-1960s and the efforts made by the American space agency (NASA) to assess the impact of the American space programme on US society. He credits the director of the project with the initial definition and use of the concept 'social indicator' as 'statistics, statistical series, and all other forms of evidence that enable us to assess where we stand and are going with respect to our values and goals' (Bauer 1966). The lack of suitable data and measures was also noted. As Noll also pointed out, this interest in social trends and indicators did have early precedents on an international level,

in various attempts to identify standards of living conditions and crime. The social indicators movement developed momentum in response to the awareness of poverty in affluent societies (Johansson 2002), and gradually diversified and focused on the collection of wider objective indicators for social monitoring and tapping quality of life. Several other definitions of social indicators were developed and tended to focus on social indicators of living conditions and their monitoring over time, in order to observe social change (see Noll 2002b). The United Nations (1994) extended this activity to the use of the indicators in identification of problems and policy priority setting.

The early Social Indicators approach, based on objective indicators alone, was judged to be increasingly unsatisfactory due to its failure to tap subjective perceptions. Hence Social Indicators investigators in the USA began to focus also on subjective or experiential social indicators, in particular that of life satisfaction and well-being. The classic studies included those by Andrews and Withey (1976) and Campbell et al. (1975; 1976). Within these frameworks, high levels of well-being, life satisfaction, happiness or quality of life were reported to be associated with objective population characteristics and other subjective variables. While quality of life was said to encompass both objective circumstances (actual living conditions) and people's perceived, subjective well-being (Argyle 1996), gradually, the balance of the focus in the USA was tipped towards subjective indicators as an outcome indicator of social circumstances and processes (e.g. Andrews and Withey 1976; Campbell et al. 1976). For example, Andrews and Withey (1976) argued that the perception and evaluation of life by people is important when monitoring quality of life, for example their judgements on crime levels, as well as their evaluations of more private aspects of their lives (see next section on well-being). In contrast, as previously pointed out, in Britain and the rest of Europe the focus of gerontology was less theoretically based, and more focused on older people's objective social and economic circumstances, and subjective assessments limited to needs for health and social care (Hughes 1990). In Scandinavia, in particular, there has been a focus predominantly on objective living conditions and material resources (e.g. standard of living) circumstances (Erikson 1993; Noll and Zapf 1994; Noll 2002a).

However, the increasingly diverse Social Indicators Research movement generally failed to influence politics and planning, and was also discontinued in many countries (e.g. the OECD programmes terminated in the 1980s). Governments instead tended to develop their own information systems, and standardised social surveys, to monitor living conditions. However, there has been increasing interest in the identification of national quality of life indexes with policy relevance (Hagerty et al. 2001), and there has been an expansion of coordinated social surveys, which collect both objective and subjective data on quality of life, across European and OECD states since the 1990s (Hudler and Richter 2002; Delhey et al. 2002; Hagerty et al. 2004). The predominant model and research strategy across the USA and Europe is to collect both objective and subjective indicators. In the USA the General Social Survey (GSS), and across Europe the Euro barometer Survey Series provides data over time on well-being. The GSS in the USA has used the same question wording for over half a century: 'Taken all together, how would you say things are these days – would you say you are very happy, pretty happy, or not too happy?' (GSS question 157, reproduced by Blanchflower and Oswald 2001). Most European countries conduct some sort of comprehensive and regular social reporting (e.g. the Dutch Social and Cultural Reports, the French *Donnés Sociales*, the British Social Trends – see Noll 200b for full listing). However, while regular data is collected on social trends in Britain by the Office of National Statistics, data on subjective well being in Britain is more ad hoc, and not continuous, but some data on well being is provided by the British Household Panel Survey (see comparisons by Blanchflower and Oswald 2001). More specifically, the US Department of Health and Human Services Centres for Disease

Control and Prevention (with 54 states and health agencies) also supports population surveillance of health related quality of life (Moriarty et al. 2003).

The needs satisfaction and perceptual needs satisfaction models

Some investigators of QoL incorporate a needs-based satisfaction model, based on Maslow's (1954) hierarchy of those shared human needs necessary for maintenance and existence (physiological, safety and security, social and belonging, ego, status and self-esteem, and self-actualisation). Maslow (1968) further argued that once these basic needs are satisfied, human beings pursue higher needs such as self-actualisation, happiness and esteem. It has been argued that human needs are the foundations for quality of life, and hence quality of life can be defined in terms of human needs and the satisfactory fulfilment of those needs (e.g. physical, psychological, social, activity, marital and structural) (Hörnquist 1982).

Basic needs satisfaction is, of course, of importance to vulnerable groups in society. Satisfaction of needs for personal care, food, safety were also among older people's top five priorities for inclusion of outcome measurement of social care, the others being social participation and involvement and control over daily life (Netten et al. 2002). Most scales used to measure the quality of life of people with mental health problems are based on satisfaction of basic human needs, coupled with assessments of global well-being (Bowling 2001).

Other types of needs defined in the literature include resource needs – love, shared time, available space, status (an evaluation of high or low prestige, respect or esteem) (Rettig and Leichtentritt 1999). However, whether these equate with quality of life is still open to debate. Hyde et al. (2003) based their assessment of quality of life on a needs satisfaction model, focusing on the higher needs of control, autonomy, pleasure and self-realisation, and reported that their measure correlated highly with life satisfaction.

Perceptual needs indicators, rather than sole reliance on 'welfare indicators', are often used by researchers adhering to a needs model of quality of life. These are a person's subjective evaluations of their objective circumstances, including access to information and advice, money, tangible goods and services (Rettig and Leichtentritt 1999). For example family well-being might be indicated by the extent to which an individual member judged that their material and emotional needs were satisfied by the family unit (Rettig and Leichtentritt 1999). Sirgy (1998) equated life satisfaction with quality of life, which he postulated was partly determined by satisfaction with one's standard of living, accepting that 'satisfaction' can be influenced by social comparisons and expectations (see later).

Psychological and personality models

Subjective well-being, happiness and life satisfaction

In contrast to the human needs model, others argue that, in the developed world where basic human needs have generally been met, quality of life equates with perceived well-being, and is the extent to which pleasure and happiness, and ultimately satisfaction with life, have been obtained (Andrews 1974). This reflects the influence of early Greek and 19th century utilitarian philosophy, with their focus on hedonistic aspects of life - the maximization of well-being, happiness, pleasure and satisfaction. This is also reminiscent of Bentham's (1748/1983) utilitarian philosophy, which regarded well-being as 'the difference in value between the sum of pleasures of all sorts and the sum of pains of all sorts which a man experienced in a given period of time', and that society should

aim for the greatest good of the greatest number. Others have argued that pleasure and satisfaction are insufficient for a good quality of life and a sense of purpose or meaning, self-esteem and self-worth are crucial for good QoL, including QoL in people with dementia (Sarvimäki 1999). Traditional social science models of quality of life in North America have been based primarily on the overlapping concepts of 'the good life', 'life satisfaction', 'social well-being', 'morale' 'the social temperature', or 'happiness' (Andrews 1986; Andrews and Withey 1976). However, while overlapping to some extent, quality of life is conceptually distinct (Spiro and Bossè 2000). Early social definitions of quality of life, or 'the good life' in the USA focused on the separate, but related, concepts of the individual's level of satisfaction and happiness with life. Of concern, both theoretically and methodologically, is the interchangeable use, without justification, of these distinct concepts. For example, morale and well-being are the most frequently explored variables among social gerontologists, generally defined in terms of life satisfaction and self-esteem. These concepts are commonly categorised as components of psychological well-being and measured using one of a small number of well used, overlapping, scales of life satisfaction, well-being, or morale and affect (balance) in older age (e.g. Campbell et al. 1976; Andrews and Withey 1976; Michalos 1991; Cantril 1967; Bradburn 1969; Neugarten et al., 1961; Wood et al. 1969; Dupuy 1984; 1987; Lawton 1972; 1975; Antonovsky 1993; Kutner 1956; Coleman 1984).

Sometimes they are supplemented with negative, narrower scales of psychological morbidity, in particular of depression and anxiety (Wenger 1992; Bowling 2004). The selection of measures is often made without theoretical justification or attempts to fit a pre-defined model, despite the fact that, despite overlap, a scale measuring life satisfaction cannot adequately measure the other related but distinct concepts.

Awareness of the distinctions between all these concepts is necessary when interpreting data. For example, older people often report lower levels of happiness than younger people, but report higher levels of life satisfaction with older age (Campbell et al. 1976; Campbell 1981). Other research has reported an increase in negative affect (unhappiness) in younger people compared to older adults, particularly for men (Mroczek and Kolarz 1998). It is unknown if these findings reflect cohort or methodological effects. If life satisfaction does increase with older age then it could be interpreted that older people, with life experience, are able to better regulate their emotions than younger people, or are more aware of which external events affect their emotions and are better able to control exposure or reaction to these (Mroczek and Kolarz 1998). Ryff (1999) suggested that this ability was central for the maintenance of well-being in the face of difficulty in older age. Blazer (2002), citing Gatz and Zarit (1999), noted the importance of being able to put one's own life in context in order to reach a state of contentment, congruence, self-acceptance, sense of purpose and emotional regulation.

Subjective well-being

Subjective, or emotional, well being consists of people's own evaluations of their lives (Diener and Lucas 2000), either cognitively (e.g. specific or overall life satisfaction) or affective (e.g. feelings of joy) (Andrews and Withey 1976). Diener and Lucas (2000) pointed to suggestions that while these concepts are distinct, they are inter-related, suggesting the existence of a higher order construct of subjective well being

Well-being can be divided into state (current well-being) and trait (well-being as feature of character). Warr (1999) postulated that self-reported well-being measures reflect at least four factors: circumstances, aspirations, comparisons with others, and a person's baseline happiness or disposition. Well-being is usually implicitly defined in terms of happiness. and satisfaction with

overall and current life. Self-reported well-being measures consist of individuals' assessments of their lifetime, or expected stock value or flow, of future utilities (Blanchflower and Oswald 2001). Sarvimäki and Stonbock-Hult (2000) focussed on current circumstances and operationalised well-being, for their survey of QoL in older age, as 'satisfaction with different aspects of life and measured by five questions concerning satisfaction with living area, economic situation and health'. Their data gave some preliminary support to their model of QoL as well-being, meaning (purpose in life and sense of coherence) and self-worth.

Investigators of well-being often use multi-dimensional measures, and not all clarify the different concepts used to denote well-being. For example, Wenger (1989) and Wenger and Shahtahmasebi (1990) reported that having locally integrated networks, and wider community focused networks, were associated with higher levels of well-being. In contrast, more family dependent, self-contained and private-restricted networks were associated with greater loneliness and lower morale. Wenger (1992) in her later review of the literature, also emphasised the role of social activities, having friends and confidantes, and better health status in promoting life satisfaction and well-being. However, not all research is consistent with this and many associations are not strong. It should be noted that well-being is difficult to conceptualise and is rarely defined. It has been shown to be distinct from the concept of health related quality of life (Ranzijn and Luszcz 2000; Spiro and Bossé 2000).

Happiness

Sirgy (2002) defined subjective quality of life with reference to subjective well being, itemised as happiness, life satisfaction and perceived quality of life. After reviewing philosophical concepts of happiness, he focuses on 'prudential' (e.g. a state of well being) and 'psychological' (e.g. feelings of joy) happiness as relevant to quality of life. He argued that prudential happiness 'is leading a good life' as it includes both feelings of happiness and the action which leads to personal growth. Blanchflower and Oswald (2001), following Veenhoven (1991, 1993) defined happiness as the degree to which the individual judges the overall quality of his or her life to be favourable or unfavourable. Happiness has an affective or emotional component (Andrews and McKennel 1980). In contrast, to morale and life satisfaction, happiness is regarded by psychologists as a short-term affect, able to fluctuate on a daily basis, and as a transitory mood of 'gaiety and elation' that reflects how people feel towards their current state of affairs (Campbell et al. 1976).

Some investigators have also defined happiness in terms of life satisfaction, confusing the two concepts. For example, Argyle et al. (1989) defined happiness as the frequency of joy, the average level of satisfaction and the absence of negative feelings. Sirgy (2002) pointed to the overlap between the distinct concepts of life satisfaction (a cognitive construct) and happiness (an affective construct), which have been reported to share as much as 50-60% common variance. While health has been reported to be the main predictor of both happiness and life satisfaction (Michalos et al. 2000; Palmore and Luikart 1972; Hayes and Ross 1986; Bowling et al. 1996), correlations between measures of these concepts might simply be tapping the underlying factors that the measures have in common (McKennel 1978).

It was mentioned before that a happiness question has been asked in the US General Social Survey since 1946: 'Taken all together, how would you say things are these days – would you say you are very happy, pretty happy, or not too happy?' (GSS question 157, reproduced by Blanchflower and Oswald 2001; and see classic analyses by Gurin et al. (1960) and Bradburn (1969). It shows stability over time, and overall, well-being, has not risen systematically across time. European opinion surveys (Euro barometer surveys) and ad hoc data from the

British Household Panel Survey show similar results (Blanchflower and Oswald 2001). Most people are reported to enjoy life, at least in affluent societies, and indicate that they are happy (Veenhoven 1991, 1994; Ehrhardt et al. 2000). This does not support the theory of social comparisons and expectations (see later).

Life satisfaction

Several authors have equated life satisfaction with quality of life. Life satisfaction is an assessment of one's life, namely a comparison reflecting some perceived discrepancy between one's aspirations and achievement. For example, Diener et al. (1985) defined life satisfaction as 'a cognitive judgemental process dependent upon a comparison of one's circumstances with what is thought to be an appropriate standard'. Thus greater life satisfaction is achieved if there is little discrepancy between perceived life circumstances and achievements and one's standards of comparison. It is a long-term cognitive appraisal of past, present and overall life and is relatively stable in middle to old age (Campbell 1981; Bowling et al. 1996; Campbell et al. 1976). Some studies report an increase in satisfaction in older age groups; there are no consistent associations with gender. It includes several factors including pleasure from everyday activities, perception of life as meaningful, positive self-image, optimistic outlook, and feelings of success in achieving life goals (Neugarten et al. 1968). It is uncertain whether investigators have adequately separated life satisfaction from happiness.

The classic literature on quality of life during the 1970s and 1980s reported that overall life satisfaction was predicted by evaluations of satisfaction with different domains of life, such as health, work, relationships with family, friends, community, and standard of living. It was therefore accepted that life satisfaction is a social indicator of quality of life (e.g. Andrews and Withey 1976; Campbell et al. 1976). Sirgy (1998) has labelled this as a hierarchical or 'spill over' model. He argued that spill over can be either vertical (in either direction so that people who are satisfied with their standard of living are likely to be satisfied with their lives overall or overall satisfaction may make a person more predisposed to evaluate their standard of living more favourably) or horizontal (the domains which influence overall satisfaction can affect each other (e.g. satisfaction with material areas of life might influence satisfaction with relationships with family). The question of which variables affect life satisfaction is still a research issue.

While most older people report being satisfied with their lives overall, longitudinal studies have reported that the best predictor of later life satisfaction is earlier life satisfaction (Palmore et al. 1985; Palmore and Kivett 1977). The most consistent and strongest cross-sectional associations with life satisfaction are with perceived health status and functional ability; level of income also has some predictive ability (variables which also affect social activity and ability to maintain social contacts) (see Palmore and Luikart 1972; Hayes and Ross 1986; Bowling et al. 1996; Bowling et al. 1996; Wenger 1984). Longitudinal research by Bowling et al. (1996a, 1996b) emphasises the importance of functional decline in predicting longer term deterioration in reported life satisfaction and also mental health (depression and anxiety). However, the influence of perceptions may still confound associations. For example people in low spirits (and life satisfaction) may perceive their health and other circumstances to be worse than they are).

It was reported earlier that some investigators have reported an increase in life satisfaction in older age. There are many potential biases that might explain this. Those with poor life satisfaction, and those who are depressed, as well as those in poor health, may be less likely to consent to participate in surveys, or may drop out of longitudinal studies (although the evidence is variable), and may be more likely to die young – leaving behind the 'optimally' or 'successfully' aged. Where life

satisfaction increases, it is possible that, with older age, it is more painful to admit that life overall (including the past) is less than satisfactory as this calls past achievements and experience into question. Older people may report fewer emotions that entail disapproving self and social evaluations (Schieman 1999). Role losses (e.g. widow(er)hood, work) may lead to older people seeking compensatory roles and activities to provide meaning and integration in later life (Payne 1988). For example, religion is more salient among older people (Koenig 1995). Greater religious participation, a sense of forgiveness, psychological outlook (e.g. optimism, or downward social comparisons involving comparing oneself to those worse off) have been suggested as leading to suppression of the increase in depression with age among older adults (Schieman et al. 2001).

Finally, the role of personality is more controversial. Extroversion and neuroticism have been reported to account for a moderate amount of the variations detected in well-being and life satisfaction (Costa and McCrae 1984; Costa et al. 1987), with a happy person being characterised by extroversion, optimism and self-esteem (Diener and Lucas 2000). However, the model has been questioned by studies showing that, while extroversion and neuroticism are highly stable traits, subjective well-being and life satisfaction has moderate stability over time (Haedey et al. 1985). Ehrhardt et al. (2000) in their analyses of data from a large panel study in Germany from 1984 to 1994, presented data indicating that while life satisfaction was relatively stable, their measures also showed as much variability, and also questioned the assumption among psychologists that life satisfaction is determined by stable personality traits, and as an innate disposition. They argued that it is possible that personality 'traits' are less durable than commonly supposed, or that personality does not affect life satisfaction in the same way across the life-course. For example, they found that stability was greater for older than younger people. This is an area that requires further investigation.

Morale

Morale is the most poorly defined concept of these terms, despite its importance in older age (Wenger 1992). In contrast to happiness, morale (like life satisfaction) has a more cognitive component, which relates to the positive/negative feeling (Andrews and McKennel 1980). It has been suggested that it can be measured multi-dimensionally in relation to a person's feelings about their life, him/her self and their relation to the world (Nydegger 1986). It is often defined in terms of life satisfaction and acceptance of life, or generalisable feeling of well-being (Lawton 1972; 1975), or more precisely in terms of confidence and enthusiasm (George 1979; Stones and Kozma 1980). Kutner et al. (1956) defined morale as a mental state, or set of dispositions, which condition one's response to problems in daily life.

A wide range of factors have been linked with morale in older age, particularly social participation, area of residence and integration within the community, and it is associated with self-image and self-esteem (Blau 1973; Wenger 1992). Changes in life occurring at a greater rate than the perceived average were associated with decreased morale in the Bonn Longitudinal Study of Ageing (Schmitz-Scherzer and Thomae 1983).

Self-esteem

Self-esteem is viewed as a component of mental health, as well as a component of general assessment of life (Andrews and Withey 1976), and satisfaction with life. The concept is interlinked with self-concept, although self-esteem is distinct and defined in terms of self-worth – a belief or evaluation that one is a person of value, accepting personal strengths and weaknesses. It has been proposed that one basis for assessing self-esteem is in terms of the ability to cope with

changes in life (Schmitz-Scherzer and Thomae 1983). There are several commonly used scales of self-esteem in adults of all ages, but these are rarely used with older populations (e.g. Rosenberg 1965; Coopersmith 1967; Fitts 1965.)

Self-esteem has been reported to be positively associated with global life attitudes and satisfaction (Kozma et al. 1991). While some investigators have regarded self-esteem or self-worth to be 'the linchpin' of quality of life for older people, and of adjustment and adaptation in older age (Schwartz 1975; Coleman 1984), it has received relatively little attention per se in the classic gerontology literature, except within its embodiment within the concepts of life satisfaction and morale, and the impact of social support, with self-esteem being higher among those with a circle of friends (Blau 1973).

Emler (2001), in his review of the international literature on self-esteem, concluded that those with highest self-esteem were most likely to be risk takers and including risks to their health, and to regard failure to meet their expectations of themselves as 'unlucky'; those with low self-esteem were more likely to commit suicide, to be depressed and lonely, and to be victims of violence and ostracism.

Self-concept

Self-esteem is reflected in one's self-concept, or self-image (which can be divided into ideal self (the image they aspire to) and the actual self (Coopersmith 1967). Self-concept is multidimensional in that people might also view themselves as having multiple selves – e.g. different self-related beliefs can emerge in different life domains (family, friends, romantic relationships, work, standard of living/material domains) (Campbell et al. 1976). Both self-esteem and self-concept are important components of emotional well-being and, in theory, adaptation to ageing (Heidrich and Ryff 1993a; Kling et al. 1997).

Sense of coherence

Antonovsky (1987) coined the concept of a 'sense of coherence', composed of three elements of comprehensibility, manageability and meaningfulness, defined respectively as 'a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic, feeling of confidence that (1) the stimuli deriving from one's internal and external environments in the course of living are structured, predictable, and explicable; (2) the resources are available to one to meet the demands posed by these stimuli; and (3) these demands are challenges, worthy of investment and engagement'. These concepts have been little tested, although the inclusion of sense of coherence within a model of quality of life was given some preliminary support in a study by Sarvimäki and Stonbock-Hult (2000) of 300 people aged 75+ in Finland.

Social comparisons and expectations theory

Standards of social comparison were referred to earlier in the context of the achievement of life satisfaction and also happiness (Diener et al. 1985). Existing models of quality of life and related concepts do not always take into account people's standards, social comparisons, and expectations in life. For example, if someone lives in poor housing or has poor health, and has low expectations for themselves in these areas it is argued that they will not necessarily evaluate the impact of these domains on their lives as negatively as someone with higher expectations. With the social comparisons and expectations model, quality of life is defined as the discrepancy ('gap') between desired and actual circumstances (Krupinski 1980). Gap relativity models are based on a person's

appraisal of their life in terms of past experience, present circumstances and aspirations for the future - the individual's achievement of their current and past expectations, hopes and aspirations, particularly in relation to social comparisons with others (Calman 1984; Michalos 1986; Garratt and Ruta 1999). The key assumption is that people whose life circumstances are closely matched with their aspirations will assess their life as much better than those for whom there is a large gap between actuality and aspirations. Hyman (1942) argued that self-assessed status (e.g. on financial position, intellectual capacity and physical attractiveness) was dependent upon the group one compared oneself with.

Of course, investigators of gap theory also need to take into account other psychological theories, for example theorists of 'personal-environment fit gap' need to investigate perceived control over life and stress, in order to be able to fully interpret their data (Abbey and Andrews (1986). Ryff (1999) suggested three main psychological strategies for maintaining well-being, and promoting self-mastery and control, in the face of the challenges of ageing: the use of self-enhancing social comparisons (e.g. when in poor health); the development of emotion-focused coping strategies (to control emotional response to situations, including intellectual detachment, denial or reinterpretation of the past) and problem-focused coping strategies aimed at changing or managing the cause of the stress; and psychological centrality which involves increasing those domains in which one is doing well in order to enhance self-evaluation, and lowering the centrality in which one is not doing well (e.g. losses of health and relationships).

However, Gap theory, traditionally known as relative deprivation theory, is controversial. Easterlin (1974; 1995) was one of the first investigators of happiness over time, arguing that happiness is relative and that there is no difference in well-being across rich and poor nations. He argued that people obtained utility (i.e. satisfaction) by comparing themselves with others close to them, and concluded, on the basis of his time-series study for the USA since 1946, that higher income was not systematically accompanied by greater happiness. While, some investigators have supported his relative deprivation theory, Oswald (1997) argued that his data do not support his theory, and Blanchflower and Oswald's (2001) time series analyses of well-being data from the USA, Europe and Britain suggested that happiness is associated with income. This fits with traditional sociological theory which holds that well being and happiness depends on one's socio-economic position in society. However, as indicated earlier Veenhoven (1991, 1994) and Ehrhardt et al. (2000) report that most people in affluent nations report that they are happy and enjoy life, suggesting that happiness is not relative or associated with income. The area remains contentious. Michalos (1986) identified at least six types of 'gap theoretical explanations' in the literature on satisfaction and happiness, and proposed a seventh. These were: 'goal-achievement gap theory' (satisfaction and happiness are a function of the perceived gap between what one has and what one wants (i.e. is better)); 'ideal-real gap theory' (satisfaction and happiness are a function of the perceived gap between what one has and what is ideal, preferable or desirable); the 'expectations-reality gap theory' (based on personal likelihood or probability estimates matched against reality); 'previous-best comparison theory' (the perceived gap between what one has now and the best one had in the past); 'relative deprivation theory' (also known as 'reference class theories' and 'social comparison theory' (the gap between what one has and what some relevant other person or group has); 'person-environment fit theory' or 'congruence theories' (assessment of the gap between some personal attribute of a person and some aspect of that person's environment). Michalos' labelled his own gap theory of satisfaction and happiness, based on several hypotheses in combination - i.e. multiple discrepancies or gap - , as 'multiple discrepancies theory'. In fact by using a combination of three gap theories he was able to explain 45% of the variance in life satisfaction ratings in his own model, and 38% of the variance in happiness, thus making a strong case for his multiple discrepancies theory.

Sirgy (1998) explained the basic gap model clearly when he postulated a theory of materialism and quality of life, which he equated with life satisfaction, based on social expectations and comparisons theory, and the hypothesis that overall life satisfaction (quality of life) is partly determined by satisfaction with standard of living. Satisfaction with standard of living, in turn, he argued, is determined by evaluations of one's actual standard of living compared to a set goal. Thus, materialists experience greater dissatisfaction with their standard of living than non-materialists, which in turn spills over into overall life causing dissatisfaction with life in general. Materialists experience dissatisfaction with their standard of living because they set standard of living goals that are inflated and unrealistically high.

These goals set by materialists are more influenced by affective-based expectations (such as ideal, deserved, and need-based expectations) than cognitive based ones (such as predictive, past, and ability based expectations). Materialists' *ideal* standard-of-living expectations are influenced by social comparisons involving remote referents, more so than comparisons involving standards that are situationally imposed. Examples of situationally imposed standards are perceptions of wealth, income, and material possessions of family, friends, neighbours, colleagues, and so on. In contrast, examples of standards based on remote sources are perceptions of standard of living of others in one's community, state, town, country, other countries; perceptions of standards of living of others based on gender, age, education, ethnicity, occupation, and social class. This tendency to use remote referents in social comparisons may account for materialists' inflated and value-laden expectations of their standard of living. Materialists' *deserved* standard-of-living expectations are particularly influenced by the tendency to engage in equity comparisons involving income and work. Thus, materialists compare themselves with others who have more income but who worked no harder. These equity comparisons generate feelings of inequality, injustice, anger, or envy, possibly accounting for materialists' inflated and value-laden expectations of their standard of living (Sirgy 1998).

Classic psychological theory postulates that social comparisons are likely to be one of several ways in which people cope with the problems they are facing, construct and evaluate the gap between the desired and achieved reality (Sherif 1936; Festinger 1954; Hyman 1942). They may also act as mediators to the effects of adverse events and circumstances, and facilitate adaptation to ageing (Heidrich and Ryff, 1995 & Heidrich and Ryff 1993b).

Social comparisons theory has been a focal point of analyses of coping behaviour among patients (Buunk and Gibbons 1998; Taylor et al. 1983). The direction of the comparison depends upon whether individuals experience positive (downward comparisons) or negative (upward comparisons) feelings about their social identity. In theory, these feelings are associated with other psychological characteristics such as self-esteem and depression and anxiety. The lower down the scale one is (usually in relation to income group (wealth comparisons) or health status (health comparisons)) then the opportunities for positive affect decreases and for negative affect increases.

Macleod (1999) found some supporting evidence that people who have higher incomes perceive themselves to be better off than those around them, and these wealth comparisons significantly predicted self-esteem. Festinger's (1954) earlier hypothesis that people generally choose to compare themselves with superior others has been questioned, and it is now generally believed that such comparisons, while they can provide information about oneself, can be threatening and are usually avoided. In particular, people who feel threatened or under stress are believed to compare themselves with others believed to be worse off which permits individuals to feel better about themselves (Wilson and Benner 1971; Brickman and Bulman 1977).

The literature in health care, in contrast, generally supports the hypothesis that most patients do compare themselves with those patients who are better off (upward comparisons) (Blalock et al. 1990), and this positive focus on limitations may be responsible for the better psychological adjustment to illness among this group, in comparison with those who make downward comparisons. Patients tend to make downward comparisons of themselves with patients worse off with them only when experiencing difficulties (Michalos 1985; De Vellis et al. 1990; Affleck 1987; Wood et al. 1985, Taylor 1983), and make upward comparisons with people healthier than themselves when setting standards for their recovery and performance (Blalock et al. 1989). Research is contradictory, but this may be explained by the reported finding that people state they are more likely to compare upwards when they feel good and downwards when they feel bad (Wheeler and Miyake 1992). This is consistent with the disposition of people who are depressed to engage in negative thoughts (Buunk and Gibbons 1998).

Social comparisons and expectations theory has yet to be fully investigated among older people. It would be expected that this theory would be relevant to older populations who are vulnerable to social exclusion due to ageist attitudes in society, lower incomes, reduced levels of independence and often sub-optimal access to preventive and specialist services (Hill et al. 1999; Bowling 1999).

Farquhar (1995) reported, on the basis of her qualitative interviews with older people, that people frequently referred to others who were worse off than them when evaluating their own quality of life. Bowling et al. (2002) also found, from their national survey of quality of life in older age, that social expectations and comparisons were predictors of self-rated overall quality of life. Mechanic and Angel (1987), on the basis of their survey of 2431 Americans, also reported that older people's evaluations of their health are not absolute, but relative and made in the context of social comparisons with oneself and other people. Many members of the current generation of older people also lived through a depression, world war and food rationing. Therefore it might be expected that their expectations would be more limited than younger people's, and they would also be more likely to make downward than upward health and wealth comparisons (e.g. evaluate their circumstances favourably in comparison with others, and others in the past, worse off than themselves).

However, there is a lack of longitudinal data for fuller analysis of the association between variables. More work on the determinants of aspirations and expectations is still needed to progress this body of knowledge. Optimism-pessimism bias and people's assessments of their vulnerability to risk are, in theory, relevant when making social comparisons of their circumstances.

Optimism-pessimism

Mental outlook, by apparently boosting the immune system, is arguably as important to health than lifestyle. Optimists apparently do better at work, suffer less from depression, respond better to stress, are more resistant to disease and have lower mortality rates. Optimism is a personality construct. Dispositional optimism, in contrast to pessimism, has been reported to be positively correlated with reduced levels of hostility, depression, use of denial as a coping mechanism post-surgical quality of life ratings and faster recovery and return to normal activities in heart patients (Scheirer et al. 1989).

Weinstein (1980) has reported that most people are optimists and tend to underestimate their risks, or vulnerability, to negative events, including health events. It is believed that self-risk assessments are influenced by downward social comparisons with worse-off others (i.e. those who are perceived

to be more vulnerable), with the effect of leading the individual to feel less vulnerable (Buunk and Gibbons 1998). Again, not all research across social groups is consistent and some research reports that people are generally negative and over-estimate their risks (Sutton 1998). For example, older people often feel personally vulnerable and fear crime, although national crime statistics indicate that the chances of burglary is relatively low in households whose head is aged 65 or over. In fact these types of households in the UK have a lower risk of break-in not just in comparison with households with younger heads, but it is also lower in comparison with other risk factors such as region of residence (the chances of break in are higher in the north than in the south), and type of housing (run-down flats and maisonettes, privately rented accommodation in inner city areas, council owned estates and in the north have the highest risk) (Home Office 2000).

Overall, older people are regarded as 'optimists'. It has long been documented that, in older old age, they tend to rate their life satisfaction (Andrews and Withey 1976; Campbell et al. 1976) as the same or better than younger elderly people, and more favourably than their clinicians rated them (Suchman and Phillips 1958). Similarly they have been labelled as 'health optimists'. It has also been suggested that they are more likely to adapt or modify their expectations (Thomas 1981), that they are more likely to react defensively and deny unpleasant or anxiety provoking facts, particularly those outside their control (Tobin and Lieberman 1976), that they have had more time to become used to their lot in life (Campbell et al. 1976).

Self-efficacy, self-mastery, autonomy and control

Self-efficacy and mastery are personality constructs, and refer to one's competency and capability of success in producing an intended goal, and are generally included within theoretical models of the roles of both levels of optimism and of perceived control over life in promoting successful ageing. Self-efficacy is both the capability of being able to maintain some control over one's life and to change one's view of life, whilst preserving a sense of control in the face of the limitations which may accompany the ageing process (Blazer (2002). Blazer (2002) argues that one way in which self-efficacy, and hence mental health, is accomplished is to progress from assimilative, active problem-solving coping styles towards accommodative coping styles, in which one adjusts one's goals to take account of situational constraints. He referred to research, which showed that accommodative coping was more highly correlated with optimism in older people than with assimilative coping (Brandstadler and Renner 1990), and models which indicate that optimism is central to mental health in older age (Gatz and Zarit 1999). The importance of these characteristics, particularly of 'selective optimisation with compensation' which is based on recognition of the realities of ageing and adaptation, has been emphasised by investigators of successful ageing in the Berlin Aging Study (Baltes and Baltes 1990), and by older people themselves (Fry 2000).

The concepts of control over life, self-sufficiency, independence (freedom from control in function, action, judgement), and autonomy (the freedom to determine one's own actions) are regarded as particularly important in older age, and in maintenance of good life quality. This is a time where freedoms of choice may be at risk of being constrained by reduced finances as a result of retirement from paid work (although this can also bring new freedoms from routine responsibilities). Personal freedom to continue with routine activities of daily living and social activities may also be reduced by frailty and functional limitations leading to risk of dependency. Each of these freedoms is particularly restricted for those older people who give up their homes and environmental identities, and move into institutionalised care settings (Clark and Bowling 1989; 1990 Lawton 1991; Liberman 1991; Wetle 1991; Abeles 1991). As Blazer (2002) argued, key to the improvement of self-efficacy in older people is, not increased prescribing of anti-depressants, but facilitation of the development of a sense of personal control and mastery.

Opportunities for self-actualisation and development, may be facilitated or inhibited by wider society. Level of incomes (also affected by public policies), and level of personal or agency led social and practical support, can enable or inhibit participation, autonomy and self-actualisation. The social capital of an area and the availability of recreational, leisure, cultural, transport and shopping facilities, the encouragement of participation, and the perceived safety of the area, are all factors that can affect both autonomy and self-actualisation. Discrimination may be experienced by older age groups can inhibit social participation, as well as restrict access to appropriate services, such as health care (Bowling 2001; Bowling et al 2001; Seshamani and Gray (2002).

In addition, important psychological constructs relate to the perceived control one has over one's own life, and the perceived control that others have over one's life. The extent to which people perceive that they determine what happens in their lives leads to a greater sense of internal control. The extent to which they perceive others determine their lives reflects their sense of being controlled by others and weaker internal control (Lefcourt 1982). A strong locus of internal control theoretically leads to greater self-esteem, to greater perceived self-efficacy or mastery over life, and thus influences intentions, behaviour and ultimately well-being (see brief review of these concepts in Bowling 2002). Abbey and Andrews' (1986) study used structural equation modelling to investigate the relationships between these variables. They indicated that internal control, self-assessed technical performance (e.g. decision making), social performance (e.g. self-assessed ability to get on with others) and social support, all related moderately and positively to perceive life quality.

An individual's cognitive beliefs and expectations about their efficacy, or ability, are related to their motivations and actions (Bandura 1977). The outcome (success or failure) is strongly associated with a person's level of expectations and sense of mastery. The theory has had fruitful applications in behavioural intervention programmes aimed at increasing people's sense of mastery and ability to cope with problems (Eckenrode and Hamilton 2000). In support of this, qualitative research on quality of life among people with disabilities has reported that those respondents who rated their health as 'good' or 'excellent', despite their problems, held a 'can do' approach to life (Albrecht and Devlieger 1999). A sense of mastery is not solely dependent on cognitive factors, but also on access to enabling facilities. For example, Macintyre et al. (2000) found that people with access to cars reported that they had more privacy, freedom, status and safety than those who usually travelled by public transport; and owner-occupiers with car access had higher levels of mastery, self-esteem, life satisfaction and ontological security (both from the home and from transport) in comparison with those who rented their homes, or those without access to a car. There is empirical support for the notion of control over daily life being one of older people's most important priorities as an outcome indicator of social care (Netten et al. 2002). The important role of perceived control over health has also been supported by research across a wide range of conditions, including multiple sclerosis (Devins and Seland 1987).

It remains to be seen to what extent intelligent housing and new technology can assist in retaining independence in older age (tele/email consultation, pharmacy and home shopping systems, video-phone door entry systems, telephone-video facilities, alarms, electronic technology to facilitate with automated heating and food preparation, secure communities with adequate facilities (e.g. leisure, health, advice, voluntary work), better and more accessible transport facilities and so on). While it was stated earlier that a needs based model of quality of life needs to take account of issues of access (including financial) and opportunities in society, a framework which centres on self-mastery, independence and autonomy also needs to take account of these issues if they are to have policy relevance.

Mediating and influencing variables

Quality of life is influenced by causal variables, and the level of quality of life manifests itself in indicator variables. However, the traditional approach to its measurement has implicitly assumed only indicator variables. An appreciation of the distinction between these types of variable may lead to more appropriate measurement scales (Zizzi et al. 1998; Fayers and Hand 2002).

The effects of personality on perceived well-being and quality of life are controversial, partly because of the debate about causal vs. mediating variables. Extroversion and neuroticism have been reported to account for a moderate amount of the variation in subjective well-being (the trait of extraversion is associated with positive affect and with well-being; emotionality is associated with negative affect and poor well-being) (Costa et al. 1987). Spiro and Bossé (2000), moreover, on the basis of their survey of over 2,000 adults in the Normative Aging Study, reported the same association with personality traits and well-being and also with health related quality of life. However, these personality factors are highly stable traits, while subjective well-being has been shown to have only moderate stability over time (Headey et al. 1985). Random life events have also been reported to explain a small, but greater, proportion of the variance in well-being (Headey and Wearing 1989). There is also a strong body of literature suggesting a link between psychological variables (e.g. depression; hopelessness or pessimism) and ill-health, including mortality (e.g. increased risk of coronary heart disease), particularly in men (Engel 1968; Stansfeld et al. 2002). However, interpretations of such data are complex because of the process of adaptation and potential buffering effects of potential mediating variables (Brickman and Campbell 1971).

Despite classic work on mediators in the 1980s, theoretical and empirical development has made little progress. Abbey and Andrews (1986), for example, developed a conceptual model based on the assumption that people's interactions with their social world influenced their social-psychological make-up, and which in turn influenced their own internal states of depression and anxiety. Their model showed that five social psychological concepts (stress; (internal) control over one's own life; control by others over one's life; social support; performance in daily life) were linked analytically to two psychological concepts (depression; anxiety) and to five quality of life assessments (overall quality of life; enjoyment of life (positive affect); emotional upsets in life (negative affect); successes in life (cognitive evaluation); evaluation of self (self-esteem). Research on psychological variables, such as self-esteem, level of autonomy, independence, empowerment and sense of mastery and quality of life has been limited largely to the literature on patients with diagnosed mental health problems or college student research populations (Mercier and King 1993; Rosenfield 1992, 1989; Zizzi et al. 1998).

Following Abbey and Andrews (1985), Barry (1997) and Zizzi et al. (1998) argued that there is a need for a model of quality of life which focuses on the potential link between psychological factors (e.g. self-esteem or self-worth; self-efficacy, perceived control and self-mastery; and autonomy) and subjective evaluations of quality of life. The theoretical model of these authors, which was supported by their data on people with mental health problems, focused on how subjectively perceived quality of life is *mediated* by several interrelated variables, including self-related constructs and how these perceptions are *influenced* by cognitive mechanisms. Zizzi et al. (1998) also pointed to the confusion surrounding the many psychological concepts commonly used to denote quality of life, with their potential roles as influences, constituents or mediators of perceived life quality. They argued that perceived quality of life is likely to be *mediated* by several interrelated variables, including self-related constructs (e.g. self-mastery and self-efficacy, morale and self-esteem, perceived control over life) and these perceptions are likely to be *influenced* by cognitive mechanisms (e.g. expectations of life, social values, beliefs, aspirations

and social comparison standards).

Although the model is attractive, there is still little empirical data to support or refute the distinction between psychological constructs as mediating or influencing variables in determining the quality of life. This is the next step that is needed in quality of life research. Further research is required to investigate the variables that act as mediators to the effects of adverse effects and circumstances (e.g. level of adaptation, and cognitive factors built up over time, including the way in which people make social comparisons of themselves with others which influences their expectations for themselves, after they evaluate the gap between that which is desired and that which is achieved).

Health and functioning models

The chronic diseases of older age include respiratory, cardiovascular and circulatory, diabetes, musculo-skeletal, mental conditions (depression and dementia) and sensory impairments. Common problems among frail, older people relate to balance, cognitive functioning, mobility, depression, vision and hearing. For example, in Britain, the most commonly reported causes of longstanding illness, disability and infirmity among people aged 65 and over are disorders of the musculo-skeletal system (particularly among women), and the heart and circulatory system, followed by respiratory disorders, endocrine and metabolic conditions and digestive conditions (Bridgwood 2000).

A vast body of literature exists which is based on reporting the mental and physical health and functioning of older people. Some of this equates these characteristics with quality of life or 'well-being'. Zautra and Hempel (1984) reviewed eight one studies of health and quality of life and reported that, overall, high correlations were found between self-reported health status and indicators of well-being, although this association does not indicate the direction of causality (Wood 1987; Burholt 2001)

Good levels of physical and mental functioning and general health status have long been associated with perceived well-being, morale and overall quality of life, and the associations have been replicated once again more recently in large surveys (Bowling 1995; Bowling and Windsor 2002; Bowling et al. 1996; 1999; Breeze et al. 2002; see Widekamp-Maicher 2002). Mental health, psychological resources and outlook are also key components of 'successful ageing' and well-being (Baltes and Baltes 1990). However, surveys commonly measure anxiety and depression as a (negative) proxy for well-being in older age. Also, people with dementia are generally excluded from population surveys. Given the increasing prevalence of dementia among older people its neglect has left gaps in the body of knowledge of quality of life in older age.

Descartes (republished 1637) asserted that health is the highest good and that its preservation is 'without doubt the first good and the foundation of all other goods in life' It is a direct component of well-being and contributes to a person's basic ability to function in their social roles, to pursue valued activities and goals in life, and to choose the life which they value (Sen 1985; Anand 2002). It is a 'special good', which also justifies the case for egalitarianism in health because inequalities in health result in inequalities in a person's capability to function (Anand 2002), or, as Anand quotes, their 'positive freedom' (Berlin 1969). Health is certainly important to people. One's own health, and the health of close others, were placed 3rd and 4th in the top six most commonly mentioned important areas of quality of life by a national sample of adults in Britain (in response to open ended questions) - by 39% and 32% respectively (Bowling and Windsor 2001). As might be expected, those who had lost their health were most likely to prioritise this as the most important area of life. This is consistent with gap, or relative deprivation theory, that people value what they

have lost or aspire to (Michalos 1986). Health was the most commonly nominated area of life by people aged 65 and over (Bowling 1995; 1996b).

The concept of quality of life has emerged as a standard, subjective measure of outcomes of health, as well as social, care. Used in such contexts, quality of life is generally referred to as health-related quality of life, but it is frequently undefined or defined post hoc solely in terms of the measure selected to represent it (see Carver et al. 1999) and which have often been constructed to measure different concepts (see Bowling 2001). Rarely is the WHOQoL Group's (1993) broader definition of quality of life used as a framework. Most measures of broader health status question respondents about their health status and areas of life affected by their perceived mental and physical functioning (see Bowling 2001; 2004). While there is overlap with quality of life, perceived health is simply one narrow part of this concept.

Michalos et al. (2001), in a survey of the quality of life of people aged 55-95 in British Columbia, asked about a wide range of topics, including age identity (how old people felt), crime in their neighbourhoods, neighbourhood features, local facilities and services, health, standard of living, optimism, self-esteem, accomplishments in life and social relationships. They reported that the most variance in their end-points (life satisfaction scores, happiness scores, satisfaction with quality of life scores, satisfaction with overall standard of living scores) were explained by mental and physical health status (SF-36 sub-scale scores), with mental health being the dimension that had the greatest impact on the four dependent variables. Their variables collectively explained 60% of the variance in life satisfaction, 44% in happiness, 58% in satisfaction with overall quality of life, and 59% in satisfaction with overall standard of living. This still left between 56% and 40% of the variance unexplained by mental and physical health status. Their research supported broader, multi-faceted models and measures of quality of life, and the authors concluded that the influence of health status on people's quality of lives is likely to be over-estimated in studies which are more narrowly focused on health and quality of life. They argued that these studies, which enter fewer predictor variables into their explanatory models are more likely to be affected by 'noise' from associated aspects of people's lives but which are not being measured in the models.

The concept of health related quality of life (HRQoL) has also been based on a 'pathology' 'dis-ease' model of ill-health and dependency, and has focused on the impact of (ill-)health status and 'dis-ease' on, and measurement of, physical and mental decline, 'dis-ability', and impaired role functioning. The emphasis has been on (dys) functional status. Functional status is the degree to which a person is able to perform socially allocated roles free of physical or mental health related limitations (Bowling 2004). The positivist perspective of functionalism underpins this approach, with its focus on the ability to perform activities of daily living and mobility (e.g. washing, dressing, self-care), instrumental daily living (e.g. shopping, housework), and, more latterly, social role obligations. The aim of measurement has usually been to track the speed of return to normal activities (Scheirer et al. 1989). In short, HRQoL has tapped the individual's difficulties in the performance of activities which are essential for the continuing functioning of the wider society (the model of 'functionalism'). This approach has led to a negative focus in measurement, at the expense of the positive (and scales have been developed to measure levels of functional 'dis'abilities, rather than balanced scales with equal measures of levels of ability).

While descriptive and evaluative research based on negative models under-estimate the quality of life of people, although the WHO has attempted to redress the balance away from **dis**-ability and towards **ability**, as reflected in the shift of focus from its International Classification of Impairments, Disabilities and Handicaps (WHO 1980), which distinguished between physical status (impairment), physical functioning (disability) and social functioning (handicap) and towards

its more positive International Classification of Impairments (of 'structure'), activities (formerly called disabilities) and participation (formerly called handicaps) (WHO 1998), and its 'components of health classification, known as the International Classification of Functioning, Disability and Health (WHO 2001). The World Health Organisation's (1947; 1948) earlier definition of health 'as a state of complete physical, mental and social well-being' appears to act as the lead for the measurement of quality of life as an indicator of health and social care outcomes ('health-related quality of life'). Broader models of health are generally based on this early WHO model. While utopian, it has generated the development of broader measures of health outcomes which incorporate social, physical and psychological well-being, and 'positive health', alongside self-rated health status, rather than sole reliance on traditional indicators based on prevalence of risk conditions (e.g. obesity) and selected chronic conditions (e.g. asthma, diabetes), mortality rates (all causes, specific causes, infants and potential years of life lost). This, in turn, accentuated the interest in measuring the broader concept of quality of life, or health related quality of life, in health outcomes research. This movement contrasts strongly with the previously narrow, negative and disease based model (see earlier). It emphasises not just the absence of ill-health, disease and disability, but also completeness, full functioning and efficiency of mind and body, the ability to cope with stressful situations, integration in the community, maintenance of social support, psychological well-being, including life satisfaction, morale, physical fitness and health. However, the broader indicators of life quality, ranging from subjective indicators of life satisfaction and happiness to objective indicators of income, environmental and community resources are regarded as too broad and less relevant to the goals of health care interventions (Patrick and Erickson 1993).

A different approach to the definition of health related quality of life has taken the model of social comparisons and expectations from psychology, and conceptualised HRQoL as the gap between present health and functional status and one's aspirations for these ('gap' theory) (Calman 1984; Garratt and Ruta 1999). While innovative attempts have been made to operationalise and measure this gap (Garratt and Ruta 1999), there is little supporting evidence of the content validity of the model (see later).

The conceptual and measurement confusion surrounding health related quality of life is evident in the multitude of different measurement scaled used to tap it. Garratt et al's (2002) systematic review of the literature on patient assessed measures of health status and quality of life was based on a classification of measures developed by Sanders et al. (1998) (searching AHMED, biological abstracts, British Nursing Index, Cinahl, Econlit, Embase, Medline, PAIS International, PsycInfo, Royal College of Nursing database, Sigle, and Sociological Abstracts). This classification included: dimension specific measures (e.g. psychological well-being, for example measured using an anxiety and/or depression scale (e.g. the General Health Questionnaire, Goldberg and Williams 1988); disease or population specific measures, which may be multi-domain, relevant to specific health problems, such as the Asthma Quality of Life Questionnaire (Juniper et al. 1993)); generic measures which can be used across population types, usually multi-domain measures of broader health status (e.g. the SF-36 (Ware and Sherbourne 1992); individualised measures which enable respondents to nominate and weight important areas of their own life (e.g. the Schedule for Evaluation of Individual Quality of Life (Hickey et al. 1999) or the Patient Generated Index (Garratt and Ruta 1999)); and utility measures which incorporate preferences for health states, in order to produce a single index used for making comparisons across treatments and health problems for economic evaluation (e.g. the EuroQol (EuroQol Group 1990) and Health Utilities Index (Feeny et al. 1995)). During 1990-1999 they reported finding 23,042 records (articles) after removal of duplicates, (although just 3,921 of these met their inclusion criteria of reporting on the development and testing of the measures). They concluded that, although there was evidence of the use of a small number

of generic measures suggesting a standardised approach, among disease specific measures there was little standardisation. For example, of 67 trials reviewed, 48 used 62 different measures and 13 reported new measures.

Social health, social networks, support and activity

The largest body of empirical research on the various facets of well-being has focused on the structure, functioning and supportiveness of human relationships, the social context in which people live, and integration within society. Some investigators use the term social capital to embrace characteristics of individuals' relationships and support structures, although the concept is more commonly used to describe community resources (Cooper et al. 1999). The emphasis on social health is supported by research on the public's priorities in life. Bowling and Windsor (2001) reported, on the basis of a national survey of adults in Britain on the six most important things in life, that the highest proportion of adult respondents (53%) self-nominated relationships with family, relatives, friends and other people (e.g. neighbours) as the most important area. Social life was also nominated by 17% (5th among the top five areas). Among those people aged 65+, relationships were ranked second in importance after health (Bowling 1996b). These findings have been supported by subsequent survey research (Bowling and Gabriel 2004). Farquhar's (1995) in-depth interviews with people aged 65 and over also reported that family, social activities and social contacts were the three commonly mentioned areas that gave quality to their lives. And Brown et al. (1994), in their research using the SEIQoL in a sample of people aged 65 and over, reported that both family and health were self-nominated by people as most important to their quality of life, with almost equal frequency, followed by social and leisure activities.

Parsons (1951) pointed out that society's expectations and social norms about individuals' roles and behaviour had effects on their health. Dubos (1959) also long ago argued that health cannot be defined in isolation of social communities and must be seen in terms of the ability of individuals to function in a manner acceptable to themselves and their social groups.

Thus, Donald et al. (1978), following Caplan (1974) and Cassel (1976), conceptualised social health 'in terms of social support systems that might intervene and modify the effect of the environment and life stress events on physical and mental health (as an intervening variable). Measurement of social health focuses on the individual and is defined in terms of interpersonal interactions (e.g. visits with friends) and social participation (e.g. membership in clubs, social activities, holidays and day trips, volunteering). Both objective and subjective constructs (e.g. number of friends and a rating of how well one is getting along, retrospectively) are included in this definition'. Several other areas of social health have been defined, including personal and work achievements and position in the hierarchy, family support, social activity and friendships, existence of a confident, philosophy and sexual satisfaction (Kaplan 1975).

Social networks are the identified social relationships that surround an individual, their characteristics and individuals' perceptions and valuations of them. Network characteristics include their size, density (connectedness between members), boundedness (e.g. by neighbourhood), homogeneity, frequency of contact of members, their multiplexed (number of types of transactions within them), duration and reciprocity (Berkman and Glass 2000). Social support is the interactive process in which emotional, instrumental or financial aid is obtained from network members. Human ecology theory also focuses on the interactions and interdependent relationships between people, and postulates that families are an important resource and a rich environment for individual members (Rettig and Leichtentritt 1999). Lack of social integration and social support has been hypothesised as decreasing the individual's resources for dealing with social stress, and has been implicated in poor mental health outcomes (George et al. 1989). The importance of social

networks, and their characteristics, then, lies in the extent to which they fulfil members' needs. Their functions can be summarised as '...that set of personal contacts through which the individual maintains his social identity, and receives emotional support, material aid, services, information and new social contacts' (Walker et al. 1977).

Research interest in social support was revitalised in the 1970s by Caplan (1974), Cassel (1976), Cobb (1976) and Kaplan et al. (1977). It was believed that social support maintained the organism by promoting adaptive behaviour or neuroendocrine responses when under stress, or in receipt of other threats to health. Much of the literature indicates that social relationships and activity per se appear to confer health benefits through psychosocial pathways. The research evidence strongly supports an association between poor social support and increased risk of mortality in selected groups of people, such as the widowed and elderly people living in institutions, although intervening variables which might explain associations have often been inadequately controlled for (see review by Bowling and Grundy 1998). There is also strong evidence, supported by longitudinal research, that lack of social support contributes to coronary heart disease morbidity and mortality in men (Berkman and Syme 1979; Berkman et al. 1992; Ruberman et al. 1984; see reviews by Olsen 1992 and Bowling and Grundy 1998), although the evidence is inconsistent in relation to women.

An association between presence of a confidant or close friend and morale, as well as mental health, has been emphasised by several investigators (Lowenthal and Haven 1968; Brown and Harris 1978). Social support has also been reported to be associated, albeit weakly, with proxy measures of quality of life such as life satisfaction, morale and well-being (Breeze et al. 2002). While life satisfaction increases with the reported existence of a confidant for both men and women, for men being married is as important as having a confidant (ibid). Thus, evidence exists of an association between emotional well-being and social relationships (Wenger 1992; Bowling 1994), but physical health status and functional ability are stronger predictors of life satisfaction in older age than social network and support structure (Bowling et al. 1996; Bowling and Browne 1991), although, of course, health and mobility is essential for maintaining independence, social contacts and participation. Blau (1973) argued that social participation and the existence of a circle of friends, particularly a confidant as well as friends known when one was younger, is important for maintenance of morale and self-esteem, and autonomous self-image, particularly among unmarried older people. In theory, perception of being loved and supported enhances feelings of security, and hence self-esteem is higher. In turn, higher self-esteem theoretically enhances perceived self-mastery. There are long established associations between social participation, activity and support and feelings of security, self-esteem and hence self-mastery, prevention of loneliness and isolation, especially if relationships are reciprocal, and a balance between dependence and independence is retained (Wentowski 1981; Lawton 1980; Wenger 1992). However, it should be cautioned that loneliness in older age is not only a function of poor social integration, but also of disability (Jylhä 2001).

It is unknown whether social support has a direct effect on health and well-being, for example by providing comfort or provision of feedback or aid (e.g. money, help) which reduces symptoms or stressors, or whether support disturbs or mitigates the relationship between stress and health, or whether lack of support leads to psychological damage (see review by Bowling 1991). There is some evidence to support the buffering effects of social support on health and well-being in the face of life events (Holahan and Moos 1981). Inconsistencies between studies are probably due partly to wide variations in the measurement scales used, inadequate control of confounding variables, and to the cross-sectional nature of much of the research (Bowling 1994). The whole

research area is compounded by methodological difficulties and the use of a wide range of unstandardised and poorly validated measurement scales.

A large amount of research literature exists on the structure and functioning of people's relationships. People attain older age with the support network they have built up over a lifetime. Some research indicates that older people report fewer conflictual social relationships (which may adversely affect well-being) than younger people (Scheiman and Van Gundy 2000). It has been suggested that this is because older age is accompanied by a maturity, greater knowledge, growing insight and sense of others, and skill at handling disharmony (Mirowsky and Ross 1992). On the other hand there may also be greater social desirability bias with older age, and older people may report fewer emotions that entail disapproving self and social evaluations (Schieman 1999). With older people, inter-generational and reciprocal roles also take on more importance – for example, provision of help with practical tasks, shopping, lifts, and so on when people are ill or frail, the role of grand parenting.

The increased risks of widow(er)hood, and number of people without children, emphasises the importance of maintenance of wider social networks in older age (Bowling and Cartwright 1995; Bowling and Windsor 1995; Cotton 1999). A sizeable body of knowledge exists on types of network structure. People without children have higher proportions of siblings, friends and neighbours in their networks, and single women compensate for relatives by maintaining strong contacts with friends (Wenger 2000). Women report more friends than men, with men being more likely to rely on wives for intimacy and friendship, and people in lower socio-economic groups report weaker friendship ties but stronger links with kin. People who are more highly educated have more friends and fewer relatives in their networks (Wenger 1996).

While networks composed of largely of relatives are more effective at providing instrumental help, and help in emergencies, provision of a wider range of resources (emotional support, practical help, advice and companionship) is highest in networks composed of both relatives and friends (Bowling and Grundy 1998). While high density networks, where members know each other, might increase the potential for conflict between members, their members are also the most likely to provide help in emergencies (see review by Bowling 1994). Network size and structure is dependent upon both cultural, neighbourhood and personality factors. Homogeneous networks, which are locally integrated and with community links, have been reported to best serve the needs of older people (Wenger 1989; Wenger and Shahtahmasebi 1990). Friends are, however, essential for companionship, emotional support, morale, and reducing feelings of loneliness among older people.

Social support and network sizes are dynamic, and can be negative or positive in effect (Wentowski 1981; Bowling et al. 1995a,b). Networks members who are friends or neighbours are more changeable (e.g. ties weaken) than relatives. Their size may depend on cultural, personality, situational and neighbourhood characteristics, and opportunities to access available communication systems (whether by telephone, use of transport, physical mobility, or e-mail and mobile phone networks). Even owning pets, particularly dogs, has been reported to influence psychological and physical well-being, including increased chances of survival following myocardial infarction, although the research is also inconsistent (Beck et al. 1996; Friedmann and Thomas 1995; Raina et al. 1999). What is clear from the literature, is that it is the quality of the relationship, and involvement in social activities, which are important for prevention of loneliness, and enhancement of well-being, rather than the number of relationships or frequency of contact, and involvement in social activities is an additional resource for people (see Silverstein and Parker 2002; Bowling 1994; Victor et al. 2000; Bowling et al. 2002).

Given that the characteristics of the neighbourhood can constrain friendships and involvement in social activities, neighbourhood is also theoretically associated with well-being of older people (Lawton 1980; Berkman and Glass 2000). Neighbourhood social capital has received less attention in the literature. Theoretically, the community could have an independent effect on the individual's level of social integration, and hence health, well-being and life quality (see next section).

Social cohesion and social capital

In relation to social health, most studies of quality of life focus on individual social network and support systems rather than on community resources and integration, and person-environment fit. But human ecology theory also holds that the quality of life of humans and the quality of their environment are interdependent, and the former cannot be considered apart from the whole ecosystem (Rettig and Leichtentritt 1999). Social scientists have long focused on why some communities prosper and benefit their citizens, and others do not, focusing mainly on social inequalities and physical and mental health and well-being (Wilkinson 1996). Cultures, the environment and societal resources and facilities can all contribute to healthy ageing.

Social cohesion and social capital are collective, ecological dimensions of society, distinct from the concepts of social networks and social support which are measured at the level of the individual (Kawachi and Berkman 2000). As Durkheim (1895, 1897) recognised long ago, particularly in relation to his work on suicide, society is not simply the sum of individuals, and well-being is influenced by society as a whole. Therefore in order to understand individuals we must study them in the context of external, societal as well as internal, personal forces. This is the reasoning behind WHO Healthy Cities initiatives and local social regeneration programmes (e.g. the UK's Health Development Agency attempts in the UK to encourage communities to measure their social capital; Public Health Observatory initiatives to tackle health inequalities in communities (Pilkington 2002; Watkins et al. 2002). The concepts of social cohesion, social exclusion and inclusion, social capital, social integration, social and community resources, then, are all interrelated in this context. Social cohesion and social capital have been variously defined in the literature.

The definition and measurement of social capital are still evolving, and most currently reflect an uneasy conceptual mixture of indicators of both the structure and function of social relations, such as community membership (structure) and moral resources of trust and reciprocity (function, or by product of the function). It is typically measured with questions about group membership, social, civic and political participation, and feelings of trust, social cohesion or communality with the neighbourhood (Cooper et al. 1999), as well as questions about the density and quality of social relationships and interactions between individuals and between groups. These are all factors that can affect both perceived autonomy and self-actualisation. In addition, the special significance of historical and present attachment to place of residence among older people, in terms of their meanings and implications for identification with the social fabrics of local communities, has been relatively neglected (Rubinstein and Parmelee 1992).

Social cohesion refers to the connectedness and solidarity between groups of people (Kawachi and Berkman 2000). A cohesive society is marked by its supportiveness, rather than forcing individuals to rely entirely on their own resources (Durkheim 1897, publ. 1997), and is well endowed with stocks of social capital (Kawachi and Berkman 2000). The concept incorporates shared value systems and interpretations, perceptions of a common identity, a sense of belonging to the community, trust and reciprocity between individuals and towards institutions. It is typically

measured with questions about feelings of commitment and trust, values and norms, feelings of belonging.

Social capital is a subset of the concept of social cohesion, and refers to the extent to which communities offer members opportunities, through active involvement in social activities, voluntary work, group membership, leisure and recreation facilities, political activism and educational facilities, to increase their personal resources (i.e. their social capital) (Coleman 1988; Putnam 1995; Brissette et al. 2000). It can also be defined as those features of social structures which act as resources for individuals and facilitate collective action (e.g. high levels of interpersonal trust and mutual aid (Kawachi and Berkman 2000). Putnam (1995) defined social capital in terms of connections among individuals, social networks and the norms of reciprocity and trust that they create, and in terms of the characteristics of organisations (community networks; civic engagement; local identity, a sense of solidarity and equity between members of a community; trust, reciprocal help and support) which facilitate beneficial cooperation and organisation between members.

Putnam (2000) suggested that social capital is in decline and the action required to stem this involves designing communities to encourage interpersonal interaction and to encourage older people to work towards decreasing social isolation by promoting social connections with others (e.g. by use of the computer to make contacts with others), rather than solitary activities (e.g. watching TV). A review of the literature by Boaz et al. (1999) on the attitudes of a wide range of people aged 50 and over in the UK reported that overall respondents expressed a high degree of satisfaction with their social activities, and wanted to be socially active. However, not only had few had carried out any financial planning for/before their retirement, but very few had considered how they wanted to spend their time in retirement. They were reported to feel discriminated against in the labour market, and had varied attitudes towards being retired and retirement: the exercise of individual choice over when to retire had an impact on these attitudes (Boaz et al. 1999). A survey of people aged 55 and over in five European countries (UK, France, Germany, Italy and Spain) also reported that people felt that their skills were undervalued, especially in the UK (Pfizer 2002).

While residential satisfaction has been reported to be unrelated to the proximity of community resources among older populations (see Kahana et al. 2003), high levels of social capital have been reported to be associated with lower mortality rates and also with better self-rated health status (Kawachi and Berkman 2000; Kawachi et al. 1997a, 1997b; 1999). Ross and Mirowsky (2001) reported, on the basis of their multilevel modelling of results from a large population survey in Illinois, that residents of disadvantaged neighbourhoods had worse self-reported health and functional status, and more chronic health conditions, than residents of more advantaged neighbourhoods. They found that the association was mediated by perceived neighbourhood disorder and fear (i.e. daily stress), and not health behaviours (e.g. level of outdoor physical activity). Their findings support the results of the other multilevel models they reviewed which indicated that neighbourhood disadvantage (or repeated exposure to threatening conditions) has a negative impact on health, by virtue of predisposing neighbourhoods to harmful conditions (e.g. disorder leading to fear and stress, with stress reducing immune response and release of stress hormones). Results suggest the impact is independent of the personal circumstances that lead individuals to live in disadvantaged areas.

While the local neighbourhood might constrain friendships, Lawton (1980) also reported that the quality of the neighbourhood can influence the emotional well-being of older people. One study has reported an association between social capital and mortality (Kawachi et al. 1997a; 1997b). Grundy and Bowling (1999) analysed features of the neighbourhood in their analyses of the quality

of life of 630 people aged 85+ living at home. Whether respondents liked the area they lived in, whether they felt anxiety or fear about intruders, going out or opening the door at home, and whether their homes were warm enough for them were among nine variables which distinguished between those respondents with a good or poor quality of life. However, social capital has seldom been investigated in relation to QoL and physical and psychological well-being (Brissette et al. 2000).

Several studies have reported an association between car ownership and access to transport and higher perceived quality of life (Webster et al. 2002; Banister and Bowling 2004). Bowling and Banister (2004) reanalysed data from their national survey of quality of life and reported that travel, and access to a car in the household, was an important element of quality of life in older age. In general, apart from the 6% who were housebound, most people aged 65 and over were active during the day, but after dark the situation was reversed, with little activity outside the home occurring in the evenings. People often expressed a high level of concern over traffic speed in their neighbourhoods. This, together with varying access to reliable public transport and, in particular, access to a car in the household, and fear of crime after dark, might explain their reduced activity. Neighbourhood safety, trust and engagement, and access to transport were all important building blocks for a good, and independent QoL in older age.

The need for improved reliability of public transport and improvements to perceived safety and security issues, more public transport that caters for the needs for those with health problems (which would also alleviate the concerns of older drivers facing the prospect of discontinuing driving), and guidance for older drivers were all issues raised by a report prepared for the Department of Transport (2000) on the transport needs of older people. The inadequacy of public transport, and perceived fears for safety while travelling, were all barriers to independence reported in one study of older people's attitudes (Hayden et al. 1999).

Environmental contexts

The importance of designing enabling internal and external environments in order to promote the independence and active social participation of older people was emphasised by Schaie et al. (2003). The area of environmental gerontology is increasingly important, spanning psychology, geography, architecture, health and social care, and related disciplines. This study of 'aging in place' (Gitlin 2003) has been more broadly described as 'the description, explanation, and modification or optimization of the relation between elderly persons and their sociospatial surroundings' (Wahl and Weisman 2003). Research on residential care environments has informed community care in relation to advance 'age-friendly' societies (Kendig 2003), although better information is still required which describes 'how individuals use, manipulate, or perform tasks in their settings' (Golant 2003).

Despite the importance of understanding ageing in one's home environment, most research in this area is descriptive and lacks theoretical direction (Gitlin 2003). Questions which needs addressing are how people use the home environment in older age during illness and care giving, and what are the inter-relationships between the home and well being and functioning throughout the ageing process (Gitlin 2003)? With policy and societal interest in active ageing, it is especially important to focus on the fit between the individual and his or her surroundings for the promotion of independence and well being in later life (Wahl 2001; Wahl et al. 2003; Iwarsson 2003; Schaie et al. 2003).

In relation to home technology, associations have been reported between housing related technology (including access to washing machines, dishwashers, central heating) and life satisfaction among older people in Germany (Wahl and Mollenkopf 2003). It is expected that older people's interest in new technologies will increase with future cohorts (Peeters et al. 2001). A contemporary model of quality of life in older age needs to incorporate aspects of 21st century life, such as access to, and opportunity to take advantage of (e.g. through education and income levels, costs, availability) new technology (such as microwave cookers, fridges, video door entry systems, telephone monitoring systems, and answer phones, mobile phones, tele-shopping, age friendly cars, automatic driving facilities in cars, intelligent housing, secure neighbourhoods and so on, and also the use of the internet and email facilities (e.g. for resources such as education, information, social networking, home shopping, health care, pharmacies)) (Sixsmith and Sixsmith 2001).

Technological innovations can be divided into those which facilitate everyday tasks, enhance safety, compensate for sensory and mobility losses, and maintain social activity and contacts, and also rehabilitative and nursing technologies which aim to enhance independence (see Weidekamp-Maicher 2001). Access to essential facilities should not be overlooked: lifts in blocks of flats that work, effective central heating, adequate home insulation. Models need to take account, not simply of levels and rates of products or indicators, but of opportunity (education, access) and economic freedom to explore and use such technologies. These can act as important enabling factors. Quality of life is dependent upon having the opportunity to aim for, and achieve, personal goals, and access to the economic, personal and community resources to facilitate this.

Multidimensionality and global assessment of QoL

Definitions of quality of life tend to focus on its multidimensionality. Beckie and Hayduk (1997) argued, however, that such definitions confound the dimensionality of the concept with the multiplicity of the causal sources of that concept. They argued that quality of life could be considered as 'a global personal assessment of a single dimension which may be causally responsive to a variety of other distinct dimensions: it is a unidimensional concept with multiple causes. Thus it is logical for a unidimensional indicator of quality of life (e.g. a self-rating global QoL uniscale) to be the dependent variable in analyses, and the predictor variables include the range of health, social and psychological variables. A global QoL assessment is the consequence of an individual's comprehensive evaluation which includes a wide range of physical, psychological, social, economic, community and societal considerations. In addition these factors may interact, adding to the complexity of the evaluation.

The predictor variables in a model of global quality of life self-evaluation would, by necessity, have to include a wide range of life domains if it is to mirror how those evaluations were made. Beckie and Hayduk (1997) argued on the basis of this logic that a unidimensional QoL rating, such as 'How do you feel about your life as a whole' (overlapping with life satisfaction scales) could be the consequence of global assessments of a range of diverse and complex factors. As the authors point out, this can be problematic for causal analyses if the QoL evaluation is greater than the sum of its parts, but the diversity, multiplicity and complexity of sources of QoL warrants treating its measurement in terms of a global assessment.

Idiopathic models

In contrast to the large body of quantitative research, phenomenological perspectives hold that quality of life is a subjective, amorphous concept, which is dependent upon the specific interpretations and perceptions of the individual (Ziller 1974). This is referred to as an

individualised or idiopathic approach. It could be argued that human beings strive for meaning and towards a goal of self-actualisation, and therefore a phenomenological perspective, which focuses on individual perceptions of life and the quality of life, is appropriate (O'Boyle 1997). Thus while the division of quality of life into pre-defined individual components (e.g. physical, psychological and social functioning) is helpful for measurement purposes, this approach may not tap the most pertinent domains of people's perceptions of quality of life. Nor does it capture the subjectivity of people. The increasing focus on psychometric abilities in scale development, and the constant search for shorter measurement scales, carries the risk that areas of importance to large numbers of the populations of interest are omitted from questionnaires if they fail to 'perform'.

O'Boyle (1997) argues that quality of life is defined by what the individual determines it to be. The problem for quality of life research which is posed by this model is that 'Ultimately, quality of life must be in the eye of the beholder..' (Campbell 1972), and not measurable in a standardised way. When relevant lay people have not been consulted in the development of a questionnaire which aims to measure their quality of life, then the items within that questionnaire will reflect the values and assumptions about quality of life held by the designers. (Fox-Rushby and Parker 1995). Research utilising that questionnaire can only confirm or otherwise these pre-conceptions, and will not necessarily reflect the perspective of, or salience of the items to, respondents (Fox-Rushby and Parker 1995). In addition, the negative focus of most existing questionnaires carry the danger of under-emphasising good quality of life. Nilsson et al.'s (1998) in-depth research with 30 people aged 82-92 in Sweden reported on the diversity of their experiences, and their emphasis on the good as well as the bad. Recognition of such problems of the content validity of theoretical models of quality of life leads to the question of what is the overlap between theoretical and lay models of quality of life (Fry 2000).

On the basis of its individual nature, Joyce et al. (1999) also argued that a theory of quality of life must therefore integrate knowledge from other cognitive theories, for example memory and information processing. They base this argument on the understanding that changes in an organism reflect immediate effects and/or storage processes. Stored information is subject to modification by previously stored information and by other new and existing inputs, and thereby reconstructed when recalled to conscious attention. Thus any stimulus may modify the individual's construction of their quality of life at any of these levels. They argued that the links between the levels may be stable or unstable, healthy or pathological, and represent different 'depths' of quality of life, which may vary in their status as 'traits' or 'states'. They argued that that health status may be a 'trait' and general quality of life measures may assess 'states'. The distinction between what aspects of quality of life are 'states' or 'traits' is unclear and requires further investigation.

Juniper et al. (1997) compared two philosophically different methods for selecting items for a disease-specific quality of life questionnaire: the impact method which selects items that are most frequently perceived as important by patients (albeit from a pre-prepared list of 152 items from the literature and consultations with professionals (but not patients), and the psychometric method (factor analysis) which selects items primarily according to their relationships with one another. Based on research with 150 adult asthma patients, they reported that the impact method resulted in a 32-item instrument and the psychometric method led to a 36-item tool, with 20 items common to both. The psychometric approach had discarded the items relating to emotional function and environment, and included items mainly on fatigue instead. Thus the two approaches lead to important differences. Again, Kane et al. (1998), in a comparative study of the USA and Europe, compared geriatric professionals' and lay people's ratings of the importance of 32 items measuring physical functioning. While the overall correlation between the groups was 0.82, in general lay people rated instrumental activities of activities of daily living items more highly (e.g. (dis-) ability

to prepare meals, clean the house, shopping). The experts rated the most dysfunctional activities of daily living items higher than the lay people (e.g. (dis-) ability to dress, feed self, get to/use toilet).

The need for measures of QoL to be more sensitive to differing values, and changes in priorities with increasing age, is supported by research reporting that people aged 75 and over were more likely than younger respondents to prioritise their own health, and the ability to get out and about, and they were less likely than younger people to prioritise relationships with family and other relatives, finances and work (Bowling 1995b). Women of all ages were also more likely than men to prioritise relationships with family or relatives and men were more likely than women to prioritise finances; respondents in the lowest social classes (IV and V) were more likely than other respondents to prioritise their own health and they were less likely to prioritise relationships with family or other relatives (Bowling 1995b). Differing priorities present a challenge not only to the design of quality of life measurement scales, and their composition (content validity) but also to their scoring and/or weighting. If measurement scales give equal weighting to the various sub-domains of quality of life it is unlikely that the domains will have equal significance to different social groups and individuals within these. Even where scales are weighted it is unlikely that the weightings will be equally applicable to different groups and individuals. O'Boyle (1997) argued that, given the heterogeneity of the elderly population, it is unlikely that any single measure will be suitable for all purposes. He further argued that disease based quality of life measures for assessing older people are ageist and inappropriate for assessing healthy people. O'Boyle's measure of quality of life – the Schedule for Evaluation of Individual Quality of Life (SEIQoL) - is based on a phenomenological perspective and defines QoL as 'what the individual determines it to be'. It attempts to measure the areas of life that are important to the respondent, how they rate themselves in each area, and the relative importance of the areas named to them.

Research based on the SEIQoL (Browne et al. 1984), and on open ended questioning about the five most important things in life (Bowling 1995a, b; 1996; Bowling and Windsor 2001), has shown that, while a common core of shared values exists, older and younger people value different areas of life, although this can vary between populations and is culture specific (Browne et al. 1984). Bowling et al's (2003) research based on both quantitative and qualitative approaches also found that measures of quality of life based on the theoretical literature largely overlapped with older people's own perceptions of quality of life, but with important exceptions. The central drivers of quality of life, which were consistently emphasised by all methods, were self-constructs and cognitive mechanisms (e.g. psychological outlook, optimism-pessimism), health and functional status, personal social networks, support and activities, and neighbourhood social capital. However, in contrast to the quantitative models of influences on self-rated quality of life, the lay models also emphasised the importance of financial circumstances and independence, which need to be incorporated into a definition of broader quality of life.

Survey research in Spain by Fernandez-Ballesteros (1993) also found that the lay concept of quality of life was similar to experts' concepts. However, their approach involved questioning people aged 65 and over and asking them to prioritise the first, second and third most important areas of quality of life from a pre-defined list of nine (good health, autonomy, good inter-personal relationships, good pension, being active, good social and health services, good housing, environmental quality, learning new things, life satisfaction). The studies held on the World Database of Happiness also indicate, directly or indirectly, that most people value health, wealth, security, knowledge, freedom, honesty and equality as contributors of well-being (Heylighen and Bernheim 2000; Veenhoven 1996, 1997).

Further supportive evidence is required for the use of individualised measures, given their research and respondent burden. Research is needed to compare the amount of explained variance in quality of life assessments achieved by relatively complex, individualised weighting and scoring methods (Garrett and Ruta 1999; Hickey et al. 1999), in comparison with more basic methods. The literature comparing standardised weighted and unweighted cardinal (i.e. summed) scales - whether of life events, life satisfaction or health status - consistently reports no benefits of more complex weighted methods in relation to the proportion of explained variance or sensitivity to change over time. While this may simply be due to insufficient variance in weights there is little support in the literature for complex weighting over simple summing of scores (Andrews and Crandall 1976; Headey and Wearing 1989; Jenkinson et al. 1991). Little experimental work has been carried out testing the different values which can be attached to weights - such as relative importance, satisfaction or goal achievement and gap ('expectancy') ratings of individuals. The hypothesis that individualised measures provide more reliable and valid measures of quality of life than standardised measures has thus yet to be confirmed. Existing individualised measures also differ in their structure, focus (generic or health related), complexity of administration, weighting, scoring, and psychometric properties. It is still unclear which of these instruments is most reliable, valid and suitable for measuring quality of life in the context of health or generically (Fitzpatrick 1999). These issues are challenges for future methodological research. Of course, it could be argued that there is no need for individualised approaches if standardised instruments reflected the concerns of the average person, especially as most individualised instruments have been used at group level to provide group level data. Groups are made up of individuals, and group statistics inevitably sacrifice individual level information. However, the content validity of existing standardised measures requires addressing if meaningful measurement is to be achieved (Joyce et al. 1999).

Recognition of the need for broader, more positive and balanced definitions of quality of life has resulted in more general adoption of the WHO Quality of Life Group's (WHOQOL Group 1993) definition: '...an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, and standards and concerns. It is a broad-ranging concept affected in a complex way by the person's 'physical health, psychological state, level of independence, social relationships, and their relationships to salient features of their environment'. But a single scale rarely covers everything (Bowling 1995a), not even in the 100-item measure of quality of life developed by the World Health Organisation was able to do this (WHO) (WHOQOL Group 1993; Skevington 1999; Skevington et al. 1999). This covers physical health, psychological well-being, social relationships and the environment in some detail. Although the scale was reported to have excellent internal consistency, the sample sizes it was tested on were relatively small in each nation - in Britain for example it has been tested on just 320 well and sick adults (divided into age groups under 45 and 45 and over).

In sum, while the individual nature of perceived life quality needs to be captured in measurement scales, research on people's values shows that people within a society do share a common set of core values, although these vary in their relative importance to individuals and different social groups (Farquhar 1995; Bowling 1995a; 1995b; 1996; Bowling et al. 2003; Bowling and Gabriel 2004). The literature referenced here indicates that people's values include the meeting of past expectations, coping ability, independence and control, having a positive outlook, their own health and that of close others, relationships with family, friends and neighbours, work, finances and standard of living, social and leisure activities. The systematic review of lay view of quality of life presented in Part 2 of this report expands on these themes.

Integrated, composite models

Conceptualisations and indicators of QoL have included a wide range of domains, but often separated rather than presented as a comprehensive, whole or inter-linked areas. Arnold (1991), for example, argued that the assessment of quality of life should include physical functioning, physical symptoms, emotional, behavioural, cognitive and intellectual function, social functioning and social support, life satisfaction, health perceptions, abilities to pursue interests, sexual functioning, energy and vitality and economic status. The concept of quality of life is also generally defined in positive terms (i.e. 'good quality of life'), although often measured and presented in negative terms (e.g. loss of health, disability, mental ill-health, loneliness, and in terms of what one has lost, rather than what one has).

However, there is more emphasis now on combining objective as well as these multi-dimensional subjective and health related variables. In addition, there are attempts to produce social indicators, more solidly based on social theory (Walker 2002). Despite these developments, a tension remains between objective and subjective approaches to the conceptualisation and measurement of quality of life. This mirrors the tension often apparent between qualitative and quantitative social researchers, with some seeking to bridge and utilise both methods to complement each other. For example, few authors have attempted to develop a composite model of quality of life, showing quality of life on a multi-domain continuum.

Grundy and Bowling (1999) attempted to develop a composite model of quality of life and to identify the oldest old (people aged 85+) with a very good and very poor quality of life – i.e. those with cumulative difficulties across several domains of quality of life. They defined quality of life on the basis of the literature, combined with the results of focus group research with people aged 85+ on what gave their lives quality and what took it away. Their final factor model incorporated indicators of these, based on survey data from 630 people aged 85+ living at home, represented three life domains: autonomy and perceived well-being (measured with the theoretically and lay informed indicators of life-satisfaction and control); environment (measured with perceptions of the area lived in, warmth and security in the home); health and activity (measured with scales of physical functioning (everyday activities), health problems, the general health questionnaire (GHQ-30), and social activities (social support indicators were underrepresented in the final model, due to their more modest loadings in the factor analysis and the insensitivity of the indicators used to measure this – most respondents reported having support). The methodological advantage of this approach was that different domains were analysed together, and it was able to distinguish between groups of older people on a continuum of the composite measure. While few respondents had all or mostly good, or poor, scores to the nine indicators used, overall 58% of men and 41% of women achieved 'good' scores on at least 5 of the 9 indicators of quality of life used.

von Faber et al. (2001) also attempted a composite measurement of 'successful aging' in their sample (census) of 599 people aged 85 and over living in Leiden. They judged respondents to be 'successfully aged' (defined as 'a state of being'), and operationalised as achieving optimal scores on indicators of physical, social and psychocognitive functioning) if they achieved optimal scores on each of these indicators. However, only 10% of respondents achieved their optimal criteria, suggesting that their non-continuum approach was too narrow. In addition, the qualitative arm of their study revealed that older people defined successful aging, not as a 'state of being' as did the investigators, but as a process of adaptation, and valued well-being and social function more than physical and psychocognitive functioning, questioning the content validity of their model and range of measurements used.

Fry (2000) used an integrational framework to investigate the concept of quality of life in older age. Within this framework, she aimed to measure objective life circumstances and people's subjective perceptions of life quality, as well as their belief systems, aspirations, expectations, appraisals and anxieties. They conducted a postal survey of 465 households in Vancouver and Victoria BC (with initial contacts made by telephone and some by snowball sampling), combined with in-depth interviews with a sub-sample of respondents. The survey questionnaire responses and the in-depth interview responses were coded into positive and negative categories and ordered by theme. The themes which emerged from the questionnaire included crime, environment, health, legal protection and assurances for protection of quality of life, and inadequate legal and social policies to safeguard quality of life in communities. Factor analysis of the coded themes showed that the four common factors which emerged were guarantees and assurances (e.g. about 'living wills', protection against age discrimination, guarantee of sufficient income in old age and of independent living), aspirations and expectations for the future (e.g. respect, dignity, employment and economic independence, stimulating activities), intense fears and concerns about future quality of life (e.g. being alone at the end of life, family conflict, being disabled, being abused) and external factors that threaten quality of life (e.g. isolation, noise, crime, delay in service provision, interference by adult children). The themes which emerged from the analysis of the in-depth interviews corresponded well with those which emerged from the questionnaire data. The authors concluded that their findings showed that older adults valued personal control, autonomy and self-sufficiency, their right to pursue a chosen life style and a right to privacy. They found the in-depth interviews of value in providing 'context, meaning and structure' for what questionnaire survey respondents said needed 'to be done for improving the quality of life', and concluded that neither quantitative nor qualitative methods are adequate alone in the investigation of quality of life: 'Instead, a composite data picture has to be created which allows researchers to integrate recipients' subjective expressions of meaning and aspirations with the traditional depersonalised quantitative approach'. Their combined questionnaire and in-depth approach yielded consistent results. As indicated earlier, comparisons of people's selected areas of importance, while overlapping, can be different to those selected using psychometric methods (Juniper et al. 1997). Different approaches can lead to the construction of different instruments, and the use of triangulated methods play an important role in this area.

Conclusion

In sum, quality of life is inherently a dynamic, multi-level and complex concept, reflecting objective, subjective, macro-societal, and micro-individual, positive and negative influences which interact together (Lawton, 1991). There is no overall agreement on definitions which poses inevitable challenges for measurement. However, research has enhanced the body of knowledge on the components and determinants of life quality among all ages, and increasingly among older people.

The literature reveals that quality of life can theoretically encompass a wide ranging array of domains, including individual's physical health and functioning, psycho-social well-being, psychological outlook, psychological and social role functioning, social support and resources, independence, autonomy and perceived control over life, material and financial circumstances, community social capital and the external environment, including the political fabric of society. Most importantly, it encompasses the individual's perspective and assess quality of life 'through the eye of the experiencer' (Ziller 1974). It is a concept which is likely to be mediated by cognitive factors.

There has been relatively little attempt to examine these models systematically or critically, although they provide the frameworks for quality of life models across disciplines, from social gerontology, social geography and health and social outcomes research. For example, interest in health and social care outcome indicators from policy makers and professionals has burgeoned over the last two decades, in an era of evidence based practice, and has spawned a major industry in the production of disease specific (health-related) quality of life outcome scales, but with fewer attempts at definition and conceptualisation of a model of QoL on which to base them (see Bowling 2001). However, in social gerontology there is a need to progress beyond health and disease models of ageing, and professionals' priorities, and to include older people's perspectives of what quality of life is to them, and how it can be enhanced. As has been indicated in this review, and as Patrick (2003) has also pointed out, many valued aspects of human existence do not relate to only to health, but include the environment, housing income and freedom of expression.

Incorporating public opinion is regarded as good practice and in public policy. Similarly, academic and clinical researchers need to move away from 'professional centrism' (Stastny and Amering 1997) and ensure that their models and measurement instruments are grounded in lay perspectives, and not solely on theoretically pertinent models. Bowling and Gabriel (2004) pointed to the lay emphasis on retaining independence for the promotion of quality of life in older age, a concept which is omitted or inadequately represented in commonly used measurement scales. Fry (2000) pointed out, most models in gerontology have neglected people's 'wants, hopes, aspirations, opportunities and preferences', as well as the 'quality of life levels individuals have become resigned to accepting', and surveys 'seldom, if ever, asked elderly persons about their anxieties concerning the future quality of life'. It follows from this, that the most valid approach to assessing what quality of life consists of, is to invite people to describe what quality of life means to them through the use of open-ended survey questions and in-depth interviews and to balance these with more standardised objective and independent measurements (Mukherjee 1989) – given that the latter are more practical for use in large surveys and trials.

Given the lack of standardisation of concepts and measurement in quality of life and health-related quality of life research as a whole, serious consideration also needs to be given to well-calibrated pools of scale items, along with essential information about their conceptual and measurement base, which would be deposited by scale developers, and stored and managed in 'banks'. Such facilities are widely available for psychological scales, and attempts are being made to introduce these for health-related quality of life scales (Ware and Bayliss 2003).

However, the enormous volume of literature on the theme of quality of life has generated many concerns for public policy. Age Concern England (ACE 2003) in their report 'Adding quality to quantity', concluded that the Government should adopt a strategic approach to meeting older people's needs, based on the key determinants of quality of life determined by older people in the Growing Older programme, and should take account of the interdependence of those determinants. ACE also recommended that service providers needed to work towards developing the capacity of older people and encourage their community participation, to tackle the barriers to older people's participation in paid employment and voluntary activities, and to support the voluntary sector to promote the social inclusion and relationships among older people.

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Part 2. The components of quality of life nominated by older people: A systematic review of the literature. Jackie Brown and Terry Flynn

Methods

The systematic literature review focused on determining the components of quality of life which older people have nominated as being important. The concepts of quality of life which have been identified and measured by academic and/or policy makers as described in the previous chapter were then compared with those nominated by older people.

In order to include, but not to focus on, health related quality of life (given the enormous volume of relatively superficial literature simply reporting scale scores), the following databases were searched for relevant published literature, from 1982 onwards: Medline, EMBASE, CINAHL, Web of SCIENCE, IBSS, PsycINFO, EconLit, ASSIA and Sociological Abstracts (formerly SOCIOFILE) and COPAC. Our search strategy used 'quality of life' as a MeSH and text word and simple permutations of 'old/elderly' (where supported) to accommodate databases, such as such as COPAC, which have a limited ability to deal with complex Boolean search term combinations. In order to capture the components of quality of life nominated by older people in residential care we broadened our search of Sociological Abstracts and COPAC to include the text terms welfare or happiness or life satisfaction as well as quality of life combined with permutations of institutional care, nursing homes or residential care. Details of the search terms are provided in the Annex of search terms.

The grey literature was searched by asking members of the European Forum on Population Aging Research (September 2002) (<http://www.shef.ac.uk/ageingresearch>) to forward unpublished (and published) papers of their and their colleagues work on the quality of life of older people. We also reviewed the Research Findings of the ESRC Growing Older Programme (<http://www.shef.ac.uk/uni/projects/gop>).

As we were interested in the components of quality of life nominated as being important by older people, the inclusion criteria for the review was limited to articles detailing the use of individualised quality of life measures, such as the Patient Generated Index (PGI (Ruta et al. 1992) and Schedule for the Evaluation of Individual Quality of Life (SEIQoL) (McGee et al. 1991), and survey methods or qualitative methods investigating what gave quality to the life of older people. We were particularly interested in articles relevant to Europe but also included studies conducted in the USA, Canada, Australia and New Zealand. Only articles written in English were included.

TF and JB independently reviewed the abstracts (and titles where abstracts were not available) to ascertain articles of potential interest with disagreement resolved by discussion. Additional articles already known to TF, JB or AB were also obtained. After excluding articles which did not meet our entry criteria, the components of quality of life nominated by the respondents were recorded for each of the papers. Information was also recorded on: the age of the respondents, the setting for the study (for example community or long-term care facilities), respondents' experience of illness and their sociodemographic characteristics, as a priori it was thought that these might influence which components were nominated.

Results

Approximately 7500 articles (including duplicates) were identified across all ten databases. After discussing any disagreements, approximately 215 articles were read in full (by TF). Forty-five

papers met the inclusion criteria. One recent article, known to the authors but not identified by the databases (as it was in press), was included in the 45 papers (Bowling et al. 2003). After discounting papers reporting on the same studies, although reporting different findings (Bowling 1995a,b,1996) (Farquhar 1994,1995), 42 distinct studies were identified (Table 1).

Of the 43 distinct studies listed in table 1, 22 (51%) reported research conducted in a UK setting, seven in the rest of Europe, 12 in North America and two in Australia. The majority (44%) of studies focused on either older people living their own homes with varying degrees of assistance, 21% focused on older people living in residential care. The sample for 14 studies (33%) was selected on the basis of the older people experiencing health problems.

Eleven studies used individualised quality of life measures, most of which were the PGI, SEIQoL or disease-specific variations of these. Four studies used survey methods, the remainder used semi-structured, unstructured interviews or discussion groups.

The components of quality of life nominated by older people are presented in Table 1. Three studies, marked with an asterisk in the table, either failed to report the components put forward by interviewees (often due to the authors' use of a particular paradigm to conceptualise quality of life) or because there was a focus on one particular important component. Older people consistently nominated a number of components which are discussed below.

Family relationships

Older people nominated family relationships as being an important determinant of quality life in 17 of the studies (Thomas and Chambers 1989; O'Boyle et al. 1992; Oleson et al. 1994; Bowling 1995b; DePaola and Ebersole 1995; Farquhar 1995; Montazeri et al. 1996; Glass and Jolly 1997; Broadhead et al. 1998; Bradley et al. 1999; Waldron et al. 1999; Campbell and Whyte 1999; Hilleras et al. 2001; Bryant et al. 2001; Buys 2001; Browne et al. 2002; Dempster and Donnelly 2002).

Browne et al. (2002) found, using the SEIQoL, that 89% of the older Irish people sampled nominated family as an important aspect of their quality of life. In the UK Farquhar (1995) found that family (usually meaning children) and social contact (often other family) were very important, with 60% and 34% respectively mentioning these. Bowling (1995b) conducted a large UK survey, with 429 individuals aged 65 and older. Individuals were asked what was important in their lives (positive and negative components) and to rank these. On combining the top five ranked items, relationships with family or other relatives were nominated by 46% of those aged 75+ and 47% of those aged 65-75. Women and those of higher social class were more likely to mention such relationships. In a study by Thomas et al. (1989) 25% of the older men nominated family relationships as being enjoyable whilst 60% said loss of significant others was something they dreaded. Bryant et al. (2001) used semi-structured interviews to ascertain what factors discriminated between healthy and less healthy ageing in the USA. Fifty seven percent of the 60 individuals interviewed in Burbank's US study who reported items that 'gave meaning to their lives' mentioned relationships, although no distinction was made between those with family and friends (Burbank 1992). Family was also mentioned in a US study (Glass et al. 1997). Relatives was the second most nominated item and was mentioned by 57% of the 99 people aged between 90 and 99 in a Swedish study (Hilleras et al. 2001). Ball et al. (2000) found that 'connectedness to the community outside the facility', which includes family relationships, was important (numbers of subjects unreported) when interviewing 55 American older people in assisted living facilities.

Family relationships were also found to be important to older people in poor health. Two Irish studies of older people in poor health found family to be important (O'Boyle et al. 1992; Waldron et al. 1999). Ninety-three per cent of cancer patients in Waldron's study nominated family whilst 70% of the patients and 90% of the matched controls gave family as a quality of life component in the study by O'Boyle et al. (1992). In the Canadian study of cancer patients (Broadhead et al. 1998) family was one of the most common components, but with an emphasis on their family's happiness, the importance of support from them and the need not to be a burden to them rather than relationships per se. Family was also nominated as important in several UK studies that recruited people with terminal or chronic conditions (Bradley et al. 1999; Campbell et al. 1999; Montazeri et al. 1996). Montazeri (1996) interviewed 200 patients with lung cancer or chronic respiratory diseases. 'Aspects of family life' was mentioned most often as giving a good quality of life, being nominated by 58% of respondents. Older people with other conditions that limited their mobility also reported family as being important (Dempster et al. 2002; Oleson et al. 1994). Oleson (1994) interviewed 10 older people living in three long-stay UK institutions of which half mentioned family relationships (Oleson et al. 1994). Dempster et al. (2002) used a modified form of the PGI to ascertain quality of life components from older people discharged early from hospital and found only two of 31 older people interviewed mentioned family. This may reflect the focus on respondents to identify areas of their life affected by their condition.

Relationships (other)/contact with others

Twenty one studies reported relationships (most of the time being distinct from family) as being important to older people (Peace et al 1979; Ebersole and DePaola 1987; Wilkins and Hughes 1987; Burbank 1992; O'Boyle et al. 1992; Oleson et al 1994; Bertero and Ek 1993; Bowling 1995b; DePaola et al. 1995; Farquhar 1995; Watkins and Pearson 1996; Montazeri et al 1996; Nilsson et al. 1998; Qureshi et al. 1998; Campbell et al. 1999; Waldron et al. 1999; Buys 2001; Cattell 2001; Ball et al. 2000; Hilleras et al 2001; Browne et al. 2002; Bowling et al. 2003). This was particularly important for people living in their own homes, but was mentioned less where respondents were lived in residential homes.

Where a distinction was made between family and other relationships, relationships with other people were generally mentioned less often than family. In the UK, Bowling (1995b) found relationships with others was the fifth most nominated component. Bowling also reported that whilst this component was important to the over 75s, people in this age group were less likely to report it as the most important component than those aged 65-75. For brevity in reporting her more recent survey, Bowling grouped family and other relationships together into a more general component of social relationships, which was first most important (83%), when results for things that improved quality of life and things that could take away from quality of life were combined (Bowling et al. 2003). However, the coding will allow future investigation of the types of relationship. Social contact was mentioned by 34% of respondents in the survey by Farquhar (1995) and in a similar geographical area the importance of social networks was mentioned (Cattell 2001). In Ireland, relationships was mentioned by one in five older people, being the sixth most nominated component Browne et al. (2002). Hilleras et al. (2001) found that other relationships (having company) were nominated, but not very often by older people in the study of very old Swedish. It was the eighth most nominated component with three per cent of people mentioning it. Burbank (1992) found that 57% of 81 people who had contact with a Senior Centre nominated relationships in general as important.

Buys (2001) reported on the preferred activity of many people living in independent living units (assisted housing) in Australia. This was mainly visits to each other 'just to talk'. Ball et al (2000)

found social relationships and interactions to be nominated by older people in assisted living facilities. The relative importance compared with other components was not reported, however. Relationships were important in 45% older people in mobile homes in the US studies (Ebersole et al. 1987). It was also mentioned by 56% of those in the study by DePaola et al. (1995) and in two other studies where the older people were in residential care (Watkins and Pearson 1996; Peace et al. 1979). In a further study nursing home residents mentioned the quality of social relationships (Wilkin and Hughes, 1987). General themes such as ‘connectedness’ involving social networks were noted (Oleson et al. 1994; Moore 1997). Litwin (2001) also noted that networks involving friends and other social groups increased morale among older people compared with those whose networks were restricted to family. Qureshi et al. (1998) found social contact to be important and was seen as an important function of social care when older people were housebound through illness.

Other relationships were also important to those people in poor health. Waldron et al. (1999) found that friendships/relationships was the fifth most nominated component in cancer patients, (38% of respondents). Cancer patients also mentioned interpersonal relationships (Bertero et al. 1993). Cancer patients also mentioned social life (53%) and relationships (40%) in the study by Campbell et al. (1999). Montazeri et al. (1996) found that 43% of patients who had lung cancer or chronic respiratory disease nominated a social life as necessary for a good quality of life. In the older people requiring hip replacements, relationships was nominated by about half of the patients and the controls and was the fourth most nominated component (O'Boyle et al. 1992).

Emotional well-being

Aspects of emotional well-being or happiness were mentioned in 16 studies of the studies (Bowling 1995b; DePaola et al. 1995; Ebersole et al. 1987; Farquhar 1995; Montazeri et al. 1996; Moore 1997; Raphael et al. 1997; Macduff and Russell 1998; Qureshi et al. 1998; Thomas et al. 1989; Waldron et al. 1999; Pratheepawanit et al. 1999; Ball et al. 2000; Browne et al. 2002; Dempster et al. 2002; Bowling et al. 2003). It was not mentioned sufficiently frequently to justify being separated out from an ‘other’ category in Bowling’s first UK survey (Bowling 1995a; Bowling 1995b). This may be due to a focus on a generic term health by the interviewees, although psychological well-being was nominated by 49% of older respondents as potentially being positive or negative for quality of life in her updated survey (Bowling et al. 2003). Confidence, morale and happiness were all mentioned by people in the study by Qureshi et al. (1998). Farquhar (1995) found that older people were concerned about misery or unhappiness which was often accompanied by a loss of hope, whilst general dissatisfaction with life was dreaded by 30% of the men in the UK study by Thomas et al. (1989).

In Ireland, Browne et al. (2002) found that happiness was only nominated by 5% of healthy older people at both time points (one year apart) when the SEIQoL was administered. In their two US studies, DePaola et al. (1995) and Ebersole et al. (1987) found that 19% and 16% of older people in mobile homes and in nursing homes respectively nominated pleasure as important. People in poor health also mentioned aspects of emotional well-being. Among cancer patients in the study by Waldron et al. (1999) contentment/happiness was the sixth most nominated component, being mentioned by 28% of patients. In the UK study by Pratheepawanit et al. (1999) the authors classified a number of responses as fitting into a psycho-social component, relevant to 39% of individuals. Montazeri et al. (1996) reported two categories into which the responses of eight patients with lung cancer and respiratory diseases were fitted: enjoyment of life (34% of subjects) and happiness (28%). These were the fourth and sixth most nominated categories. Older people being discharged early from hospital tended to focus on activities when using the MPGI, Dempster

et al. (2002). A component self-confidence was mentioned by 4 of the 31 subjects but respondents were giving components that had also been affected by their condition. In the study of older people with hip problems, no controls mentioned components related to emotional well-being whilst 5% of patients nominated happiness in the SEIQoL exercise. Macduff et al. (1998) found that eight of 44 disabled individuals nominated mood as an important component of quality of life. The intensive use of the prompt list used for this exercise in the PGI may reduce the applicability of the results.

Religion/spirituality

Eighteen of the studies found aspects of religion or spirituality to be important to older people (Ebersole et al. 1987; Burbank 1992; O'Boyle et al 1992; Oleson et al 1994; Bowling 1995b; DePaola et al 1995; Bradley 1997; Glass et al. 1997; Raphael et al 1997; Engle et al.1998; Nilsson et al 1998; Qureshi et al 1998; Campbell et al 1999; Waldron et al 1999; Ball et al 2000; Hilleras et al 2001; Browne et al 2002; Dempster et al. 2002). In Bowling's survey religion represented the eighth most nominated component for people aged 65 and above (Bowling 1995a; Bowling 1995b). Six per cent of these people had nominated it as one of their most important five components of quality of life.

Religion has been found to be particularly important in Ireland. Healthy older people nominated religion as the fifth most important component in quality of life at both time points at which the SEIQoL was administered (Browne et al. 2002). Five out of 105 very old people in Stockholm nominated religion as being important in their lives, representing the joint fifth most nominated item (Hilleras et al. 2001). Nilsson et al. (1998) grouped concepts into six components in a Swedish study: philosophy of life or future perspective might include religion but there was no further breakdown of items to confirm this. Glass et al. (1997) found that religion was mentioned by US older people in good health. DePaola et al. (1995) found that aspects of 'beliefs' were nominated by three per cent and seven per cent of older people in mobile homes and nursing homes respectively, although this component could have included social and political beliefs as well as religious ones Ebersole et al. (1987).

Campbell et al. (1999); Dempster et al. (2002) and Bradley (1997) all found that people with experience of illness mentioned religion. Oleson et al. (1994) noted the importance of religion (2 out of 10 individuals) as an aspect of connectedness. The study of older people requiring hip replacement was also conducted in Ireland (O'Boyle et al. 1992). Religion was nominated by 45% of patients and controls making it the fifth most nominated component in controls and joint fourth among patients. Religion or spiritual life was very important to cancer patients in the study by Waldron et al. (1999): 38% of individuals nominated it as important, which made it the fourth most nominated component. Engle et al. (1998) also found that religion was important to older terminally ill American individuals.

Religion was important to many individuals with limited independence, such as those in institutional care. In the study by Burbank (1992) religion was the third most nominated item, being mentioned by 13% of the 60 individuals who are able to name something. However the question asked of them referred to something that gave meaning to individuals' lives and this might be expected to focus people's thoughts more on this factor. Ball et al. (2000) also noted religion/spirituality in a study where individuals were living in assisted living facilities.

Independence, mobility and autonomy

Aspects of independence, mobility or autonomy were mentioned in 25 of the studies (O'Boyle et al. 1992; Bertero et al. 1993; Oleson et al. 1994; Bowling 1995a; Farquhar 1995; Montazeri et al. 1996; Moore 1997; Bradley 1997; Wilkin et al. 1987; Macduff et al. 1998; Qureshi et al. 1998; Bradley et al. 1999; Campbell et al. 1999; Oldman and Quilgars 1999; Waldron et al. 1999; Ball et al. 2000; Abbott et al. 2000; Biggs et al. 2000; Fry 2000; Annells et al. 2001; Bryant et al. 2001; Browne et al. 2002; Dempster et al. 2002; Bowling et al. 2003). Bowling found that older people were the most likely of any age group to mention the ability to get out and about as being the most important area of life to be affected by illness (Bowling 1995a; Bowling 1995b). However independence was not mentioned as an important component of quality of life per se and in her subsequent survey Bowling found it to be one of the least important components (Bowling et al. 2003). Nevertheless the necessity of a reasonable state of health to maintain independence was stressed, together with the more general linkages between independence and other physical components in older people. Independence was not merely conceptualised as ability to travel outside the home but for housebound people it was the ability to take care of themselves (Farquhar 1995). Independence and autonomy was one of 14 components reported by older people in assisted living facilities (Ball et al. 2000) and 75% of all interviewees in Bryant's study mentioned independence (Bryant et al. 2001). Similar feelings were found where respondents were in residential care (by Wilkin et al. 1987; Oldman et al. 1999; Abbot et al. 2000; Biggs et al. 2000;).

In the studies that modified the PGI to be disease specific, independence or mobility was mentioned by patients as an area of concern to their quality of life with relation to the particular illness (Bradley 1997; Bradley et al. 1999; Waldron et al. 1999). Campbell et al (1999) found that 27% of respondents mentioned independence whilst Dempster et al (2002) and Macduff et al. (1998) found that aspects of independence were adversely affected by the respondents' condition. Independence was the sixth most frequently nominated component of quality of life in Browne's study, (16% and 14% for the two time points) (Browne et al. 2002). Autonomy was again mentioned by leukaemia patients in the study by Bertero et al. (1993) and in the study by Montazeri et al. (1996), 'ability to do what one wants to do' was the component, which made it the seventh most frequently mentioned component (17% of respondents).

Twenty-five per cent of controls and 50% of patients in the study of older individuals requiring hip replacements nominated independence (O'Boyle et al. 1992). Annells et al (2001) found it was an area of concern to older people requiring community nursing.

Social/leisure activities and the community

Aspects of social and leisure activities were put forward in 25 studies (Pearce et al. 1979; Spalding et al. 1985; Ebersole et al. 1987; Thomas et al. 1989; Burbank 1992; O'Boyle et al. 1992; Bowling 1995a; DePaola et al. 1995; Farquhar 1995; Montazeri et al. 1996; Watkins et al. 1996; Bradley 1997; Broadhead et al. 1998; Macduff et al. 1998; Nilsson et al. 1998; Bradley et al. 1999; Campbell et al. 1999; Waldron et al. 1999; Ball et al. 2000; Annells et al. 2001; Bryant et al. 2001; Hilleras et al. 2001; Browne et al. 2002; Dempster et al. 2002; Bowling et al. 2003).

In the first survey by Bowling, when all the most important items ranked from one to five were tabulated by age, social life and leisure activities were reported by 22% of those between 65 and 75 and 20% of those aged 75 and over (Bowling 1995a; Bowling 1995b). Social activities were more important than leisure activities done alone in her second survey (62% compared with 49%) (Bowling et al. 2003). In the latter survey social capital also featured prominently, with respondents

stating the importance of their home, neighbourhood, and local community, access to transport and safety. Others have confirmed the importance of safety and security in relation to people living in retirement communities (Biggs et al. 2000; Ball et al. 2000; Fry 2000; Buys 2001; Hilleras et al. 2001)

In the study by Farquhar, older people regarded social activities as important, but dependent upon a reasonable state of health and functional status (Farquhar 1995). Activities were mentioned by 35% of the men in the study by Thomas et al. (1989). Activities were the most frequently reported component at the first time point (95%) in older people in the Irish study (Browne et al. 2002). However, at the second time point, only 59% of individuals mentioned it, making it fifth most important. In the Swedish study by Hillerås, five of the 99 individuals in the study were able to name an important thing in their life mentioned pleasurable activities (reading, music etc) (Hilleras et al 2001). Activities were also mentioned as being important by those in residential care (DePaola et al. 1995; Watkins et al. 1996; Peace et al. 1979). Nilsson et al. (1998) and Ball et al. (2000) also noted the importance of activities.

Activities were found to be important amongst cancer patients (Montazeri et al. 1996; Broadhead et al. 1998; Campbell et al. 1999). More than one potential social or leisure activity was mentioned by the older people discharged early from hospital in the study by Dempster et al. (2002), including hobbies and pastimes. When groups with impaired mobility are considered, 10% of the older people in Burbank's study reported activities as being important (Burbank 1992). Social and leisure activities were also the most frequently mentioned component of quality of life in both controls and patients in the study of patients undergoing hip-replacement (O'Boyle et al. 1992). Ninety per cent of controls and 75% of patients reported it. Social activities, including voluntary work in the community and help for others were commonly reported in studies of patients with chronic disease, or impaired mobility (Bryant et al. 2001) and Waldron et al. (1999). Leisure activities were also noted from the group meetings co-ordinated in the study by Raphael et al. (1997). However, since this study utilised a framework of pre-determined domains it is not clear how important such activities were to the individuals.

Finances/standards of living

Fifteen studies of the studies found finances or standards of living to be important (Spalding et al. 1985; Burbank 1992; O'Boyle et al. 1992; Farquhar 1994; Farquhar 1995; Bowling 1995a; Montazeri et al. 1996; Bradley 1997; Broadhead et al. 1998; Thomas et al. 1989; Qureshi et al. 1998; Campbell et al. 1999; Waldron et al. 1999; Fry 2000; Browne et al. 2002; Stathi et al. 2002; Bowling et al. 2003;). In the first survey by Bowling, 48% of all the people aged 65-75 and 35% of those aged 75 and over mentioned financial security or housing as one of the top five most important components of quality of life (Bowling 1995a; Bowling 1995b). These represent the second and third most important components of the two age groups respectively. Home or neighbourhood issues and finances were mentioned separately (being fourth and fifth) in Bowling's subsequent survey, with 54% and 50% respectively (Bowling et al. 2003). Issues of safety and poor transport facilities were highlighted. Thomas found that 10% of older men in that study mentioned finances (Thomas et al. 1989).

In the study by Farquhar, material circumstances were found to be important and usually meant finances or a good home (Farquhar 1995). Issues of cleanliness and tidiness of surroundings were raised among people in the study by Qureshi et al. (1998). Two percent of the older people who had contact with a Senior Centre in the study by Burbank mentioned suitability of the home as an important component of the quality of life (Burbank 1992). A pleasant environment was important

to nursing home residents in the study by Spalding and Franks (1985). Living conditions was the most frequently mentioned component of quality of life among the healthy elderly of Browne's study of Irish older people (Browne et al. 2002). At the second time point it was mentioned even more frequently: it went from fifth most frequently mentioned component to joint first (80% increased to 89%). Three of the 99 individuals in the study of the very old in Stockholm mentioned security whilst financial security was mentioned by five respondents when asked for things that were particularly good about being the age they were (Hilleras et al. 2001). Economic independence was mentioned by older Canadians in the study by Fry (2000) .

Individuals with chronic or terminal conditions nominated finances/standards of living. people completing the renal dependent quality of life questionnaire put forward living conditions as one of the important components (Bradley 1997). Cancer patients put forward finances (27%) and living conditions (20%) in the study by Campbell et al. (1999) whilst 29% of respondents in the study by Montazeri et al. (1996) said that financial security gave a good quality of life. Broadhead found finances and living conditions are as two separate components that were important to cancer patients (Broadhead et al. 1998) whilst work and finances were both mentioned equally in the study by Waldron et al. (1999). In the study of people requiring hip replacement, finances were mentioned by 30% of controls and 50% of patients whilst living conditions were mentioned by 20% of controls and 15% of patients (O'Boyle et al. 1992).

Own health

In 17 of the studies health was nominated as an important component of quality of life (Ebersole et al. 1987; Thomas et al. 1989; Bowling 1995a; DePaola et al. 1995; Burbank 1992; O'Boyle et al. 1992; Farquhar 1995; Broadhead et al. 1998; Campbell et al. 1999; Montazeri et al. 1996; Nilsson et al. 1998; Waldron et al. 1999; Hilleras et al. 2001; Browne et al. 2002; Dempster et al. 2002; Bowling et al. 2003). Own health was found to be important to UK older people in both good and poor health and to all ethnic groups. After relationships with family/relatives, Bowling found own health was most frequently mentioned as the first most important thing in older peoples' lives. For those 'not in good health', however, the effects of own health were most frequently mentioned as the first most important (Bowling 1995a). Own health was slightly less important to those aged 75+ compared with those aged 65-75 (60% vs. 65% respectively). Her second survey found health to be the second most important component, and the most likely to reduce quality in older peoples' lives (Bowling et al. 2003). Thirty-four per cent of respondents in Farquhar's survey nominated health (Farquhar 1995) whilst 45% of the older men in Thomas' study had health concerns (Thomas et al. 1989). Own health was found to be one of the most important components of quality of life in older cancer patients (Campbell et al. 1999; Montazeri et al. 1996). In the study of healthy older people in Ireland, health was found to be in the top three components nominated at both time points (one year apart) on which the SEIQoL was administered (Browne et al 2002). Hilleras et al. (2001) and Nilsson et al. (1998) each found health to be important to very old people in Stockholm. Older Americans living in mobile homes and nursing homes mentioned health (22% and 9% respectively) (DePaola et al. 1995; Ebersole et al. 1987).

Health was found to be an important component of quality of life in older cancer patients (Broadhead et al. 1998; Waldron et al. 1999). It was also in the top three components in both controls and patients in the hip replacement study by O'Boyle et al. (1992). The work by Bryant et al seemed to support the hypothesis that good health is not valued as an important component per se but that older people have greater well-being if they do something worthwhile for themselves and can overcome problems in their daily routine to achieve this (Bryant et al. 2001). There were a number of studies in which no explicit mention of health was made but where aspects of physical

functioning or lack of pain were reported (Oleson et al 1994; Bradley 1997; Macduff et al. 1998; Pratheepawanit et al. 1999; Qureshi et al. 1998; Bradley et al. 1999; Annells et al. 2001; Ball et al. 2000; Dempster et al. 2002).

Health of others

Only three studies mentioned worries about the health of others (Bowling 1995b; Bryant et al 2001; O'Boyle et al 1992). Bowling found that health of someone close/responsible for was nominated as the fourth most frequently mentioned item when the top five nominated components were combined for both those aged 65-75 and those aged 75+; the percentages of people nominating it were 32% and 26% respectively.

Family health was nominated as essential to overall quality of life in 25% of controls and 5% of patients in requiring hip replacement (O'Boyle et al. 1992). Bryant et al. (2001) found that poor health of a spouse was detrimental to quality of life if that spouse required care taking. Worries about family members' future was mentioned by some individuals with diabetes in the study by Bradley et al. (1999).

Quality of life in institutional care

Most studies of institutional care have emphasised the quality of *care* given, rather than what gave quality to the lives of residents themselves, and have focused on staff, rather than residents' views (Birren et al. 1991; Mason 1990). Staff views have emphasised empowerment in relation to promoting activities and independence, and thereby quality of life (Wells et al. 1986; Brown and Thompson 1994; Saul, 1993). On the whole, staff have been reported to perceive the quantity of social engagement between residents, and social roles, as important to quality of life (Abbott et al. 2000). Oldman and Quilgars (1999) reported concerns among staff about the adverse effects of change (notably moving into residential care per se) upon residents' quality of life. In other studies the possible conflicts between maximising perceived quality of life and satisfying institutional or financial regulations were emphasised. For example, Glendinning (1977) recognised the potential conflicts between maximising the choice of space within care homes (for example through the use of internal room partitions) and the need to satisfy fire and safety regulations.

But what about older people's views? How do these compare? Denham (1991) and Davies (1981) described in detail the physical, emotional and health-related aspects widely considered to be important to older people's quality of life but there is no empirical work to investigate whether older people in institutions themselves consider these to be important. Even where residents' own views have been sought, pre-defined aspects of quality of life were usually presented to them (e.g. autonomy), with residents merely choosing the relative importance of these (see volume edited by Birren et al. 1991).

In terms of the views of older people in the community about residential care, Sinclair and Williams (1990) noted that loss of independence and privacy, together with the possibility of mixing with uncongenial company were perceived as being detrimental to quality of life, whilst better physical surroundings and combating loneliness as being beneficial. There are similarities with, and differences between, the dimensions of quality of life put forward by residents of institutional care and older people in the community. Where relationships were mentioned, the emphasis was on the quality of relationships and the need to foster these with people with similar interests (Abbott et al. 2000; Watkins 1996; Biggs et al. 2000; Peace et al. 1979). Independence and autonomy were valued and in more than one case these were linked to desires to have a social or practical role (Abbott et

al. 2000; Oldman and Quilgars 1999). Standards of living related to issues of safety, cleanliness and variety of food (Biggs et al. 2000). Good staff attitudes, respect for individuality and privacy were also seen as desirable features (Fenton 1985; Spalding and Frank 1986; Uting 1977). Other concerns have included a need for privacy and less impersonality in relation to how residents are treated (Fenton et al. 1985).

The grey literature

The results of the grey literature search identified nine studies as part of the UK ESRC funded Growing Older programme where components of quality of life were nominated by older people. The findings are reported separately (Table 2). The studies support the components identified above and provided evidence to suggest that similar components make up the quality of life for differing ethnic groups, although the form and way in which they are experienced may differ (Ashfar et al. 2002; Cook et al. 2003; Nazroo et al. 2003).

Conclusion

The surveys and individualised quality of life instruments reviewed here tended to ask older people explicitly what 'quality of life' meant to them, or asked them to list the important components of quality of life, the qualitative studies reviewed were aimed more at understanding the concept of quality of life and tended to ask a more general series of questions pertaining to issues concerning 'meaning', 'fulfilment' and 'enjoyment' of life. Despite the variety of methods used, however, the components put forward were remarkably consistent. These were family and other relationships/contact with others, emotional well-being, religion/spirituality, independence/mobility/autonomy, social/leisure activities, finances/standard of living, own health, health of others. The variation that was observed in the responses between studies was partly due to the study settings, the age of respondents and the wording of questions.

There was some evidence to suggest that context had an effect on the level of importance given to the nominated components. The frequency of mentioning health as the most important thing in the respondents' lives, for example, was found to increase for those not in good health (Bowling 1995a). Being in poor health was also found to increase the importance of independence and social/leisure activities to people (Bowling 1995a; Bowling 1995b; Farquhar 1995). Illness was also found to increase the importance of family, but Broadhead et al. (1998) found this to be people's desire not to be a burden on family, rather than increased importance of relationships per se. Residents of long-stay institutions gave more importance to retaining a sense of autonomy in their lives, given the restricted control they had over their routine (Oleson et al. 1994).

The effect of heterogeneity in respondents' characteristics was largely ignored. Several studies included a wide range of ages, including those who were under 65 years of age, but made no reference to whether there were any differences between the components put forward between age groups (Annells et al. 2001; Bertero et al 1993; Bradley et al 1999; Broadhead et al. 1998; Macduff et al. 1998; Montazeri et al. 1996; O'Boyle et al. 1992; Pratheepawanit et al. 1999; Waldron et al. 1999). Other studies investigated groups of older people, but they did not actually report the ages included (Qureshi et al. 1998; Campbell et al. 1999; Bryant et al. 2001; Cattell 2001). The studies by Bowling (1995a) and Dempster et al. (2002) did suggest that the 'older old' (aged 75+) were less likely to mention relationships with family or others as important. Farquhar also found that increased age led to an increase in the reported importance of health (Farquhar 1995).

This suggests that, although there may be some limited evidence that the setting of the study, experience of illness and socio-demographic characteristics (in particular age) may affect the strength of preference for a nominated quality of life component, the review has probably identified a fairly complete set of important components.

The UK ESRC Growing Older programme (<http://www.shef.ac.uk/uni/projects/gop>) produced a body of new evidence which supports the literature that the components of quality of life nominated by older people overlap considerably with the concepts of quality of life identified and measured by academic and/or policy makers; and that these areas are also consistent with the views of older people in ethnic minority groups, although their emphasis and form may vary (*see Annex of Go summaries*). There were similarities with, and differences between, the dimensions of quality of life put forward by residents of institutional care and those in the community. The main area emphasized by people but noticeably missing in most measures of quality of life used with older people is the dimension of autonomy and independence – an area of life which increases in importance with the onset of chronic illness and entry into institutional care.

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Annex of Search terms. Jackie Brown and Terry Flynn

Terms used to search for concepts of quality of life relevant to older people

PsycINFO

- * #6 #1 and #4 and #5
- #5 individual*
- #4 #2 or #3
- #3 elderly
- #2 old near age
- #1 quality of life

Medline, EMBASE and CINAHL

- #1 Quality of Life
- #2 limit #1 to human
- #3 Aged
- #4 #1 and #2 and #3
- #5 individual*
- #6 #4 and #5

Web of SCIENCE (SCI-Expanded, SSCI, A&HCI):

Topic=(quality of life OR quality-of-life)
AND (elderly OR (old* SAME (men OR women OR people)));
DocType=All document types;
Language=All languages.

EconLit & IBSS

- * #5 #1 and #4
- #4 #2 or #3
- #3 old near age
- #2 elderly
- #1 'quality of life'

ASSIA

KW=((quality of life)
AND (elderly OR aged OR older)) or
TI=((quality of life) AND (elderly OR aged OR older)) or
AB=((quality of life) AND (elderly OR aged OR older))

Sociological Abstracts (SOCIOFILE)

- * #1 life satisfaction and (English in la)

Annex of summaries of projects in the ESRC Growing Older Programme (GO) on quality of life in older age+. Jackie Brown and Terry Flynn

Go No 1 QL concepts defined by researchers

Breeze et al surveyed over 8000 people aged 75 and over to investigate their QL in relation to socio-economic position. The questionnaire contained standard QL instruments and questions about socio-economic attributes and use of informal and formal services. To measure QL four sets of questions were taken from the Sickness Impact Profile (SIP). Three referred to physical aspects of QL, home management, mobility and body care and movement. The fourth related to social interaction. The Philadelphia Geriatric Morale Scale (PGMS) was also used.

Go No 2 QL concepts defined by professionals and older people

McKevitt et al conducted a postal survey and face to face interviews with professionals working with stroke patients aged 60 and over and interviews with stroke patients aged 60 and over as well as detailed observations in a stroke clinic to investigate the concept of QL.

The study found that more than 70% professionals defined QL in terms of 'happiness' or leading the kind of life one wants to lead. Definitions included other aspects such as having basic physical abilities to care for oneself, having mental health, being able to interact social. The investigators noted that the idea of QL as happiness contrasts with some definitions of QL proposed by experts in healthcare research which emphasis physical and clinical domains.

QL was defined by stroke survivors in terms of:

- Health needed to participate socially with family and friends, to get out and about
- Ability to work inside the home (cooking, cleaning etc) as well as paid work
- Access to material resources
- Happiness/enjoyment
- Attitudes to life
- Satisfying family/personal relationships

Stroke survivors 3 months after discharge discussed the impact of the stroke in terms of limitations on:

- ability to conduct usual activities inside and outside the home
- boredom because of reduced activities and social participation
- negative emotions caused by limitations
- slower pace of life
- attempts to make sense of the experience

Go No 3

Coleman et al explore the significance of spiritual belief for the well-being of a sample of older bereaved spouses drawn from a Christian background.

Go No 4 QL concepts defined by investigators /older people

Baldock and Hadlow conducted a small qualitative study of 35 older people aged 75 or over (average age of 85) who had recently become housebound. The authors were particularly interested in self-esteem which they measured using the Southampton Self-esteem and Sources of Self-esteem Scale (SSESS) and why this increased in the six months in the six months after becoming house bound. It appeared this was achieved by shifting from the more usual sources those of good health, social contacts and activities towards those based on family and aspects of mental and spiritual life/inner self. The most common factor in moving up the self-esteem scale was some new intervention in their lives involving regular contact with others e.g. starting or increasing attendance at a day centre, making new friends eg at a day centre or moving onto sheltered housing, getting on

better with a home help or personal carer. Words used in connection with self-esteem were self-confidence, sense of self, self-image, identity, independence.

Go No 5 QL concepts defined by investigators

Evandrou and Glaser investigated the relationship between multiple role responsibilities (partner, parent, carer, paid worker) and a range of quality of life indicators for four birth cohorts born between 1920s and mid 1940s. The quality of life indicators included material well-being based on entitlement to pensions, health measured in terms of physical well-being (e.g. ability to perform activities of daily living, reports of general health) and social well-being (engagement in social activities).

Go No 6 QL concepts defined by investigators /older people

Bennett et al interviewed 46 widowed men and 46 widowed women aged between 55 and 95 with a view to identifying factors leading to more effective adjustment to bereavement. These were found to be keeping busy, social participation, helping others, social support and the ability to talk to others about the deceased. The interviews asked how the respondents felt and what they did at specific times. The interview schedule also included three questionnaires: the Cognitive Failures Questionnaire (QFQ) and two measures of anxiety and depression: the Hospital Anxiety and Depression Scale (HADS) and the Symptoms of Anxiety and Depression Scale (SAD).

Go No 7 QL concepts defined by older people

Bowling et al surveyed 999 people, aged 65 and over and living in their own homes, about their perceptions of quality of life. In addition, 80 of these surveyed respondents were followed up with more in-depth interviews to explore their perceptions of quality of life in more detail.

The main themes that emerged as forming the foundations for a good quality of life were:

- Having good social relationships with family, friends and neighbours;
- Having social roles and participating in social and voluntary activities, plus other activities/hobbies performed alone;
- Having good health and functional ability;
- Having a good home and neighbourhood;
- Having a positive outlook and psychological well-being;
- Having adequate income;
- Maintaining independence and control over one's life.

Respondents often commented on the multi-faceted nature of quality of life and the interdependency of its factors. The example given was one's independence and social activities being dependent on good health, adequate income and access to transport.

Go No 8 QL concepts defined by investigators

McKee et al investigated the impact of reminiscence activities on the quality of life of older people. One hundred and eighteen older people living in a number of residential and nursing homes received such an activity. The investigators assessed indicators of the participants' QL before and after the reminiscence activities. These included psychological morale, morbidity and observed negative and positive emotion (instruments used not given). In addition, seven focus groups with care staff, older people and the relatives of participants and interviews with 18 older people were conducted. Those who participated in the reminiscence activities fared better in terms of psychological morale, less physical morbidity and showed more positive and less negative emotion.

Go No 9 QL concepts defined by investigators /older people

Blane et al have developed a new measure of quality of life for use among younger older people. The authors developed a quality of life measure (CASP-19) based on the theory of needs satisfaction. This is based on their belief that there are certain needs common to all humans:

- The need to be able to act freely in one's environment (control)
- The need to be free from undue interference from others (autonomy)
- The need for self-realisation (self realisation)
- The need to enjoy oneself (pleasure)

The items were tested with focus groups, cognitive interviews and statistical analysis.

Around 300 were surveyed using CASP-19. The effects of health and wealth, social networks (quality and density of contacts rather than frequency of contacts), the local area and life course effects on quality of life were investigated. Suffering a recent traumatic event, such as failing health, reduced financial situation or bereavement had a strong negative effect on quality of life. Positive events such as the arrival of grandchildren had a strong positive affect on quality of life.

Go No 10 QL concepts defined by older people

Afshar et al conducted interviews and focus groups with women aged 60 plus from a variety of ethnic backgrounds focussing on quality of life, empowerment and what women identify as enhancing or debilitating in terms of living their lives. They found: Health to be the most important issue in relation to quality of life. Health affected the respondents' ability to maintain their interests and remain active. Many contributed to their neighbourhoods and communities; Income, although an issue and may be enabling, was not the most central in terms of QL; Other aspects seen as important in relation to quality of life were; Mobility; Having a purpose/role/function in relation to kin and community; Having social networks and forms of social support (e.g. participating in child care and grand parenting); Being valued by others; Religion/faith/spiritual beliefs.

The research identified a number of aspects of women's lives and experiences that influence their perceptions of quality of life. These can be grouped into two categories:

The first is physical and material factors: Leisure/work opportunities and activities; Access to resources such as transport and housing; Environmental issues (for example, accumulation of rubbish); Fear of crime and safety; Matters relating to health, mobility and fitness

The second is issues of emotion, physical well-being and social support: Shared identity, especially language, culture and tradition; Social networks of family, friends and community; Faith and spirituality; Changing notions of time and space

Go No 11 QL concepts defined by older people

Nazroo et al conducted a total of 73 in-depth qualitative interviews with respondent's age 60 to 74 from four quite specific ethnic groups. In addition, quantitative work was based on an analysis of existing data from the Fourth National Survey of respondents aged 45-74 who identified themselves in the four ethnic groups. The survey allowed exploration of the influence of material factors, social participation and networks, health and neighbourhood environment on quality of life.

The interviews revealed six factors that influence quality of life of older people:

- having a role
- social, practical, emotional support networks (mainly from partner, family, friends, religion)
- income and wealth
- health

- having time
- independence

While the factors were present in all ethnic groups, the form they took and the way in which they were experienced were influenced by ethnicity.

Resources available to the respondents (e.g. extent of family networks, pensions, health) determined the extent to which they have a role, emotional, practical and social support, enjoy their free time and remain independent.

Go No 12 QL concepts defined by investigators

Arber et al investigate the how loss of a marital partner through widowhood or divorce may differently affect men's social relationships and health related behaviour. Their research builds on the premise that involvement with informal associations may contribute to the quality of life of older people by facilitating social interaction and providing context for continued social productivity.

Go No 13 QL concepts defined by investigators

Withnall and Thompson explored factors that might affect whether older people choose to learn in retirement and what role learning plays in their lives as they grow older. Their study reveals, amongst other things, that older people see learning as an informal activity integral and important part of their daily lives.

Go No 14 QL concepts defined by investigators

Robertson et al investigate the impact of continued employment in older age on quality of life, in particular psychological well-being and life satisfaction. Drawing on a model created by Peter Warr nine characterising any environment, aspects of subjective quality of life were investigated: opportunity for control, opportunity for skill use, externally generated goals, variety, environmental clarity, availability of money, physical security, interaction with others (quality and quantity), valued social position (respect).

Go No 15 QL concepts defined by investigators /older people

Gilhooly et al investigated cognitive functioning in relation to perceived quality of life. One hundred and forty five people aged between 70 and 91 were interviewed. Most of the respondents said keeping active, interested, reading, doing puzzles, socialising and keeping healthy could help prevent cognitive decline in older age. Better performance on the real word problem solving tasks asked in the interview was associated with higher self-rating of quality of life (measured by the LEIPAD – a delighted- terrible faces scale and HADS).

Go No 16 QL concepts defined by investigators

Gilhooly et al investigated the relationship between quality of life and access to public and private transport. A positive relationship was found. Subjective quality of life was measured by the LEIPAD – a delighted- terrible faces scale.

Go No 17 QL concepts defined by investigators

Victor et al argue a critical element in the quality of life of older people is social participation and engagement. Reduced social contact, being alone, isolated and feelings of loneliness are consistently associated with reduced quality of life in older people's lives. They investigated three key dimensions of social participation: loneliness, isolation, and living alone in later life.

Go No 18 QL concepts defined by investigators /older people

Peace et al conducted a study intending, amongst other things to advance the understanding of the connections between living environments and the maintenance of identity and well-being. 54 people aged 61-93 were interviewed from a variety of living environments including residential care homes, sheltered accommodation, own and rented dwellings.

They found objects in people's homes were significant to their own identity as was no longer being able to go out or move independently. The findings from the study suggest that a life of quality is achieved when an older person can adopt strategies that allow enough connections to the social and material fabric of every day living.

Go No 19 QL concepts defined by investigators

Scharf et al investigated the conditions of social exclusion in deprived urban neighbourhoods and the processes which contributed to social exclusion in later age. Data consisted of a survey of 600 people aged 60 and over in the three cities and semi-structured interviews with 130 people in the same age group. The research explored five forms of social exclusion that were judged relevant to the circumstances of older people: exclusion from material resources, social relationships (social isolation, loneliness, non-participation in social activities, civic activities, basic services (in the home- basic utilities and beyond - post-office, chemist, and bus service), neighbourhood exclusion including security. A negative relationship was found between a summary measure of social exclusion and a standard measure of QL.

Go No 20 QL concepts defined by investigators /older people

Beaumont and Kenealy investigated perceptions of QL amongst a sample of 250 people in good health aged 65 or over and who considered themselves to be in good health. Overall QL was measured using rating of QL, SEIQoL_DW, WHO-QOL-BREF, cognitive status, individual difference, physical health status and psychological status were measured through numerous instruments as well as questions on social and demographic status, social environment. The most important factors in determining perceived good quality of life were:

- individual's perception of their health
- freedom from depression
- personal optimism
- well recognised cognitive abilities
- aspects of the social environment

Common themes concerning QL mentioned by respondents were related to their family, health, conditions associated with the home – those reporting living with a partner tended to report the highest QL and those in residential homes, irrespective of their health or disability reported poorer QL.

The factors most frequently mentioned which older people considered important to their quality of life were:

Family, health, home, independence (freedom of choice), mobility

To some also of importance were:

A partner, companionship, transport.

The factor most important at predicting quality of life was the social environment which included aspects of the home, safety, finances, services, leisure, environment and transport.

Go No 21 QL concepts defined by older people

Cook et al conducted 11 discussion groups amongst 100 older people ranging from 50-94 years and from 5 ethnic backgrounds. One of the aims was to raise awareness of issues affecting quality of life of older women across different ethnic groups and their involvement in services available to them. Quality of life was generally expressed in terms of what was good and what was difficult about the participants' lives. Positive aspects included:

- Increased self-acceptance and confidence
- Easing of domestic and childcare commitments
- Increased leisure and work opportunities
- Family
- Negative aspects
- Loss of independence/ burden on their families
- Difficult to manage their income
- Poor health
- Disability
- Isolation and loneliness

Part 3. Implications of Parts 1 and 2 for research priorities. Ann Bowling

Incorporating public opinion is regarded as good practice in research and public policy. While interest in health and social care outcome indicators from has burgeoned over the last two decades, there is still a need to progress further beyond health and disease models of ageing, and to include older people's perspectives of what quality of life is in our measurement scales. As has been indicated in this review, many valued aspects of human existence do not relate only to health. Investigators need to ensure that their models and measurement instruments are relevant to their populations of interest, and are grounded in lay perspectives, and not solely on theoretically pertinent models.

Despite the variety of methods used to tap lay views which were reviewed here, the components of QoL put forward by people were remarkably consistent. These included family and other relationships/contact with others, emotional well-being, religion/spirituality, independence, social/leisure activities, finances/standard of living, own health, health of others. The variation that was observed in the responses between studies was partly due to the study settings, the age of respondents and the wording of questions. There was also a high degree of overlap with broader multi-dimensional, theoretical models. However, many existing models are single domain and focus on one only, or a limited number of areas of life. This limited scope is reflected in existing measurement scales. There is a need for further research to examine the degree of this overlap in more detail, to identify the gaps in commonly used existing QoL measurement scales (i.e. where lay perspectives have been omitted), and to suggest methods of incorporating these. The research literature reviewed here indicated that the related concepts and measures of 'well-being' and 'successful ageing' had poor correlations with older people's own views of what constituted these concepts. While the concept of 'successful ageing' has been criticised, for example as being grounded in American norms, there is a need to investigate further what constitutes and predicts 'ageing well', and the relation of this concept to QoL (i.e. does 'ageing well' enhance QoL?), and to ensure that concepts and measures of 'ageing well' are also grounded in lay views as well as pertinent literature.

Age Concern England (ACE 2003) in their report 'Adding quality to quantity', concluded that the Government should adopt a strategic approach to meeting older people's needs, based on the key determinants of quality of life determined by older people in the Growing Older programme, and should take account of the interdependence of those determinants. ACE also recommended that service providers needed to work towards developing the capacity of older people and encourage their community participation, to tackle the barriers to older people's participation in paid employment and voluntary activities, and to support the voluntary sector to promote the social inclusion and relationships among older people. This also suggests the need for the further investigation of the enabling and self-actualising factors within communities, and their interdependency, which facilitate older people's continued social inclusion and participation. In particular, the relative contribution of external social capital has frequently been ignored in quality of life research and this needs redressing.

In addition, there is a need for detailed longitudinal data on the dynamics of QoL and on generational variations between cohorts. This is essential for accurate service and public policy planning, as well as for marketing. People are influenced by their personal history, experiences, education, and the society they live in. The current generation of people aged 50 plus are the next generation of older people and their demands and aspirations may be quite different to today's populations aged 65 and over. They include the post World War II baby boomers who have a higher level of education and higher incomes, more of whom will have occupational pensions with

accompanying increased purchasing power. Their expectations are likely to be different from the current generation of older people in Britain who experienced the depression in the 1930s and a World War. Future generations are also more likely to have experienced divorce and separation, to have different family network structures, and there is evidence that the current baby boomer generation belong to fewer social networks and are more disconnected from their communities – supporting an increasing focus on social capital in future research (Huber and Skidmore 2003). Longitudinal research is urgently needed to assess both cohort effects and the effects of changing expectations and values, or response shift, on quality of life. While detailed longitudinal data on QoL issues is limited, some attempt could still be made to model future expectations and values using existing large, generic datasets such as the British Household Panel Survey

Researchers have also failed to address the complexity and dynamics of quality of life, the interdependency of domains, and, most notably, the distinction between indicator and causal variables, and potential mediating variables. There is a need for a model of quality of life, which focuses on the potential link between psychological factors (e.g. self-esteem or self-worth; self-efficacy, perceived control and self-mastery; and autonomy) and subjective evaluations of quality of life. Research questions which requires testing more thoroughly are: ‘Is subjectively perceived quality of life *mediated* by other interrelated variables, including self-related constructs (e.g. self-mastery and self-efficacy, morale and self-esteem, perceived control over life)?’, and: ‘How are these perceptions *influenced* by cognitive mechanisms (e.g. expectations of life, social values, beliefs, aspirations and social comparison standards)?’. This is the next step that is needed in quality of life research. An appreciation of these issues would lead to more appropriate measurement scales, and assessments of generic, social and health outcomes. Use of structural equation modelling could start to investigate the relationships between these variables

Related to this, further research is required to investigate the variables that act as mediators to the effects of adverse effects and circumstances. The importance of psychological characteristics, particularly of optimism, self-efficacy and mastery, and of transitions between assimilative, active problem-solving and accommodative coping styles, freedom, autonomy, control and independence have all been emphasised by investigators of successful ageing, although these still requires wider empirical testing, and also further outcome assessment in relation to the use of enabling technologies.

Finally, few authors have attempted to develop a composite model of quality of life, showing quality of life on a multi-domain continuum. The methodological advantage of this type of approach is that different domains can be analysed together, rather than separately as is most common, and it could lead to the ability to distinguish between groups of older people on a continuum of the composite measure. This approach would require careful selection of measures to ensure the content validity of the model, particularly in relation to the inclusion of lay views.

Reference

Huber J, Skidmore P. The new old. Why baby boomers won't be pensioned off. London:DEMOS, 2003.

Table 1. Components of quality of life nominated by older people

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated (% of sample, if available)
Abbott et al 2000	70+	100	Semi-structured interviews	UK; residential care	<ul style="list-style-type: none"> • Social roles • Shared interests • Practical role • Autonomy • Opportunities for participation
Annelis <i>et al</i> 2001	21-103 (67)	65	Client generated index	Australia; city dwellers at home needing nursing visits	<p>‘Areas of living problems’ :</p> <ul style="list-style-type: none"> • Pain/aches 45% • Sleep disturbance 23% • Walking difficulties 20% • Having to stay at home 15% • Hygiene management 13% • Social activities affected 12% • Anxiety/worry 11% • Less independence 11% • Less active/physically able 9% • Can’t do housework 9%
Ball <i>et al</i> 2000	90% aged 65+	55	Semi-structured interviews	USA; city dwellers in assisted living facilities (community-based but providing additional help if needed)	<ul style="list-style-type: none"> • Psychological well-being • Independence and autonomy • Social relationships and interactions • Meaningful activities • Care from facility • Comfort • Cognitive functioning/memory • Sleep • Food • Connectedness to community outside facility • Physical functioning • Religion/spirituality • Physical environment • Safety and security
Bertero <i>et al</i> 1993	22-73	8	Semi-structured interviews	Sweden; cancer patients	<ul style="list-style-type: none"> • Interpersonal relationships • Autonomy
Biggs et al 2000	(83)	42	Focused discussion groups	UK; retirement communities	<p>Narratives used to explore characteristics of well-being.</p> <ul style="list-style-type: none"> • Independence with inclusion • Safety • Quality of peer interactions (not quantity)

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated (% of sample, if available)
Bowling 1995a Bowling 1995b Bowling 1996	>16 (focus on 65+)	2003 of which 429 aged 65+	Survey	UK; living at home. Results analysed by age/gender/ socio-economic group/illness (Percentages shown for those aged 65-75 and 75+)	<ul style="list-style-type: none"> • Own health 65%,60% • Relationships with family 47%,46% • Finances/standard of living 48%,35% • Health of others 32%,26% • Social life/activities 22%,20% • Relationships with others 12%,16% • Environment 7%,10% • Religion 6%,6% • Able to work 4%,4% • Job satisfaction 2%,0% • Education 3%,1%
Bowling <i>et al</i> 2003	65+	999	Survey	UK; living at home. Results analysed by age/gender (Nominated components changed little by age/gender)	<ul style="list-style-type: none"> • Social relationships 83% • Health 76% • Social activities 62% • Home/neighbourhood 54% • Finances 50% • Solo activities 49% • Psychological health 49% • Independence 30%
Bradley 1997	Not quoted	40	Renal Dependent Quality of Life questionnaire	UK; patients with renal conditions	<p>As for diabetes patients below,</p> <ul style="list-style-type: none"> • Living conditions • Confidence in ability to do things • Need to depend on others for things • I'd like to do myself • Freedom to drink <p>plus:</p> <ul style="list-style-type: none"> • Physical appearance • Spiritual/religious life • Way society reacts to me • Finances
Bradley <i>et al</i> 1999	58.5	154	Audit of Diabetes Dependent Quality of Life questionnaire	UK; diabetes patients	<ul style="list-style-type: none"> • Employment opportunities • Social life • Family relationships • Sex life • Sport/leisure/holiday opportunities • Ease of travel • Worries about future • Worries about family's future • Motivation to achieve things • Things I could do physically • Extent to which people would fuss too much about me • My enjoyment of the food I eat
Broadhead <i>et al</i> 1998	49-78 (65)	15	SEIQoL	Canada; cancer patients.	<ul style="list-style-type: none"> • Family • Health • Marriage • Finances • Living conditions • Work • Social activities • Specific relationship

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated (% of sample, if available)
Browne <i>et al</i> 2002	65-90 (74)	56	SEIQoL	Ireland (urban Dublin); health adults living at home Two time-points baseline and 12 months later	<ul style="list-style-type: none"> Family 89%, 89% Social/leisure activities 95%, 59% Health 91%, 87% Living conditions 80%, 89% Religion 75%, 84% Independence 16%, 14% Finances 25%, 43% Relationships 18%, 21% Work 5%, 7% Happiness 5%, 5%
Bryant <i>et al</i> 2001	Not quoted	22	Semi-structured interviews	USA; history of chronic disease	<ul style="list-style-type: none"> 'Going and doing' gives healthy aging: Something to do, incorporating activities, family/social roles Ability to do things, incorporating physical, mental functioning and independence Attitude, such as self esteem, self efficacy, self confidence Social resources, including friends, family, social support
Burbank 1992	>61	81	Semi-structured interviews	USA ; 19 respondents household, remainder attended senior centre	<ul style="list-style-type: none"> Religion 13% Activities 10% Living/growth 2% Home 2% Health 2% Learning 2%
Buys 2001	71% age >75 21% age 65-75	323	Semi-structured interviews	Australia; residents of a retirement villages.	<ul style="list-style-type: none"> Friends Health care/support Low maintenance Personal security Low living costs Close to family
Campbell <i>et al</i> 1999	Not quoted	15	SEIQoL-DW	UK city; cancer patients	<ul style="list-style-type: none"> Family 87% Health 73% Leisure 73% Social life 53% Relationships 40% Independence 27% Finances 27% Work 20% Living conditions 20% Physical activity 13% Religion 13%
Cattell 2001	Not quoted	Approx 70	Semi-structured interviews	UK (2 deprived areas of London); living at home	<ul style="list-style-type: none"> Quality of life depends on health, which is affected by: Social support, networks Environment Employment

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Dempster <i>et al</i> 2002	66-95 (78)	36	MPCI	UK (Belfast); discharged early from hospital.	<ul style="list-style-type: none"> • Mobility 100% • Personal care 65% • Shopping 39% • Housework 35% • Hobbies/pastimes 33% • Driving 26% • Religion 16% • Self-confidence 13% • Family 6% • Being free from pain 6% • Working 6%
DePaola <i>et al</i> 1995	(81)	53	Semi-structured interviews	USA; nursing homes	<p>Responses fitted into pre-defined dimensions:</p> <ul style="list-style-type: none"> • Relationships (family, friends, romantic) 56% • Pleasure 16% • Health 9% • Beliefs (religious, political social) 7% • Service/role 5% • Growth (reaching goals, developing self-worth) 5% • Work (paid, housework) 2%
Ebersole <i>et al</i> 1987	(76)	36	Semi-structured interviews	USA; residents of mobile home community	<p>Responses fitted into pre-defined dimensions:</p> <ul style="list-style-type: none"> • Relationships 45% • Health 22% • Pleasure 19% • Service 6% • Beliefs 3% • Obtaining (materialistic possessions/rewards) 3%
Engle <i>et al</i> 1998	54-91 (73)	13	Semi-structured interviews	USA (Southern); nursing homes; terminal cancer	<ul style="list-style-type: none"> • Religion very strong (source of contact and comfort) • Ability to give care to other residents important • Thoughts of dying • Nutrition • Pain • Coping • Receiving care
Farquhar 1994; Farquhar 1995	65+	204	Survey	UK; living at home (Percentages given for age<85 and 85+)	<ul style="list-style-type: none"> • Family 60% • Social contact (friends, neighbours) 34% • Health 34% • Activities 50%, but dependent on reasonable health • Material things 26% • Home environment and independence mentioned as important in 1994 paper but mobility not just within homes. Percentage not given, however.

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated (% of sample, if available)
Fenton 1985*	'middle aged and elderly'	253	Semi-structured interviews	UK (Bristol); The majority were Afro-Caribbean or South Asian	<p>Areas discussed (lead by interviewer):</p> <ul style="list-style-type: none"> • Family friends social life • Support networks • Social contact, social isolation • Health and health services • Social services –home helps meals, accommodation <p>With regards to homes for the elderly, respondents raised</p> <ul style="list-style-type: none"> • A need for privacy • A need for less impersonality in how they are treated
Fry 2000	58+	331	Survey and semi-structured interviews	Canada (urban and rural settings); living at home	<ul style="list-style-type: none"> • Stimulation and challenge • Respect and dignity • Economic independence • Social contact, people to care for them • Avoidance of abuse/harassment due to their old age • Autonomy, control, independence • Environment (safe)
Glass <i>et al</i> 1997	66-87	9	Semi-structured interviews	USA (urban and rural settings). Women living at home	<ul style="list-style-type: none"> • Education • Religion • Positive attitude • Friends • Volunteerism • Family
Hilleras <i>et al</i> 2001	90-99 (93)	105	Semi-structured interviews	Sweden (Stockholm); living at home	<p>'The most important thing in your life right now?'</p> <ul style="list-style-type: none"> • Health 43% • Relatives 29% • 'Just to be hanging on' 10% • Political matters/peace 6% • Religion 5% • Pleasurable activities 5% • A good death 4% • Helping each other/having company 3% • Going somewhere 3% • Security 3%
Litwin 2001*	60+	2079	Survey	Israel; living at home	<p>Effects on morale/self worth of social networks</p> <ul style="list-style-type: none"> • 'Neighbours' and 'family' networks less beneficial • Disability impairs it • 'Diverse' and 'friends' networks beneficial

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated (% of sample, if available)
Macduff <i>et al</i> 1998	(57)	130	PGI	UK; patients with limiting long term illness	<p>Dimensions most affected by health condition (truncated at top ten)</p> <ul style="list-style-type: none"> • Going out 29% • Hobbies 23% • Social life 23% • Memory 17% • Visiting friends 15% • Loss of independence 14% • Walking 51% • Work/housework 38% • Energy level 35% • Sleeping 31%
Montazeri <i>et al</i> 1996)	38-87 (66)	200	Semi-structured interviews	UK; cancer/Chronic respiratory disease patients	<p>A good quality of life given by:</p> <ul style="list-style-type: none"> • Financial security 29% • Family life 58% • Happiness 28% • Own health 51% • Ability to work/do what one wants 17% • Social life 43% • Enjoyment of life 34% • Living longer 8%
Moore 1997	64-92	11	Semi-structured interviews	Canada; suicidal older people admitted to psychiatric wards	<p>What gives meaning to life:</p> <ul style="list-style-type: none"> • Control/independence/power • Connectedness • Emotional well-being
Nilsson <i>et al</i> 1998	82-92	30	Semi-structured interviews	Sweden (Stockholm); healthy and by implication living at home	<p>What gives quality to life:</p> <ul style="list-style-type: none"> • Philosophy of life, religion/faith • Health • Past and present life • Relationships • Future perspective • Activities
O'Boyle <i>et al</i> 1992	43-78 (65) 45-80 (63)	20 20	SEIQoL	Ireland (Dublin); patients needing hip replacement, matched controls	<ul style="list-style-type: none"> • Social/leisure activities 75% • Work 45% • Finances 50% • Family 70% • Family health 5% • Personal health 50% • Living conditions 15% • Relationships 45% • Miscellaneous 15% • Religion 45% • Independence 50%
Oleson <i>et al</i> 1994	65+	10	Semi-structured interviews	UK; long-term care institutions	<p>What's important to a good quality of life:</p> <ul style="list-style-type: none"> • Individuality • Physical functioning • Connectedness • Professionalism
Oldman & Quilgars 1999	80+	53	Semi-structured interviews	UK; 12 care homes	<ul style="list-style-type: none"> • Not to be a burden to family • Mobility & independence

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated (% of sample, if available)
Peace et al 1979	Unknown	123	Semi-structured and structured interviews	UK; 12 residential homes	<ul style="list-style-type: none"> Quality of contact with other residents Need for activity Mixing with people with shared interests Need to be adaptable Good staff attitudes
Pratheepawani et al 1999	18-85 (64)	38	Patient Evaluated Problem Scores questionnaire	UK; Cancer patients	<ul style="list-style-type: none"> Problems affecting QoL Support 1% Physical 62% Existential 4% Psychosocial 33%
Qureshi et al 1998	Not quoted	113	Focus group & semi-structured interviews	UK; living at home with varying degrees of home care or attending a day centre.	<ul style="list-style-type: none"> Desired outcomes of social care for people in community care Clean/tidy environment Feeling less anxious/depressed Keeping alert/active Better physical functioning Social contact & company Improved morale/happiness Being in control of ones life Personal care needs met Independence Respect religious/cultural beliefs Finance
Raphael et al 1997*	(73)	205	Interviews and focus groups	Canada; living independently at home	<ul style="list-style-type: none"> What does QoL mean to you: Social belonging Physical being Community belonging Psychological being Practical becoming Spiritual being Leisure becoming Physical belonging Growth becoming <p>These classifications are authors'</p>
Spalding & Frank 1985	Unknown	Over 450	Group discussion	15 nursing homes in various US cities	<ul style="list-style-type: none"> 'Aspects of quality of care': Choice over routine and environment Positive staff attitudes Involvement with decision making Social activities A pleasant environment Activities external to the nursing home Choice over food
Stathi et al 2002*	62-81 (71)	28	Semi-structured interviews	UK; living at home and engaged in organised forms of physical activity	<ul style="list-style-type: none"> Dimensions sought with reference to physical activity that they all engaged in: Physical activity Developmental wellbeing Material wellbeing Mental wellbeing Social wellbeing

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated (% of sample, if available)
Thomas <i>et al</i> 1989	70+ (77)	50	Semi-structured interviews	UK (London) males; respondents selected from organisations serving the elderly, including university continuation education programmes, church an synagogue groups and social service programmes; by implication living own homes	<ul style="list-style-type: none"> Experiences and things enjoyed/dreaded Health concerns 45% Being active/activities 35% Fear of incapacitation 70% Dissatisfaction with life 30% Making the best of things/adjusting to change 25% Family relationships 20% Thoughts about death 20% Work 15% Loss of significant others 10% Finances 10% 60%
Waldron <i>et al</i> 1999	34-87 (Med=62)	80	SEIQoL-DW	Dublin, Ireland; cancer patients	<ul style="list-style-type: none"> Family 93% Contentment/happiness 28% Health 70% Work 19% Social life/activities 45% Finances 19% Spiritual life/religion 38% Marriage 13% Friendship/relationship 13% Mobility 13% 38% Pain free 11%
Watkins & Pearson 1996	Unknown	Unknown	Unstructured interviews	UK; 8 residential homes near Cardiff	<ul style="list-style-type: none"> Social relationships pursued outside the residential homes Activities already pursued before entering home and which are continued afterwards
Wilkin & Hughes 1987	Unknown	60	Semi-structured interviews	UK; 6 residential care homes	<ul style="list-style-type: none"> 'Concerns of residents': Quality of relationships expectations and expressing concerns mainly that essential of life are met Conflicting views on their lack of control over daily routine

Table 2. Components of quality of life nominated by older people in the ESRC Growing Older Programme

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated
Alfshar et al (2002)	60 -75	150 women	Interviews and focus groups	UK (rural, suburb, inner city); focus on ethnic groups	<ul style="list-style-type: none"> • Health – important to maintain their interests and remain active. • Contributing to neighbourhoods/communities. • Income (enabling, but not the most central in terms of qol). • Mobility • Having a purpose/role/function in relation to kin and community; • Having social networks and forms of social support (eg participating in child care and grandparenting); • Being valued by others; • Religion/faith/spiritual beliefs
Baldock et al (2002)	(82)	35	Qualitative interviews	UK (rural Southeast); recently housebound	<p>The main sources of self-esteem</p> <ul style="list-style-type: none"> • Inner self • Family • Interests • Others • Health
Beaumont et al	65 or over	250	Interviews	UK; healthy	<p>The factors most frequently mentioned which older people considered important to their quality of life were: Family, health, home, independence (freedom of choice), mobility To some also of importance were: A partner, companionship, transport.</p>
Bennett et al (2002)	46 widowed men 46 widowed women	55-95	Interviews	UK; widowed	<p>Factors leading to more effective adjustment to bereavement were:</p> <ul style="list-style-type: none"> • Keeping busy • social participation • Helping others • Social support • Ability to talk to others about the deceased
Bowling et al (2002)	65 or over	999	Interview survey (n=999) with in-depth follow-up (n=80)	UK; living at home	<p>The main themes forming the foundations for a good quality of life were:</p> <ul style="list-style-type: none"> • Having good social relationships with family, friends and neighbours; • Having social roles and participating in social and

Authors, date	Age range (mean)	Number of respondents	Elicitation method	Setting for study/ characteristics	Components nominated
Cook et al (2003)	50-94	100	Discussion groups	UK; focus on ethnic groups	<p>voluntary activities, plus other activities/hobbies performed alone;</p> <ul style="list-style-type: none"> • Having good health and functional ability; • Having a good home and neighbourhood; • Having a positive outlook and psychological well-being; • Having adequate income; • Maintaining independence and control over one's life. <p>Quality of life was generally expressed in terms of what was good and what was difficult about the participants' lives. Positive aspects included:</p> <ul style="list-style-type: none"> • Increased self-acceptance and confidence • Easing of domestic and childcare commitments • Increased leisure and work opportunities • Family • Negative aspects • Loss of independence/ burden on their families • Difficult to manage their income • Poor health • Disability • Isolation and loneliness
Gilhooly	70-91	145	Interviews	UK; participants of a study conducted 30 years ago	<p>Most of the respondents said keeping active, interested, reading, doing puzzles, socialising and keeping healthy could help prevent cognitive decline in older age.</p> <p>The interviews revealed six factors that influences quality of life of older people:</p> <ul style="list-style-type: none"> • Having a role • Social, practical, emotional support networks (mainly from partner, family, friends, religion) • Income and wealth • Health • Having time • Independence <p>While the factors were present in all ethnic groups, the form they took and the way in which they were experienced were influenced by ethnicity.</p>
Nazroo et al (2003)	60-74	73	Qualitative interviews	UK; focus on ethnic groups	

McKevitt et al (2002)	60 years or over	41	Face to face interviews	UK (London); stroke survivors	<p>QL was defined by stroke survivors in terms of:</p> <ul style="list-style-type: none"> • Health needed to participate socially with family and friends, to get out and about • Ability to work inside the home (cooking, cleaning etc) as well as paid work • Access to material resources • Happiness/enjoyment • Attitudes to life • Satisfying family/personal relationships <p>Stroke survivors 3 mths after discharge discussed the impact of the stroke in terms of limitations on:</p> <ul style="list-style-type: none"> • Ability to conduct usual activities inside and outside the home • Boredom because of reduced activities and social participation • Negative emotions caused by limitations • Slower pace of life • Attempts to make sense of the experience
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