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13. CARE-RELATED QUALITY OF LIFE

Conceptual and empirical exploration

INTRODUCTION

In this chapter the concept of care-related quality of life (crQoL) is discussed as a basis for research within social gerontology and as a framework for evaluation of quality and performance within health and social care services for older people. The motivation for this, both theoretically and practically oriented work, lies in an increasing awareness that issues of quality of life (QoL) are particularly relevant in the study of older people who are vulnerable, frail or disabled. The changes in personal capacities, abilities, and circumstances that often accompany old age may fundamentally challenge the basis of a person's well-being and may undermine their ability to cope with everyday life (Sixsmith, 1994; Hughes, 1990). For those people who rely on daily support from health and social care services this is likely to have a major impact on their QoL. Enhancing QoL should be a major component in how we assess the value and impact of the services.

Considerable attention has been given to issues of health-related QoL (Bowling, 1995, 2004), e.g. in respect to particular illnesses or conditions. Attention has been given to QoL for people, especially older people, who are suffering from chronic, long-term conditions, such as congestive heart failure, stroke, and arthritis. Rather less attention has been given to older people who are described as 'frail', or who experience multiple low-level conditions that have impact on their abilities to cope with everyday life (Birren *et al*., 1991). Many of these people are dependent on the care and support they receive from formal (e.g. health and social care) and informal (e.g. family and neighbours) sources and their well-being is inevitably bound up in these care relationships. If care is fundamental to the well-being of frail older people, then a framework that specifically incorporates the role of care in the production of well-being is needed, rather than a more general concept of well-being. From an applied perspective, organisations involved in the monitoring, commissioning, and delivery of care services are specifically interested in evaluating the impact of care services.

The work reported in this chapter has been carried out as part of the Care Keys – a project funded under the European Union's Quality of Life Research and Development programme.[1] Care Keys is a multidisciplinary project that aims to develop a conceptual model of crQoL, and a 'tool kit' for the evaluation and management of the quality of long-term care of older people, with emphasis on client voice and outcomes. This study was performed at the initial stage of the project to find our fitting outcome measures, and to test the connection between care and well-being for justifying the basic Care Keys approach and whether it provides a promising avenue for the project working.

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TOWARDS A CONCEPTUAL MODEL OF crQoL

While the term QoL is commonly used and an increasing body of literature since around 1970 has been the topic, there is still no established definition and conceptual framework. Quite often a definition is avoided and a pragmatic position taken using QoL as an 'umbrella term' (Brown and Brown, 2003). There is an underlying idea that QoL is about the 'good life' and the evaluation of a person's life with reference to standards of 'goodness', but there is also the fact that the concept is used rather indiscriminately with different authors 'filling in' different things depending on their theoretical or practical approaches. As Diener (1994, p.105) reminds us, 'the most useful definition of subjective well-being will be based on a compelling theory'. This theory is missing, Diener observes, although he makes some important steps toward integrating psychological approaches to subjective well-being as part of a broader concept of QoL. We need conceptual models to ensure that all relevant components of the problem area are included and to orient our thinking both in research and practical application.

One common approach to reach a more systematic concept is to list relevant aspects of human life which would constitute a 'good' QoL. In the Care Keys project Vaarama *et al*. (2004) outline a number of broad components of QoL relevant to frail older people (see also Hughes, 1990; Cummins, 1997):

- Socio-economic factors (income, household structure, and ethnicity)
- Individual characteristics (age, health, cognitive, and emotional capacities)
- Social factors (family, social networks, and social participation)
- Life changes (traumatic or disruptive events, or lack of change)
- Environmental factors (housing, facilities, amenities, and neighbourhood)
- Social and health care services (including expectations, preferences and amount, and type of support)
- Personal autonomy factors (ability to make choices, and control)
- Activities (leisure, sports, productive activities, and work)
- Psychological health (psychological well-being, morale, loneliness, and happiness)
- Subjective life satisfaction (evaluation of own QoL in relevant life domains)

Starting with such a list, we may distinguish four approaches to the development of a systematic concept or model. In a *first* approach the list is reduced to a more aggregated and systematic taxonomy of relevant life domains such as physical well-being, material well-being, social well-being, emotional well-being, and productive well-being (see Felce and Perry, 1997; Cummins, 1997). The typical perspective of these taxonomies is on measurement of QoL in relevant *domains*. Diverse aspects of a person's life and the environment may be included without theoretical specification of the relationship they have to (the theory of) the person. The taxonomy is guided by expert judgement and usually supported by statistical analyses. An example is the QoL assessment developed by the WHOQoL group (Skevington *et al*., 2004).

A *second* approach – also resulting in a taxonomy – starts with a theoretical framework and develops a model of the 'good life' or the 'successful life'. The

approach will start from an integrated or 'holistic' model of the human being or person and specify theoretical *dimensions* which may be more structural or developmental depending on the theory. The framework might be quite general, e.g. drawing on a theory of system development (Freund *et al*., 1999; Veenhoven, 2000) or more specific like the model of QoL of older people' with frailty or dementia by Lawton (1991) employing environmental psychology, or the model for older people in transition from home to institution by Tester *et al*. (2003) using a gerontological framework.

A *third* approach organises components in a causal process model specifying the *variables* or indicators as conditions, causes and effects of QoL. Typically, the perspective is explanatory or involves testing hypotheses about certain condi-tions of QoL. Thus, the selection of variables is usually guided and restricted by empirical research. There is a wealth of research from this perspective (Renwick *et al*., 1996; Schalock and Siperstein, 1996; Brandstädter and Renner, 1999). This approach tends to adopt a narrower concept of 'final outcomes' limited to subjective well-being (Diener, 1994). This has the advantage that objective conditions and subjective outcomes can be measured independently. But the distinction objective vs. subjective QoL can create a lot of conceptual confusion, as argued in the following section.

A *fourth* approach – often practice oriented – looks at QoL in the context of social and health intervention or the production of welfare specifying *factors* of input or resources, process (interventions) and outcome, and combining them in strategies. Intervention and production models structure the field in conditions of production and in factors which can be manipulated to produce an outcome or product. QoL appears as a complex product which will be analysed with reference to goals and interventions and, indeed, other goals or products may be intended, e.g. benefits for informal carers, equity of distribution, or other collective social benefits in the production of welfare (Davies and Knapp, 1981; Knapp, 1984, 1995; Brown and Brown, 2003; Vaarama and Pieper, 2005). Domain specific concepts often have this perspective, like health-related QoL or, in the present case, crQoL. This approach also corresponds to a care management or a social policy and planning perspective.

These approaches are not mutually exclusive. This is demonstrated by a useful starting point of any review of QoL of frail older people and for a conceptualisation of QoL – the work of Lawton. His concept of person-environment fit (Lawton and Nahemow, 1973) is based on the idea that increasing frailty in old age causes significant loss of competence, affecting the ability to perform activities of daily living (ADLs). People with low or reduced personal capacities are more vulnerable to the demands of the environment compared with people with high capacity, and environmental support or opportunities become very important in terms of their everyday tasks of living and their QoL. Lawton (1991, p.6) extended this basic concept further by including subjective and objective evaluations and offers the following definition:

> Quality of life is the multidimensional evaluation, by both intrapersonal and socio-normative criteria, of the person–environment system of an individual in time past, current, and anticipated.

He describes QoL in terms of four overlapping subdimensions or 'sectors':

Objective 'person-environment fit'
- *Behavioural competence*, or the capacity of the person to deal with the demands of everyday life.
- *Environment* or the demands and opportunities of the physical and social circumstances within which the person lives.

Subjective evaluation
- *Life satisfaction*, or the person's subjective evaluation of their objective life circumstances in different life domains.
- *Psychological well-being*, or the subjective or experiential well-being including happiness, loneliness, etc.

The concept is explicitly multidimensional proposing a 'four-dimensional plotting of how the person stands' (Lawton, 1991, p.12), and rejects one-dimensional concepts. It also includes reference to time, as life satisfaction summarises the past, psychological well-being reflects the present, and the behavioural competence refers to mastery of the future. It also argues for the combination of subjective and objective measures in QoL concepts.

Unfortunately, Lawton (1997) is not very clear about the theoretical status of the four subdimensions in the model and uses slightly different ways of describing them. To clarify their meaning, we would like to draw on the subjective QoL concept of Diener (1994), a different conceptual model by Veenhoven (2000) and on an interpretation of Lawton's model as a transactional model by Davies and Knapp (1981, p.126) for a few comments (for a more detailed discussion see Vaarama, Pieper, and Sixsmith, forthcoming).

In his definition, Lawton refers to 'both intrapersonal and social-normative criteria'. While there are good arguments to consider both types of criteria, they should not be combined in one model of QoL. Individual subjective standards are unavoidably implied in statements on 'life satisfaction'. Certainly, social services and planning need some more objective evaluation, especially since the person may report himself or herself to be 'happy' despite poor life circumstances from an objective or external perspective (see Lawton, 1991; Cummins, 1997). We should clearly distinguish between evaluative standards employed in social planning and social politics for *their* purposes and the QoL evaluations of the clients themselves – if only to make the systematic analysis of a misfit between the two value standards possible. Lawton moves here to the fourth approach towards QoL as distinguished above.

He suggests combining subjective and objective factors in the general QoL model. But it should be clear that the terms 'subjective' and 'objective' are somewhat misleading in this context. They refer actually to the subjective or objective *methods* to measure QoL factors (see also Diener, 1994). Especially when describing the model for clients with dementia, it becomes clear that the subjective self-reports are not always feasible for the measuring of, say, life quality and psychological well-being.

In this case, the observations by carers may take their place (see Lawton, 1997). Following the general approach of the person-environment fit, ideally, we should make use of a triangulation of methods with both subjective and objective measures for all dimensions of QoL.

There is a discussion in the literature on whether we should develop group-specific models of QoL for, for instance, people with diseases, impairments, or frailty. However, a specific focus on frail older people is rare. Tester *et al*. (2003) comment that 'where frail older people are concerned, the results of such work remain unsatisfactory, both theoretically and methodologically'. They go on to say: 'it is doubtful that a generic definition of QoL will be useful for all research purposes. Instead, QoL models specific to particular groups of older people are being developed, for example, dementia-specific QoL models'. While this approach is meaningful to specify the person–environment fit, it does not call for dismissal of Lawton's generic model and the adoption of a different theoretical model for each group. In fact, the gist of the argument in Lawton's model is precisely that one needs to understand the *relationships* between the person and his/her environment *in each case*, because it is not the environment as such which has an influence, but the environmental features relevant for a certain person's way of life (see also Chapter 7). The specification of group specific environments is, certainly, a meaningful strategy to avoid the practical and empirical problems of analysing the relationships for each person.

Veenhoven (2000) presents a fourfold taxonomy of QoL as four 'qualities of life': (1) liveability of the environment, i.e. the external conditions within which the person lives; (2) the life-ability of the person, i.e. the competence of a person to cope with the problems of life or to exploit its potential; (3) utility of life, i.e. the broader value of the person's life or the meaning that a person's life has for others within society; (4) appreciation of life, i.e. the inner outcomes of life, including subjective well-being, life satisfaction, and happiness. While Veenhoven's framework does not address frail older people specifically, it has clear similarities with Lawton's work. The only subdimension which does not really correspond is the 'utility of life'. But here we would follow Lawton and insist that it is the person's evaluation of his/her own life which is relevant and not some external evaluation of the utility for others. Keeping this in mind, the Veenhoven model helps to interpret the subdimensions of Lawton in a fourfold table of 'four qualities of life' (Table 1) and combine them with an interpretation by Davies and Knapp (1981, p.126) also incorporating a well-established distinction in gerontology between coping processes of assimilation, accommodation, adaptation, and affective regulation. In the Care Keys project, Pieper and Vaarama developed the following preliminary model for crQoL (Vaarama *et al*., forthcoming).

To emphasise the role of care we place it in the scheme to see how it interconnects with the components of QoL. While care certainly should aim to enhance all aspects of the QoL of older people, it is primarily an essential feature of the supportive environment of the person providing a better 'fit' by social and material resources. In the model it would belong to the 'outer relations'. The subjective qualities

TABLE 1. A Four-Dimensional crQoL Model (Adapted from Lawton, 1991 and Veenhoven, 2000)

Dimensions	Person-environment fit (Veenhoven: potentials)	Subjective evaluation (Veenhoven: results)
Inner relations (Veenhoven)	Behavioural competence *Assimilation*	Psychological well-being *Affective regulation*
Outer relations (Veenhoven)	Environmental demands and (care) support *Adaptation*	Life satisfaction in different life domains *Accomodation*

of care would reflect the quality of the relation which the person has to his or her environment, and indicate that a person receives and can make use of the support he or she needs for sustaining QoL. Not only is the objective satisfaction of assessed needs by care important for crQoL but, also, the degree to which preferences and expectations are met, thus, measuring also the relevance of a service for the client. This has been an area that has had little attention within the QoL literature for older people (Bowling, 1997, p.7).

Finally, there is a substantial literature on the role of psychological resources in determining the ability to cope with problems and situations. For example, ideas of 'self-control' (Abeles, 1991), Rotter's concept of locus of control (1966) and Staudinger's concept of resilience (Staudinger *et al*. 1999) have been used to explain why some people appear better able to cope and adapt to everyday life changes. As indicated above, general coping processes can be included in the model. But the model also has a place for the autonomy and control of the person or care client in the subdimension of behavioural competence. Recent ideas about good practice emphasise the need to involve clients in order to make those decisions responsive to perceived needs and to engender a sense of personal involvement, commitment, and control over one's own life.

THE STUDY DESIGN

More or less complex and dynamic causal models can be conceived on the basis of the generic model of Lawton. Our aim is to specify a preliminary model of crQoL that differentiates between the factors important to the QoL for care-dependent older people living at home, and explores the relations between QoL outcomes and determinants. Our overall assumption is that care is crucial for the QoL of frail older people, but the connection may be mediated by other factors (Figure 1).

We explored our model with data from a previous study with face-to-face interviews with randomly sampled people aged over 75 living at home and using community social and health services in 1998 in Finland. The sample size was 331 complete cases: female 79%, mean age 84 years, married 11%, higher occupational education 35%, and living alone 85%. The instruments used in the interview were mostly nationally or internationally validated single-item questions on objective living conditions, subjective health, happiness and life satisfaction. To measure

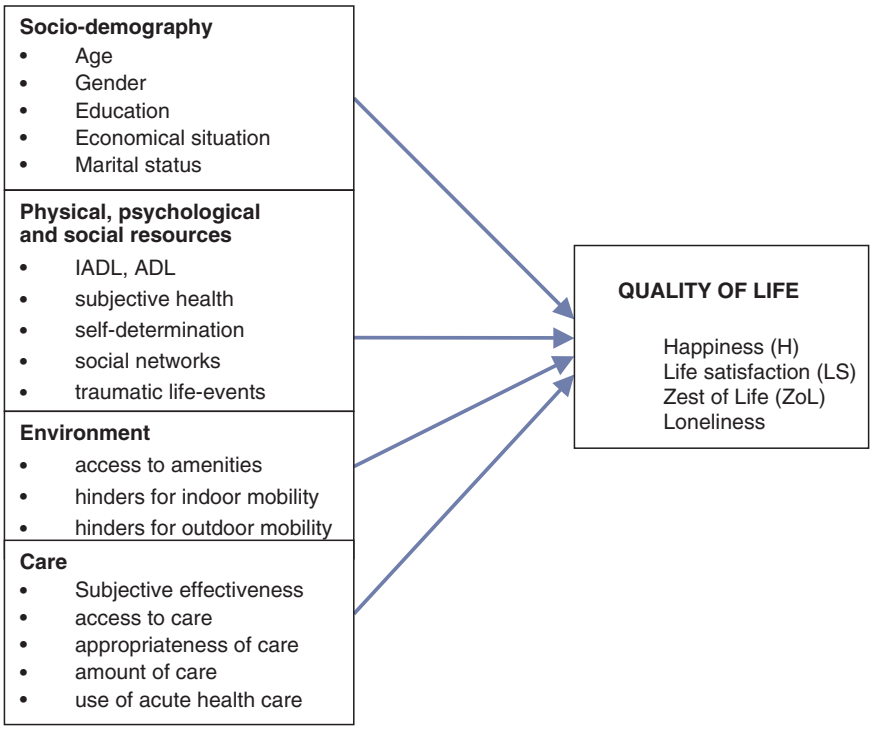

Figure 1. Study design

subjective QoL, we used an application of Philadelphia Geriatric Centre Morale Scale (PGCMS) (Lawton, 1975). The PGCMS combines the aspects of agitation, attitude towards own ageing and lonely dissatisfaction. In the original scale, the 17-scale items are answered only with 'yes' or 'no' and from all the answers an index is calculated. In this study, PGCMS was applied using a modified 3-scale version (0 = no, 1 = yes, 2 = cannot say). The reliability of the applied scale was high (Cronbach's alpha = 0.90). We named the measure as 'Zest of Life' (ZoL), emphasising a subdimension of the morale. It should be noted that the PGCMS is a multidimensional scale which contains items we also measured independently such as life satisfaction, loneliness, and happiness, so the variables in the outcome domain are expected to correlate. We operationalised the domains of our variables as follows:

- Sociodemographical factors: age, gender, education, subjective economical situation, and marital status.
- Physical, psychological, and social resources: subjective health, self-reported IADL and ADL-difficulties, subjective self-determination (I can decide over my own issues: 0 = not at all, 5 = fully), satisfaction with social networks and traumatic life-events during the past two years.

- Environmental factors: self-reported barriers for indoor and outdoor mobility, subjective access to public transport and other amenities, living alone.
- Care: self-reported intensity of homecare services, use of intramural hospital care during the last 12 months, visiting polyclinic during the last 12 months, subjective access to care (I have access to care when I need), subjective evaluation of positive impact of care (homecare makes it possible for me to stay at home), subjective evaluation of sufficiency of the types and amount of care (the care I get is appropriate and I get enough).
- Outcomes: Life-satisfaction (LS) (I am satisfied with my life), zest of life/morale (ZoL), happiness (H) (I am as happy now as when I was younger), loneliness (I feel lonely: 0 = never, 5 = always).

In health-related QoL research, subjective health has usually been treated as an outcome measure, but here we assumed it to be a condition or determinant of QoL rather than a QoL outcome. We apply Lawton's model in the interpretation of our data and use factor analysis and logistic and linear regression analyses as the main methods of our study.

EMPIRICAL RESULTS

Factor Domains

First, we carried out a varimax-rotated factor analysis to differentiate between dimensions within the data. It provided 10 factors, from which the first described subjective QoL, with the others relating to internal and external determinants (Table 2).

The first factor relates to a QoL factor as ZoL, H, LS, and loneliness all load on this factor. The first three contribute positively, while the fourth decreases well-being. These variables, including morale/ZoL, seem to constitute subjective QoL, and are outcome measures rather than conditions, although consideration needs to be given to possible causal relationships between these four elements. A second factor connects subjective health, physical dependency, use of care, and subjective evaluation of care, suggesting that very dependent people have poorer subjective health and rather negative evaluations of the effectiveness of care. The combination also suggests that this factor (including health) indicates conditions of QoL rather than constitutive components. A third differentiates married males, suggesting that gender, marital status, and living alone all impact on well-being. Satisfaction with access to care and satisfaction with the amount of care form a factor together, supporting the idea that subjective quality of care contributes to QoL. Economic situation and education level load together as a socio-economic factor of QoL. Use of hospital and polyclinics describe acute illness, suggesting that in addition to dependency, acute illness has its own role for QoL in our study population. Living environment divides into two dimensions – indoor and outdoor – suggesting that both have their own importance for well-being. A ninth factor is somewhat mixed as it combines age, subjective self-determination and satisfaction with social networks. If we are willing to interpret age to indicate a certain level of maturity and

TABLE 2. Rotated Component Matrix

	Component									
	1	2	3	4	5	6	7	8	9	10
Morale/ZoL	0.749	–	–	–	–		–	–	–	–
Happiness	0.693	–	–	–	–	–	–	–	–	–
Life satisfaction	0.660	–	–	–	–	–	–	–	–	–
Loneliness	–0.624	–	–		–	–	–	–		
IADL – problems 0–1	–	0.751	–	–	–	–	–	–	–	–
Intensity of home care, mean 0–3	–	0.689	–	–	–	–	–	–	–	–
BADL – problems 0–1	–	0.686	–	–	–	–	–	–	–	–
Subjective care effectiveness	–	–0.500	–	–	–	–	–	–	–	–
Subjective health	–	–0.405	–	–	–	–	–	–	–	–
Married	–	–	0.845	–	–	–	–	–	–	–
Living alone	–	–	–0.818	–	–	–	–	–	–	–
Gender (1 = male, 0 = female)	–	–	0.581	–	–	–	–	–	–	–
Subjective access to care	–	–	–	0.821	–	–	–	–	–	–
Subjective appropriateness of care	–	–	–	0.803	–	–	–	–	–	–
Higher (occupational) education	–	–	–	–	0.767	–	–	–	–	–
Subjective economic status	–	–	–	–	0.710	–	–	–	–	–
Use of hospital care during last 12 months	–	–	–	–	–	0.719	–	–	–	–
Visiting policlinic during last 12 months	–	–	–	–	–	0.682	–	–	–	–
Bad access to amenities	–	–	–	–	–	–	0.739	–	–	–
Hinders for outdoor mobility (dummy)	–	–	–	–	–	–	0.629	–	–	–

(*Continued*)

TABLE 2. Rotated Component Matrix—Continued

	Component									
	1	2	3	4	5	6	7	8	9	10
Hinders for indoor mobility (dummy)	–	–	–	–	–	–	–	0.771	–	–
Age	–	–	–	–	–	–	–	–	0.683	–
Subjective self-determination	–	–	–	–	–	–	–	–	0.518	–
Satisfaction with social networks	–	–	–	–	–	–	–	–	0.460	–
Traumatic life events during last 2 years	–	–	–	–	–	–	–	–	–	0.834

Note: Extraction method: Principal Component Analysis; Rotation method: Varimax with Kaiser Normalisation.
Rotation converged in 12 iterations.

the social network to stand, in this combination, for social competence, then we might describe this factor as representing the factor of sense of control or resilience. But quite obviously this factor seems to be insufficiently captured by the variables in the study. Traumatic life events load on their own factor, suggesting that they have their own role to play within QoL.

The analysis confirms the multidimensionality of the concept of QoL. The rather strong correlations between the variables of well-being were to be expected. Also the importance of subjective quality of care is confirmed. Additionally, the importance of the physical living environment appears high. Situational factors (acute illness as distinct from long-term dependency and traumatic life-events such as becoming seriously ill or widowed) also appear to be important independent factors for QoL in the study population, and they can be seen also as risk-factors for good life quality. Unfortunately our measurement possibilities for client autonomy and control were restricted, and the measurement of self-determination did not adequately represent the dimension.

Relationships between Quality of Life Outcomes and Determinants

To analyse relationships within the QoL model, we carried out several regression analyses. First we analysed life satisfaction and happiness by stepwise logistic regression analyses. Even though the factor analysis suggested that life satisfaction (LS), happiness (H), loneliness, and morale/ZoL are parts of subjective well-being, we used ZoL first as a measure of psychological resources to explain variation in LS (model 1). The rational for treating morale/ZoL as a psychological factor was – as indicated above – that the PGCMS scale does include a sense of control dimension. Morale/ZoL and loneliness were introduced into seperate analyses – as the former includes a factor of the latter – together with variables of the other nine factors (Table 3).

In the first model, the stepwise regression analysis picked up only morale/ZoL and subjective quality of care as important factors explaining the variations in LS. According to the model, morale/ZoL, almost alone explains the variation in LS. The model also demonstrates a direct connection between subjective quality of care and LS, confirming our assumption of the important role of care in production of welfare in care-dependent older people. When we excluded morale/ZoL from the analysis, subjective quality of care and loneliness became the most powerful variables impacting on LS (model 2).

According to this, morale/ZoL alone explains almost all the LS of a frail older person, but subjective quality of care also has an impact on it: clients who are satisfied with their access to care and with the amount they get are more likely to have good LS than the dissatisfied clients. When ZoL is left out, loneliness decreases LS by 83% compared with those not feeling lonely, and people who are satisfied with care show an increase of LS which is considerably higher compared with dissatisfied people. Loneliness also decreases the level of happiness. This means loneliness also contributes to LS and to H. This supports a suggestion by Lawton that loneliness in fact has two dimensions: a psychological dimension which would go together with

TABLE 3. Variation in Life Satisfaction (LS) and Happiness (H). Stepwise Logistic Regression Analysis (n = 331)

Model	Model 1, LS	Model 2, LS (ZoL excluded)	Model 3, H (ZoL excluded)
Variable	Exp(β)	Exp(β)	Exp(β)
	(Sig β)	(Sig β)	(Sig β)
Constant	0.101	6,005	2,644
	(0.001)	(0.000)	(0.002)
Morale/ZoL	372,176	–	–
	(0.000)	–	–
Satisfaction with care	2,933	3,835	–
	(0.006)	(0.000)	–
Loneliness	–	0.169	0.194
	–	(0.005)	(0.004)
Barriers for indoor mobility (0.1)	–	–	0.472
	–	–	(0.021)
Bad access to amenities	–	–	0.361
	–	–	(0.055)

emotional feelings such as happiness, and a more social dimension, going together with general life satisfaction. In model 3, it is interesting that barriers for indoor mobility and poor access to public transport and other amenities decrease happiness, indicating some independent influence of objective environment factors on the present well-being of a person.

These analyses suggest that ZoL/morale (positively) and loneliness (negatively) contribute to life satisfaction. The results also confirm the strong connection between subjective quality of care (satisfying access and amount of care) and QoL. This we interpret, following Lawton's model, in a way that subjective quality of care (in terms of access and appropriateness) and subjective qualities of the environment are important dimensions of QoL, and that is why we refer to this as 'care-related quality of life'. The independent influence of mobility and access factors opens an avenue for strategies of improving one's living environment (objective QoL factors) to produce more subjective QoL outcomes.

The results suggest that care has a great possibility to contribute positively to a client's QoL by compensating for the deficits in his/her living environment, by meeting the needs caused by physical dependency, and by decreasing perceived loneliness and supporting the psychological well-being of the client. Thus, the quantity, quality, and appropriateness of care seem to be those care inputs that should be employed in the production of QoL for frail older clients of homecare. In this context, we also see the care system to be a broader concept involving improvements of the living conditions of older clients when needed.

We decided not to include subjective health among the outcome measures but among the determinants of QoL. The factor analysis confirmed our assumption

suggesting that morale/ZoL may be more a comprehensive outcome measure of well-being. As these two measures were normally distributed in the sample, it was possible to employ linear regression analyses to analyse the causal relations between these and other variables in the 10 factors (Table 4).

If we interpret model 4 to be a more health-related model of QoL, then we see that morale/ZoL plays an important role, subjective effectiveness of care contribute positively to subjective health, and problems in daily activities, especially in personal care, and barriers for indoor mobility decrease it. If we look at model 5, we see that subjective health plays a less important role for morale/ZoL than morale/ZoL plays for subjective health, and that the model picks up economic safety, satisfaction with the amount of care and loneliness, which we may identify as social variables. The models correspond to earlier results, suggesting that subjective health and morale/ZoL are different phenomena, and that subjective health is important but not the only important element of QoL. It may be better conceived as a subjective measure of health and as a condition of QoL. This interpretation would also correspond

TABLE 4. Variation in Subjective Health and Zest of Life. Stepwise Linear Regression Analysis (n = 331)

Model	Model 4, Subjective health	Model 5, ZoL
Variable	B	B
	(Sig.)	(Sig.)
Constant	0.557	0.482
	(0.000)	(0.000)
Morale/ZoL	0.258	–
	(0.000)	–
Loneliness	–	–0.232
	–	(0.000)
Good subjective care effectiveness	0.065	–
	(0.010)	–
Satisfaction with amount of care	–	0.054
	–	(0.014)
Good economic situation	–	0.184
	–	(0.001)
Barriers for indoor mobility (0,1)	–0.069	–
	(0.014)	–
Subjective health	–	0.140
	–	(0.002)
BADL – problems^2	–0.184	–
	(0.000)	–
IADL – problems	–0.138	–
	(0.021)	–
R^2	0.246	0.295
F	17,728	27,593
P	0.000	0.000

better to the finding that poor health and disabilities do not necessarily imply low QoL – at least as perceived by the frail older person (see also Cummins, 1997).

Another interesting result is the independent impact of life events and acute illness on QoL. This demonstrates subjective QoL to be a dynamic phenomenon, which in our study population is vulnerable to situational factors such as becoming seriously ill or widowed. The care system should be sensitive for these factors to be able to identify these as risks for QoL which call for special interventions if care is to support older clients in coping with these issues.

DISCUSSION

We have explored factors determining and describing subjective QoL in care-dependent older people to provide evidence for a model of crQoL that we believe will be useful in evaluating the impact of care on the well-being of frail older people. The theoretical discussion about a possible model of crQoL and the empirical explorations reported in this chapter suggest the following relationships between care and QoL.

All analyses confirm care to be a crucial element of life quality in older people living at home and being dependent on care. The analyses suggest that care can contribute positively to the QoL of a client if it is easily accessible and meets the client's needs. It seems that both accessibility and quantity as well as quality of care are important factors for subjective QoL, indicating that this dimension of environmental support is of special importance to older people dependent on care.

Physical environment had the strongest impact on the dimension of QoL which is called 'happiness', suggesting that a barrier-free home and easy access to public transport and other amenities are important conditions for older people's everyday well-being. Vaarama (2004) found that barriers to outdoor mobility caused premature dependency on care, and that for the oldest and most frail, the barriers for indoor mobility were crucial risks for dependency and even for admission to institutional care. Further, Vaarama *et al*. (2006) found that physical living environment impacted strongest on subjective QoL for people aged 80 and over, and that a poor living environment decreased their subjective QoL in all dimensions. This makes it clear that the physical environment cannot be excluded if the care is to be effective in provision of QoL for older people.

One interesting finding in this study was the factor named as resilience which is one dimension in the Lawton model (behavioural competence, sense of control, and self-determination). This supports the idea of importance of autonomy and adaptation for good life quality amongst care-dependent older people. Even if we could not really confirm the meaning of this factor, it seems to be an important element in our model. The results also indicate the independent impact of acute illness and traumatic life-events, suggesting that QoL is dynamic and – in care-dependent people – vulnerable for acute illness, personal losses, or other traumatic events. Since they are more adequately construed as situational or risk-factors, rather than as long-term context or person factors, they have to be incorporated separately in future crQoL models.

In this view, we might also expect that different life events will mobilise different coping mechanisms and that the profile of well-being may change depending on the current relevance of a life-event (e.g. physical impairment may include coping by learning new skills and enhance feelings of competence; loss of partner may include coping by searching for a new social identity) (Pieper, 2004). This interdependence of life experiences and QoL profiles has also been suggested by Tester *et al*. (2003) in their research on the experience of a recent relocation from home to a care home.

Finally, we can conclude our results in the following model of crQoL (Figure 2).

The model demonstrates the importance of five domains of factors important for crQoL: person factors, environmental support factors (including care), person–environment fit, subjective evaluation of well-being as QoL factors, and situational factors. The results support the four-dimensional Lawton model, and we provide it with a new interpretation to be applicable as a framework for evaluating QoL among old, frail people who are dependent of external help and support.

The empirical explorations used a model which employed all the factors of our theoretical model of crQoL. However, it is important to emphasise the preliminary nature of the reported research. The data used for the empirical explorations was

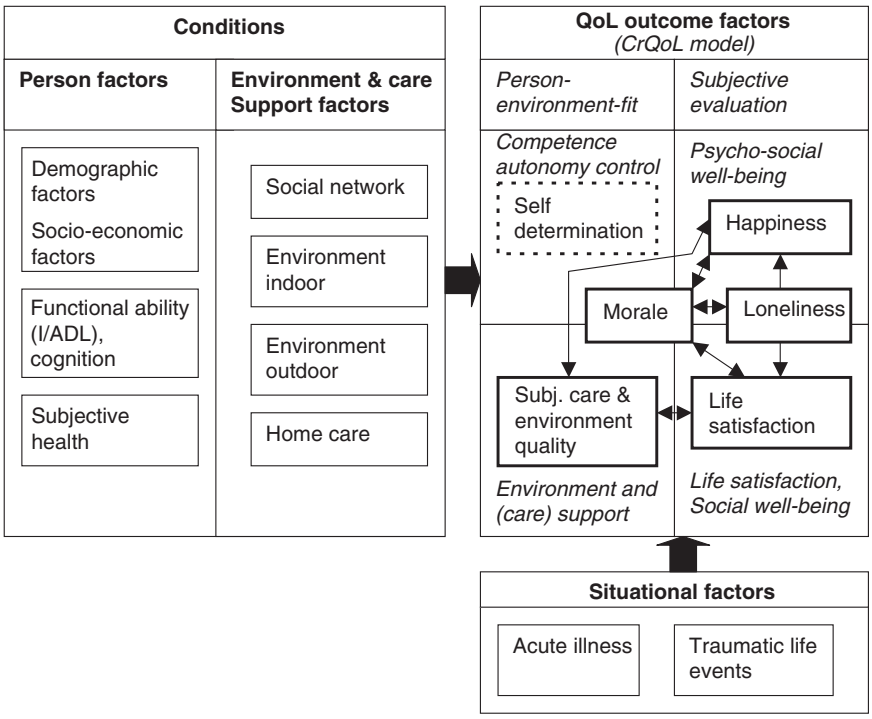

Figure 2. Model of care-related quality of life (crQoL) in old people living at home (enhanced: crQoL variables; italicised: crQoL model)

taken from a previous survey and was not specifically tailored to the requirements of the crQoL model. This meant that not all the dimensions of the model were adequately represented in the analysis, such as cognitive capacities of the client, control, and involvement in the care decision-making process and its impact on QoL.

The fact that the explorations still supported the basic features of the model indicates the generic quality of the conceptual framework. However, the results provided in this chapter should be seen as illustrating and justifying the approach in general, rather than as clear empirical evidence. While our empirical research indicates that care has a role in the production of QoL for frail older people, the issues are when, how and under what conditions? A key challenge will be to utilise measures and instrumentation that are sensitive enough to capture the nuances of care and its quality, and to extract the role of care in diverse client-specific circumstances. A programme of further work is being carried out within the Care Keys project to further elaborate the crQoL model and to carry out more extensive empirical explorations in the five participating countries (Vaarama *et al*., forthcoming).

To sum up, our results demonstrate that QoL of an older person living at home with lowered functional abilities can be improved by appropriate care interventions and by other inputs, such as improving his or her living environment. The results have important messages for the care sector. They underline the need for a comprehensive needs assessment in planning care, which incorporates all five domains of factors and four dimensions of QoL as described in our model. Both quantity and quality of care matter; it is important that the client gets easy access to care and an appropriate amount of help, and that the care is given in a way which satisfies their needs. The care system should be sensitive to the multiple, complex, and changing needs of older clients, and understand how vulnerable their life quality is to the diverse risks that accompany advanced age. Specific interventions should be tailored to the diverse situational risks to help support the older person cope with them. This study attempted to give a voice to older homecare clients and our experiences and results confirm that very old and frail people do have a voice and will use it if they are empowered to do so. Our belief is that a key factor in the success of long-term care is for this voice to be heard and acted upon.

NOTES

1. Project number QLRT-2002-02525, available at: http://www.carekeys.net

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