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RESEARCH PAPER

Understanding the Multi-Dimensional Mental Well-Being in Late Life: Evidence from the Perspective of the Oldest Old Population

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Abstract
The promotion, maintenance, and improvement of well-being among the oldest old population is becoming a great public health concern. This study aimed to explore the experiences of individuals aged 80 plus regarding their mental well-being (MWB) and its contributing factors in four European countries. A qualitative approach was followed, with twenty-three focus groups. One hundred and seventeen respondents were recruited from senior community centers, adult day care centers, and nursing homes. Data was assessed using qualitative content analysis. Participants' perspectives on MWB were collated along four dimensions: functional, social, personal and environmental. Staying healthy and maintaining independence, having close relationships with others, and insightful experiences with friends positively contributed to MWB. Additionally, engagement in fruitful or inspiring activities contributed to enhance personal development, which, in turn, had beneficial effects on MWB. Having a positive outlook was also found to be associated with MWB. Results reinforce the dynamic and multidimensional nature state of MWB, as well as highlighting the significance of psychosocial factors. Developing and implementing policy actions including a focus on the social and physical environment as well as strengthening personal capabilities and self-esteem, can foster MWB among the oldest old population.

Keywords Well-being · Oldest old · Social relationships · Active aging · Functioning · Qualitative study

1 Introduction

Population ageing is expected to dramatically increase in the coming decades. According to estimates from the statistical office of the European Union (Eurostat 2017), the percentage of Europeans aged 80 plus is projected to double from 5.4% in 2016 to 12.7% in

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2080, which constitutes the fastest growing segment of the population. Even if there exists enormous heterogeneity among the oldest old, as in every other age group, these individuals are generally at high risk of functional and cognitive decline and are often affected by multiple morbidities, emotional losses, reduced participation, greater financial burden and consequent increased social and long-term care needs (Cohen-Mansfield et al. 2013; Cho et al. 2011). Therefore, the promotion, maintenance, and improvement of well-being among the oldest old is a growing public health concern (Steptoe et al. 2015). In line with these changes, the European Union has identified priorities for mental health and mental well-being (MWB) at all ages within the European Framework for Action on Mental Health and Well-being (European Union 2016). Additionally, countrywide initiatives are now recognizing the importance of enhancing MWB among older adults as a desirable goal associated with positive societal outcomes (e.g. improved social cohesion and economic progress) (Farver-Vestergaard and Ruggeri 2017; NICE 2015).

The conceptualization of MWB has generated considerable debate including a plethora of different approaches, ranging from those focused on everyday feelings, to theoretical frameworks based on self-development and psychological functioning (Huppert 2014). While the former refers to specific emotional experiences, both positive and negative (i.e. hedonic or experienced well-being) (Diener 1984), the latter is more related with general judgments about meaning in life and sense of purpose, often referred to as eudemonic well-being (Deci and Ryan 1985; Ryff 1989). Other researchers have identified well-being as a measure of life satisfaction (i.e. evaluative well-being) (Diener et al. 1985). Current perspectives tend to acknowledge the complexity and multidimensional facets of this construct, using broader definitions. In this regard, Huppert and So (2013) proposed a conceptual framework that equates high levels of well-being with positive mental health, which is characterized by a combination of feelings and functioning.

In order to be able to foster MWB, one must first be able to identify its essential features. Earlier inspiring works attempted to identify the core dimensions of MWB in accordance with particular theoretical frameworks (Huppert and So 2013; Ryan and Deci 2001; Ryff 2014; Seligman 2011). However, a recent mapping of the main articles in peer-reviewed journals for MWB research in Europe found an under-representation of older people in current well-being research (Miret et al. 2015). Existing literature about well-being and older adults has traditionally focused on individuals aged 60 or 65 years and above (Douma et al. 2017); has not covered all measures of MWB; has used other concepts different from MWB (e.g. quality of life) as interchangeably or has been based on quantitative approaches (Cho et al. 2015; Lukaschek et al. 2017; Read et al. 2016). To the best of our knowledge, research on MWB has been constrained by the lack of qualitative research as well as lack of research specifically on the oldest old. Given the U-shaped curve reported between MWB and age, with higher levels of MWB at younger ages and later in life (Jivraj et al. 2014), age specific differences in MWB appear likely. Thus, the aim of the current study is to explore experiences of MWB among the oldest old (aged 80 years and older) in four European countries.

2 Materials and Methods

2.1 Study Setting

Data was collected within the European Welfare Models and Mental Wellbeing in Final Years of Life (EMMY) project (www.emmyproject.eu), an interdisciplinary and mixed methods comparative study on the impact of welfare systems on MWB among the oldest old conducted in the regions of Vaasa (Finland), Verona (Italy), Trondheim (Norway) and Madrid (Spain). These countries were originally selected to account for the diversity in their social welfare systems (i.e. Mediterranean vs Nordic welfare models).

In the present qualitative study, participatory focus groups (FG) recruiting participants from senior community centers (SCC), adult day care centers (ADCC), and nursing homes (NH) were conducted. Centers were carefully selected in order to obtain a broad representation of older individuals with differing levels of functioning. In total, twenty-four FG were carried out from April 2017 to January 2018.

Prior to the focus groups, ethical approval was obtained from each of the local ethics research review committees (Ethics Research Committee National Institute for Health and Welfare, Finland; Ethics Committee Verona and Rovigo Province, Italy; Regional Ethics Committee, Regional Committees for Medical and Health Research Ethics, Norway; Ethics Research Committee Universidad Autónoma de Madrid, Spain). Written informed consent was obtained from all participants, except for two individuals with mobility difficulties who provided a recorded verbal consent.

2.2 Participants

Potential respondents were recruited at each of the participating centers either by being offered the opportunity to volunteer for the study following information given by the researchers, or alternatively participants were invited to participate by personnel from the centers. Eligible participants fulfilled the following inclusion criteria: (a) 80+ years of age; (b) were cognitively able to participate in the FG comfortably (as observed by the researchers and/or reported by institutional health professionals); and (c) were fluent in the language of the FG.

2.3 Procedure

The composition and number of the FG held were based on established guidelines (Krueger and Casey 2000). The number of FG was set at a minimum of six per country (two per recruiting center) and a maximum of nine. However, theoretical saturation, that is, when respondents' insights no longer added new significant information (Strauss and Corbin 1990), was achieved after performing six FG in each country. Although 24 FG were originally carried out, one of the FGs did not fulfill the quality criteria (i.e. faulty audio recording) and was subsequently excluded.

The FG were led by two researchers (moderator and assistant), both with previous experience in devising and conducting group discussions, and who had participated in a training for the task in order to homogenize study procedures in all countries. Personnel from the centers were also present in a small number of FG assisting participants with higher levels of physical disability or special needs. FG sessions were carried out in the local language of each region. Respondents were first asked about their sociodemographic characteristics

(gender, date of birth, marital status, and level of education), followed by a description of the study aims. All participants were informed about the confidentiality of the information collected. The moderator, assisted by a digital or printed presentation, directed the FG following a structured interview protocol ("Appendix 1") including a set of open-ended questions and when appropriate additional follow up questions. Participants were encouraged to freely discuss the topic.

2.4 Data Analysis

All FG were audiotaped, transcribed verbatim in the participating institutions and translated into English. The anonymization of respondents was ensured by allocating each of them a unique code.

The transcripts were analysed using qualitative content analysis with an inductive approach where both manifest and latent content was considered, a procedure inspired by Graneheim et al. (2017). The goal of qualitative content analysis is the rigorous and conscientious examination and interpretation of the collected material, through processes of fragmentation, condensation and classification, to retrieve meaningful information related conceptually and theoretically to the phenomenon being studied (Downe-Wamboldt 1992). Analyses followed an approach outlined recently by Bengtsson (2016). In a first step, data extraction was performed by means of "meaning condensation". Two researchers (E.L. and N.M.-M.) read through all transcripts several times independently highlighting words, phrases and paragraphs (i.e. meaning units) judged to contain interrelated information in relation to the research question. The second step involved condensing the identified units of meaning (i.e. the number of words in meaning units were reduced while keeping the sense of the unit) and assigning them codes through an inductive process. At this point, units of meaning were defined clearly in order to enable identification of concepts and allowing material to be grouped into categories and subcategories. By the process of constant comparison (Glaser and Strauss 1967), similar condensed units were assembled into categories and also either divided into smaller subcategories and grouped into broader themes (i.e. dimensions) though latent level interpretation.

One researcher (E.L.) coded all FG, and a random selection of six FG (25%) was independently coded by a second researcher (N.M.-M). At all events, subcategories, categories, and themes were examined and compared in terms of consistency. Discrepancies in definitions, categorizations or interpretations were reviewed and discussed by researchers and M.M until a consensus was reached.

Qualitative analysis was performed assisted by the computer software NVivo. Additionally, descriptive analyses of the sociodemographic characteristics were performed in order to gain an overview of the informants' characteristics including frequencies, proportions, means and standard deviations (SD). Differences between countries were tested using Chi squared tests, Fisher's exact tests and one-way ANOVA tests. Quantitative analyses were performed using IBM SPSS Statistics, version 24.

3 Results

In total, 23 FG were analyzed involving 117 individuals. The size of the FG ranged from 3 to 8 individuals, aiming for gender-balanced groups including at least one male participant per group. Sessions lasted from 30 to 90 min.

Table 1 displays the socio-demographic characteristics of the study sample (overall and by country). The mean age was 85.6 (SD = 4.4) and there were more females than males (73.5 vs. 26.5%). FG were heterogeneous in terms of the participants´ level of education, marital status and level of functionality.

3.1 Dimensions of Mental Well-Being

Figure 1 shows the conceptual model of dimensions of MWB according to the participants' experiences. These perspectives were collated into 2221 statements, which were subsequently classified into four themes: functional dimension (302 statements), social dimension (975 statements), personal dimension (897 statements) and environmental dimension (47 statements). The specific weight of each category and subcategory is displayed in "Appendix 2". A total of 98.9% of the statements identified were coded identically by the two researchers, indicating a high degree of concordance between them.

3.1.1 Functional Dimension: Feeling Healthy and Being Independent

This theme was discussed in detail and resulting in five categories: care assistance, energy and restful sleep, being healthy, independence and physical activity. All participants were unanimous about considering health as an essential requirement for MWB.

> Well-being is firstly to be free from illness [Dimension: functional; category: being healthy (Finland, ADCC)]

> The first thing is health" [Dimension: functional; category: being healthy (Italy, NH)]

Individuals from all participant countries largely emphasized that being free of disease and free of pain was substantial for feeling well.

> In particular a day is good or not according to my health. When you don´t feel good or you have pain is not a good day [Dimension: functional; category: being healthy (Italy, SCC)]

Being healthy was related with the idea of keeping fit and in good shape. Participants who expressed higher levels of MWB usually reported some sort of exercise in their routine. In this regard, most participants agreed on the benefits of physical activity. Respondents also noted that getting a satisfactory result in a medical check-up and not having to take medication also enhanced their MWB.

Nearly all participants mentioned the importance of staying independent. They talked about the ability to move freely and to perform the activities of daily living for the maintenance of their previous lifestyle. Specifically, individuals with higher levels of physical limitations underlined the usefulness of practical aids and resources that help them to function independently. Additionally, respondents reported higher levels of MWB in association with sufficient restful sleep. Feeling rested resulted in adequate levels of energy to better cope with daily routines, responsibilities or serious issues.

> Also that I can look after myself, it can be one reason why I moved here [to the nursing home] too. I don't need someone to help me all the time. I can go to the shops by myself even if I go ten times, if I can't carry so much at one go. So, I manage it myself anyhow. And that is something that means a lot, that as long as you can,

Table 1 Sociodemographic characteristics of the sample (overall and by country)

Characteristic	Category	Overall (n = 117)	Finland (n = 28)	Italy (n = 25)	Norway (n = 31)	Spain (n = 33)	p^a
Age (years)	Mean (SD)	85.6 (4.4)	85.8 (4.0)	84.2 (3.4)	86.7 (3.4)	85.6 (5.3)	0.22
Sex	Female	86 (73.5)	19 (67.9)	16 (64.0)	25 (80.6)	26 (78.8)	0.41
Education	No formal education/Less than primary school	25 (21.5)	0 (0.0)	7 (29.2)	0 (0.0)	18 (54.5)	< 0.001
	Primary school completed	19 (16.4)	5 (17.9)	8 (33.3)	0 (0.0)	6 (18.2)	
	Secondary school completed	59 (50.9)	21 (75.0)	5 (20.8)	27 (87.1)	6 (18.2)	
	Tertiary education completed	13 (11.2)	2 (7.1)	4 (16.7)	4 (12.9)	3 (9.1)	
Marital status	Single	3 (2.6)	0 (0.0)	1 (4.0)	1 (3.2)	1 (3.0)	0.56
	Married/in a relationship	28 (23.9)	3 (10.8)	8 (32.0)	8 (25.8)	9 (27.3)	
	Separated/divorced	6 (5.1)	2 (7.1)	0 (0.0)	2 (6.5)	2 (6.1)	
	Widowed	80 (68.4)	23 (82.1)	16 (64.0)	20 (64.5)	21 (63.6)	
Recruitment center	Senior social/activity center	43 (36.8)	11 (39.3)	11 (44.0)	12 (38.7)	9 (27.3)	0.78
	Adult day care center	31 (26.4)	8 (28.6)	4 (16.0)	8 (25.8)	11 (33.3)	
	Nursing home	43 (36.8)	9 (32.1)	10 (40.0)	11 (35.5)	13 (39.4)	

Data are column numbers (%) unless otherwise stated

SD standard deviation

[a]Differences between countries were tests by Chi squared and Fisher's exact tests (for categorical variables) and ANOVA (for continuous variables)

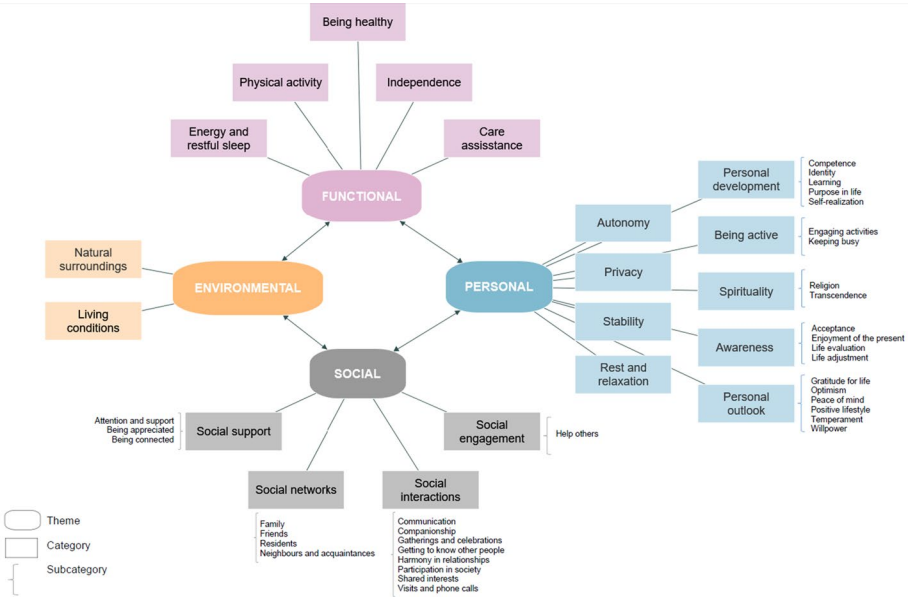

Fig. 1 Conceptual model of dimensions of mental well-being according to the participants' experiences

you manage on your own [Dimension: functional; category: independence (Finland, SCC)] Social dimension: Structural networks and meaningful connections

Overall, respondents highlighted the essential role of social factors for their MWB. Under this main theme several categories emerged: social networks, social interactions, social support and social engagement.

In terms of social networks, the nearest family (i.e. spouse, children and grandchildren) was, by far, the most repeated concept and key source for MWB in all FG. Participants discussed the importance of having a supportive and caring family including frequent interactions with family members, preferably through visits, but also including phone calls from family members not living nearby or those who were busy.

> We are both [participant and her daughter] together all day: resting, going to town, going to Mass, going to the beach and such… We are so well, so we are close and I am looking forward to the day" [Dimensions: functional, social, personal; categories: restful sleep, social interactions, social networks, being active; subcategories: companionship, family, engaging activities (Spain, SCC)]

> It is nice if someone comes to visit because then I can follow what is happening with my nearest. They are out in the world, one grandchild lives in [country far away] and they were here yesterday. I feel well when they come and make contact with me, they have not forgotten me [Dimension: social; categories: social networks, social interactions, social support; subcategories: family, visits and phone calls, being connected, being appreciated (Finland, NH)]

These interactions significantly enhanced MWB as participants could communicate with and feel connected to their nearest and dearest, creating a sense of belonging to relatives or community. Relationships with the grandchildren were also seen to add value

for MWB in a major group of participants inducing feelings of love, usefulness and pleasure, especially for those residing in Mediterranean countries.

> It makes me feel good when I realize I'm able to talk to my great grandchildren and when I can sit with the little ones. That gives me a lot of joy [Dimension: social; categories: social networks, social interactions; subcategories: family, communication (Italy, SCC)]

Furthermore, two other subcategories referred to the beneficial effects of relatives on MWB. Firstly, family gatherings (going out for lunch or celebrations, among others) gave them a lot of joy, especially when the whole family was together. Secondly, family well-being, seen as personal and professional achievements, stability, and health, contributed to participants' own MWB.

Another fundamental source for MWB came from friends, especially in the Nordic context. Participants stressed how important it was being surrounded by their trusted friends. They felt better when they socialized and shared activities with individuals of the same age, in particular with those who shared common interests, concerns and experiences from the past. However, respondents also pointed out the difficulties encountered in maintaining friendships at old ages, as many friends had passed away or had serious health problems.

> And it makes me feel good to go out with my friends, any place where we can interact and exchange our opinions [Dimensions: social, personal; categories: social networks, social interactions, being active; subcategories: friends, engaging activities (Spain, SCC)]

Respondents living in nursing homes focused on relations to other residents and personnel. Being looked after, being accepted by other residents and participating in scheduled activities in order to strengthen social connections were strongly associated with higher levels of MWB.

> That one can get care and knows that one is safe if something should happen, and that you're looked after, not forgotten [Dimensions: functional, social, environmental; categories: care assistance, social support, living conditions; subcategories: attention and support, aging at place (Norway, ADCC)]

Some, but not all, individuals felt that moving from their own home to a nursing home had limited their access to their usual surroundings and social contacts. Still, most of them remained in contact with their closest relationships (e.g. by phone) while others appeared to have adapted to their new life´s circumstances. At any event, participants underscored the high negative impact of loneliness on MWB and underlined the need to be active when building or maintaining a social network.

Nearly all respondents discussed the importance of remaining engaged in social activities in the community. Altruistic help or regular volunteering were among the most important contributors for MWB, not only in terms of being a generous act but for the fulfillment and meaning of life it gave to those providing the help.

> And I say [to a neighbor]: well, you do not have to think about sitting there all day, come here, we will go to [place] and come back. A walk and on the way we can buy something… Well, it seemed to me that I was happy too. I mean, I was happy to see her well, to help her and it worked for me too. I was happy with myself [Dimensions: social, personal; categories: social engagement, being active, per-

sonal development; subcategories: help others, engaging activities, self-realization (Spain, SCC)]

3.1.2 Personal dimension: Life engagement and positive outlook

Analysis of the collected data revealed various categories related to the personal dimension: autonomy, awareness, being active, intimacy, personal development, positive outlook, rest and relaxation, spirituality and stability.

Firstly, engagement in assorted activities appeared as a recurrent theme.

> My well-being is that I can be active, which is essential for me. Long walks, exercises and gym, and otherwise live such a life. I am alone you see since 8 years back, my husband passed away. And it has gone well as I have so many interests and I am active in many different things [Dimensions: functional, personal; categories: physical activity, being active; subcategory: engaging activities (Finland, SCC)]

Participants talked about cultural activities, intellectual games, gardening and handcrafts, among others. For the most part, these activities involved social interactions and preferably practiced outdoors.

> I am happy when I open the door and go out. That is why I do not stay in the nursing home to do the scheduled activities. I like to be in the street, do some window-shopping, go for a walk, things like that [Dimension: personal; category: being active; subcategory: engaging activities (Spain, NH)]

Engagement related not only with entertainment and keeping busy, but also with seeking stimulation, freedom and autonomy, and life enrichment. In line with this, participants reported that being active was a necessary condition for their personal growth. Although some individuals identified later life as a time for rest without major responsibilities, many highlighting that getting older also implied giving to others, lifelong learning and feelings of usefulness. This approach was deeply related with the concepts of self-realization, contribution and competence.

> So I say: Have you done anything today? Something useful? Have you created something? Have you given anything to someone? Dimensions: social, personal; categories: social engagement, being active, personal development; subcategories: help others, keeping busy, competence (Norway, SCC)]

Of equal, if not more, interest was the concept of autonomy (ability to take own decisions), representing an essential aspect of MWB. For example, respondents from Nordic countries repeatedly mentioned driving as an indicator of freedom and autonomy.

Individuals also discussed about everyday activities providing a sense of accomplishment and purpose in life. Having goals and challenges was considered to maintain balance in life and enhance MWB. Furthermore, participants reported higher MWB when they could accomplish what had been planned on a regular day.

> It's very important when you're old to have goals to look forward to. Very important. So, when I've achieved a goal I plan a new goal straight away [Dimension: personal; categories: being active, personal development; subcategory: purpose in life (Norway, ADCC)]

Awareness included the acceptance of growing old and related life adjustments, and was associated with higher chances to move forward in a satisfactory manner. The majority of respondents expressed a realistic appraisal about their actual circumstances and showed confidence about the future.

Likewise, MWB depended on the enjoyment of the present, on what really mattered according to various participants. A positive outlook was frequently referred to as a primary source for MWB. Some of the individuals talked about optimism and contentment with life as key indicators for the enhancement of MWB.

> It depends a lot on whether you have an easy [optimistic] disposition. That makes a big difference in your starting point [Dimension: personal; category: personal outlook; subcategory: optimism (Norway, SCC)]

In this regard, a few participants believed that having a positive outlook about the aging process and life in general was due to a genetic predisposition.

Similarly, others focused on personal traits such as resilience, willpower, prudence or persistence as quality attributes that helped individuals to adapt to aging challenges. A connection with something greater than themselves, either a religious faith or a spiritual belief also seemed to have a positive impact on MWB.

3.1.3 Environmental Dimension

Environmental factors were grouped as natural surroundings and living conditions indicators. A peaceful and quiet environment was regarded as an important indicator for MWB.

> I feel good [….] when I'm in a place which inspires me tranquillity [Dimension: environmental; category: natural surroundings; subcategory: peacefulness (Italy, SCC)]

Respondents reported feeling well when they could enjoy inspiring sounds, natural landscapes or nice weather (particularly in the Nordic countries). In addition, according to individuals from all participant countries, safety, privacy or freedom were all positively associated with remaining or living in their own houses, which lead to higher levels of MWB. Respondents residing in a nursing home generally considered the nursing home as their own home.

> To be able to live at a place like this. I am not going to be able to explain why I think it is so good here and why I immediately felt at home here and everything, but it just was so. I can explain it, but this house seems to mean a lot to me now [Dimension: environmental; category: living conditions; subcategory: aging at place (Finland, SCC)]

Financial security was also mentioned by several participants in terms of the importance of having enough money to afford their own food and medicines as well as maintaining a financial cushion to cover unexpected expenses.

4 Discussion

4.1 Summary of Results and Comparison with Previous Work

This study explored the subjective experiences of MWB and its dimensions among the oldest old in four European countries. Our findings reinforce the dynamic state of the MWB concept and its multidimensional nature, highlighting the significance of the psychosocial

factors. Furthermore, all emerged dimensions appeared to be closely linked to one another. Staying healthy and maintaining independence, together with having close relationships with relatives and insightful experiences with friends or acquaintances positively contributed to their MWB. Additionally, engagement in fruitful or inspiring activities contributed to their personal development, which, in turn, had beneficial effects on MWB. Our results also showed that having a positive outlook on life was associated with MWB.

These research findings correspond with those of Douma et al. (2017), who reported a comparable variety of dimensions and categories of MWB using participant-generated word clouds from 66 Dutch individuals aged 65 years and above although specific features were prioritized differently in the oldest age group (85 + years). Individuals in the younger-age group (65–75 years) more frequently discussed about the benefits of involving in (high-intensity) activities, volunteering, maintenance of the social circle and the living environment. On the other hand, participants aged 85+ years often included aspects of health and emphasized the importance of ageing at their place for their MWB. The oldest-old population comprises a vulnerable group to diverse health conditions, have multiple functional profiles and is often affected by reduced social participation (Cohen-Mansfield et al. 2013). Thus, age-related differences in what is perceived to be important to experience MWB appear likely. As compared to younger individuals, previous studies showed that the association between relatedness and MWB is more pronounced in very old age, competence rather than autonomy predicts MWB and feelings of appreciation are highly valuable (Barnes et al. 2013; Granerud et al. 2017; Neubauer et al. 2017; Ward et al. 2012; Westerhof et al. 2001).

Our results are in line with diverse theories of lifespan development (Baltes and Baltes 1990; Carstensen et al. 1999; Erikson 1982; Heckhausen et al. 2010; Poon and Cohen-Mansfield 2011; Tornstam 1999). Individuals in late life, when encountering life-changing events, take part in activities aimed at fulfilling their needs for competence and autonomy and thus addressing some forms of adaptation (Deci and Ryan 2000; Neubauer et al. 2017). This notion also accords with Erikson's theory (Erikson 1982) suggesting that the very old people are prone to show a positive outlook on the current situation. Moreover, given that time is perceived as limited during the last stage of life, older individuals are mostly present-oriented. In this regard, emotionally meaningful social relationships acquire greater value in contrast to their younger counterparts (Carstensen et al. 1999).

Functionality was one of the dimensions influencing our participants' MWB. Quantitative research has consistently revealed a significant association between function and MWB in the oldest old population (Cho et al. 2011; Read et al. 2016). In order to maintain independence, the importance of exercising was discussed in all FG. Physical activity not only contributed to remaining active, but also to feelings of being capable and self-sufficient. Adaptation to life circumstances and limitations was noted by, including the replacement of potentially unmanageable activities and using devices and care resources (Algilani et al. 2016). Even though functioning has been previously documented as a primary correlate of MWB (Pinquart and Sörensen 2000) and has been highly prioritized by participants with increased disability, reduced MWB was not always associated with increased functional limitations, which may be explained by the mediator role of the social dimension (Cohen-Mansfield et al. 2013).

The social dimension was the most frequently mentioned dimension. The importance of relatedness in late life concurs with multiple studies (Forsman et al. 2012; Tomini et al. 2016). On the one hand, interactions with the closest family were essential for MWB, as they generate feelings of appreciation, connectedness and support. With lesser frequency, life-long relationships with friends had a positive effect on MWB. Forsman et al. (2012)

reached a similar conclusion in a qualitative study on social capital and MWB among Finnish older adults, showing that relationships with immediate family and old friends are important contributors of MWB in later life. Individuals living in nursing homes or experiencing high levels of disability tend to rely on formal social contacts (e.g. institutional personnel), probably due to their limited social network. These findings reflect the importance of structural and informal relationships, based on mutual trust, belonging and shared experiences. It seems that the quality and the robustness of the social network are far more important for MWB than the quantity of the network, as supported the results of a meta-analysis by Pinquart and Sörensen (2000). Our findings are consistent with the theoretical framework proposed by Carstensen et al. (1999), postulating that older individuals would pay more attention to emotional quality of social exchanges and would discard relations that are less likely to offer an optimal return. Being socially engaged and experiencing social participation also had very positive effects on MWB. Apart from promoting social closeness and communication, social engagement constitutes a main source for self-esteem, competence and provides a sense of usefulness and solidarity.

There was a good deal of discussion in all FG about the personal dimension, highlighting the heterogeneity and complexity of these components ranging from within-person (e.g. self-realization) to between-person subcategories (e.g. being active and socially engaged). Being active came up as a core feature of MWB. Active engagement could compensate for emotional losses and retirement and protect against cognitive and physical decline. Furthermore, it fostered MWB by encouraging a more meaningful daily life. Participants described engagement with life in terms of personal growth, enjoyment and accomplishment and recognized the importance of engaging in broad and novel activities, even when they may pose a great challenge. In support of this, a number of studies (Neubauer et al. 2017; Pinquart 2002) have reported an association between these eudaimonic capacities (i.e. purpose in life, competence and personal development) and MWB in later life. In light of the motivational theory of life-span development, individuals suffering from increasing limitations need to engage in achievable goals that maintain a sense of competence (i.e. compensatory secondary strategies) (Heckhausen et al. 2010). In this line, our participants also conceptualized MWB in terms of acceptance and adjustment of one life's circumstances, and dwell on the present moment. Again, this result seems to emerge from the perception of having a limited time, which provides a realistic self-appraisal that diminishes the experience of negative feelings and increases the appreciation of positive aspects of life (Poon and Cohen-Mansfield 2011). Individual features, such as personal traits, would also act as a psychological resource that moderates this optimistic perspective (Bryant et al. 2016).

Environmental factors, not including social aspects, are generally omitted in researcher-driven MWB models, which usually rely on psychosocial indicators. However, plenty of empirical literature has been published on the benefits of an age-friendly environment. Our findings agreed with previous research (Finlay et al. 2015; Sugiyama and Thompson 2007), which suggests that natural surroundings and living conditions have an impact on older individuals' MWB. Access to welcoming and enjoyable urban spaces including green landscapes for walking enhanced MWB by providing opportunities for participation and social interactions and facilitating independence. Moreover, home maintenance was essential in allowing older individuals to feel comfortable and safe. The association between financial aspects and MWB among older individuals appears to be relatively weak, in accordance with some prior studies (Pinquart and Sörensen 2000), but not all (Lukaschek et al. 2017).

Taken together, these findings have significant implications at both the societal and the individual level. At the societal level, actions should be directed towards the enhancing

community participation and the maintenance of social relationships, especially for individuals with reduced social networks or reported feelings of loneliness. Social activities can strengthen sense of belonging and provide a feeling of meaningfulness in life, all of which associated with higher levels of MWB. Improvements in the built environment (e.g. refurbishment of sidewalks), financial support (e.g. adequacy of the basic state pension), and healthcare systems (e.g. home-based assistance) can all support independence in later life. On an individual level, interventions should involve activities aimed at preserving functional autonomy and promoting self-realization and personal growth (e.g. volunteer home visiting). In order to better cope with emotional losses and increasing functional limitations, psychological oriented interventions should also be available.

The authors of the present study did not conceptualize MWB just as the absence of ill-being or disability, but rather the presence of positive emotions and functioning. For this reason, data were assessed in terms of positive outcomes. Nevertheless, it is worth mentioning that participants in the current study also discussed negative experiences and emotions. Decreases in cognitive and physical functioning (e.g. dementia), family loss and residential relocation were referred by some respondents to have a negative association with MWB. To a greater extent, loneliness and social isolation were also described as having a significant negative influence on MWB, in particular by individuals with unmet care needs, higher levels of disability, or those living in nursing homes. Feelings of loneliness are common among older individuals (Nyqvist et al. 2017) and have been widely reported to be associated with depressive symptoms, poor health and mortality (Cohen-Mansfield et al. 2016; Rico-Uribe et al. 2018).

This study aimed to include a global perspective on the conceptualization of MWB. Themes and categories appeared in all participating countries, reinforcing the idea that there are universal needs for MWB worldwide (Diener 2013). However, small differences appeared on individuals´ judgments of MWB depending on the welfare systems and cultural norms. The Nordic welfare state builds on the universal access to social assistance and the promotion of social cohesion. On the other hand, the Mediterranean welfare state has a lower level of social provisions (e.g. home-based assistance) thus relying on the family to support its socially unprotected members. Strong interactions with the closest family seemed to be key for MWB according to older Spaniards and Italians, while their Nordic counterparts perceived, in a slightly lower level, that both informal relationships and formal social participation were important indicators for MWB. Additionally, Finish and Norwegian participants described the value of autonomy to a greater extent, corresponding with their cultural principle of self-determination. Furthermore, the Nordic respondents most frequently emphasized the outdoor environment, which offers great opportunities for active ageing. This is probably explained by the high influence of unstable and extreme weather conditions on the Scandinavian way of living. Further studies would explore whether the cultural context may have a relevant role in the effectiveness of MWB interventions.

4.2 Strengths and Weaknesses

As far as we are aware, this is the first European FG study exploring MWB and its dimensions among the oldest old population. As opposed to quantitative methods, our study followed a reflexive approach, which allows for greater self-critical thinking and trustworthiness of the data collection and analysis (Elo et al. 2014).

Our study findings should be considered in the light of some limitations. Firstly, respondents were recruited following a purposive sampling method. Although participants

were selected in order to capture the heterogeneity at old ages, generalization of our results should be approached with caution. Secondly, respondents were predominantly female, who have a longer life expectancy and tend to be more willing to participate in research studies. Perspectives of well-being from the male point of view may be underrepresented in this study. Thirdly, we did not specifically collect data on health characteristics such as medical comorbidities, which are known to affect well-being (Miret et al. 2017). However, most participants provided this information spontaneously during the sessions. Fourthly, as in all FG studies, personal perspectives may have been influenced by shared and accepted opinions of the other members of the group. Responses may voice rational and normative attitudes and behaviors rather than intimate and emotional experiences, thus reflecting a lower level of individual involvement (Folch-Lyon and Trost 1981). Nevertheless, as opposed to quantitative methods or one-on-one interviews, the open approach and the non-hierarchical relationship between participants may allow the researchers to go deeply into personal experiences (Whitley and Crawford 2005). Fifthly, some nuances may have been missed during the translation process. Finally, qualitative studies can be more prone to researchers' bias, when a non-hypothesis driven approach may lead to misinterpretation based on presumptions and anecdotal data. In this regard, several mechanisms have been developed to minimize this possibility, such as the use of a topic guide during the discussions or a multiple coding method to analyze the data, both considered as measures of interrater reliability (Mays and Pope 1995).

4.3 Conclusions

This study explored the dimensions of MWB among the oldest old in four European countries using participatory FG. Our findings revealed that being healthy, having significant social relationships and engaging in stimulating and productive activities are considered by the oldest old as the most relevant drivers of their MWB.

The development and implementation of policy actions, including the maximizing the social and physical environment and the strengthening of personal capabilities and self-esteem, would foster MWB among the oldest old population.

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Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Appendix 1

See Table 2.

Table 2 Open-ended questions used during the focus groups

What does feeling good or feeling well mean to you?	
	When do you feel good?
	Where do you feel good?
	With whom do you feel good?
In the last year, what was the moment you most enjoyed?	
	Where were you?
	With whom were you?
	What were you doing?
When you are having a good day, why is it good?	
	When do you have a good day?
	Where do you have a good day?
	With whom do have a good day?
	Which things or activities help you having a good day?
Now we would like each of you to think of a person of your age that you know very well, for example, a sibling, a neighbor or a close friend. You do not have to tell us his/her name, just think of that person to answer the following question. Do you think that person feels good?	
	Why does he/she feel good?
	When does he/she feel good?
	Where does he/she feel good?
	With whom does he/she feel good?
	Which things or activities help him/her feeling good?
Finally, we would like to know, if you could choose, what measures you would ask politicians, policy or decision makers to improve your well-being.	

Key questions in bold and additional questions in italics

Appendix 2

See Table 3.

Table 3 Frequencies of mental well-being statements

THEMES	CATEGORIES	SUBCATEGORIES	Number of statements	%
FUNCTIONAL			302	13.6
	Being healthy		116	
	Care assistance		18	
	Energy and restful sleep		13	
	Independence		58	
	Physical activity		91	
SOCIAL			975	43.9
	Social engagement	*Help others*	65	
	Social interactions		391	
		Communication	42	
		Companionship	73	
		Gathering and celebrations	78	
		Getting to know other people	6	
		Harmony in relationships	31	
		Participation in society	14	
		Shared interests	12	
		Visits and phone calls	89	
	Social networks		403	
		Family	300	
		Friends	70	
		Residents	5	
		Neighbors and acquaintances	6	
	Social support		116	
		Attention and support	75	
		Being appreciated	25	
		Being connected	15	
PERSONAL			897	40.4
	Personal outlook		120	
		Gratitude for life	9	
		Optimism	53	
		Peace of mind	23	
		Positive lifestyle	2	
		Temperament	4	
		Willpower	18	
	Autonomy		47	
	Awareness		55	
		Acceptance	13	
		Enjoyment of the present	22	
		Life adjustment	15	
		Life evaluation	5	
	Being active		509	
		Engaging activities	454	
		Keeping busy	25	
	Personal development		76	

Table 3 (continued)

THEMES	CATEGORIES	SUBCATEGORIES	Number of statements	%
		Competence	32	
		Identity	2	
		Learning	9	
		Purpose in life	8	
		Self-realization	21	
	Privacy and self-comfort		16	
	Rest and relaxation		9	
	Spirituality		19	
		Religion	9	
		Transcendence	8	
	Stability		26	
ENVIRONMENTAL			47	2.1
	Natural surroundings		18	
		Weather conditions	5	
		Beauty and peacefulness	13	
	Living conditions		29	
		Financial security	3	
		Aging at place	25	

Codes (i.e. units of meaning) were not driven into a smaller subcategories or categories if they were not related with any other concept than the one at the top level (i.e. theme or category)

Some of the terms are defined as follows: Autonomy: liberty, freedom to express, choose and behave; Independence: self-sufficient to function both mentally and physically; Rest and relaxation: not doing anything active for a time; Stability: past or present quiet life, no major life stressors

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