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Accepting the inevitable: A mixed method approach with assessment and perceptions of well-being in very old persons within the northern Sweden Silver-MONICA study

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ABSTRACT

Background: As the group of very old persons will form an increasing part of society, the study of how well-being is described and affected by specific factors will be of importance to meet the future needs of these persons. The aim of the study was to increase knowledge of well-being in very old persons by combining assessments and perceptions using the Philadelphia Geriatric Morale Scale (PGCMS).
Method: In a mixed method, convergent parallel design, 52 persons 80 years or older were assessed and interviewed using the PGCMS to combine assessment of morale and descriptions of perceptions of well-being using a mixed method approach.
Results: Quantitative and qualitative results converged in four areas: not feeling lonely and being included, rating and perceiving health as good, high physical function/ability and being physically active, living in own house and feeling at home. Areas perceived as important to well-being captured only in qualitative analysis were having freedom and engagement. An example of insights not achievable from the quantitative or qualitative analysis alone was that individuals with high morale expressed anxiety about losing their health due to potential ageing-related threats and that individuals with low morale struggled with acceptance. Acceptance was the key strategy for handling adverse consequences of ageing in all described areas.
Conclusion: When using standardized assessment scales in clinical practice, it could be useful to combine quantitative and qualitative data. Acceptance was key for well-being; however, acceptance could be resigned or reorienting in nature.

1. Introduction

The 80+ age group is steadily growing, and estimates are that between 2017 and 2045, the group will have doubled in size in Sweden according to Statistics Sweden (SCB, 2017). This also means that more effort needs to be put into promoting health in this age group. The WHO definition of health as *"a state of physical, mental and social well-being, regardless of disease or disability"* (World Health Organization, 1948) implies the importance of the well-being aspects of health and has been important for the alignment of developed healthcare policies. An example of recent international policymaking where the importance of well-being is expressed is in one of the UN 2030 agenda goals that aims to *"Ensure healthy life and promote wellbeing for all at all ages"* (United Nations, 2015). Well-being and health are closely associated, and with increasing age, this connection has been described to increase. Higher well-being is, for example, associated with increased longevity (Steptoe, Deaton, & Stone, 2015; Martín-María et al., 2017; Chida & Steptoe, 2008), better physical health (Friedman & Kern, 2014) and better cognitive functioning (Wilson et al., 2013). Also at a biological level, well-being is known to reduce cortisol levels (Steptoe, Wardle, & Marmot, 2005; Steptoe, Gibson, Hamer, & Wardle, 2007) and inflammatory markers (Steptoe, Demakakos, Oliveira & Wardle, 2012).

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Well-being has been shown to be negatively affected by disability (Lucas, 2007) and illness often associated with old age (Cho, Martin, & Poon, 2015; Steptoe et al., 2015). However, research on trends in well-being over the lifespan is inconclusive with examples of increasing, decreasing, curvilinear or more constant experience of well-being (Cummins & Nistico, 2002; Diener, Lucas, & Scollon, 2006; Horley & Lavery, 1995; Blanchflower & Oswald, 2008). Inconsistencies in well-being trends suggest that variables other than illness and disability affect well-being in older age.

One of the first to study and define the well-being concept specifically for what it meant to older persons was M. Powell Lawton, who constructed the "four sectors of good life" model. This model describes an older person's well-being as being linked to four overlapping sectors which consist of psychological well-being, perceived quality of life, objective environment and behavioural skills (Lawton, 1983). Psychological well-being relates to the subjective evaluation of how we assess our own inner experiences, which Lawton conceptualized for quantitative assessment with the Philadelphia Geriatric Center Morale Scale (Lawton, 1975), from here on referred to as PGCMS. The PGCMS assesses a specific aspect of psychological well-being in older persons, which Lawton called *morale*. This is defined as "*a generalized feeling of well-being with diverse specific indicators such as freedom from distressing symptoms, satisfaction with self, feeling of syntony between self and environment, and ability to strive appropriately, while still accepting the inevitable*" (Lawton, 1972, s.161). The later-constructed PGCMS assesses three factors; agitation, attitude toward own ageing and lonely dissatisfaction (Lawton, 1975). One of the PGCMS items concerns the feeling of satisfaction with life. Similar questions regarding general life satisfaction recur in other well-being and depression instruments such as the Geriatric Depression Scale (GDS) (Sheikh & Yesavage, 1986). Although the definition of well-being is an ongoing debate, it is suggested that the concept of life satisfaction generally refers to an overall, global cognitive judgement of well-being (Diener, Suh, Lucas, & Smith, 1999), thus making queries into life satisfaction appropriate for investigating perceptions of well-being in a broad sense.

Previous research showed that higher morale is associated with increased survival in the elderly (Benito-León et al., 2010; Niklasson, Hörnsten et al., 2015) as well as a lower risk of depressive disorder (Niklasson et al., 2017). In Sweden, a large percentage of very old persons had high morale, and important factors for having high morale were the absence of depressive symptoms, low level of other symptoms, and not feeling lonely (von Heideken Wågert et al., 2005). One study followed persons age 85 or older in two Nordic countries over a five-year period and found that depressive disorders, death of an adult child and feeling increasingly lonely were associated with a decrease in morale (Näsman et al., 2019). According to Niklasson, Lövheim, and Gustafson (2014), low morale in the elderly is associated with depression, pain and poor nutritional status.

The Polisher Research Institute Abramson Center for Jewish Life, formerly the Philadelphia Geriatric Center (2019), concludes that a major strength of the instrument is promoting dialogue between the person and caregiver administering the instrument, and this can be even more important than the resulting score itself. This aspect of the PGCMS seems lost in research where the emphasis lies upon assessment and quantitative qualities. Administering quantitative instruments alongside qualitative open-ended questions has the potential to enhance understanding beyond the quantitative instrument assessment (Frels & Onwuegbuzie, 2013).

As morale is an important aspect of health and well-being in very old persons, further study of how this is expressed both as assessment and perceptions will be necessary for future promotion of well-being within this age group. Evaluating how specific factors correlate with morale alongside the person's own described perceptions of well-being can be achieved through combining a qualitative and quantitative perspective in a mixed method approach. Such a combined approach can provide a valuable insight into what affects well-being in very old persons.

The aim of the study was to increase knowledge of well-being in very old persons by combining assessments and perceptions using the Philadelphia Geriatric Morale Scale.

2. Method

2.1. Design

A mixed method, convergent parallel design (Creswell & Plano Clark, 2011) was used to assess and describe well-being in very old persons. Associations between PGCMS assessments and demographic, health and socioeconomic factors were studied, combined with the semi-structured interviews of perceived well-being using a mixed method approach.

2.2. Setting

The study took place within a larger research project, Silver-MONICA, carried out in 2016-2019. Silver-MONICA is a longitudinal study in Norrbotten and Västerbotten County in northern Sweden. The overarching purpose is to study how socioeconomics, risk factors for cardiovascular disease in middle age (50–64) and later development of myocardial infarction and stroke relate to healthy and active ageing ($\geq$ 80). Data on outcomes specific to the age group are studied such as quality of life, social participation, physical activity, cardiovascular disease, dementia, depression, care consumption, living conditions and mortality are collected and tested with a range of instruments. All participants in the Silver-MONICA cohort are 80 years or older and have participated in the MONICA research program at least two times (MONICA, 2020).

2.3. Participants

Inclusion criteria for the current study were; participating in the Silver-MONICA study, turned 80 years or older in 2017 and living in a geographic area limited to two neighbouring municipalities in Norrbotten County. A total of 787 persons met the inclusion criteria for the Silver-MONICA study. The Silver-MONICA study sample in its entirety will be described in other publications. For the present subsample study, 93 persons met the geographic inclusion criteria. Potential participants were sent a letter informing and inviting them to the study. A total of 64 persons who met the inclusion criteria for this subsample study chose to participate. A home home visit was carried out in which each person was further informed orally and in written form, whereupon a consent form was signed before proceeding with data collection. Twelve persons were unable to elaborate on questions due to cognitive impairment and were therefore excluded. Eventually, 52 persons ages 81–96 participated in the study, 20 men and 32 women, 50 in ordinary housing and two in residential care. All participants had mini-mental state examination (MMSE) scores of 20 or higher.

2.4. Data collection

The Swedish-translated British-English version (Niklasson, Conradsson et al., 2015) of the PGCMS (Lawton, 1975) instrument was used to assess morale. The PGCMS consists of 17 questions with yes/no answers. Each answer that indicates high morale was scored one, and answers indicating low morale or not sure were scored zero. The level of morale is categorized as low (0–9), mid-range (10–12) and high (13–17) (Polisher Research Institute Abramson Center for Jewish Life). Thereafter, the participants were asked to elaborate on their answer to question 15, which represents a cognitive-evaluative component aspect of well-being. The question reads, "Are you satisfied with your life as it is today?" The interviews were audio-recorded and formed the data for qualitative analysis. Field notes were made during the interviews. As all interviews had been completed, it was assessed that data saturation was reached.

Instruments used to investigate correlations with morale were the Katz ADL Index (Asberg & Sonn, 1989) for assessing independence in ADL. For examining lower body strength, 30-second chair stand test (Jones, Rikli, & Beam, 1999) was used. General self-assessed health and health compared to one year ago were examined with the first two questions in the SF-36 short form (Ware & Sherbourne, 1992). Depressive symptoms were assessed using the Geriatric Depression Scale (GDS-15), a 15-item instrument with yes/no questions indicating no depression at 0–4, mild depression at 5–9 and moderate to severe depression at $\geq$10 (Sheikh & Yesavage, 1986). Cognition was examined using the 30-item MMSE (Folstein, Folstein, & McHugh, 1975), where lower score indicates more impaired cognitive function. Economic satisfaction was examined with a single yes/no question. Feeling of loneliness was examined with four answer alternatives; often, sometimes, rarely and never. Reading vision was classified as impaired if the person was unable to read 5 mm letters from a distance of 30 cm with or without glasses. Hearing was classified as impaired if the person was unable to hear a normal tone of voice from 1 m with or without hearing aid. Pain referred to any ache or pain during last week. Higher education was defined as more than seven years of elementary school. The number of medication included prescribed medication in regular use, excluding medication not taken regularly. All data were collected at the same home visit by the first author.

2.5. Analysis

2.5.1. Quantitative analysis

Low- and mid-range morale groups were pooled together in statistical analyses due to their small size. A previous study shows that the low- and mid-range morale groups are quite similar in survival over five years when compared to the high-morale group (Niklasson, Hörnsten et al., 2015). Differences between the group with high morale and the pooled group with low- and mid-range morale were examined with Chi-square for categorical variables, and, since the PGCMS assessments were not normally distributed within the groups, with Mann-Whitney U and Pearson's coefficient for continuous variables. Independent samples *T*-test was used to examine means in the entire sample. A p-value less than 0.05 was considered statistically significant (Pallant, 2016). In multiple regression analysis variables associated with PGCMS with P-value <0.15 (Bursac, Gauss, Williams, & Hosmer, 2008) as well as age and sex were analysed. This approach led to too many variables to add to the regression model compared to the number of participants. In order to analyze approximately one variable for every ten participants and avoid risk of multicollinearity, overlapping variables were identified based on a correlation analysis. Following variables were selected for regression analysis: female sex, age, living in own house, feeling lonely, ADL (Katz ADL) and general health. SPSS®, version 26.0 statistical software was used to analyse the quantitative data.

2.5.2. Qualitative analysis

Interviews ranged between five and 31 min, were audio-recorded, transcribed verbatim and analysed inductively using qualitative content analysis (Graneheim & Lundman, 2004). The interviews were read several times to obtain a sense of the material as a whole before meaning units corresponding to the study aim were extracted from the text. Microsoft Excel 2010 was used to support the organization of the meaning units into areas of importance for well-being. The meaning units were condensed with regard to their content, and coded by the first author with support from the second author. Following analysis steps where performed as a collaboration between the first, second and fifth author. The various codes were compared to identify similarities and differences before similar contents were grouped together into subcategories. The subcategories were formed into the broader final categories by abstraction. The categories were compared, and by moving back and forth between text units and categories to identify patterns, a theme was interpreted and formulated.

2.5.3. Mixed method analysis

In mixed method analysis, related content areas from both qualitative and quantitative were identified, and the results were combined and triangulated according to Creswell and Plano Clark (2011).

2.6. Ethics

The study was approved by the Regional Ethical Review Board in Umeå Sweden (dnr 2015-11−31 M, 2016-241−32 M and 2018/381-31). All participation was preceded by written and oral information, and a written consent form was signed. In cases where cognitive impairment was present, next of kin or legal guardian was consulted and approved participation in addition to the participant's approval. Participation could be terminated at any time without stating the reason. The study had assigned a responsible physician in case of findings that require medical attention or follow-up. To ensure confidentiality, all data was anonymized prior to analysis so that no personal characteristics would be enclosed.

3. Results

3.1. Quantitative analysis – assessment of well-being

3.1.1. PGCMS scoring and distribution

In the total sample, there were fewer men than women (20 vs 32), and men had higher mean morale than women (Mean ± SD Min-Max: 14.0 ± 1.6 10–17 vs 12.8 ± 2.5 7–17, P = .035). Older participants had, in general, lower PGCMS scores than younger (P = .002), as visualized in Fig. 1.

3.1.2. Association with level of morale (low/mid-range and high morale)

A significant association between the level of morale (Table 1) and demographic, socioeconomic, and health-related factors were; age, living in an own house, feeling lonely, ADL (Katz), chair stand test, self-assessed health and GDS-15. All participants were economically satisfied. A total of 21 persons resided in their own houses, and the rest in apartments, which included two (n = 2) persons in residential care. However, these were distributed between the groups. Vision and hearing impairment was not analysed related to its low presence in the sample. GDS-15 was the variable with the highest correlation with PGCMS.

Out of variables included in multiple regression analysis (Table 2), age and ADL (Katz) were significantly associated with PGCMS.

3.1.3. Satisfaction with life

As the PGCMS instrument was administered, interviews were carried out where the participants were asked to elaborate on the specific

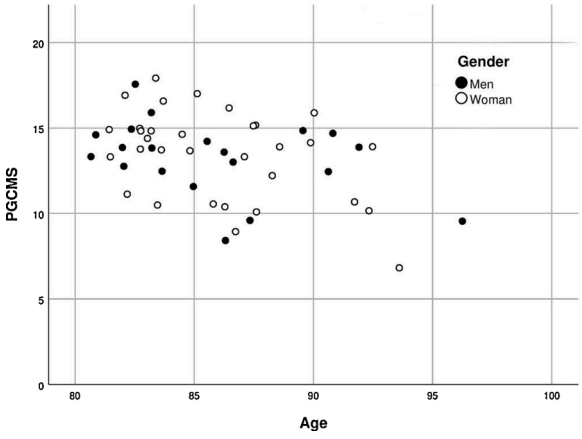

Fig. 1. Philadelphia Geriatric Center Morale Scale (PGCMS) score in relation to age (point jitter applied for visibility).

Table 1
Associations between variables and morale level (n = 52).

Variable	Low/mid-range n = 15 (28.8)	High n = 37 (71.2)	*P*
Age and gender			
Female sex	12 (80.0)	20 (54.1)	0.153
Age	87.8 ± 4.1	85.1 ± 3.3	0.026
Socioeconomic factors			
Education *(>7 years)*	8 (53.3)	16 (43.2)	0.567
Marital status *(Widow/er)*	11 (73.3)	15 (40.4)	0.066
Living alone	10 (67.7)	16 (43.2)	0.221
Economically satisfied *(Yes)*	15 (100)	37 (100)	–
Living children	13 (86.7)	33 (89.2)	1.000
Living arrangements			
Residential care	1 (6.7)	1 (2.7)	–
Living in own house *(Compared to living in own apartment)*	2 (13.3)	19 (51.4)	0.031
Social factors			
Feeling lonely *(Often to sometimes)*	11 (73.3)	11 (30.0)	0.010
Functional factors			
Katz Activities of Daily Living	2.9 ± 2.8	0.8 ± 1.4	0.004
30-second chair stand test *(Repetitions)*	8.3 ± 6.0	13.3 ± 7.1	0.037
Reading vision impairment	2 (13.3)	0 (0.0)	–
Hearing impairment	2 (13.3)	4 (11.0)	–
Cognitive factors			
Mini Mental State Examination	25.5 ± 3.3	26.2 ± 2.5	0.515
Subjective health			
General health *(Excellent to Good)*	7 (46.7)	32 (86.5)	0.008
Health compared to one year ago *(Much better to the same)*	7 (46.7)	33 (89.2)	0.003
Medical factors			
Geriatric Depression Scale-15	3.3 ± 1.5	1.4 ± 1.3	<.001
Number of medications	5.7±3.0	4.4±3.3	0.166
Pain last week	8 (53.3)	17 (45.9)	0.860

Table data show differences between low/mid-range and high morale groups in relation to various variables. Summary statistics presented as n (%) or (Mean ± SD). P-values marked with "–" not calculated due to small sample.

Table 2
Multiple regression analysis.

Variable	*B*	95 % CI for *B*	*P*
(constant)	26.195		
Female sex	−1.076	−0.266 to 2.417	0.113
Age	−0.156	−0.303 to 0.009	0.038
Living in own house	0.365	−1.417 to 0.688	0.489
Feeling lonely	−0.044	−1.457 to 1.368	0.950
ADL (Katz ADL)	−0.394	−0.680 to -0.107	0.008
General Health (Excellent to Good)	1.048	−0.369 to 2.465	0.143

ADL, Activities of Daily Living.

question regarding whether or not they were satisfied with life. This question was answered "yes" by 49 persons, "no" by two, and "don't know" by one.

3.2. Qualitative analysis – perceptions of well-being

Analysis of the interviews resulted in an overall theme of reorienting or resigned acceptance as well as categories describing areas of importance for perceiving well-being. The categories are presented in Table 3, with examples of original quotes illustrating low/mid-range and high morale within the categories. The quotes are referred to in the category context by numbers 1–6 in the summarized description of theme and categories in Table 3.

3.2.1. Reorienting or resigned acceptance

Descriptions of accepting the consequences associated with ageing

Table 3
Qualitative analysis.

Theme Category	Morale	Reorienting or resigned acceptance Quotes
Included in, or excluded from social context	High	*1a) "They come and check if there is anything with the house. And since I stopped driving, they ask me if I need any commodities and support me like that. So I'm really happy about having them here. Otherwise, I would have to apply for other accommodation" PGCMS = 16p, nr46*
	Low/ Mid	*1b) "I think I might as well stay at home, when I can't hear anything…but in a way that's not the right way to reason, because I can see my relatives and they try…my daughter tries to translate, but not everyone understands that you are supposed to talk one at a time, those times you are left out, you don't know what's going on" PGCMS = 10p, nr14*
Good, or declined health	High	*2a)"Yesterday I visited a person that had fractured her hip, she said that she wasn't in pain, but she's limited in her… it's only been a week since she was discharged from hospital where she was for a few days. Broke her hip without…she was going to bed, and her hip broke. We are more or less the same age, she's one year younger. So I'm thankful that I am this healthy" 13p, nr39*
	Low/ Mid	*2b) "You have to accept things as they are. What are you going to do about it, so therefore I have to accept things. I'm aware that soon my vision will be nothing more than total darkness, so as long as I can see as well as I do, that's fine. If I wouldn't accept, I would just feel worse. If I'd sit on a chair and worry about not being able to do that or go there, and that wouldn't make me better at doing those things anyway" PGCMS = 9p, nr33*
Physically active, or physically passive	High	*3a) "Almost everything you do can be turned into a workout, simply sitting down and standing up from a chair, or walking up the stairs. If the weather is miserable, I go out into the staircase and go up and down the stairs a couple of times, then I still get some exercise" PGCMS = 17p, nr41*
	Low/ Mid	*3b)"Of course I wish that I was younger, but I guess one has to be realistic and accept things the way they are and be as satisfied as is possible. But I wish that I could be more active…" PGCMS = 12p, nr19*
At home, or feeling homeless	High	*4a) "You feel safe. If I am away somewhere, I used to say, "There's no place like home". It's so nice to come home and lock the door behind you" PGCMS = 13p, nr6*
	Low/ Mid	*4b) "I applied for sheltered housing everywhere, and then I moved here. So that was it, now I live here till the end of my life, and we will see how long that takes. No one knows. Then we sold the house because there was nobody who wanted it, neither grandchildren nor the kids wanted to live there, so we sold the house. It's sold and there are other people in our house…in me and my husband's house…and you have to live with that" PGCMS = 10p, nr2*
Engagement, or lack of interest	High	*5a) "I have to, but I'm that kind of person, I can't just sit still. I have to have something to do. I think I have been sitting here too long now; I want to do this and that…" PGCMS = 14p, nr20*
	Low/ Mid	*5b)" I have no desire to travel, and I have my sister in Stockholm but… I feel that I should be home now…" PGCMS = 10p, nr38*

(continued on next page)

Table 3 (*continued*)

Theme Category	Morale	Reorienting or resigned acceptance Quotes
Freedom, or captivity	High	*6a) "That's something amazing. To take care of oneself. No one bossing me around. I take care of myself as I like. I decide for myself" PGCMS = 15p,nr4*
	Low/ Mid	*6b)" So the driving has been hampered … but otherwise it was out … travelling by car and … and we travelled a lot in Europe" PGCMS = 10p, nr18*

Table shows identified categories with illustrative quotes representing high or low/mid-morale, respectively, PGCMS score and participant number.

were not limited to any specific category but recurred in all categories, making it a theme throughout the interviews. However, acceptance was characterized by two differing approaches; *resigned* descriptions of having to accept as there were no other alternatives, or *reorienting,* meaning acknowledging unwanted change yet not being discouraged, keeping a positive attitude, turning the focus to other aspects valuable to well-being.

3.2.2. Included in, or excluded from social context

Feeling cared for, noticed and acknowledged in a social context was described as important to well-being. So were supportive relations with partner and family, having children nearby and knowing that family members were doing well. Practical support from family was sometimes described as necessary for being able to keep living in ordinary housing (1a, Table 3). Social context was also provided through sports, neighbours, or home care personnel. Being around people could be strenuous, yet was recognized as worthwhile. Social support was described as facilitating acceptance in a situation otherwise negative to well-being. Exclusion from social context was described as a consequence of ageing. Death of partner and friends made many feel lonely. Hearing loss was described as a reason for feeling excluded, as partaking in conversation was difficult (1b, Table 3). Further, some felt generally misunderstood or unable to have an honest conversation with their family. Some expressed preferring to live in an institution before the prospect of becoming a burden to their family. Children sometimes did not have time to socialize or lived far away. Retirement was also described as a loss of social life, and this had to be accepted.

3.2.3. Good or declined health

Having good health was an important aspect of well-being described as being free from pain and aches, feeling well in general, having good vision, and sleeping and eating well. Being cognitively intact was described as important to the ability to take care of oneself. One's own health was often put in perspective to others with illness, disability or dementia. (2a, Table 3). Being in good health was often referred to as a reason for accepting other consequences of ageing. There were also descriptions of health declining with age. The consequences of these unwanted changes led to not being able to do activities as before, which reluctantly had to be accepted. Awareness of probable future decline in health was described as a source of anxiety (2b, Table 3).

3.2.4. Physically active or physically passive

Physical activity, such as gymnastics, running up and down stairs, dancing, swimming or skiing (3a, Table 3), was described as a source of well-being. Activity could also be of less intensity, such as gardening or simply being able to walk. Other interests also often included some level of physical activity. Physical exercise could be intended for regaining lost function, providing general relaxation or promoting future health and functional ability. Acknowledging no longer being able to perform physical activity as before, yet being satisfied anyway, was also described. However, some persons described a loss of well-being as sports or physical activity in general could no longer be performed. Reasons for no longer being able to perform physical activity were described as being more tired with age, body being worn out, pain or lost function. Not being able to be physically active as before (3b, Table 3) had to be accepted.

3.2.5. At home or feeling homeless

Home was described as something that represented stability, materially and emotionally, safety and a sense of knowing where to belong (4a, Table 3). Practicality, accessibility, location and closeness to nature were important aspects of home and provided means to orientate oneself in everyday living. Not having a mortgage on one's house or feeling that one would not be able to take care of costs and expenses, buying food or replacing broken household appliances were economic aspects of home. Feelings of homelessness were also described, and this had a negative impact on well-being, already having lost, or being afraid of one day losing one's home due to consequences of ageing as well as feeling forced to accept inadequate living conditions (4b, Table 3).

3.2.6. Engagement or lack of interest

Engagement in activities considered meaningful and keeping busy in some way were described as important to well-being (5a, Table 3). Functional ability often dictated engagement, but memories or fantasy could also be sources of engagement and refuge in moments of boredom. Engagement in experiencing nature and outdoor life could be promoted by having a dog to walk or a weekend cottage to attend to. There were also descriptions of not being able to do things like before, but being quite satisfied with life despite this. Descriptions of lack of interest ranged from the specific, such as in travelling (5b, Table 3), to the more general loss of interest in life, some hoping for death in the near future. Some described lower satisfaction with life as they had to cope with haunting memories, and some described resigned feelings of having to accept that engagement had declined with age.

3.2.7. Freedom or captivity

Descriptions of freedom often derived from independence in taking care of the necessities of daily living. A reluctance to needing or taking assistance was described, and this depended on not wanting to be a burden, wanting to be independent in decisions, questioning the quality of others' work or not feeling comfortable with being cared for by strangers. Living a life of one's own choice and not having to adapt to others provided well-being (6a, Table 3). Independence was described as affected by living arrangements, transport options, mental and physical energy as well as economy. Retirement meant having time to do things at a slower pace, not having to rush. Being able to buy things, travelling or hiring services were also described as sources of freedom. Having a spouse with health problems requiring extensive attention or assistance was described as a source of feelings of captivity. Further, no longer being able to drive was also described as inhibiting freedom (6b, Table 3). Some expressed worries about becoming dependent in the future. Accepting that age sometimes could mean lost independence in some areas was frustrating but became easier with time. Noticing areas where one was still functioning independently was described as important to well-being.

3.3. Mixed method analysis

Content areas from qualitative and quantitative analysis were compared, which resulted in a triangulation of well-being areas, as shown in Table 4.

4. Discussion

In this study, a mixed method, convergent parallel design was applied to describe which specific factors are related to morale assessed with the PGCMS as an aspect of well-being in very old persons, and how

Table 4
Mixed method analysis.

Assessment of well-being Variables associated with morale	Perceptions of well-being Category
Feeling lonely (often to sometimes)	Included in or excluded from social context
Self-rated health	Good or declined health
Self-rated health a year ago	
Katz ADL	Physically active or physically passive
30-second chair stand test	
Living in own house	At home or feeling homeless
(no corresponding variable)	Engagement or lack of interest
(no corresponding variable)	Freedom or captivity

Table shows convergence of variables with a significant association with level of morale and categories related to well-being.

these specific factors and others of importance are described when interviewing the same individuals.

In the present study, mean PGCMS score, i.e. morale, within the group was high compared to other samples where mean morale was lower (de Guzman, Lacson, & Labbao, 2015; Jang, Choi, & Kim, 2009), and an overwhelming majority answered "yes" to being satisfied with life as it is today. Participants were asked to further elaborate on the question regarding satisfaction with life today, and six categories forming areas important to well-being were described. As these areas were either fulfilled or not, they were described either as a source of well-being or, oppositely, a hindrance as reflected in the duality described.

In quantitative analysis several univariate associations were found, in multiple regression analysis age and ADL (Katz) were significantly associated with PGCMS. Some of the univariate variables were seemingly co-dependent and inter-relating. As an attempt to untangle the many overlaps the mixed method model was proposed. In this way, the current study offers a new perspective of how variables associated with well-being converge with areas of importance to well-being based on descriptions of perceptions. We found that four out of six identified areas converged with variables found to be significantly associated with morale in statistical analysis; included in or excluded from social context, good or declined health, physically active or physically passive, at home or feeling homeless. These are described as follows.

In this study, loneliness was associated with lower morale. In the interviews, perceptions of social context and loneliness were identified as an area important to well-being. Social context was found to have implications such as physical and emotional support, confirmatory or affectionate feelings. However, loss of social context, exclusion or feelings of loneliness were also described, mainly as connected to the consequences of ageing. Associations between loneliness and well-being in older persons have been described in previous research (Courtin & Knapp, 2017) and in particular, loneliness is associated with depression in the widowed (Golden et al., 2009). In the present study, there are descriptions of how the death of spouses and friends rendered many in a lonely state but also include other reasons for isolation or exclusion that had come with age, such as hearing loss.

Rating health as good was positively associated with high morale, both in general and compared to one year ago. In the qualitative analysis, we found that having and maintaining good health was described as important to well-being, and, oppositely, negative with declining or expected loss of health and further related to specific aspects of health, such as the ability to engage in activities. The connection between well-being and self-assessed health is described in previous research (Cho, Martin, Margrett, MacDonald, & Poon, 2011). Previous research has also shown that self-rated health is significantly related to mobility (Gama et al., 2000) and functional decline (Lee, 2000).

In this study, physical function and ability, assessed by the Katz ADL and 30-second chair stand test, was significantly associated with morale. In addition to this, Katz ADL was besides age the only variable significantly associated with morale levels in multiple regression analysis. Prior research has shown that physical exercise (Fox, 1999) and capability (Garatachea et al., 2009; Grönstedt et al., 2011) are of importance to well-being. In very old persons, a certain level of physical function can be a prerequisite for being able to fulfil many other areas important to well-being. According to qualitative data from this study, physical activity or inability appeared to have the potential of direct impact on all other areas related to well-being. This may be why physical activity, function and ability have such an important role in well-being.

Accommodation was one's own home for almost all persons, and only a few were living in residential care facilities. In statistical analysis, living in one's own house as compared to living in an apartment was positively associated with well-being. Also in the interviews, aspects of home were found important for well-being. The practical, emotional and facilitating role of home in daily life was described. Previous research showed that housing type and quality were related to well-being (Evans, Kantrowitz, & Eshelman, 2002; Herbers & Mulder, 2017). Descriptions of feeling homeless or the prospect of the impending loss of the home were found in this study, related to being forced to relocate to other accommodations. That the housing situation is made by one's own choice, and not as a consequence of external influences, has been pointed out by Oswald et al. (2007) as important to well-being. Relating to this study, this might imply that living in an apartment in some cases could be a consequence of a change that ageing brought, such as a decline in physical function. This could, at least to some degree, explain why, statistically, living in one's own house is associated with higher morale compared to living in an apartment; however, this would have to be investigated further.

The following areas, engagement or lack of interest, freedom or captivity, were identified in the interviews but were not captured in statistical analysis. However, they contribute to our understanding of well-being and acceptance.

Meaningful engagement was essential to well-being. Such engagement was described as a general feeling of wanting to keep busy, as opposed to the negative aspects of this category where a general loss of interest was ultimately accompanied by feelings of no longer wanting to live. Carr and Weir (2017) described how maintaining an active engagement in life, socially and cognitively, was an important aspect of ageing successfully. Another study found that engagement was related to increased survival in old age (Lennartsson & Silverstein, 2001). The search for meaning has been described as the primary source of motivation in life (Frankl, 1992). Possibly, the engagement category emerging in the results could be an aspect of what is known as "spiritual well-being" (Ellison, 1983). In the present study, it was made clear that perceptions of meaningful engagement do not have to be in concrete things or activities; it is rather a feeling of being interested in something, as descriptions even included fantasies or memories. When an individual no longer has these interests, interest in life itself might be in jeopardy.

Freedom was described by the participants as important to experiencing well-being, and oppositely was a feeling of captivity. Although a corresponding assessment for analysing associations with morale was not present, aspects of freedom were related to other areas and quantitative variables, which highlights the interconnectedness of well-being areas. In one study quality of life themes were identified in interviews, including having health, psychological outlook, home and neighbourhood, finances, independence, social roles and activities and relationships (Bowling & Gabriel, 2007). One of the reasons described as why these aspects were important to quality of life was that they provided freedom to do things one wanted without being restricted.

The analysis of the interviews further revealed a specific attitude, acceptance, as a way of dealing with unwanted change related to ageing. This theme runs through all categories and might be important to take into consideration when assessing well-being in older persons. It is proposed in prior research that acceptance might be the main reason that well-being in older adults worldwide is generally high in spite of health issues and other losses common to health (Birkeland & Natvig, 2009; Ranzijn & Luszcz, 1999). In another study, persons 65–84 years of

age described that acceptance is needed for keeping a positive outlook on life when facing adverse events (Carr & Weir, 2017). In the present study, however, acceptance seemed divided into a resigned or reorienting attitude. Previous research has proposed that nuances of acceptance can be separated into resigned or active acceptance (Nakamura & Orth, 2005) and that active acceptance is adaptive, while resigned acceptance is not, and therefore potentially negative to mental health. Roe, Whattam, Young and Diamond (2001) also described nuances in attitudes of acceptance towards needing help among older persons. Nuances in acceptance might raise questions regarding whether a positive response to questions of life satisfaction in this study or others is exclusively psychologically positive. Lawton (1983) addressed this type of positive response to an unwanted situation as "*a way of dealing with what would otherwise be a worse situation*" (s.355). In the current study most participants report high morale, as well as satisfaction with life. As part of a longitudinal study there is a possibility that the current sample may be relatively healthy compared to a random sample of the same age. However disability as a consequence of age is evident in interview descriptions. The positive well-being described and observed, sometimes in the presence of disability may be an aspect of a concept referred to in prior research as the *"disability paradox"* (Albrecht & Devlieger, 1999). This concept suggest that persons can experience high quality of life also in the presence of disability. This in turn could possibly be considered as an aspect of the acceptance described in the current study, or rather that acceptance may serve as a facilitator for well-being and therefore contribute to creating this paradox.

Instruments aiming to quantify well-being or other human traits with yes/no or Likert-type answers are essential to research and healthcare contexts. However, these scales also limit respondents' possibility to elaborate on their answers. In this study, we combined such assessments with an open-ended question and divided the material according to high or low morale. From this, we gained insights that would not have been possible if only assessing these individuals with the PGCMS or only using open-ended questions. For example, individuals with high morale expressed anxiety about losing their health due to potential ageing-related threats, and individuals with low morale struggled with accepting things as they were. This combined method could also be useful if the result of the assessment of an individual is close to a scale's cut-off, i.e. whether to rule in or out. Future research has to determine which open-ended questions to ask for different assessment scales and suggestions on how to interpret answers. We argue that combing assessment scales such as the PGCMS with open-ended interviews in clinical practise could increase the clinical value of the assessment scale. How to best use this combined method for different scales in clinical practise could be a new field of research.

Knowledge derived from this study is of importance, as it describes assessments and perceptions of well-being in very old persons. Such knowledge should be considered when forming policy for future healthcare and society affecting persons within this age group.

4.1. Strengths and limitations

The first author performed all interviews, which provided a better understanding of the data. The number of participants was a balance between not having too many interviewees for qualitative content analysis purposes and, at the same time, having enough data in order to make basic statistical analysis possible. In order to not infer on interpretation, quantitative variables were chosen before, and analysed after, qualitative analysis. As a possible limitation, the studied sample is possibly healthier than a random population sample. Being part of a larger longitudinal study that has been ongoing for 30 years, persons with low health are likely to drop off or pass away to a greater extent than those who are healthier. This is a cross-sectional study, and we do not know the participants' morale level prior to the study. The study design with interview data required for all participants further meant that 12 persons with cognitive impairment were excluded, as they were not able to elaborate on inquiries.

5. Conclusions

In the present study, morale was high, however lower in general in the oldest persons and in women. Assessments and perceptions important to well-being converging in analysis were; not feeling lonely and being included, rating and perceiving health as good, high physical function/ability and being physically active, living in own house and feeling at home. Areas described as important to well-being not captured in statistical analysis were having engagement and feeling free. Acceptance was described as a key factor for having well-being; however, acceptance was divided into resigned or reorienting attitudes. This study adds to the knowledge of what brings or hinders well-being in very old persons, what assessments might be most important and how assessments and perceptions used together can be valuable in clinical practice.

Authorship conformation form

- All authors have participated in (a) conception and design, or analysis and interpretation of the data; (b) drafting the article or revising it critically for important intellectual content; and (c) approval of the final version.
- This manuscript has not been submitted to, nor is under review at, another journal or other publishing venue.
- The authors have no affiliation with any organization with a direct or indirect financial interest in the subject matter discussed in the manuscript.

CRediT authorship contribution statement

Albin D. Almevall: Conceptualization, Investigation, Formal analysis, Writing - original draft, Methodology, Project administration. **Karin Zingmark:** Conceptualization, Formal analysis, Project administration, Writing - review & editing, Methodology, Supervision, Funding acquisition. **Sofi Nordmark:** Writing - review & editing, Methodology, Supervision. **Ann-Sofie Forslund:** Conceptualization, Project administration, Writing - review & editing, Methodology, Supervision, Funding acquisition. **Johan Niklasson:** Conceptualization, Formal analysis, Writing - review & editing, Visualization, Methodology, Supervision, Project administration, Funding acquisition.

Declaration of Competing Interest

The authors report no declarations of interest.

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