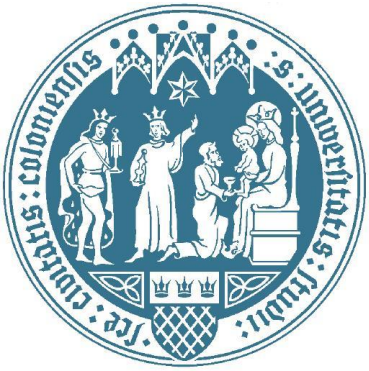
Quality of Life of Geriatric Patients Undergoing Inpatient Geriatric Rehabilitation: A Longitudinal Analysis



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Für Lotta

Für meine Mutter

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List of Abbreviations

ADL: Activities of Daily Living
AGAST: Working Group Geriatric Assessment / Arbeitsgruppe Geriatrisches Assessment
BASE: Berlin Aging Study / Berliner Altersstudie
CHAPO: Challenges and Potentials model of Quality of Life of the Very Old
DEAS: German Ageing Survey / Deutscher Alterssurvey
DiA-S: Depression in Old Age / Depression im Alter-Skala
ELSA: English Longitudinal Study of Ageing
ENABLE-AGE: Enabling Autonomy, Participation and Well-Being in Old Age: The Home Environment as a Determinant for Healthy Ageing
GA: Geriatric Assessment
IADL: Instrumental Activities of Daily Living
ICF: International Classification of Functioning, Disability and Health
ILSE: Interdisciplinary Longitudinal Study of Adult Development / Interdisziplinäre Längsschnittstudie des Erwachsenenalters
KCG: Competence-Center Geriatrics / Kompetenz-Centrum Geriatrie
LASA: Longitudinal Aging Study Amsterdam
N: Number of Participants
NorLAG: Norwegian study on Lifecourse, Ageing and Generation
NRW: North Rhine-Westphalia
NRW80+: Quality of Life and Subjective Well-Being of the Very Old in North Rhine-Westphalia
OPS: Operation and Procedure Code / Operationen- und Prozedurenschlüssel
PDF: Persistent Deterioration of Functioning
QoL: Quality of Life
SD: Standard Deviation
SOC: Selective Optimisation with Compensation
SOEP: Socio-Economic Panel
SWB: Subjective Well-Being
VoL: Valuation of Life
WHO: World Health Organization

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Saskia Bordne

Frechen, July 2020

Abstract

Theoretical background. Due to the growing number of elderly people in Germany, the importance of good geriatric practice is already increasing and will continue to do so in the years to come. Inpatient geriatric rehabilitation plays a major role when it comes to empowering geriatric patients to return to their home environment after an acute event and fostering the quality of life of these patients. While there are several findings about improvements in physical functioning during geriatric rehabilitation, so far little is known about the development of subjective well-being and its determinants in this medical context. For this reason, this work aimed to take a more holistic view of the quality of life of patients undergoing inpatient geriatric rehabilitation in a German geriatric clinic situated in Cologne, assessing both outcomes – physical functioning and subjective well-being – which depict crucial behavioural as well as cognitive-emotional aspects of quality of life. Moreover, in order to examine the well-being of geriatric rehabilitation patients in more detail, a hedonic and a eudaimonic perspective were taken and biopsychosocial variables with potential impact on subjective well-being were considered.

Objectives. This work pursued two overarching research goals. (1) First, during geriatric rehabilitation, changes in physical functioning and changes in affect were to be depicted and the relation between these changes was to be analysed, while also examining possible mediating processes between these two rehabilitation outcomes. (2) Second, in addition to the depiction of the longitudinal development of subjective well-being until three months after discharge from the geriatric rehabilitation ward, a biopsychosocial prediction model for longer-term hedonic and eudaimonic well-being was derived to investigate whether there are specific determinants which impact the subjective well-being of geriatric rehabilitation patients as resource or risk factors.

Main results. (1) Physical functioning and affect improved during the rehabilitation stay, yet affective improvements lagged behind functional progress and changes in physical functioning and changes in affect were only slightly directly related to one another, but mediated by changes in self-perceptions of health (self-rated health, subjective pain, temporal health comparison). (2) Apart from improved affect, the other hedonic and eudaimonic indicators of well-being showed no changes during the rehabilitation stay. Further, it could be shown that from admission to the rehabilitation ward until about three months after discharge, the only significant changes in well-being indicators consisted in an increased level of positive affect and a decreased experience of autonomy. Regarding the biopsychosocial prediction model, personality traits and control beliefs assessed upon admission predicted the longer-term hedonic and eudaimonic well-being three months after discharge.

General discussion. To gain a more differentiated perspective on the quality of life of geriatric patients undergoing an inpatient rehabilitation programme in Germany, it seems useful to look not only at the traditional outcome of physical functioning but also to include measures of subjective well-being. As the relation between changes in physical functioning and changes in affect was fairly low, it can be inferred that progress in functional abilities is not necessarily pivotal for affective improvements. In fact, it was shown that changes in self-perceptions of health are more important than changes in physical functioning for the development of affective experiences. Thus, considering interventions that aim at improving subjective health evaluations might further enhance affective well-being during rehabilitation. Moreover, as personality traits (i.e., neuroticism in particular) showed the highest correlations to longer-term well-being, personality assessment could be helpful to identify geriatric patients for whom subjective well-being might be at risk, leading to an even more specific and individualised treatment plan. Future research could expand on these findings by implementing a control group design or extending the follow-up period to provide further insights into the longitudinal development of physical functioning and subjective well-being as two major outcomes of inpatient geriatric rehabilitation.[1]

[1] The following text draws, in part, on content included in two previous publications (i.e., Bordne, Rietz, Schulz, & Zank, 2019; Bordne, Rietz, Schulz, & Zank, 2020) that are based on the author´s research reported here (i.e., cumulative dissertation).

1. Introduction

“Old people tolerate surgery and severe illness surprisingly well if one but applies intelligent effort on their behalf. (…) True it is that the life span is limited, but it is not necessary that the evening of life be clouded by prolonged invalidism or chilled by parasitic uselessness. Life should have depth and breadth as well as length. Lowered homeostatic efficiency and accumulated injuries limit the possible accomplishments of clinical medicine for the aged, but do not preclude them. Therapy is rarely dramatically curative. Control and retardation of progressive deterioration, however, can accomplish much that is worth while.” (Stieglitz, 1949, p. ix)

Stieglitz, a medical doctor from the United States, was involved early on in the then still relatively young field of geriatric medicine, published some basic works dealing with this medical specialisation and highlighted the interfaces with and differences to the science of gerontology (cf. Stieglitz, 1941). In contrast to Carl Friedrich Canstatt, a co-founder of German geriatrics, who equated old age with loss and decline (cf. Wahl & Rott, 2001), Stieglitz had a different attitude towards the elderly patient. He saw the potential inherent in the elderly patient to deal with severe conditions and stated, as early as the 1940´s, that not only should geriatric medicine aim to add life years by concentrating on the bodily condition but to contribute to a longer life worth living (cf. Stieglitz, 1949). Accordingly, the famous quote “The important thing to you is not how many years in your life, but how much life in your years!” (quoted in O´Toole, 2012) was presumably used for advertising Stieglitz´ book “The Second Forty Years” (1946) in the newspaper (O’Toole, 2012).

However, it took almost another forty years until it became more widely recognised that it is insufficient to rely solely on medical outcomes such as mortality rates or number of symptoms, traditionally used to evaluate treatment effectiveness, and that a more holistic approach to treatment evaluation focusing on the multifaceted construct of quality of life (QoL) is necessary, especially where elderly and chronically ill patients are concerned (cf. Birnbacher, 1999). Nowadays, it is a main goal to maintain or regain QoL in this highly vulnerable and frail target group; i.e., QoL is regarded as crucial outcome of geriatric treatment in general and geriatric rehabilitation in particular (cf. Martin, Schneider, Eicher, & Moor, 2012).

“Quality of life (QoL) is an important outcome variable when the value of geriatric rehabilitation is evaluated. (…) QoL should be used as an outcome parameter of geriatric rehabilitation since it reflects major areas of rehabilitation goals in terms of improvement in self-service, mobility, interpersonal behaviour, and communication. (…) Quality of life is, of course, predominantly determined by the individuals´ health conditions, including the sensory system and cognitive

functions, their functional level in daily life, coping resources and available social support, their financial situation, environmental and community conditions, and last but not least, by the individual´s personality." (Richter, Schwarz, & Bauer, 2008, p. 1)

Despite the increasing awareness over the last decades of QoL as a crucial multifaceted outcome of geriatric rehabilitation, which is influenced by multiple determinants, daily geriatric practice still primarily focuses on traditional, clinical criteria of success; more precisely, geriatric rehabilitation primarily aims at the improvement or recovery of physical functioning (cf. Achterberg, Cameron, Bauer, & Schols, 2019; Bachmann et al., 2010; Kane et al., 1997; Wahl, Martin, Minnemann, Martin, & Oster, 2001). It remains the case that little is known about the development of other facets of QoL, namely entirely psychological outcomes such as the subjective well-being of geriatric rehabilitation patients (cf. Wahl et al., 2001).

Therefore, the aim of this dissertation was to take a more holistic approach to gain a deeper understanding of the QoL development of patients undergoing inpatient geriatric rehabilitation in a German geriatric clinic situated in Cologne, Germany, assessing both outcomes – physical functioning and subjective well-being – which depict crucial behavioural as well as cognitive-emotional aspects of quality of life that deserve assessment (Wahl et al., 2001).

2. Theoretical background

After a brief introduction to the general framework of this thesis concerning demographic (2.1) and epidemiological trends (2.2) and main characteristics of geriatrics with regard to the geriatric patient, geriatric forms of care – putting a special emphasis on inpatient geriatric rehabilitation – and the geriatric assessment (2.3), this work then focuses on the construct of QoL. First, definition criteria are given and different concepts dealing with QoL that are relevant for examining this construct in an elderly population are addressed (2.4). In the second step, physical functioning and subjective well-being are introduced as these rehabilitation outcomes in particular represent two important facets when assessing QoL in the context of geriatric rehabilitation (2.5). Last, a wide range of possible biopsychosocial determinants of the subjective well-being of geriatric rehabilitation patients is discussed (2.6).

2.1 Demographic change in Germany

The inverted population pyramid of Germany is a frequently used picture for the ageing German society (figure 1).[2]

According to the German Federal Statistical Office, by 2060 the number of people under age 20 will decrease from 15.3 million in 2020 to 13.3 million children and adolescents (Statistisches Bundesamt, 2019-2). In addition, the number of people in the working age group from 20 to 67 years will decrease by 2060 from 51.8 million in 2020 to 40.0 million people. At the same time, however, the number of people aged 67 years and older will rise from 16.2 million in 2020 to 21.1 million in 2060 (Statistisches Bundesamt, 2019-2). In detail, the number of people aged 67 years to 80 years (*young-olds*) will increase from 10.3 million to 12.3 million and the number of people aged 80 years and older (*old-olds*) will increase even more, from 5.9 million to 8.8 million (i.e., an increase of almost 50 %) (Statistisches Bundesamt, 2019-2; Statistisches Bundesamt, 2020).

In sum, while the share of the two younger age groups in the total German population will decrease from 2020 until 2060 (i.e., under age 20 from 18.4 % to 17.9 %; aged 20 to 67 from 62.2 % to 53.8 %), the proportion of the German population aged 67 years and older will rise from a fifth (19.5 %) today to 28.3 % in 2060 (Statistisches Bundesamt, 2019-2).[3]

[2] All figures presented in this section are based upon the 14th coordinated population projection for Germany of the Federal Statistical Office presumed a moderate birth rate, a moderate increase in life expectancy and a low migration balance (= variant 1) (cf. Statistisches Bundesamt, 2019-2).
[3] The difference in the total (18.4 % + 62.2 % + 19.5 % = 100.1 %) is due to rounding (cf. Statistisches Bundesamt, 2019-2)

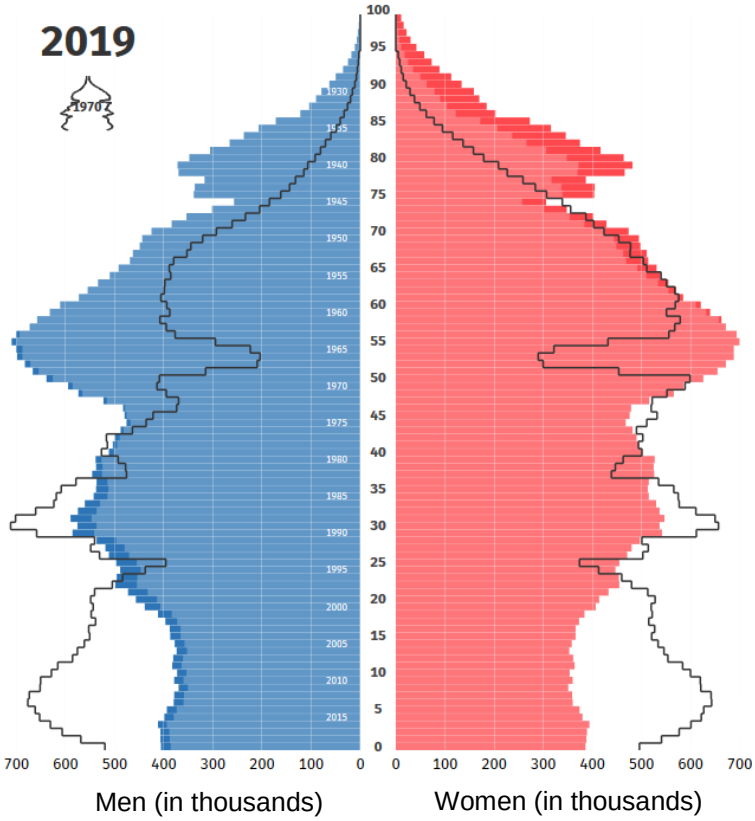

Figure 1. Change in the age structure in Germany over the last 50 years (1970 – 2019) (Adapted from Statistisches Bundesamt, 2019-1)

The main reasons for this population development are low birth rates over many years as well as a higher life expectancy due to better living conditions and medical care, both of which lead to an increasing absolute as well as relative number of people aged 67 years and older in Germany (Pritzkuleit & Katalinic, 2013). Regarding the latter reason in more detail, whereas according to the numbers of the mortality table 2015/2017 the average life expectancy at birth was 78.4 years for boys and 83.2 years for girls, by 2060 the average life expectancy at birth will rise to 84.4 years for boys and 88.1 years for girls, respectively (Statistisches Bundesamt, 2019-2).

This ageing trend in the German society is accompanied by an anticipated increase in the number of patients potentially in need of geriatric treatment or, to put it another way, by an anticipated increase of the morbidity burden for the German health care system due to an increasing number of elderly, chronically ill people (Wagner, 2004).

2.2 The burden of (multi)morbidity: Accumulating diseases in old age and the geriatric care structure in Germany

Estimates suggest that multimorbidity, which is commonly defined as the presence of at least two concurrent chronic diseases, is prevalent in 43.9 % of adult women and 36.3 % of adult men in Germany and it has been found that this prevalence continues to increase with advancing chronological age; i.e., multimorbidity is positively correlated to chronological age (e.g., Barnett et al., 2012; Gellert et al., 2019; Kristensen, König, & Hajek, 2019; Schäfer, et al., 2012; van den Bussche & Scherer, 2011). Moreover, it is estimated that almost every third person aged 70 years and older even suffers from at least five medical conditions which are in need of treatment (Holzhausen, 2009). Frequent diagnoses in this context include cardiovascular diseases (such as hypertension and heart failure), lipid metabolism disorders, arthrosis and osteoporosis, diabetes, chronic obstructive pulmonary disease, cancer, chronic kidney disorder, stroke and Parkinson`s disease (e.g., Burkhardt & Burger, 2012; Formiga et al., 2013; Gellert et al., 2019; Schäfer et al., 2012; Schulz, Kurtal, & Steinhagen-Thiessen, 2008; van den Bussche & Scherer, 2011).

As multimorbidity has been shown to be associated with negative outcomes such as functional limitations, an increased need for care and lower life quality, it already represents a critical element in medical care, but given the ageing German society along with the anticipated increase in multimorbidity prevalence, the importance of effective management of multimorbidtiy will continue to grow in the years to come (cf. Kristensen et al., 2019; Schäfer, et al., 2012; Tetzlaff et al. 2018). The close relation between demographic change and the growing burden of multimorbidity makes obvious the urgent need for adequate care and treatment for elderly and multimorbid patients (cf. Steidl & Nigg, 2011).

In accordance with this conclusion, an expansion of geriatric care structures could be ascertained over the last three decades in Germany: between 1993 and 2007, the total number of inpatient geriatric institutions almost quintupled, from 84 to 377, with 2.7 times as many geriatric beds (1993: 7,214 beds, 2007: 19,498 beds) (Lübke, 2011; Stier-Jarmer, Pientka, & Stucki, 2002). Between 2007 and 2015 there was a further increase to 576 inpatient geriatric institutions with a total of 26,683 beds (Bundesverband Geriatrie, 2016)[4]. Accordingly, the

[4] The latter figures result from official figures of the German Federal Statistical Office from the year 2013 supplemented by a query by the German Federal Association of Geriatrics from the year 2015. Supplementing the figures of the Federal Statistical Office was necessary for the factual correct representation of the actual geriatric care structures in Germany because the official figures provided underestimate the actual figures (Bundesverband Geriatrie, 2016). At the same time, however, it must also be taken into account that there is no official geriatric directory for Germany and that the term geriatrics is not legally protected. Consequently, it cannot be guaranteed that the figures presented here are full-on accurate (Bundesverband Geriatrie, 2016).

number of geriatric hospital beds per 100,000 inhabitants in North-Rhine Westphalia (NRW), the German federal state where the current research project was conducted, showed an increase from 22.6 geriatric beds in 2010 according to the so-called NRW Hospital Plan 2015 to 33.3 geriatric beds per 100,000 inhabitants in 2017 (Ministerium für Gesundheit, Emanzipation, Pflege und Alter des Landes Nordrhein-Westfalen, 2013; Partnerschaft Deutschland, 2019). Nevertheless, a comparison between the increase in actual geriatric case numbers from 2007 until 2013 and the increase in available geriatric beds during this time period revealed that while geriatric case numbers in hospitals increased by 23 % in NRW (43 % in Germany in total) and in inpatient rehabilitation by 35 % in NRW (23 % in Germany in total), the number of geriatric beds in hospitals only increased by 10 % in NRW (34 % in Germany) and in inpatient rehabilitation by 24 % in NRW (13 % in Germany) (Bundesverband Geriatrie, 2016).

Thus, though an expansion of geriatric care structures could be observed during the last 30 years in Germany, the need for specialised geriatric expertise is still growing faster than the supply; not surprisingly, the capacity utilisation of inpatient geriatric facilities increased between 2007 and 2013 in NRW and Germany, respectively (Bundesverband Geriatrie, 2016). Consequently, with a capacity utilisation of 96.5 % for geriatric hospital beds in NRW (92 % in Germany), full capacity utilisation was reached in the geriatric sector in 2013 (Bundesverband Geriatrie, 2016). Moreover, the geriatric sector significantly exceeds the capacity utilisation rates of other somatic areas (Partnerschaft Deutschland, 2019).

In sum, the development of the geriatric care structures in Germany finally reflects two important facts: On the one hand, new geriatric beds that become available are used directly by patients who in many cases previously had no access to specific geriatric treatment (Bundesverband Geriatrie, 2016). On the other hand, there is a steadily growing demand for geriatric expertise reflecting the great importance of a highly specialised geriatric practice for the ageing German society (cf. Bundesverband Geriatrie, 2016).

2.3 Geriatrics

Geriatrics – the medicine of ageing and the elderly – is the medical speciality focusing on elderly and multimorbid patients and their special needs for acute treatment and rehabilitation (e.g., Steidl & Nigg, 2011). To reach the goal of a holistic and individualised treatment and the best possible recovery of geriatric patients, geriatrics is subdivided into different forms of care, relies on multiprofessional teams familiar with the characteristic features of geriatric patients, and uses the geriatric assessment to identify individual resources and weaknesses and elaborate the treatment plan (e.g., Kane, Ouslander, Resnick, & Malone, 2018; Schulz, et al., 2008; Willkomm, 2013).

2.3.1 The geriatric patient

First of all, the geriatric patient is characterised by an advanced chronological age. In general, a geriatric patient is at least 70 years old, with a lower age limit of 60 years and the majority of geriatric patients in German hospitals nowadays aged 80 years and older (e. g. Kompetenz-Centrum Geriatrie, 2019; Kompetenz-Centrum Geriatrie, 2020-1; Krause, Junius-Walker, Wiese, & Hager, 2018; Medizinischer Dienst des Spitzenverbandes Bund der Krankenkassen, 2018). Whereas patients of 80 years and older are likely to be classified as geriatric patients due to their assumed high vulnerability, indicated by an increasing need for day-to-day support, cognitive difficulties or an existing degree of care, patients under the age of 70 may be only classified as geriatric if there is a highly pronounced typical geriatric multimorbidity (Kompetenz-Centrum Geriatrie, 2019; Kompetenz-Centrum Geriatrie, 2020-1; Krupp, 2013; Medizinischer Dienst des Spitzenverbandes Bund der Krankenkassen, 2018). Concerning chronological age as the first defining feature of the geriatric patient, a parallel can be drawn to the demographic development in the general German population because an ageing trend can also be observed in the subgroup of geriatric patients in Germany (Krause et al., 2018): according to data from a geriatric clinic located in a large German city (Hannover) in 2014, geriatric patients were on average 5.6 years older than in 1994 (1994: 76.4 years vs. 2014: 82.0 years) with the group of over 90-year-old patients growing the most. As expected, in 1994 as well as in 2014, female patients were on average older than male patients but the age gap became smaller with time. While in 1994 female geriatric patients were on average 6.1 years older than their male counterparts, by 2014 this age difference had shrunk to 3.5 years (Krause et al., 2018).

While chronological age is an important criterion to classify a patient as geriatric, it is important to mention that age alone is not sufficient; i.e., not every elderly patient necessarily needs specific geriatric treatment (Schulz et al., 2008). Instead, other patient characteristics are also decisive in determining whether there is a need for specific geriatric treatment and rehabilitation or not. Along with advanced age, multimorbidity is one such characteristic feature of the geriatric patient (Schulz et al., 2008). In the geriatric care context, this feature is usually referred to as typical geriatric multimorbidity; i.e., geriatric patients not only have multiple diseases but also suffer from multiple specific impairments – geriatric syndromes – such as incontinence, fall tendency, dizziness, and severe sensory deficits that put them at a high risk of dependence in everyday life and frequently require the administration of a large number of different medications (*polypharmacy*), with the concomitant increased risk of adverse side effects and undesirable drug-drug-interactions (e. g. Lübke & Meinck, 2012; Medizinischer Dienst des Spitzenverbandes Bund der Krankenkassen, 2018; Schulz, et al., 2008; Steidel & Nigg, 2011; Swoboda & Sieber, 2010).

Considering advanced chronological age and multimorbidity as the main characteristics of geriatric patients, some other criteria also classify a patient as geriatric, such as reduced adaptability, reduced ability of compensation and handling everyday life, and the requirement of care or rehabilitation (cf. Schulz et al., 2008).

Given all these conditions, geriatric patients are not only highly vulnerable but also, in most cases, unable to reach the goal of complete recovery (*Restitutio ad Integrum*), which therefore cannot be regarded as a realistic aim of clinical treatment (e. g. Achterberg et al., 2019; Schulz, et al., 2008). In fact *Restitutio ad Optimum* has to be the guiding principle with the aim of achieving the best possible outcome for each geriatric patient – i.e., finding a balance between greater dependency while maintaining an autonomous lifestyle as far as possible, achieving a return to the home environment, and preventing care dependency (Achterberg et al., 2019; Schulz, et al., 2008).

2.3.2 Geriatric forms of care: Inpatient geriatric rehabilitation

To accomplish the mission of *Restitutio ad Optimum* and in order to meet the heterogeneous needs of geriatric patients, geriatric medicine is divided into two major types of care in Germany:

On the one hand, acute geriatric units address the diagnosis and treatment of an acute medical condition or the acute aggravation of an existing chronic disease, including initial activating interventions (e.g., Bey, 2011; Eckardt & Steinhagen-Thiessen, 2012; Rummer & Schulz, 2012).

On the other hand, geriatric rehabilitation is designed as inpatient, day-care or outpatient intervention which focuses on a broad range of rehabilitative efforts, including multiple rehabilitation units per day carried out by multiprofessional teams (geriatrician, physiotherapist, occupational and speech therapist, professional caregiver, neuropsychologist, music therapist, orthopaedic technician, dietitian, pastoral and social worker) (e.g., Achterberg et al., 2019; Bey, 2011; Eckardt & Steinhagen-Thiessen, 2012; Lohse & Krupp, 2013; Schulz et al., 2008). While admission to acute geriatric care is initiated by direct admission via hospitalisation or by relocation, admission to a geriatric rehabilitation unit in terms of post-acute care requires completion of an application process involving a doctor´s prescription, a patient application and approval from the health insurance (Krupp, Lohse, & Willkomm, 2013; Rummer & Schulz, 2012). Geriatric rehabilitation is indicated if a patient is both in need and capable of rehabilitation, and if the rehabilitation prognosis is positive (Medizinischer Dienst des Spitzenverbandes Bund der Krankenkassen, 2018; Schulz et al., 2008). Whereas an outpatient or day-care geriatric rehabilitation is indicated if patients are able, with the help of

their social network, to benefit from rehabilitative efforts which are not carried out in the course of an inpatient rehabilitation stay, a transition to an inpatient geriatric rehabilitation ward generally takes place immediately following an acute hospital treatment (Achterberg et al., 2019; Freund, 2010). Thus, an inpatient geriatric rehabilitation programme is generally considered if patients still need all-day care and have not yet recovered enough in terms of independence and resilience to manage returning to the home environment and being transported daily to a geriatric day clinic (Freund, 2010).

Geriatric rehabilitation, the medical setting where this research was conducted, "carries the basic aim of assisting people with disabilities to improve, recover or limit decline in physical, mental and social skills (…) [and, S. B.] is a hugely important intervention for older people because of the high incidence and prevalence of disability in old age" (Stott & Quinn, 2017, p. 1f). Hence, the concept of disability plays a significant role in the context of geriatric rehabilitation: whereas knowledge about acute diseases and their causes is central to treatment decisions in acute care, understanding the concept of disability is central to decisions during the rehabilitation process (cf. Hoenig, Nusbaum, & Brummel-Smith, 1997). A widespread definition of the concept of disability is given by the World Health Organization (WHO) in the context of the International Classification of Functioning, Disability and Health (ICF). According to this model, disability encompasses impaired bodily structures and functions, limited activities, and restricted participation in everyday life (World Health Organization, 2013). Disability is contrasted to functioning, which is understood as the presence of unimpaired bodily structures and functions, successful activities and unrestricted participation in everyday life. The ICF model further postulates that disability is a result "of the interaction between the health conditions of the person and their environment" (World Health Organization, 2013, p. 7). In other words, domain-specific disability reflects a bidirectional relationship between contextual factors (environment- and person-related) and the health status (disease-related) (cf. World Health Organization, 2013).

Geriatric rehabilitation is optimally suited to help elderly and disabled patients for two main reasons. First, with its multiprofessional teams, geriatric rehabilitation can address different areas of disability in the therapy units during the rehabilitation stay. It is possible to address bodily impairments (geriatrician, neuropsychologist, speech therapist), to foster everyday abilities and promote independent activities (professional caregiver, physiotherapist, occupational therapist) as well as to create conditions for regaining social participation, for example by introducing technical aids and involving social services if existing social networks are weak (orthopaedic technician, social worker). Second, the geriatric assessment – the idea that can be traced back to a female pioneer of geriatrics, Marjory Warren, in the first half of the

20th century – helps to evaluate the individual level of (dis)ability and, thus, guides the multidisciplinary rehabilitation process (Schulz et al., 2008; Stott & Quinn, 2017).

2.3.3 The geriatric assessment

The geriatric assessment is a multidimensional tool for developing a patient-specific treatment plan given that person´s individual resources and vulnerabilities (e.g., Krupp, 2013; Nikolaus, 2013; Schulz et al., 2008). It can be subdivided into different stages, whereby the lowest stage refers to a geriatric screening procedure (e.g., screening by Lachs et al., 1990) that provides a rough first impression of the existence of possible functional disorders which are typical of geriatric patients (Kompetenz-Centrum Geriatrie, 2020-2; Krupp, 2013).

The next stage encompasses what is called the geriatric basic assessment, which is central in the context of day-to-day geriatric treatment (Kompetenz-Centrum Geriatrie, 2020-2; Krupp, 2013). In Germany, what is known as the Operation and Procedure Code (OPS – Operationen- und Prozedurenschlüssel) states that a standardised geriatric assessment should comprise at least four dimensions (self-care, mobility, cognition and emotion) at the beginning of the geriatric early-rehabilitative complex treatment, with at least two dimensions (self-care and mobility) assessed at the end of it (Bundesinstitut für Arzneimittel und Medizinprodukte, 2020). In line with this requirement, these four dimensions form part of the geriatric basic assessment according to the Working Group Geriatric Assessment (AGAST – Arbeitsgruppe Geriatrisches Assessment) and the German Competence-Center Geriatrics (KCG – Kompetenz-Centrum Geriatrie) (cf. Arbeitsgruppe Geriatrisches Assessment, 1997; Kompetenz-Centrum Geriatrie, 2020-2; Krupp, 2013). These dimensions are examined using a battery of standardised instruments, which in Germany often include the Barthel-Index (Mahoney & Barthel, 1965) for self-care, the Tinetti test (Tinetti, 1986) for mobility, the Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975) for cognition, and the Geriatric Depression Scale (Sheikh & Yesavage, 1986; Yesavage et al., 1982) or the scale of Depression in Old Age (DiA-S – Depression im Alter-Skala, Heidenblut & Zank, 2010) for emotion (cf. Arbeitsgruppe Geriatrisches Assessment, 1997; Kompetenz-Centrum Geriatrie, 2020-2; Krupp, 2013; Schulz et al., 2008). The latter dimensions of the basic assessment can be supplemented by further assessments, which include, among others, the assessment of grip strength, nutritional status and social living conditions (Arbeitsgruppe Geriatrisches Assessment, 1997; Kompetenz-Centrum Geriatrie, 2020-2; Krupp, 2013; Schulz et al., 2008). In Germany, in the latter case the OPS requires a structured social assessment, which can vary from institution to institution, but should include information about previous living conditions, aid and care requirements, and legal decrees (Bundesinstitut für Arzneimittel und Medizinprodukte, 2020; Kompetenz-Centrum Geriatrie, 2020-1; Krupp, 2013).

Finally, in the last stage, basic assessment tools may, if necessary, be supplemented by specific test instruments, which help to investigate identified difficulties in greater depth and address specific issues such as logopaedic and neuropsychological irregularities (Kompetenz-Centrum Geriatrie, 2020-2; Krupp, 2013). [5]

The GA is useful and valuable in daily geriatric practice. With reference to geriatric rehabilitation in particular, the assessment of self-care, mobility, cognition, emotion and the social situation marks the starting point and is necessary to devise an individualised rehabilitation plan (Medizinischer Dienst des Spitzenverbandes Bund der Krankenkassen, 2018; Schulz et al., 2008). Moreover, as the instruments used during the GA can also be administered repeatedly during rehabilitation and at the end of treatment, the GA helps to keep track of each patient´s progress during the treatment process (e.g., Schulz et al., 2008).

However, it becomes obvious that except for the emotional dimension, which is operationalised by the assessment of depression, the contents of the GA are strongly related to essentially clinical patient characteristics and functional treatment outcomes. In other words, while the GA focuses on assessing improvements in physical and cognitive functioning, complemented by the assessment of health-related risk factors and resources, an explicit consideration of psychological outcomes beyond depression – such as a detailed examination of subjective well-being – is not a standard part of the GA in daily geriatric practice in Germany.

That said, it seems reasonable to consider both functional and psychological, truly subjective outcomes in geriatric rehabilitation patients (cf. Bordne et al., 2019; Bordne et al., 2020): indeed, relying solely on objectively measurable clinical parameters to evaluate rehabilitation success is inadequate when complete recovery and the restitution to normal functioning does not hold as a realistic aim, as is true of most geriatric rehabilitation patients (cf. Birnbacher, 1999; Schulz et al., 2008; Wahl et al., 2001). Thus, there is a need to examine – using a multifaceted approach to address the QoL of geriatric rehabilitation patients in a more holistic manner – if rehabilitation succeeds in enabling geriatric patients to their *Restitutio ad Optimum*.

2.4 Quality of life and the medical sciences

The development towards the conviction that a need exists for a comprehensive view of QoL originated in the 1970´s from the political and social sciences, where there was unease about the fact that social welfare was until then exclusively measured in terms of economic factors

[5] Because the geriatric basic assessment inhabits a central role in everyday geriatric routine in Germany and because, accordingly, this term is commonly shortened to the rather generic term geriatric assessment (cf. Krupp, 2013), in the following, the term geriatric assessment (GA) refers to the geriatric basic assessment; thus, these terms are used synonymously by the author.

such as income, which were considered as relatively unsuited to indicate well-being or happiness (Birnbacher, 1999). One decade later, in the 1980´s, this “quality of life movement” (Birnbacher, 1999, p. 26) reached the medical sciences as a result of the discomfort coming from “a system which judged its own merits and demerits exclusively in terms of functional aims like the restitution of organ function, the normalisation of blood values, improved mobility and prolonged life expectancy. (…) [S]urvival rates, physiological functioning and incidence of symptoms are very imperfect criteria for the effectiveness of treatment, especially in those fields of medicine where the condition of the patient can be improved by medical treatment but cannot be restored to normal functioning, as with chronic diseases like renal failure or rheumatoid arthritis, with multimorbidity and many forms of cancer” (Birnbacher, 1999, p. 26f).

Accordingly, a holistic view of QoL helps to evaluate treatment effectiveness beyond parameters such as survival and symptoms, and to optimise individualised (i.e., patient-orientated) treatment planning and implementation (cf. Veenhoven, 2000; Woopen, 2014). The importance of a multifaceted approach to QoL, in particular in the context of geriatric medicine, can be understood by thinking of the characteristic features of the geriatric patient (cf. section 2.3.1): given advanced chronological age, multiple chronic diseases, a high number of daily medications and reduced ability of compensation and adaptability, the inadequacy of sole reliance on clinical and functional outcome measures for chronically ill elderly patients, whose health status makes a complete recovery unattainable, becomes obvious. Therefore, a purely subjective approach to QoL and well-being is also very relevant for clinical research and medical care, and essential in the field of geriatric rehabilitation (cf. Birnbacher, 1999; Woopen, 2014).

Until now, however, the impact of medical interventions such as geriatric rehabilitation on the QoL development of its patients, especially on their subjective QoL evaluations, is not widely investigated (cf. Livneh, 2016; Woopen, 2014). This also applies to geriatric rehabilitation, which focuses primarily on functional outcomes, possibly because specific improvements in physical functioning are still often postulated as the most important rehabilitation goal (cf. Achterberg et al., 2019; Bachmann et al., 2010; Kane et al., 1997; Wahl et al., 2001). In addition, functional progress is much easier to determine (i.e., to measure from the outside) than truly subjective experiences concerning QoL.

Nonetheless, as a multifaceted and rather holistic approach to the development of QoL in the context of geriatric rehabilitation seems necessary, the following sections take a closer look at this broad construct and its different facets to gain a better understanding of what is behind the term QoL. In particular, concepts dealing with QoL are presented that play an important role in gerontological research and could, therefore, be helpful when considering the QoL of geriatric rehabilitation patients.

2.4.1 What is meant by the term quality of life?

When addressing the QoL of geriatric patients, it is first important to define and operationalise this construct properly. Yet, after more than 80 years of QoL research, there is still no final consensus with regard to a universal QoL definition (e.g., Becker & Kaspar, 2011; Birnbacher, 1999; Martin et al., 2012; Veenhoven, 2000). Rather, there are differing definitions and different terms associated with this construct (Becker & Kaspar, 2011).

“There are many words that are used to indicate how well we are doing. Some of these signify overall thriving; currently the terms ´quality of life´ and ´well-being´ are used for this purpose, and sometimes the word ´health´. In the past the terms ´happiness´ and ´welfare´ were more commonly used.” (Veenhoven, 2000, p. 1)

The diversity of definitions and terminology is accompanied by the fact that there are many different measurement instruments to assess QoL, leading to the risk of a “*unum nomen unum nominatum fallacy*” (Birnbacher, 1999, p. 27); i.e., it is wrongly assumed that different instruments – all measuring ´quality of life´ – actually measure the same concept (cf. Birnbacher, 1999). Thus, there are multiple instruments for QoL assessment that, according to the differing definitions and concepts underlying the instrument development, measure different aspects of QoL, which in turn leads to the fact that “in the practice of empirical quality-of-life measurement we see comparisons of apples and pears” (Veenhoven, 2000, p. 2).

That said, some attempts to define QoL have received great attention in the past. For example, the well-known and much cited definition from the WHO is applied widely:

“[Quality of life is defined, S. B.] as an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person’s physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment.” (World Health Organization, 1997, p.1)

According to this definition, the QoL of each person is a subjective view of one´s standing in the world with respect to an internal and external frame of reference – personal and societal goals and values – and incorporates a wide range of constituting parameters.

Although this approach offers a good initial approximation of the construct of QoL, it remains relatively vague. Yet, in order to adequately understand and, consequently,

operationalise and examine QoL – especially in a geriatric population – a more differentiated view of QoL is required.

2.4.2 Quality of life in the elderly: A close-up

A number of elaborated concepts with regard to QoL have gained scientific recognition, with some of them being of particular importance in gerontological research and in examining the QoL of elderly people and chronically ill patients (cf. Becker & Kaspar, 2011).

In this respect, a frequently discussed model that can be used to address QoL in the elderly comes from Lawton (1983). Lawton describes a concept that he calls “the good life” (Lawton, 1983, p. 349), which consists of four “sectors called behavioral competence, psychological well-being, perceived quality of life, and objective environment. The good life is a grandiose construct, presuming to account for all of life. Indeed, the implication is that the good life (and its polar opposite, the bad life) subsumes all that we define as legitimate personal and social goals. Its sectors together include every aspect of behaviour, environment, and experience” (Lawton, 1983, p. 349). For Lawton, his *good life* is a metaconstruct and he postulates that the sectors act as independent as well as interdependent contributors to this metaconstruct (Lawton, 1983). For a better understanding of Lawton's concept, the four sectors are explained in more detail (cf. Lawton, 1983):

(1) The sector *objective environment* refers to characteristics of the physical, social (e.g., norms and culture) and (supra)personal (e.g., characteristics of surrounding individuals) environment which impact a person´s life but lie beyond the control of the individual. As a common feature, the assessment of these characteristics does not include an individual´s perception; i.e., they are not evaluated by the individuals themselves but can be measured from the outside.

(2) *Behavioral competence* is defined as an individual´s capacity in the sense of competent behaviour across different domains: “biological health” (on the cellular to bodily level), “functional health” (e.g., (instrumental) activities of daily living), “cognition” (from sensory stimulation to memory processes to creativity), “time use” (e.g., curious and explorative behaviour) and “social behavior” (including intimate as well as caring behaviour or altruism) (Lawton, 1983, p. 351).

(3) The sector *perceived quality of life* refers to a person´s own evaluations, usually in terms of satisfaction ratings with regard to salient aspects of life including up to 16 domains such as “housing and neighborhood, the use of time, family, and friends” (Lawton, 1983, p. 352).

Lastly, (4) *psychological well-being* is defined as “one´s subjective evaluation of the overall quality of one´s inner experiences” (Lawton, 1983, p. 350) under the assumption that

feeling good rather than feeling distressed is central to every person. Regarding *psychological well-being* not only as unidimensional but also as multidimensional, Lawton postulates at least four constituting aspects or components: negative affect or neurotic experience indicated by feelings of distress such as agitation or anxiety; positive affect as contemporary emotional state of positive feelings; happiness as a rather cognitive appraisal of constant positive feelings; and the experience of congruence between the objectives pursued and achieved.

Lawton argues that from a phenomenological perspective, the assessment of *psychological well-being* might be “the only true measure of the goodness of existence” (Lawton, 1983, p. 353). But even if Lawton does not question the central role that *psychological well-being* plays within in his concept of *the good life*, he is well aware that this indicator has weaknesses, as it is fairly difficult to assess the true feelings of a person. Furthermore, Lawton states that the four sectors that make up *the good life* are interrelated (Figure 2, grey and black coloured and hatched overlap).

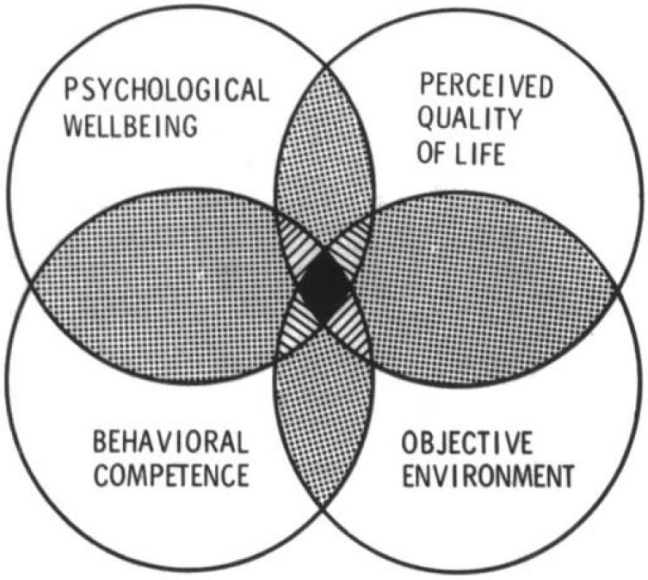

Figure 2. Lawton´s model of *the good life*
(Adopted from Lawton, 1983, p. 355, Figure 3)

At the same time, however, this does not mean that a change in quality in one of the four sectors necessarily leads to an immediate change in quality in another sector. Assuming such disjunctions helps to explain, for example, why older people are able to preserve their *psychological well-being* despite considerable health restrictions and unfavourable living conditions (Lawton, 1983). According to Lawton, a certain degree of sector autonomy is necessary for stability in life, or in his words, “the relative autonomy among sectors is what makes the normal human existence possible” (Lawton, 1983, p. 355).

A second, very popular concept was developed by Veenhoven (2000) and addresses the “four qualities of life: 1) livability of the environment, 2) life-ability of the individual, 3) external utility of life and 4) inner appreciation of life” (Veenhoven, 2000, p. 1). These four quadrants are arranged within the framework of two dichotomies: the difference between “life chances” as potential life opportunities and “life results” as actual life outcomes; and the difference between “outer qualities” that refer to the qualities within the environment and society and “inner qualities” that refer to the qualities within the individual human-being (Figure 3).

	Outer qualities	*Inner qualities*
Life chances	Livability of environment	Life-ability of the person
Life results	Utility of life	Appreciation of life

Figure 3. Veenhoven´s *four qualities of life*
(Adopted from Veenhoven, 2000, p. 6, Scheme 1)

As with Lawton´s sectors, each of Veenhoven´s four quadrants are discussed briefly in the following and assigned to the according dichotomies (cf. Veenhoven, 2000):

First, the two quadrants constituting *life chances* are introduced: (1) Whereas *livability of environment* (*outer quality)* refers to the conditions of living not only in material terms (e.g., housing, national economic power) but also in terms of certain non-material environmental characteristics (e.g., social equality, educational opportunities), (2) the quadrant *life-ability of the person* (*inner quality)* reflects “how well we are equipped to cope with the problems of life” (Veenhoven, 2000, p. 6). Among others, components of life-ability include good physical and mental health, diverse skills and knowledge.

Second, there are the two quadrants constituting the *life results*: (1) *Utility of life* (*outer quality)* is meant by Veenhoven in the sense that “a good life must be good for something more than itself” (Veenhoven, 2000, p. 7). It means that a life has some external value or meaning or some kind of usefulness (e.g., caring behaviour), of which the individual does not necessarily have to be aware. (2) Lastly, the quadrant *appreciation of life* (*inner quality)* denotes the personal quality evaluation as judged from a subjective point of view. Among others, *appreciation of life* includes satisfaction judgements with regard to different aspects of life (e.g.,

work), the presence or absence of depressive feelings and overall emotional and cognitive appraisals concerning affect and life satisfaction.

Similar to Lawton's emphasis on the centrality of the sector of *psychological well-being*, regarding subjective *appreciation of life* – also referred to as happiness by Veenhoven – Veenhoven argues "why there is most in happiness" (Veenhoven, 2000, p.33). According to Veenhoven, happiness represents not only a positive *life result* worth striving for, but also reflects the existence of beneficial *life chances*: "Hence happiness says more about the quality of life-chances than the sum-scores do. This means that at least three of the four qualities of life can be meaningfully summarized by the degree and duration of happiness. This is how the good life is characterized in the closing sentence of many fairy tales: 'They lived happily ever after'." (Veenhoven, 2000, p. 33). In addition, Veenhoven, like Lawton, postulates that there are not only distinct life qualities but that these are also interrelated and that it is worthwhile to explore the conditions which yield the most favourable life outcomes (Veenhoven, 2000).

A third model which is important in the context of gerontological research differs somewhat from the two previous concepts in its approach to the construct of QoL. Martin and colleagues (2012) introduce a model, which they call "functional quality of life" (p. 33), offering a new approach to QoL assessment. The starting point of this model is the two traditional measurement approaches: on the one hand, the attempt to determine QoL in terms of objectively measurable resources such as health, cognitive abilities and financial capacities, and, on the other hand, the approach to infer QoL from subjective judgements concerning general satisfaction with life or satisfaction with certain life domains (Martin et al., 2012). Although both approaches to QoL are quite useful, the problem is that the objective approach "largely neglects the importance of subjective resource functionality for goal achievement" (Martin et al., 2012, p. 34) (i.e., it fails to consider the individual representations of resources as being (dys)functional for an adequate assessment of QoL), while the subjective approach does not sufficiently value the importance of the actual presence or absence of objective resources (Martin et al., 2012).

What is more, the relation between objectively measureable and purely subjective indicators of QoL is often rather weak (cf. Bordne et al., 2020); i.e., considerable enhancement with regard to objective resources is not necessarily connected to major improvements concerning subjective QoL evaluations (Martin et al., 2012). Accordingly, interventions targeting enhanced engagement in physical activity have been found to have, if any, only rather small effects on satisfaction ratings or well-being (e. g. Clark et al., 2012; Netz, Wu, Becker, & Tenenbaum, 2005). In addition, even if improvements during a specific intervention targeting the enhancement of resources of elderly people can be detected in both assessment approaches, the underlying mechanisms of the relationship between changes in resources

measured from the outside and changes in subjectively assessed indicators of QoL remain obscure (Martin et al., 2012). For this reason, Martin and colleagues postulate that it is necessary to further examine the relationship between objective and subjective QoL changes and introduce *functional QoL* as an in-between concept: their model "defines QoL as the integration of multiple subjective representations of the functionality of resources. That is, it assumes that *f*QoL is higher, the more strongly individuals represent their resources as being principally functional to perform complex activities that serve individually central life or goal domains" (Martin et al., 2012, p. 35f) (Figure 4).

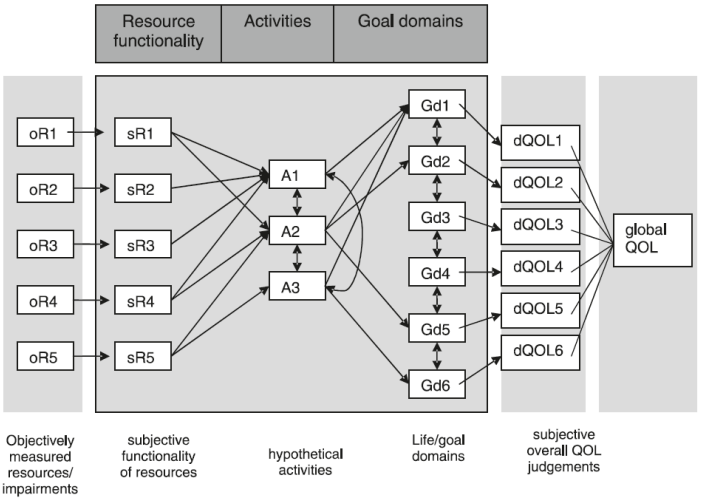

Figure 4. The *functional quality of life* model
(Adopted from Martin et al., 2012, p. 36, Figure 2)

Thus, this model can be used to explain why, in spite of adverse circumstances due to issues like setbacks and impairments common in old age, overall QoL may be maintained: even if objective resources decrease, this does not necessarily affect subjective QoL judgements as long as the remaining resources are still judged as functional to succeed in the achievement of important personal goals even as the concrete activities to achieve these aims may change (Martin et al., 2012).

In sum, despite changing objective circumstances, *functional QoL* remains stable – just as subjective quality evaluations should remain stable – as long as people exhibit successful adaptation processes with regard to either their judgements about the functionality of resources or their desired goals or activities (Martin et al., 2012).

The final model addressed in this section is the "challenges and potentials (CHAPO) model of quality of life of the very old" (Wagner et al., 2018, p. 193). It was developed within

the “project ‘Quality of life and subjective well-being of the very old in North Rhine-Westphalia’ (NRW80+)” (Wagner et al., 2018, p. 193), an interdisciplinary study conducted between 01/2016 and 12/2018 on the QoL of a representative sample of people aged 80 years and older living in NRW. For this QoL conceptualisation, Veenhoven´s (2000) model, described earlier in this section, serves as the basic framework; i.e., the CHAPO model also includes the dichotomy of *life chances* and *life results* and the dichotomy of environment (i.e. *outer qualities*) and person (i.e. *inner qualities*) (Figure 5):

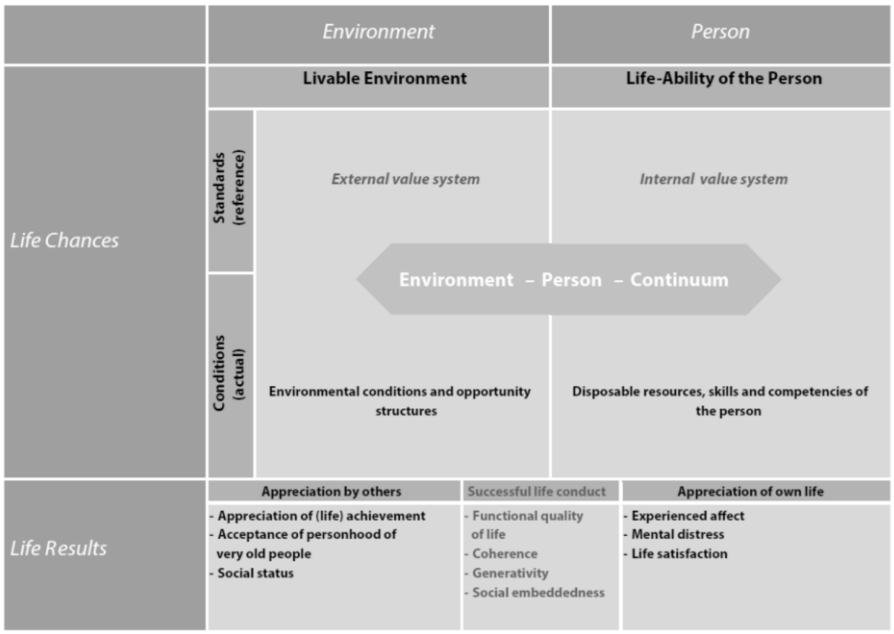

Figure 5. The *challenges and potentials (CHAPO)* model (Adopted from Wagner et al., 2018, p. 194, Figure 1)

In addition, this model includes further aspects that go beyond Veenhoven´s concept – aspects that are particularly important when addressing the QoL of elderly people (Wagner et al., 2018). Considering *life chances*, the CHAPO framework not only encompasses actual environmental and personal conditions, but also external (i.e., societal) and internal (i.e., individual) values or standards (Wagner et al., 2018). In addition, this model adds the component “Environment – Person – Continuum” and “explicitly seeks to delineate qualities of observed p-e constellations” (Wagner et al., 2018, p. 194). In this way, and especially with regard to the *life results*, this model opens up eudaimonic as well as functional perspectives on QoL instead of merely considering hedonic outcomes (Wagner et al., 2018). Accordingly, within the *life results*, another new element referred to as “successful life conduct” (Wagner et al., 2018, p. 194) includes the idea of *functional QoL* according to the model of that name developed by Martin and colleagues (2012) as well as more eudaimonic aspects such as generative behaviour and a sense of coherence (cf. figure 5).

Altogether, the CHAPO framework constitutes an integrative approach to the QoL of a very old population from objective as well as subjective perspectives – one that draws on the well-established differentiation between life opportunities and outcomes, and outer and inner parameters, that is complemented by the appraisal of "a successful life conduct in the sense of a functional environment-person continuum" (Wagner et al., 2018, p. 194).

From the synopsis of these four conceptualisations targeting the broad and multifaceted construct of QoL, central implications can be derived for adressing the QoL of elderly people in general and geriatric patients in particular. First, given that both Lawton's *psychological well-being* and Veenhoven's *appreciation of life* represent central facets of QoL evaluations, the necessity of a truly subjective approach – along with objectively measurable quality indicators – becomes apparent. In addition, the CHAPO framework hints at the fact that when assessing the QoL of old patients, it may be useful to examine not only hedonic well-being but also to include other aspects, such as eudaimonic well-being.

What is more, within these concepts it is assumed that different life qualities are interdependent or interrelated but also seem to develop independently of one another, suggesting that the subjectively assessed level of well-being may not inevitably be inferred directly from outer circumstances (or vice versa). This consideration is supported by the fact that the relationship between objectively measurable resources and subjective QoL evaluations is not necessarily high, a finding which the *functional QoL* model is based upon. Consequently, it is possible that progress in physical functioning assessed from the outside during an intervention such as geriatric rehabilitation does not necessarily lead to similarly large improvements in subjectively assessed QoL outcomes such as subjective well-being, which can only be inferred from a truly internal perspective. Therefore, it seems promising to examine this relationship more closely and to consider processes that may mediate between objectively measurable resources and subjectively assessed well-being (cf. Martin et al., 2012). Concerning possible mediators, it is, for example, often assumed that self-rated health has a higher impact on well-being than do objective conditions such as health status; i.e., self-rated health could be such a mediator (cf. Amann, 2009).

Finally, the introduction of outer and inner *life chances* within the conceptual framework offered by Veenhoven, which also forms the basis of the CHAPO model, suggests that a broad range of conditions may impact the *life results*; i.e., these models offer a starting point to derive hypotheses about life opportunities that could influence life outcomes.[6]

[6] Although it was not possible to draw an all-encompassing picture of concepts referring to QoL at this point, the most important concepts dealing with QoL that are relevant to examine this construct in an elderly population were discussed.

2.5 Quality of life in geriatric rehabilitation

As has been shown in the description of the concepts presented above, all of which play an important role when addressing QoL in the field of gerontology, QoL is a broad and multifaceted construct encompassing a variety of indicators and modes of assessment.

Considering QoL in the context of geriatric rehabilitation, two “outcome variables represent important behavioural and cognitive-emotional facets of quality-of-life assessment in old age in general and with respect to elders suffering from chronic conditions in particular” (Wahl et al., 2001, p. 340): first, physical functioning, representing a more objective, behavioural facet when assessing QoL, and second, subjective well-being (SWB), representing a truly subjective, cognitive-emotional facet (cf. Muldoon, Barger, Flory, & Manuck, 1998; Wahl et al., 2001).

Both physical functioning and SWB can be combined with the QoL concepts described above. Physical functioning can be assigned to Lawton´s sector of *behavioral competence* and Veenhoven´s quadrant *life-ability of the person* – with the latter also included in the CHAPO framework – and, as an objectively measurable resource, is related to the objective approach to QoL assessment. Similarly, SWB evaluations form part of Lawton´s sector of *psychological well-being* and Veenhoven´s quadrant *appreciation of life* – the latter again represented in the CHAPO model – and represent a subjective approach to QoL assessment. Finally, physical functioning can be located in the area of *life chances*, while SWB is a *life result*.

Considering both outcomes as relevant facets when addressing QoL during geriatric rehabilitation is important because doing so combines the objective and the subjective approaches to QoL assessment. Thus, an assessment of physical functioning supplemented by an assessment of SWB allows not only behavioural indicators of QoL to be taken into account but also subjectively assessed cognitive-emotional aspects of QoL; i.e., in geriatric rehabilitation, the inadequacy of relying solely on improvements in aspects of the *behavioral competence* or *life-ability of the person*, which can be inferred from the outside, is counterbalanced by the assessment of improvements in aspects of *psychological well-being* or *appreciation of life*. The latter approach to QoL evaluation relies exclusively on the subjective evaluation of the individual, which is deemed essential in medical research and, thus, is also of particular importance when examining QoL in geriatric rehabilitation (cf. Birnbacher, 1999; Woopen, 2014).

Now that physical functioning as well as SWB have been identified as central outcome variables of geriatric rehabilitation representing major facets when assessing improvements in

the QoL of geriatric rehabilitation patients, the next section deals with the working definitions of these two outcomes that underlie this research.

2.5.1 Physical Functioning

Physical functioning is embedded within the broader concept of functional status, which comprises different components. Aside from physical function(ing)[7], functional status often refers to social and role functions and psychological function (i.e., mental health) (Jette et al., 1986). Furthermore, it is also possible to differentiate between physical and cognitive functioning (cf. Jonker, Comijs, Knipscheer, & Deeg, 2008; Linacre, Heinemann, Wright, Granger, & Hamilton, 1994), and sometimes the assessment of functional status is reduced to the assessment of physical functioning alone (cf. Albert, Bear-Lehman, & Burkhardt, 2012; Bachmann et al., 2010; Pin, Guilley, Spini, & Lalive d'Epinay, 2005).

Focusing on the functional status component of physical functioning, the operational definition of physical functioning usually encompasses the assessment of functional abilities or functional limitations, respectively, in this domain; i.e., physical functioning is measured by the (in)ability to carry out activities with reference to the (instrumental) activities of daily living ((I)ADL), including mobile abilities (cf. Bohannon & DePasquale, 2010; Dias, 2014; Jette et al., 1986; Jonker et al., 2008; Kirch, 2008; Peeters, Dobson, Deeg, & Brown, 2013; Pin et al., 2005; Seidel, Brayne, & Jagger, 2011).[8] The (I)ADL comprise basic abilities of daily life – such as (un-)dressing, feeding, bed-chair transfer, using the toilet and climbing stairs – along with more complex activities, which require an even higher level of physical function – such as doing grocery shopping and cleaning up – all of which are important to function independently in everyday life (cf. Jette et al., 1986; Lawton & Brody, 1969; Mahoney & Barthel, 1965). Though the measurement of the (I)ADL inherently involves the evaluation of mobile skills, specific mobile abilities like balance, gait and stability, or walking a longer distance are often also tested separately when measuring physical functioning (cf. Albert et al., 2012; Pin et al., 2005).

In the medical setting of geriatric rehabilitation, where the GA is administered to examine the patients' abilities in performing basic ADL (i.e., self-care) and mobility tasks, the Barthel-Index (Mahoney & Barthel, 1965) and the Tinetti test (Tinetti, 1986) are commonly used in Germany as observational and performance-based tools for external evaluation. In this way, physical functioning is assessed objectively, from the outside, by trained clinical staff (cf. section 2.3.3).

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[7] In the following, the terms physical functioning and physical function are used synonymously (cf. Dias, 2014).

[8] For simplicity, in the following the term functional ability (or functional limitation respectively) refers to abilities (or limitations) in the domain of physical functioning without explicitly mentioning it each time.

The importance of assessing physical functioning as a crucial outcome criterion in geriatric rehabilitation derives not only from the fact that these competencies are obviously essential for autonomous living but also from the fact that performance in ADL and mobility tasks has a high predictive value for other crucial patient-related outcomes. For example, it has been shown that for geriatric patients, a low ADL level at clinical entry is an important predictor of the six-month mortality (Burkhardt & Burger, 2012). Moreover, improvements in functional abilities constitute a major proximal goal of geriatric rehabilitation efforts in addition to being a prerequisite for more distal rehabilitation goals such as the prevention of the need for long-term care and a successful return to the home environment (cf. Achterberg et al., 2019; Bachmann et al., 2010; Kane et al., 1997; Schulz et al., 2008).

Still, for a more holistic view of the QoL of patients undergoing geriatric rehabilitation, the subjectivist way of assessing QoL must not be omitted; indeed, some see it as "the ultimate standard" (Birnbacher, 1999, p. 25). In addition, like physical functioning, SWB is also related to other crucial outcomes such as morbidity and mortality. Different hedonic and eudaimonic well-being indicators are inversely associated with the incidence of diseases such as stroke, the risk of a falling incidence, and the risk of dying (e.g., Chida & Steptoe, 2008; Kim, Sun, Park, & Peterson, 2013; Morsch, Shenk, & Bos, 2015; Ostir, Markides, Peek, & Goodwin, 2001; Rao, Wallace, Theou, & Rockwood, 2017; Steptoe, Deaton, & Stone, 2015; Zaslavsky et al., 2014). However, little is known about the development of SWB in the context of inpatient geriatric rehabilitation and SWB has only rarely been addressed in geriatric research work. For these reasons, along with the consideration of physical functioning, the focus of this thesis lies on the examination of SWB as a purely subjective facet of the QoL of geriatric rehabilitation patients.

2.5.2 Subjective well-being: Hedonic and eudaimonic perspectives

Subjective well-being is a multifaceted construct encompassing different aspects or components of well-being that can only be evaluated by the individuals themselves (i.e., subjectively)[9] (Organisation for Economic Co-operation and Development, 2013; Wettstein, Schilling, Reidick, & Wahl, 2015). A common definition used in the field of psychology divides SWB into a more cognitive aspect and a more emotional part. The cognitive aspect is expressed as life satisfaction and is the result of a cognitive evaluation of one´s own life in general; it may also address satisfaction judgements concerning life domains. The latter distinguishes between positive affect – the experience of positive feelings – and negative affect – the experience of negative feelings. A preponderance of pleasant over unpleasant emotions or moods results in higher well-being (Diener, 1984; Diener, 1994; Diener, 2000) (cf. Bordne

[9] In this thesis, the term well-being always implies the subjective nature of this construct.

et al., 2019; Bordne et al., 2020). Although there is a certain degree of dependency between satisfaction judgements and affect, the preponderance of positive over negative affect does not necessarily coincide with an overall positive life evaluation or vice versa (Diener, 1994). Furthermore, life satisfaction is thought to have a more trait-like character than affect because there may be changes in life satisfaction if there are dramatic changes in living conditions, but many living conditions are thought to be stable over time as, in consequence, is overall life satisfaction (cf. Diener, 1994). The experience of positive and negative affect as an immediate reaction to ongoing life circumstances, however, seems to be more susceptible to temporary states and is, therefore, more likely to change during a given time period. Nonetheless, in the longer term, the experience of positive and negative affect will probably also return to the individual baseline level, which is determined above all by the individual´s temperament and basic living conditions (cf. Diener, 1994).

This definition of SWB, which takes a basically hedonic perspective on well-being (cf. Wettstein et al., 2015), has a long tradition in psychological research and is widely used to assess SWB. For the population of geriatric patients, however, there is another, namely a eudaimonic, perspective on well-being (Organisation for Economic Co-operation and Development, 2013), which is considered particularly important to address within a very old sample (cf. Wagner et al., 2018).

In general, eudaimonc well-being can be seen as distinct from hedonic well-being at a conceptual and at an empirical level, as factor analysis confirms; therefore, eudaimonia and hedonia are believed to constitute correlated but generally independent aspects of well-being (Gallagher, Lopez, & Preacher, 2009; Joshanloo, 2016; Keyes, Shmotkin, & Ryff, 2002; Wettstein et al., 2015). The term eudaimonia can be traced back to Aristotle´s *Nicomachean Ethics*, in which he “distinguished hedonism (the life occupied by the search for pleasure) and eudaimonia (happiness that arises from good works)” (Kashdan, Biswas-Diener, & King, 2008, p. 219): Eudaimonia in the Aristotelian sense means “that the greatest life was the one that was lived to its fullest potential or in accord with some internal virtue” (Kashdan et al., 2008, p. 220). According to this definition, eudaimonia is only achieved if people live their lives developing their greatest capabilities and transforming them into action so that other people can also benefit from their potential (cf. Kashdan et al., 2008). In this context, virtuous behaviours such as being courageous and ambitious, but also modest and patient are particularly worth striving for (Kashdan et al., 2008).

For assessing different eudaimonic aspects of well-being, one popular construct is Ryff´s (1989) concept of psychological well-being comprising six dimensions (cf. Wettstein et al., 2015; Wagner et al., 2018). The following brief description of these dimensions offers a better understanding of what could fall under the notion of eudaimonic well-being and why a

eudaimonic perspective is important when addressing the well-being of an elderly population (cf. Ryff, 1989, p. 1072):

(1) “Environmental mastery” is given if a person is able to actively participate in and, thus, use external opportunities, and has a sense of control of environmental conditions. Everyday issues are successfully managed and the environment can be shaped to suit personal needs.

(2) “Autonomy” is felt by a person who acts independently and feels free of social constraints or external judgments.

(3) The experience of “personal growth” is dependent on a positive development of the self over time. A growing person is highly interested in gaining new experiences and seeks personal and behavioural improvement.

(4) The feeling of “purpose in life” is given if there is meaning in the actual and lived life due to existing personal goals and beliefs worth living for.

(5) “Self-acceptance” denotes, on the one hand, the conviction that there is nothing to regret about life in the past and, on the other hand, the awareness and acceptance of either good or bad personal qualities, leading to the feeling of being at ease with oneself.

(6) “Positive relations with others”, finally, describes the fact that a person engages in positive interactions with other people and has close and satisfying relationships that are characterised by a mutual giving and taking. A person shows empathy and is interested in generative activities and in other people´s well-being.

Taking these six dimensions together, it becomes clear that the concept of eudaimonic well-being goes beyond a mere satisfaction rating or an affective statement as is the case with hedonic well-being (cf. Wettstein et al., 2015). Eudaimonic well-being refers to one´s more abstract needs and experiences, such as the feeling that one is not at the mercy of one´s environment but rather has the ability to participate in decisions and act autonomously, that one is constantly evolving and leading a meaningful life, and that one has the ability to accept oneself and others (cf. Ryff, 1989). Especially with regard to elderly, frail patients after an acute event, some of these dimensions appear to be of particular importance: topics such as the maintenance of meaning in life and autonomy experiences are central in the context of geriatric rehabilitation.

Another concept that can be seen as embracing eudaimonic aspects of well-being was introduced by Lawton and colleagues (2001) as “Valuation of Life” (VoL) (p. 3). It “is the term for the subjectively experienced worth of a person’s life, weighted by the multitude of positive and negative features whose locus may be either within the person or in the environment. VOL [sic] is thus greater when one anticipates a future in positive terms” (Lawton et al., 2001, p. 5). VoL reflects the current attitude towards life, the accomplishment of personal goals and the ease of handling difficult situations, yet avoids the explicit assessment of health-related

expectations or conditions, psychopathology or domain-specific contentment (Lawton et al., 2001). Rather, the concept of VoL depicts global judgements that reflect what Lawton and colleagues call “the active embrace of life” (Lawton et al., 2001, p. 6). The scale is specifically concerned with statements about life´s meaning and usefulness, the existence of personal goals and the person´s ability to achieve them, the ability to solve problems, future outlook and hope (Lawton et al., 2001). Besides some conceptual overlap with Ryff´s six dimensions (e.g., to *environmental mastery* and *purpose in life*), the key issues addressed when assessing VoL also reflect that in addition to a basic hedonic view of well-being, there are other important well-being indicators which go beyond mere pleasure ratings.

The relevance of using a eudaimonic perspective on the QoL of elderly people to complement the hedonic view of well-being is supported by qualitative studies based on interviews with elderly people about the elements of a good life. The results illustrated that for the elderly, self-growth and self-acceptence as well as telling about their personal life history represent important constituting parameters of their QoL (e.g., Borglin, Edberg, & Rahm Hallberg, 2005; Reichstadt, Sengupta, Depp, Palinkas, & Jeste, 2010).

To sum up, a two-pronged approach to well-being including both hedonic as well as eudaimonic aspects will allow a more differentiated view of the SWB of geriatric rehabilitation patients. Therefore, it is this multifaceted approach to hedonic as well as eudaimonic indicators of well-being which underlies this research work. Even though hedonia and eudaimonia may be closely related to one another, there is no proof of a dedifferentiation of these well-being aspects even in an *old-old* population (Wettstein et al., 2015). Considering the development of hedonic and eudaimonic aspects of well-being independently in a geriatric population undergoing an inpatient rehabilitation programme thus seems both appropriate and useful.

2.5.3 Brief digression: The paradox of subjective well-being in old age

When it comes to illuminating the SWB of patients undergoing geriatric treatment who are per se characterised by an advanced chronological age, a fragile state of health and, thus, a high degree of vulnerability, it is important to consider a phenomenon which is repeatedly reported with regard to the SWB of elderly people in general: though the elder person is confronted with multiple and accumulating losses (e.g., deteriorating health, disability, shrinking social networks, widowhood, economic difficulties), hedonic and eudaimonic well-being seems to be quite stable and rather favourable over the adult life course and in old age (e.g., Schilling, 2006; Springer, Pudrovska, & Hauser, 2011; Swift et al.; 2014; Wettstein et al., 2015). In other words, the SWB of elderly people does not seem to necessarily deteriorate along with declining physical health or other unfavourable conditions, a finding that can be interpreted in the light

of the concept of the so-called paradox of subjective well-being (i.e., subjective well-being despite adverse circumstances) (Staudinger, 2000). In this regard, data of the German Ageing Survey (DEAS – Deutscher Alterssurvey) show, for example, that with respect to life satisfaction the vast majority of people aged 40 to 85 years is rather satisfied or very satisfied with their lives, with the proportion of highly satisfied people being even higher among the 70 to 85 year-olds than in the younger age groups (Wolff & Tesch-Römer, 2017). The well-being paradox observed in elderly populations contrasts with former opinions that persons are only happy if they are "young, healthy, well-educated, well-paid, extroverted, optimistic, worry-free, religious, [and, S. B.] married" (Wilson, 1967, p. 294 cit. after Diener, Suh, Lucas, & Smith, 1999, p. 276).

In reference to Lawton (1983), it is possible that the "good life in one sector is unmatched in the others" (p. 355) and, thus, issues such as impairments in physical condition must not necessarily lead to a deterioration in well-being (cf. section 2.4.2). In addition, there are different theoretical models which may help to explain the mechanisms underlying this paradox with regard to the SWB of elderly people facing specific deprivations, such as a bad physical health, in greater detail. Three of these models will be presented here.

(1) One explanation for the paradox can be derived from the SOC – *Selective Optimisation with Compensation* – model (Baltes & Baltes, 1990) as the leading paradigm (cf. Staudinger, 2000). SOC refers to a three-fold strategy leading to successful ageing despite the setbacks, constraints and diminishing reserves that commonly accompany old age (Baltes & Baltes, 1990). First of all, this strategy includes the selection of important life domains according to requirements of the environment as well as personal abilities and preferences. Such a selection may also encompass the transformation or addition of domains or personal goals (Baltes & Baltes, 1990). Concurrent to this selection, there is an effort (i.e., in terms of practice) to improve ability and performance in the selected domains as well as to strengthen and enhance rather global resources and capacities: optimisation (Baltes & Baltes, 1990). Finally, if losses or deteriorations interfere with a basic level of functioning, the individual can compensate for these losses with psychological strategies and/or technological devices such as mnemonic strategies, memory books and hearing and mobility aids (Baltes & Baltes, 1990). In sum, these processes allow elderly people to effectively adapt to changing living conditions and, thus, age successfully despite accumulating limitations (Baltes & Baltes, 1990).

(2) Another possible explanation can be deduced from the *Shifting Baseline Theory of Well-Being* (Cohen-Mansfield, 2011). This theory postulates that even though functional loss caused by a health condition such as a stroke may lead to a lower baseline in functioning and may be accompanied by a lower level of well-being, the functional baseline remains permanently lower while changes in well-being only occur temporally, provided that living conditions do not fundamentally change (e.g., no relocation, no widowing) (Cohen-Mansfield

et al., 2013). In other words, while people adjust to a permanently lower functional baseline after an acute event, in the long run they normally return to their original baseline level of well-being (Cohen-Mansfield, 2011).

(3) A third explanation for the relative stability of SWB in old age can be derived from the *functional QoL* model (Martin et al., 2012) introduced earlier. It postulates that even if there are fewer or impaired objective resources it is possible that global satisfaction ratings remain unchanged due to the subjective representation of resources as still adequately functional to attain personal goals, the adaptation of activities performed to reach these goals or the modification of goals (Martin et al., 2012).

That said, other findings indicate that the well-being paradox might be limited in elderly populations. In longitudinal analyses it was found that SWB increasingly deteriorates starting around three to five years before death – a phenomenon also known as terminal decline – and that life satisfaction, in particular, peaks between the age of 65 and 70, thus showing a curvilinear relationship with age (Baird, Lucas, & Donnellan, 2010; Gerstorf et al., 2010; Mroczek & Spiro, 2005; Schilling, 2006). Data from the Socio-Economic Panel (SOEP) permit a more nuanced evaluation, as they show that age-related decline in life satisfaction occurrs in the *young-old* age group, albeit overlaid in cross-sectional analysis by an effect due to the birth cohort, and that this age-related deterioration accelerates in *old-old* people (Schilling, 2005). That such a distinction between *young-olds* and *old-olds* is useful when examining the development of SWB in elderly people is also supported by longitudinal data of the Norwegian study on Lifecourse, Ageing and Generation (NorLAG) and the Berlin Aging Study (BASE – Berliner Altersstudie) showing that *old-old* age is related to worse SWB than *young-old* age, which is presumably due to an accumulation of events in very old age that pose a major challenge to the maintenance of well-being, such as cumulating chronic diseases and the advent of widowhood (Hansen & Slagsvold, 2012; Smith, 2001; Smith, Borchelt, Maier, & Jopp, 2002). The longitudinal data of the SOEP also reveal that further health-related contributors such as disability and hospitalisation are also significantly related to a deterioration in well-being indicated by a decline in life satisfaction, in particular concerning a terminal decline (Brandmaier, Ram, Wagner, & Gerstorf, 2017; Headey & Muffels, 2018).

Furthermore, when examining the development of well-being in elderly people, it seems useful to not only differentiate between different age groups but also to look at the developmental courses of different well-being indicators separately. Regarding hedonic indicators (i.e., affective experiences in particular), findings from the BASE and the LateLine project show that while negative affect tends to be stable over time (i.e., little variation with age), positive affect – not negative affect – tends to decline with limitations in functional health and in old age (Kunzmann, Little, & Smith, 2000; Kunzmann, 2008; Wettstein et al., 2015).

Similar divergent findings exist with respect to eudaimonic indicators. While it was found that Ryff´s (1989) dimensions *autonomy* and *self-acceptance* are rather stable over time, other dimensions such as *personal growth* and *purpose in life* decline with age (Clarke, Marshall, Ryff, & Rosenthal, 2000; Springer et al., 2011; Wettstein et al., 2015).

Summing up this brief digression on the well-being paradox, it becomes obvious that SWB is not only a multidimensional but also a multidirectional construct (cf. Diener, Lucas, & Scollon, 2006), with hedonic and eudaimonic indicators characterised by stability but also by different trajectories over the life course and in old age.

Following the logic of the paradox, it is not necessarily to be expected that the overall SWB or individual well-being indicators of the target group of geriatric patients will inevitably be impaired due to specific geriatric characteristics such as an advanced chronological age and the presence of chronic health conditions, as people seem to be able to adapt to changing life situations and, in doing so, maintain their SWB – at least in the long run. That said, even though these specific geriatric characteristics do not necessarily impair well-being, they certainly represent risk factors for a decline in SWB. In particular, an acute deterioration in health status which makes geriatric treatment and subsequent geriatric rehabilitation necessary (i.e., hospitalisation) certainly poses a major acute challenge to well-being. In this regard, it must also be taken into account that the explanatory approaches for the paradox are all based on adaptation processes that take place only gradually over a longer period of time; i.e., it is conceivable that acute health deteriorations as experienced by geriatric patients currently in need of geriatric rehabilitation, as is the case for the population under study in this thesis, also lead to a momentary decline in well-being, whereas at the same time it seems unlikely that mechanisms underlying the paradox will take effect and therefore stabilise SWB in as short a time as rehabilitation.

Consequently – and with regard to the research focus of this thesis – it is supposed that if improvements in the SWB of geriatric patients in the geriatric rehabilitation ward can be ascertained between admission and discharge, these improvements may not be attributable to longer-term processes such as adaptation, but instead to other, more short-term causes that could consist of improvements in physical functioning due to rehabilitation efforts or, more indirectly, of mediating processes between functional and well-being improvements. Accordingly, a joint examination of both rehabilitation outcomes which investigates the relationship between concrete changes in physical functioning and the development of SWB during the rehabilitation stay, along with the assessment of possible mediators, could be revealing.

Considerations and findings available to date on the relationship between these two major rehabilitation goals are addressed in detail in the following section.

2.5.4 The relation of physical functioning and subjective well-being: Equivalence or hierarchy?

In order to place physical functioning and SWB in relation to each other and to determine whether these outcomes may be seen as equivalent, that is, at the same level of hierarchy, or whether there is a hierarchical order with one outcome superordinate to the other, it helps to refer once again to the concepts targeting QoL that have been considered so far.

Taking into account the quality sectors of his model of *the good life* or some of their concrete indicators, Lawton (1983) derives a structural model, in which he posits a hierarchical relationship among health, ADL and his sector of *psychological well-being* with the last as the superordinate construct predicted by the others. In a similar manner, according to Veenhoven´s model (2000) aspects of physical health belonging to the quadrant *life-ability of the person* within the dimension of *life chances* can be interpreted as a condition or opportunity for the *appreciation of life* within the *life results* that includes, among others, subjective evaluations of affect and life satisfaction. Accordingly, the eudaimonic aspects of QoL included in the CHAPO framework are also classified as *life results* and, thus, may be likewise affected by personal capacities such as physical functioning as a *life chance* (cf. Wagner et al., 2018). Finally, functional abilities can be classified as an objectively measurable resource for subjective QoL evaluations (cf. Martin et al., 2012).

With regard to these rather theoretical considerations, there is a line of empirical evidence that supports the assumption of a hierarchical order of physical function and SWB. Numerous studies have found that health condition and physical function are prognostic factors of SWB in elderly populations (e.g., Aberg, Sidenvall, Hepworth, O'Reilly, & Lithell, 2005; Aberg, 2008; Bien & Bien-Barkowska, 2016; Bornet, Rubli Truchard, Rochat, Pasquier, & Monod, 2017; Cho, Martin, & Poon, 2015; Helvik, Engedal, & Selbaek, 2013; Johari, Manaf, Ibrahim, Shahar, & Mustafa, 2016; Jonker et al., 2008; Kunzmann et al., 2000; Kunzmann, 2008; Nakagawa et al., 2018; Schilling, Wahl, & Oswald, 2013; Steptoe et al., 2015; Wiesmann & Hannich, 2014; Wikman, Wardle, & Steptoe, 2011):

Cross-sectionally, it could be shown that the psychological QoL and SWB of people aged 60 years and older, and also specifically of geriatric patients, was significantly predicted by the ability to perform the (I)ADL and by mobile abilities (Bien & Bien-Barkowska, 2016; Johari, 2016; Nakagawa et al., 2018). In addition, structural equation modelling yielded physical health as an important determinant of positive affect and the overall well-being of community-dwelling elderly people (57 – 96 years) as well as octo- and centenarians (Cho et al., 2015; Wiesmann & Hannich, 2014). When looking at hedonic and eudaimonic aspects of well-being separately, research results from the English Longitudinal Study of Ageing (ELSA) further pointed out that older people with chronic diseases had both an impaired hedonic and

an impaired eudaimonic well-being, whereby the more comorbidities were present, the greater the decline in well-being (Steptoe et al., 2015; Wikman et al., 2011). In addition, fewer comorbidities and better physical and cognitive functioning were associated with a higher experience of autonomy in geriatric rehabilitation patients (Bornet et al., 2017).

Longitudinally, it was found that unimpaired ADL of elderly inpatients aged 65 years and older at baseline were related to enhanced subjective QoL evaluations, including the assessment of affect, in a one-year follow-up (Helvik et al., 2013). Furthermore, the Longitudinal Aging Study Amsterdam (LASA) found an impact of a "Persistent Deterioration of Functioning (PDF)" (Jonker et al., 2008, p. 461) on well-being indicated by positive affect, life satisfaction and VoL in a sample of people aged 55 to 85 years at baseline.[10] After an observation period of six years, people who had experienced a PDF in the meantime scored significantly lower on all well-being indicators. That is, people with a PDF reported less positive affect, life satisfaction and VoL compared to people without a PDF (Jonker et al., 2008). Interestingly, contrasting the longitudinal results of people with a mild PDF (i.e., fulfilling only one PDF criterion) and a severe PDF (i.e., fulfilling two or more PDF criteria) revealed that over time, well-being was negatively impacted by a mild PDF but not by a severe PDF (Jonker et al., 2008). The latter finding may be interpreted in light of the well-being paradox: more severely affected individuals are possibly more likely to be forced to accept certain, inescapable impairments and, thus, longer-term adaptation processes become effective (cf. Jonker et al., 2008). In accordance with the latter finding and its possible explanation considering the mechanisms underlying the paradox of SWB, Schilling and colleagues (2013) found that life satisfaction change in elderly Germans aged 80 to 90 years participating in the project Enabling Autonomy, Participation and Well-Being in Old Age (ENABLE-AGE) was predicted by a change in functional abilities in terms of ADL as well as by chronic health conditions, while the steepest deterioration in life satisfaction could be observed under a medium and not under a high number of conditions. With regard to the SWB indicators of positive and negative affect, findings of the BASE from a mixed sample of elderly community-dwellers and nursing home residents (70 – 103 years at baseline) related to the impact of functional health on affect could further show that only variation in positive affect – not negative affect – was predicted by functional health; i.e., deteriorating positive affect was associated with worse functional health (Kunzmann et al., 2000; Kunzmann, 2008).

Finally, these quantitative research results can be supplemented with evidence from longitudinal qualitative data showing that geriatric rehabilitation patients evaluated their functional abilities in terms of self-care and mobility as an important factor for their life satisfaction (Aberg et al., 2005; Aberg, 2008).

[10] PDF is understood as a persistent functional aggravation over a certain time period caused by the onset of additional chronic conditions leading to multimorbidity, and/or by a permanent decrease in physical and/or cognitive abilities leading to dysfunctionality (Jonker et al., 2008).

Taken together, all of these findings support the notion of a hierarchical relationship between physical functioning and SWB with SWB as the higher-order construct influenced by physical functioning.

2.5.5 State of research on changes in physical functioning and subjective well-being during geriatric rehabilitation

To conclude the theoretical reflections on physical functioning and SWB, the current state of research on the development of these two outcomes during the process of geriatric rehabilitation shall be considered.

As the assessment of functional abilities forms part of the GA and, thus, of the assessment routine in daily geriatric practice (cf. section 2.3.3), physical functioning is a standard geriatric outcome criterion and commonly addressed when geriatric treatment success is evaluated. Concerning the effectiveness in terms of improvements in physical functioning measured by enhanced ADL and mobility, there is robust evidence from German and international data that geriatric patients profit from specific geriatric inpatient rehabilitation and early-rehabilitative efforts (e.g., Bachmann et al., 2010; Bachmann, Kool, Oesch, Weber, & Bachmann, 2018; Bordne, Schulz, & Zank, 2015; Bryant, Jackson, & Ames, 2011; Burkhardt & Burger, 2012; Coleman et al., 2012; Freidel, Linck-Eleftheriadis, Röhrig, Schilling, & Heckmann, 2017; Harant, 2010; Jamour et al., 2014; Kwetkat, Lehmann, & Wittrich, 2014; Lee et al., 2011; Martin et. al., 2000; van Craen et al., 2010; van Dam van Isselt, van Wijngaarden, Lok, & Achterberg, 2018; Wahl et al., 2001). It has been shown that geriatric rehabilitation efforts lead to significant progress in physical functioning concerning both independence in the ADL and mobile abilities: First, during the intervention, significant advances in the ADL can be observed and maintained for up to six months post-discharge (Bordne et al., 2015; Bryant et al., 2011; Burkhardt & Burger, 2012; Coleman et al., 2012; Harant, 2010; Kwetkat et al., 2014; Lee et al., 2011; Martin et al., 2000; van Dam van Isselt et al., 2018; Wahl et al., 2001). This finding is supported by meta-analysis data, which show that geriatric rehabilitation has a beneficial effect on functional abilities in terms of ADL both during rehabilitation and in the longer term compared to usual care (Bachmann et al., 2010; van Craen et al., 2010). Similarly, in their evaluation of geriatric rehabilitation in one German federal state (i.e., Rhineland-Palatinate) over a period of ten years (2005 – 2014) Freidel and colleagues (2017) found that there are significant ADL improvements during rehabilitation indicated by less need for assistance in these activities at discharge, and Jamour and colleagues (2014) have shown in a cross-centre analysis of geriatric rehabilitation in two German federal states (i.e., Baden-Wuerttemberg and Bavaria) between 2005 and 2011 that even very old rehabilitants (i.e., older than 90 years) benefit in the ADL domain.

Second, these functional improvements also extend to better mobile abilities in terms of higher gait security and speed as well as better balance, stability and transfer capabilities – and these improvements are, again, also evident in very old patients and maintained for up to six months post-discharge (Bachmann et al., 2018; Bordne et al., 2015; Coleman et al., 2012; Harant, 2010; Jamour et al., 2014; Kwetkat et al., 2014; Lee et al., 2011; Martin et al., 2000; van Dam van Isselt et al., 2018; Wahl et al., 2001).

Overall, existing studies on the development of functional abilities of geriatric patients not only show consistent improvements in physical functioning in the course of specific geriatric rehabilitation programmes, but are also comparable because they are based on the same functional indicators (i.e., ADL and mobility) and largely use the same instruments to measure these indicators.

Though there is consistent knowledge about the impact of geriatric rehabilitation interventions on physical functioning, the evidence for the effectiveness of rehabilitation efforts does indeed mainly relate to the report of better functional abilities alongside lower mortality rates or the prevention of long-term care (cf. Bachmann et al., 2010; Stott & Quinn, 2017), all of which are objectively measureable parameters. With respect to research results concerning the development of SWB of geriatric patients, the insights so far are less clear and unsatisfying for several reasons. In general, there are fewer studies which explicitly address changes in outcomes beyond physical functioning during inpatient geriatric rehabilitation or early-rehabilitative interventions. What is more, the insights so far mainly relate to depression (i.e., mental distress) as an outcome variable – probably because it is screened by default during the GA – or subjective judgements related to the bodily condition, and such studies provide mixed results because some report post-intervention improvements in these outcomes, while others find no evidence of improvements (e.g., Bachmann et al., 2018; Bordne et al., 2015; Bryant et al., 2011; Coleman et al., 2012; Harant, 2010; Lee et al., 2011; van Dam van Isselt et al., 2018).

Even fewer studies take a more global view of SWB and consider overall life satisfaction and affect (i.e., hedonic indicators) or eudaimonic indicators during inpatient geriatric rehabilitation (cf. Clausen & Lucke, 1998; Everink, van Haastregt, Tan, Schols, & Kempen, 2018; Martin et al., 2000; Mettner, 2015; Richter et al., 2008; Wahl et al., 2001). Compounding the problem, these studies differ with respect to the exact indicators used and the measurement instruments, making it very difficult to compare the study results. Moreover, study results are quite heterogeneous. On the one hand, Clausen and Lucke (1998) found a significant improvement in current well-being (‘How did you feel during the past week?’) from admission to until discharge from a geriatric rehabilitation ward. In addition, one study assessing a general well-being indicator (i.e., vitality and joy of life) during geriatric

rehabilitation and afterward – up to six months after discharge – showed an improvement during the rehabilitation stay, which persisted even until the follow-up six months later (Martin et al., 2000).

On the other hand, Clausen and Lucke (1998) found no change regarding overall life satisfaction. Moreover, no change in individual indicators during the course of geriatric rehabilitation was observed by Wahl and colleagues (2001), who measured SWB indicated by non-agitation and satisfaction with life and ageing, nor by Richter and colleagues (2008), who assessed negative affect. Examining positive VoL of stroke patients undergoing geriatric rehabilitation, Mettner (2015) showed VoL to be unchanged during the rehabilitation course and up to six weeks post-discharge.

Finally, one study hints at some improvements in affective well-being and life satisfaction, but unfortunately it does not provide significant tests for the differences observed. This study showed higher scores in affective parameters (e.g., feeling happy, nervous or sad) and in an overall life evaluation at a three months follow-up (an assessment at discharge was not included) compared to scores at admission to the geriatric rehabilitation ward (Everink et al., 2018).

Thus, though SWB is considered to respond to efforts of intervention programmes (cf. Diener et al., 2006; Kashdan et al., 2008), insights into the development of this particular QoL facet concerning a more global view that combines a hedonic as well as eudaimonic approach to well-being during and after geriatric rehabilitation are few and inconsistent. A close look shows that it still remains difficult to gauge the impact inpatient geriatric rehabilitation has on the well-being of its patients differentiated by overall life satisfaction and affect (i.e., hedonic indicators) and eudaimonic indicators. Due to the focus on differing, mainly hedonic indicators, inconsistent measurement instruments, different time periods of assessment and mixed results, until now the data basis in this regard is rather weak. For all these reasons, in addition to considering the relationship between changes in physical functioning and changes in SWB during geriatric rehabilitation, it also seems necessary to gain a more holistic view of this important outcome by conducting a differentiated developmental analysis of well-being which takes hedonic as well as – so far widely neglected – eudaimonic indicators into account, both during and after inpatient geriatric rehabilitation.

Finally, this thesis´s multifaceted and longitudinal analysis of the SWB of geriatric rehabilitation patients includes possible determinants of longer-term hedonic and eudaimonic well-being, allowing an examination of this crucial outcome in even more detail. The last part of this chapter on the theoretical background of the present research work concludes with considerations in this respect.

2.6 Well-being and its possible determinants

According to the QoL definition given by the WHO, subjective QoL is "affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment" (World Health Organization, 1997 p.1). Similarly, it may be inferred from Veenhoven´s *life chances* that different conditions or resources may impact the subjective *appreciation of life* as a *life result* (cf. Veenhoven, 2000). Thus, it should be noted that "[t]here is not a simple answer to what causes SWB. Studies of religion, coping, rumination, and attributions suggest cognitive factors play an important role. Studies of people with disabilities show that objective factors can matter, but people often adapt their goals to what is possible for them. Studies of heritability demonstrate that personality plays an important role. (…) Thus, it is pointless to search for a single cause of happiness. Instead, they [the researchers, S. B.] need to understand the complex interplay of culture, personality, cognitions, goals and resources, and the objective environment" (Diener et al., 1999, p. 294f). This likely holds especially true for such a heterogeneous population as elderly and multimorbid inpatients in such a specific environment as geriatric rehabilitation. Accordingly, to identify possible determinants of the well-being of geriatric patients, a multidimensional approach in the sense of a biopsychosocial model seems necessary and appropriate. [11]

Consistent with the above theoretical considerations, empirical research has been done on the assumption that there is a multidimensional network of biopsychosocial factors underlying self-evaluations of well-being in old age (e.g., Bowling, Banister, Sutton, Evans, & Windsor, 2002; Rott, Jopp, D´Heureuse, & Becker, 2006; Schmitt, Oswald, Jopp, Wahl, & Brenner, 2006). Bowling and colleagues (2002) tested a multidimensional model to predict self-evaluated global life quality ("So good it could not be better" – "So bad it could not be worse", p. 360). In their model, they included people aged 65 years and older and found out that their outcome was predicted by physical functioning and perceived health, personality, social resources such as social contacts and support, social comparison and neighbourhood quality. Schmitt and colleagues (2006) analysed data from the Interdisciplinary Longitudinal Study of Adult Development (ILSE – Interdisziplinäre Längsschnittstudie des Erwachsenenalters) and showed life satisfaction in elderly people to be related to economic status (i.e., income, residential property), personality traits (i.e., neuroticism, extraversion) and social aspects (i.e., household size, children), while Rott and colleagues (2006) found for their

[11] Since it is assumed that SWB is likely to be the superordinate construct to physical functioning (cf. section 2.5.4), in the following physical functioning is considered as a possible resource for the well-being of geriatric patients.

sample of centenarians that positive VoL was mainly determined by physical functioning (i.e., IADL) and personality (i.e., extraversion).

2.6.1 Predictors of subjective well-being in geriatric rehabilitation

The research on biopsychosocial determinants of hedonic and eudaimonic well-being explicitly undertaken in the setting of inaptient geriatric rehabilitation also shows the importance of diverse factors such as clinical and functional parameters, personality characteristics, social network and support, and quality of care (e.g., Aberg et al., 2005; Aberg, 2008; Bornet et al., 2017; Martin et al., 2000; Richter et al., 2008; Wahl et al., 2001):

With regard to affect as emotional well-being indicator, Richter and colleagues (2008) found that in particular negative affect is related to personality characteristics: patients who scored lower on harm avoidance and higher on self-directedness, persistence, reward dependence, and cooperativeness demonstrated less negative affect[12]. Furthermore, Martin and colleagues (2000) showed that the diagnosis group (i.e., stroke, fracture, other diagnosis) influenced the development of vitality and joy of life, with fracture patients showing the greatest long-term improvement. Regarding life satisfaction, qualitative data could identify self-care activities, mobile skills and participation in social life as important influencing factors (Aberg et al., 2005; Aberg, 2008), and Wahl and colleagues (2001) showed that high SWB was predicted by low levels of anxiety and high social support. Finally, Bornet and colleagues (2017) found that the number of comorbidities, physical and cognitive functioning and care quality as experienced by the patient were also associated with subjective QoL evaluations in terms of the experience of autonomy.

All these results from the setting of inpatient geriatric rehabilitation can be considered in the context of relevant findings from studies of elderly people in general, elderly patients with a chronic or acute disease (e.g., cardiovascular diseases, chronic obstructive pulmonary disease, stroke, falling incident) or people in nursing homes; doing so promises to offer an even more comprehensive picture of biopsychosocial variables that may impact the hedonic as well as eudaimonic well-being of geriatric rehabilitation patients. Thus, the following summary presents, in a nutshell, central recent studies from related research fields also concerning possible biopsychosocial SWB determinants.

[12] Cloninger´s (1987) dimensions of temperament and character used in Richter´s study can be associated with the Five-Factor Personality model (i.e., Big 5): High harm avoidance with high neuroticism, low extraversion and openness; high persistence with high conscientiousness; high reward dependence with high neuroticism, extraversion and agreeableness; high cooperativeness with high extraversion, openness and agreeableness (cf. de Fruyt, van de Wiele, & van Heeringen, 2000).

2.6.2 Findings on biomedical and psychosocial predictors of subjective well-being from related research fields

With regard to possible biomedical determinants of SWB, it has been found that objectively measurable health parameters as well as subjective health perceptions impact the hedonic and eudaimonic well-being of elderly people.

In detail, clinical factors such as a high number of chronic conditions and daily medications (e.g., Berg, Hassing, Thorvaldsson, & Johansson, 2011; Bien & Bien-Barkowska, 2016; Juola et al., 2016; Schilling et al., 2013; Steptoe et al., 2015; Tseng et al., 2016; Wiesmann & Hannich, 2014; Wikmann et al., 2011), malnutrition and visual impairment (e.g., Finger et al., 2011; Ghimire, Baral, Karmacharya, Callahan, & Mishra, 2018; Liu et al., 2016) as well as higher dependency in the (I)ADL and experiencing mobility problems (e.g., Bien & Bien-Barkowska, 2016; Cramer-Ebner, Dorn, Feilcke, & Hach, 2017; Helvik et al., 2013; Johari et al., 2016; Nakagawa et al., 2018; Schilling et al., 2013) all represent risk factors for overall well-being and specific well-being indicators.

Likewise, subjective health perceptions such as self-rated health, subjective pain, and social or temporal health comparisons (e.g., Adams et al., 2016; Ben-Zur, 2016; Berg et al., 2011; Cramer-Ebner et al., 2017; Frieswijk, Buunk, Steverink, & Slaets, 2007; Ghimire et al., 2018; Ingrand, Paccalin, Liuu, Gil, & Ingrand, 2018; Naughton et al., 2016; Tse, Leung, & Ho, 2012; Wiesmann & Hannich, 2014) are related to SWB and its indicators, whereby less subjective pain, better perceived health and self-enhancing comparisons work in favour of a positively evaluated well-being.

Thus, findings from related research fields show a number of biomedical determinants of SWB which could also impact the well-being of geriatric rehabilitation patients. The influence of objectively measurable clinical determinants as well as subjective health perceptions is, however, mainly investigated with regard to hedonic well-being, while eudaimonic well-being is often neglected. In the studies cited above, well-being is indicated by evaluations concerning life satisfaction, positive and negative affect, feelings of loneliness as well as overall well-being and vitality, while truly eudaimonic indicators of well-being are rarely addressed.

In addition to these biomedical factors associated with the SWB of elderly people, previous research indicates that psychosocial parameters also exhibit influence on evaluations of hedonic and eudaimonic well-being.

First, psychological factors such as personality traits and control beliefs may impact well-being. In particular, high levels of neuroticism and low levels of extraversion, openness and conscientiousness (e.g., Berg et al., 2011; Etxeberria, Etxebarria, & Urdaneta, 2019; Lauriola & Iani, 2016; Peerenboom, Collard, Naarding, & Comijs, 2015; Wahl, Heyl, & Schilling,

2012), as well as low internal, yet high external control beliefs (e.g., Berg et al., 2011; Brown et al., 2015; Kostka & Jachimowicz, 2010) are related to lower levels of well-being.

At the same time, characteristics of the social environment, such as the composition of the social network and the degree and nature of social support, can also substantially influence the well-being of elderly people. It has been found that factors such as a restricted social network and lack of social support are further risk factors for overall well-being and its specific indicators (e.g., Adams et al., 2016; Cho et al., 2015; Helvik, Engedal, Krokstad, & Selbaek, 2011; Nguyen, Chatters, Taylor, & Mouzon, 2016; Park, Smith, & Dunkle, 2014; Tian, 2016; Tomás, Sancho, Gutiérrez, & Galiana, 2014; Wang, 2016).

Similar to the above studies on biomedical predictors, research on psychosocial variables tend to examine the hedonic rather than the eudaimonic facet of well-being. In the studies cited above, high psychosocial resources cumulate in greater life satisfaction, higher levels of positive affect, less negative affect, higher levels of hope as well as overall subjective happiness and well-being.

Taken together, the above results concerning possible biomedical and psychosocial predictors of SWB from related research contexts hint at a wide range of biopsychosocial well-being determinants, which could also be of importance for the well-being of geriatric rehabilitation patients.

However, it is important to take into account that, due to the specific characteristics of geriatric patients (cf. section 2.3.1), these results from related research fields cannot be transferred indiscriminately to the geriatric rehabilitation setting: biopsychosocial determinants could show a different specific impact pattern on SWB in this particular target group (cf. Bordne et al., 2019). In addition, the studies cited above tend to focus on hedonic well-being indicators in their predicted outcomes, leaving open important questions about possible biopsychosocial determinants of eudaimonic well-being indicators – a perspective which should also be addressed in the setting of geriatric rehabilitation (cf. section 2.5.2).

In conclusion, a comprehensive analysis of potential biopsychosocial predictors of the SWB of geriatric rehabilitation patients in general and of hedonic and eudaimonic well-being indicators in particular seems reasonable.

3. Research focus of the dissertation

The main research focus of this dissertation was twofold.

1. This work aimed to examine the development of two important rehabilitation outcomes, physical functioning and SWB, to obtain a more differentiated view of the QoL of geriatric patients undergoing an inpatient geriatric rehabilitation programme. In addition, the relationship between these two outcomes was examined, considering possible mediating variables (cf. Bordne et al., 2020).
2. This work further aimed to depict the longitudinal development of the SWB of geriatric patients during and after geriatric rehabilitation and to test a multidimensional model of determinants with regard to longer-term hedonic and eudaimonic well-being with biomedical, psychological and social variables as possible predictors (cf. Bordne et al., 2019).

This dissertation complemented the assessment of physical functioning – the traditional outcome in the context of geriatric rehabilitation representing a more behavioural QoL facet – by the assessment of a more cognitive-emotional facet in terms of SWB in a sample of geriatric inpatients in Germany (cf. Wahl et al., 2001). Although the development of SWB should be an important criterion when addressing QoL improvement in the medical setting of geriatric rehabilitation, existing research has offered little insight into the development of the SWB of geriatric rehabilitation patients.

To fill this research gap, this thesis emphasised the examination of SWB with a multifaceted approach taking both a hedonic as well as a eudaimonic perspective into account. This research investigated the relationship between changes in physical functioning and changes in affect as a hedonic indicator of SWB during the rehabilitation stay, also considering possible mediating processes (first objective), and explored the longitudinal development of SWB beyond rehabilitation discharge including the examination of a biopsychosocial prediction model for longer-term hedonic and eudaimonic well-being (second objective).

This research contributes to a better understanding of QoL as an overarching rehabilitation outcome in this special target group and helps to provide a more differentiated view of QoL development during and after inpatient geriatric rehabilitation.

4. Research process of the dissertation

This chapter starts with an introduction to the geriatric clinic where this research was conducted (4.1), followed by a description of the instrument development (4.2), the pilot study (4.3) and the main study (4.4), the latter yielding the results presented in the two publications, which constitute the core of this cumulative dissertation.

4.1 Geriatric clinic, St. Marien-Hospital Köln, Cologne, Germany

The current research was carried out in the geriatric clinic of the St. Marien-Hospital Köln in Cologne, Germany. This clinic consists of three geriatric units: a unit for acute geriatric care (102 beds), a ward for inpatient geriatric rehabilitation (40 beds) and a geriatric day clinic (20 beds) (St. Marien-Hospital Köln, 2020).

The sample for the pilot study as well as the main study was exclusively recruited in the ward for inpatient geriatric rehabilitation. The selection of geriatric patients from the inpatient rehabilitation ward alone, and not from the acute ward or the day clinic, was based on two considerations: First, due to their bodily condition, acute geriatric patients are often unable to take part in a lengthy interview, so it seemed less appropriate to question them for this research project. Second, geriatric patients attending the geriatric day clinic were excluded because they are only present in the clinic each day for a relatively short time slot governed by a strict timetable of therapy interventions, leaving little spare time for study interviews.

The admission to the inpatient rehabilitation ward of this geriatric clinic in Cologne usually follows an acute hospital stay and is based on the classification of the patient as a geriatric patient who needs rehabilitation and has a positive rehabilitation prognosis (cf. section 2.3.1, 2.3.2). The GA, which is conducted by the nursing and therapeutic staff, plays an important role in treatment planning and monitoring of treatment progress (cf. section 2.3.3). Moreover, the patients are treated with an average of four to six daily rehabilitation units encompassing physical therapy, occupational therapy – including training of everyday abilities such as cooking – and music therapy.

4.2 Instrument development

During the GA, which is part of the clinical routine, mainly clinical patient characteristics and functional treatment outcomes are recorded (cf. section 2.3.3). The clinic also provides further information such as sociodemographic data and the patient´s medical history, including information about pre-treatments, chronic diseases and the number of medications taken daily. Thus, data provided by the clinic deemed relevant for this study´s purposes covered

information about the participants' age and sex, level of multimorbidity and polypharmacy, and physical functioning in terms of ADL assessed by the Barthel-Index (Mahoney & Barthel, 1965) and mobility assessed by the Tinetti test (Tinetti, 1986).[13]

In the present research work, however, the extensive examination of SWB and its antecedents was also of high relevance. Therefore, to address hedonic and eudaimonic indicators of well-being as well as various biopsychosocial determinants, it was necessary to develop a tool for this study in order to assess the variables in question as a complement to the patient data routinely provided. For this purpose, a structured questionnaire was compiled out of existing scales that are frequently used to measure the relevant constructs and have also been applied in studies of elderly populations, supplemented, when necessary, by items designed for this study.[14] The questionnaire was designed as a self-report instrument to be used in a face-to-face interview situation at admission to the rehabilitation ward and – in shorter versions – in a face-to-face interview at discharge as well as a telephone interview at the three months follow-up after discharge.

To depict hedonic as well as eudaimonic aspects of well-being, at all three measurement points the structured questionnaire included the assessment of life satisfaction (Beierlein et al., 2014) and positive and negative affect (cf. Mackinnon et al., 1999; Wiest et al., 2014), including the separate assessment of loneliness (cf. Radloff, 1977; Riediger, Linden, & Wilms, 1998), as hedonic indicators, along with the assessment of the experience of autonomy (cf. Schwarzer, 2008) and positive VoL (cf. Jopp, Rott, & Oswald, 2008; Lawton et al., 2001) as eudaimonic indicators. At admission, the range of eudaimonic indicators further included the assessment of meaning in life (cf. Krause, 2004) and self-acceptance (cf. Risch, Strohmeyer, & Stangier, 2005; Ryff, 1989).[15]

As possible SWB predictors, biomedical and psychosocial variables assessed in the questionnaire at all three measurement points included self-rated health (cf. Ellert, Lampert, & Ravens-Sieberer, 2005), subjective pain (cf. Ellert et al., 2005), health comparisons (cf. Berg et al., 2011) and control beliefs (cf. Kovaleva, Beierlein, Kemper, & Rammstedt, 2014). Furthermore, at admission these variables were complemented by the assessment of weight loss (cf. van Abellan Kan, Rolland, Morley, & Vellas, 2008), visual impairment (items designed for this study), personality traits (cf. Rammstedt, Kemper, Klein, Beierlein, & Kovaleva, 2013),

[13] In this study, multimorbidity was defined as three or more chronic conditions (cf. van den Bussche & Scherer, 2011).

[14] When possible, the selection of scales and items and necessary adjustments were based on a preliminary instrument of the NRW80+ study, which was kindly made available to the author, in order to ensure the comparability of the data from these two studies with very old participants and, thus, open up the possibility for comparative analyses.

[15] Altough depression is routinely recorded during the GA, the study interview also included an ultrashort depression screening (cf. Heidenblut & Zank, 2010), which was conducted at all three measurement points. In addition, functional assessment of the GA was complemented in the study interviews at admission and follow-up by the assessment of self-reported abilities in the IADL (cf. Döhner, Bleich, Kofahl, & Lauterberg, 2002; Lawton & Brody, 1969).

social network characteristics and social support (cf. Wiest et al., 2014). At discharge, the range of determinants assessed was supplemented by asking about the perceived quality of care during the rehabilitation stay (cf. Wu, Larrabee, & Putman, 2006), which further included questions about the adherence to the therapy plan and the availability of the doctors (items designed for this study).

Finally, in addition to the central questionnaire contents concerning different well-being indicators and various biopsychosocial determinants, participants' level of education and most recent profession were recorded at admission. At follow-up, participants were also asked if another hospital stay had occurred in the meantime, and were asked to evaluate their stay at the geriatric rehabilitation ward retrospectively (items designed for this study) (see Appendix: Study questionnaire).

4.3 Pilot study

To test the feasibility of the study questionnaire, especially concerning the longest version, which was intended to be carried out at admission to the rehabilitation ward, the pilot study was conducted in the early summer of 2017.

The exclusion criteria for the pilot study were as follows: an insufficient cognitive screening score (i.e., a Mini-Mental State Examination (Folstein et al., 1975) score of less than 17 points), difficulties with speech production, difficulties understanding the German language (i.e., due to hearing impairments or insufficient knowledge of the German language), and disease burden (i.e., the study interview was not administered when doing so was deemed too much of an additional burden for the patients) (cf. Wahl et al., 2001). Patients who did not meet these criteria were given detailed information about the study´s purposes, including an explanation of the study´s aims, assurance that participation was completely voluntary and information about rights of disclosure and rectification. Each had to give written, informed consent before being admitted as a participant in the pilot study.

The pilot study encompassed 11 patients. These patients participated in two face-to-face interviews, the first carried out upon admission to the rehabilitation ward and the second upon discharge. A follow-up interview was not part of the pilot study.

With reference to the main motive of the pilot study, namely to test the practicability of administering the study questionnaire, the pilot study yielded the following results: though the interviews at admission lasted at least 25 minutes, with some extending to a maximum of 50 minutes, it could be shown that the additional work load for the pilot participants was manageable. Given the advanced age of study participants, the bodily condition and the already high number of daily therapy units, this was an important practical consideration relevant to the feasibility of the study. In addition, pilot study participants were clearly able to

understand the study purpose and to answer the required questions and statements. Moreover, during the pilot study it became apparent that patients' willingness to participate in the research project was high, even though doing so included multiple measurement points. This finding was seen as an indicator of the realisability of the objective to recruit at least 100 study participants for the first measurement point of the main study within the scheduled recruitment period of about six months.

4.4 Main study

The main study had, as mentioned above, an intended sample size of 100 participants. It started in July of 2017 and was completed in April of 2018. The main study differed from the pilot study in that it supplemented the face-to-face interviews at admission and discharge using the structured self-report questionnaire with a follow-up interview in form of an even shorter version of the discharge interview. While admission and discharge interviews at the geriatric clinic in Cologne were conducted in a face-to-face interview situation, the follow-up interview was conducted via telephone or mail-in questionnaire about three months after discharge.[16]

The exclusion criteria for the main study corresponded exactly to those of the pilot study (cf. Bordne et al., 2019; Bordne et al., 2020). Initially, 143 patients were invited to participate. Twenty-one patients declined the offer, leaving a total of 122 patients who were included as participants and interviewed at admission. Between admission and discharge, 19 participants dropped out, with early discharge and relocation being the most common reasons for discontinuing participation in the study. The remaining 103 patients were interviewed for the second time at discharge. At follow-up, 78 patients could be reached. This time, the main reasons for dropout were non-response (i.e., the participants could not be reached by phone or post) or a lack of willingness to continue participation (Bordne et al., 2019).

Demographic characteristics of the study sample across the three measurement points are presented in Table 1. There were no significant differences with respect to demographics between the study participants who completed all three measurement points (N = 78) and the dropouts during the research process (N = 44), except one: the percentage of women was higher among the dropouts ($p < 0.05$).

[16] Originally, the follow-up interview was intended to be conducted via telephone only. However, many study participants preferred a mail-in questionnaire due to reasons such as security concerns and connection quality. Therefore, the follow-up interview was also made possible by post.

Table 1 *Demographic characteristics of the study sample at admission, discharge, and follow-up*

Sample	Admission: *N* = 122	Discharge: *N* = 103	Follow-up: *N* = 78
Mean age	82.4 years (*SD* = 6.6)	82.4 years (*SD* = 6.7)	82.0 years (*SD* = 6.8)
Sex	N_{women} = 82 (67.2 %)	N_{women} = 69 (67.0 %)	N_{women} = 47 (60.3 %)
Education[a]	$N_{>elementary\ school}$ = 49 (40.2%)	$N_{>elementary\ school}$ = 41 (39.8%)	$N_{>elementary\ school}$ = 30 (38.5%)
Living alone	*N* = 83 (68 %)	*N* = 69 (67 %)	*N* = 50 (64.1 %)
Multimorbidity[b]	$N_{\geq 3chronic\ diseases}$ = 99 (81.1 %)	$N_{\geq 3chronic\ diseases}$ = 83 (80.6 %)	$N_{\geq 3chronic\ diseases}$ = 66 (84.6 %)
Mean number of daily medications	9.4 (*SD* = 3.2)	9.4 (*SD* = 3.1)	9.8 (*SD* = 2.8)
Mean length of stay at geriatric rehabilitation ward	19.1 days (*SD* = 5.0)	19.6 days (*SD* = 3.9)	19.5 days (*SD* = 3.5)

Note. *N* = Number of participants, *SD* = Standard deviation

[a]Education defined as elementary school or lower (≤ 8 school years), and higher than elementary school.

[b]Multimorbidity defined as three or more chronic conditions (cf. van den Bussche & Scherer, 2011).

5. Outline of publications

5.1 Behavioural and emotional quality of life of patients undergoing inpatient geriatric rehabilitation (publication 1)

Bordne, S., Rietz, C., Schulz, R.-J., & Zank, S. (2020). Behavioural and emotional quality of life of patients undergoing inpatient geriatric rehabilitation. *Rehabilitation Psychology, 65* (3): 299-310. DOI: 10.1037/rep0000332

5.2 Subjective well-being of geriatric patients during and after inpatient geriatric rehabilitation: A biopsychosocial prediction model (publication 2)

Bordne, S., Rietz, C., Schulz, R.-J., & Zank, S. (2019). Subjective well-being of geriatric patients during and after inpatient geriatric rehabilitation: A biopsychosocial prediction model. *European Geriatric Medicine*, *10* (6): 965-975. DOI: 10.1007/s41999-019-00240-x

With regard to both publications, the author of this dissertation is responsible for the research questions investigated, recruitment of participants, data analysis and the conceptualisation and writing of the manuscripts. The co-author Christian Rietz advised the author on the statistical analyses and reviewed their results. The co-authors Ralf-Joachim Schulz and Susanne Zank reviewed the manuscripts and made suggestions for corrections.

6. General discussion

The final chapter of this thesis situates the different insights of this dissertation in a larger context. First, the most important results of the main study are revisited (6.1). Second, these findings are integrated into a broader research context (6.2). This is followed by a critical methodological discussion (6.3), recommendations for future research and practical implications (6.4) and, finally, by a general conclusion (6.5).

6.1 Main findings

In the following, the main findings with respect to the research focus of this thesis are outlined. For this purpose, the central results of the two publications are presented.

6.1.1 Relationship of behavioural and emotional rehabilitation outcomes, including mediation processes

With regard to the first research goal of this thesis, which was addressed in the publication “Behavioural and emotional quality of life of patients undergoing inpatient geriatric rehabilitation” (Bordne et al., 2020) that examined the relationship between physical functioning and affective well-being (i.e., hedonic indicator of SWB) including possible mediation processes, the model depicted in figure 6 was tested.

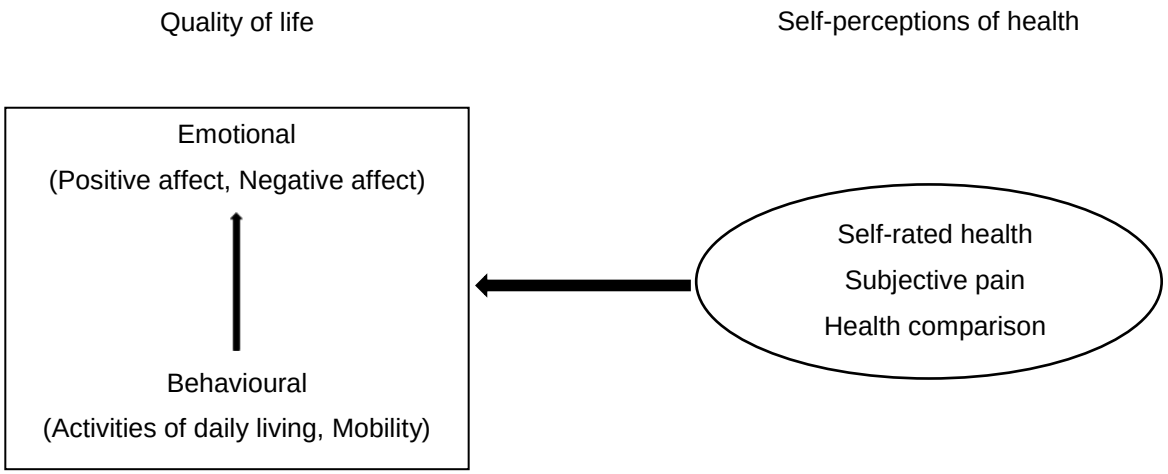

Figure 6. Hypothetical research model of publication 1
(Reprinted from Bordne et al., 2020)

More precisely, the relationship between changes in functional abilities as behavioural QoL facet and changes in affect as emotional facet during the rehabilitation stay was evaluated, considering changes in self-perceptions of health as mediating variables.

Regarding the results obtained, it could first be shown that at discharge, improvements could be ascertained for all variables assessed. It was also found that there were significant, albeit small correlations between functional and affective changes during the rehabilitation stay; i.e., advances in ADL and mobility between admission and discharge were weakly associated with an increased experience of positive affect and less frequent experience of negative affect at the end of the rehabilitation stay. Regression analyses of changes in affect on changes in physical functioning during the rehabilitation stay then revealed that only changes in mobility – not changes in ADL – predicted changes in affect. This link between changes in physical functioning and changes in affect was, however, no longer significant if changes in self-perceptions of health were added as additional predictors in the regression analysis. While changes in neither ADL nor mobility predicted changes in positive and negative affect, changes in self-rated health, subjective pain, and temporal health comparison did; i.e., advances in self-rated health and temporal health comparison predicted an increase in positive affect, and advances in self-rated health and a decrease in subjective pain predicted a decrease in negative affect. In the final mediation analyses, it could be shown that these changes in health self-perceptions fully mediated the link between functional and affective changes: temporal health comparison and self-rated health fully mediated the link between mobile abilities and positive affect, and subjective pain and self-rated health fully mediated the link between mobile abilities and negative affect.

6.1.2 Development of subjective well-being during and after geriatric rehabilitation and well-being predictors

The second research goal, which was addressed in the publication “Subjective well-being of geriatric patients during and after inpatient geriatric rehabilitation: A biopsychosocial prediction model” (Bordne et al., 2019), aimed at depicting the longitudinal development of hedonic and eudaimonic well-being during and after geriatric rehabilitation, and at testing a model of biomedical and psychosocial determinants with regard to longer-term SWB (figure 7).

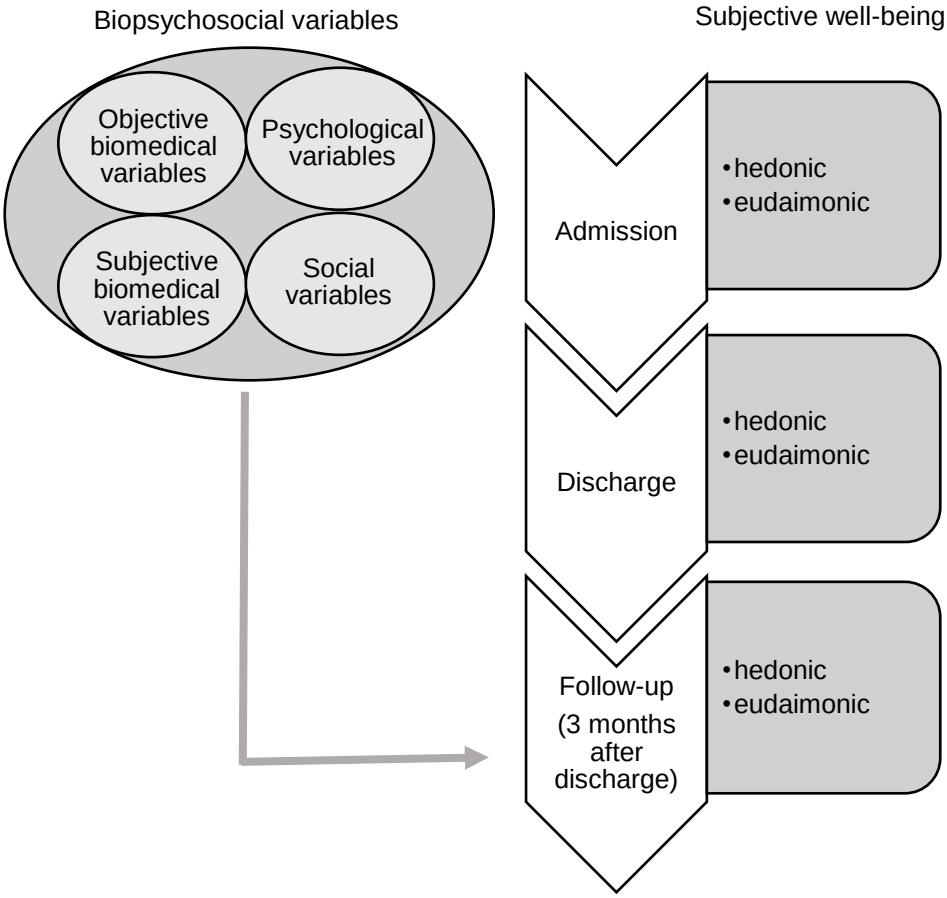

Figure 7. Conceptual model of publication 2
(Reprinted from Bordne et al., 2019, p. 967)

The results with regard to the development of hedonic well-being – indicated by positive and negative affect and satisfaction with life – and eudaimonic well-being – indicated by positive VoL and the experience of autonomy – showed significant improvements in positive and negative affect during the rehabilitation stay (i.e., an increase in positive affect and a decrease in negative affect). While the higher level of positive affect could be maintained until the follow-up, negative affect at the follow-up had again increased to the baseline level (i.e., level at admission). Satisfaction with life and positive VoL showed no change at all during the entire study period, remaining fairly positive. Finally, autonomy experience steadily decreased over time and was significantly lower at follow-up than at admission.

The prediction model for SWB showed that longer-term well-being – i.e., SWB at the follow-up at about three months after discharge – was only predicted by psychological variables assessed at admission. For hedonic well-being, neuroticism and openness showed the highest correlations, followed by internal control beliefs – i.e., lower levels of neuroticism,

and higher levels of openness and internal control were associated with higher hedonic experience. For eudaimonic well-being, the results were similar, with neuroticism, external and internal control beliefs as predictors – i.e., neuroticism and external control were inversely correlated with eudaimonic experience and, thus, represented risk factors for well-being, while internal control was found to be a well-being resource. In sum, personality traits and control beliefs had predictive value for longer-term SWB in the sample under study.

6.2 Interpretation of main findings including an appraisal in the general research context

First, the results with regard to changes in physical functioning and changes in affect (cf. Bordne et al., 2020) hint at the fact that in the medical context of geriatric rehabilitation, it is worthwhile to discriminate among different QoL facets, in particular among facets concerning behavioural as well as cognitive-emotional aspects (cf. Wahl et al., 2001). By differentiating among these facets, it is possible to examine their trajectories during the rehabilitation process both independently and interdependently, which is a useful approach to assessing different QoL indicators because theoretical considerations and QoL conceptualisations indicate that different QoL components may show both independent developmental courses and interrelations (cf. Lawton, 1983; Martin et al., 2012; Veenhoven, 2000).

In this study, it could be shown that both outcomes – physical functioning measured by abilities in the ADL and mobility (i.e., as an indicator of *behavioral competence* or *life-ability of the person* representing a QoL assessment from the outside in terms of objectively measurable resources) as well as affect measured by the experience of positive and negative feelings (i.e., as an indicator pf *psychological well-being* or *appreciation of life* representing a subjective approach to measure QoL) – improved during the rehabilitation stay (Bordne et al., 2020), which matches previous study results with regard to improvements in physical functioning (cf. section 2.5.5) and, to some extent, previous study results concerning affective improvements (cf. Clausen & Lucke, 1998; Everink et al., 2018; Martin et al., 2000; Richter et al., 2008; Wahl et al., 2001). This result could be interpreted in the light of theoretical considerations and empirical findings that suggest a link between chronic conditions and physical functioning on the one hand and SWB on the other, with SWB as the higher order construct (cf. Aberg et al., 2005; Aberg, 2008; Bien & Bien-Barkowska, 2016; Bornet et al., 2017; Cho et al., 2015; Helvik et al., 2013; Johari et al., 2016; Jonker et al., 2008; Kunzmann et al., 2000; Kunzmann, 2008; Lawton, 1983; Martin et al., 2012; Nakagawa et al., 2015; Schilling et al., 2013; Steptoe et al., 2015; Veenhoven, 2000; Wagner et al., 2018; Wiesmann & Hannich, 2014; Wikman et al., 2011). In other words, it could be expected that improving a patient´s independence in the ADL and mobility (e.g., through physical therapy) – a main goal of rehabilitation efforts (cf.

Achterberg et al., 2019; Bachmann et al., 2010; Kane et al., 1997) – would incidentally improve the patient´s SWB without initiating an intervention specifically aimed at SWB enhancement (e.g., acquiring cognitive coping strategies, reevaluating personal goals (cf. Martin et al., 2012)) during geriatric rehabilitation (cf. Bordne et al., 2020).

That said, although this study did show functional as well as affective improvements, the extent of improvements in affect lagged noticeably behind the improvements in functional abilities, which was reflected in the much smaller effect sizes for affective than for functional progress; this indicates the lower practical relevance of affective improvements (Bordne et al., 2020). Moreover, the correlations between functional and affective changes were rather weak, a finding that can be seen in accordance with previous research results, which showed that interventions targeting enhanced physical activity do not necessarily impact well-being or do so rather weakly (cf. Clark et al., 2012; Martin et al., 2012, Netz et al., 2005). In addition, the weak correlations between functional and affective changes found in this study became insignificant when changes in self-perceptions of health were included in the analysis: self-rated health, subjective pain and temporal health comparison, all of which have been shown to impact the SWB of elderly people (cf. Adams et al., 2016; Ben-Zur, 2016; Berg et al., 2011; Cramer-Ebner et al., 2017; Frieswijk et al., 2007; Ghimire et al., 2018; Ingrand et al., 2018; Naughton et al., 2016; Tse et al., 2012; Wiesmann & Hannich, 2014), fully mediated the link between physical functioning and affect. This finding corresponds to the assumption that mediation processes are important for the linkage between objectively measurable resources and subjectively assessed well-being, and that subjective health perceptions could be such mediators (cf. Amann, 2009; Martin et al., 2012). Accordingly, this study showed that physical functioning assessed from the outside only exerted an indirect influence on subjectively assessed affective well-being. In other words, changes in self-perceptions of health fully mediated the relationship between changes in physical functioning and the development of the affective experiences of geriatric rehabilitation patients (Bordne et al., 2020).

Second, regarding the longitudinal development of SWB (cf. Bordne et al., 2019) the results of this study highlight the importance of considering SWB in a multifaceted as well as a multidirectional way, as different hedonic and eudaimonic indicators (i.e., multifaceted) showed different change patterns during and after geriatric rehabilitation (i.e., multidirectional). Therefore, it seems useful in this medical setting not only to differentiate between indicators of hedonic and eudaimonic well-being (cf. section 2.5.2), but also to consider the developmental trajectories of different well-being indicators separately.

More precisely, regarding the developmental courses of hedonic indicators over time, this study showed changes in positive and negative affect during and after the rehabilitation stay, while life satisfaction did not change at all (Bordne et al., 2019). This is partly in line with

previous research results in the context of inpatient geriatric rehabilitation (cf. Clausen & Lucke, 1998; Everink et al., 2018; Martin et al., 2000; Richter et al., 2008; Wahl et al, 2001). One possible explanation for this study result is that satisfaction with life has a more trait-like character and, thus, tends to be rather stable, whereas affect seems to be more susceptible to temporary states and is therefore more likely to change as an immediate reaction to ongoing events, in this case the participation in a geriatric rehabilitation programme (cf. Diener, 1994). Changes in affect were, however, twofold: during rehabilitation, both positive and negative affect improved (i.e., positive affect increased, negative affect decreased), but only for positive affect could improvements be maintained until the follow-up three months post-discharge, whereas negative affect had increased back to its baseline level at admission (Bordne et al., 2019). These different change patterns characterising positive and negative affect may be interpreted in the light of previous findings, which show that functional health has an impact on change in positive affect, while there is no impact on change in negative affect (cf. Kunzmann et al., 2000; Kunzmann, 2008); i.e., though the level of correlation between changes in physical functioning and changes in affect during the rehabilitation stay was comparable for positive and negative affect, but also rather weak (Bordne et al., 2020), functional progress during rehabilitation and an assumed higher functional level at follow-up than at rehabilitation admission may, in the long run, nonetheless have a stronger impact on positive experiences than on negative affect, leading to a persistent higher level of positive affect, while improvements in negative affect are only short-term in nature and have disappeared at the follow-up.

For eudaimonic indicators, it could be shown that positive VoL did not change at all across all three measurement points (Bordne et al., 2019), probably for the same reason that life satisfaction did not change; i.e., VoL depicts a more global evaluation and is therefore likely not dependent on transitory states. The experience of autonomy, however, steadily decreased over time, suggesting that after the necessity of treatment in geriatric rehabilitation, the social environment may assume a higher vulnerability in the elderly patient, potentially prompting overprotective behaviour in the environment and, in turn, resulting in a lower experience of autonomy in everyday life for the patient (cf. Bordne et al., 2019). Alternatively, it could be that after a severe illness and despite significant functional progress during rehabilitation, the patient is, in fact, in greater need of care due to a lower level of overall functioning compared to the time before acute hospitalisation (cf. Cohen-Mansfield, 2011) and, accordingly, reports a lower experience of autonomy.

Relating these findings on the longitudinal changes of well-being indicators to the well-being paradox (cf. section 2.5.3), it can be noted that – despite a profound vulnerability and major stressors, given the high chronological age of study participants (i.e., on average 82 years and older), the burden of multimorbidity (i.e., more than 80 % of study participants

suffered from three or more chronic conditions) and an accordingly high number of daily medications (i.e., on average more than nine medications taken daily) accompanied by a high risk of adverse side effects – satisfaction with life and positive VoL are stable and remain fairly positive during and after geriatric rehabilitation, which is in line with previous research results considering the paradox of SWB in elderly people (cf. Schilling, 2006; Springer et al., 2011; Swift et al.; 2014; Wettstein et al., 2015; Wolff & Tesch-Römer, 2017). Furthermore, positive and negative affect actually improved during rehabilitation, even though this improvement was not persistent for negative affect, and positive affect was, on average, more frequently experienced than negative affect.

Taking these longitudinal findings concerning different well-being indicators together, it appears that geriatric patients are able to maintain their SWB relatively well despite stressful circumstances. This resilience is likely due to the fact that elderly patients have already been living with their chronic conditions and possible impairments for a longer time period, and have, thus, been able to adapt to these conditions and to compensate for potential losses (cf. Baltes & Baltes, 1990; Cohen-Mansfield, 2011; Martin et al., 2012). And even though the present study results allow no conclusions to be drawn about the extent to which the SWB of geriatric patients differs from that of non-patients of this age group, or how the SWB of geriatric patients may change over an even longer period of time than rehabilitation and up to about three months after discharge, it is encouraging to see that the SWB of the study participants was rather favourable on average.

This conclusion also applies to the experience of autonomy as another well-being indicator examined in this study. Although the experience of autonomy was the only indicator that diminished over time, autonomy evaluation at the three months follow-up still tended to be positive. The result that autonomy deteriorated in this study sample – a finding that contradicts previous research results, which showed that this indicator of eudaimonic well-being tends to be stable in elderly people (cf. Clarke et al., 2000; Wettstein et al., 2015) – could be related to the fact that in this study, autonomy was not measured with the *autonomy* scale introduced by Ryff (1989), which was used in the studies cited above, but with a single-item measure: in the current research subjective autonomy was operationalised as a single-item concerning the experience of living life as one wishes – an experience which may be more difficult to achieve after a severe illness and the need for geriatric treatment, at least for some time.

Finally, the results with regard to the biopsychosocial prediction model of SWB are more difficult to integrate into the existing research landscape (cf. section 2.6). As opposed to a postulated multidimensional network of biopsychosocial determinants of well-being in elderly people (e.g., Bowling et al., 2002; Diener et al., 1999; Rott et al., 2006; Schmitt et al., 2006), this study showed that only psychological factors were significant determinants of longer-term

SWB in geriatric rehabilitation patients (Bordne et al., 2019). These psychological factors – personality traits and control beliefs – have previously been found to be related to overall well-being and specific well-being indicators in elderly populations (cf. Berg et al., 2011; Brown et al., 2015; Etxeberria et al., 2019; Lauriola & Iani, 2016; Kostka & Jachimowicz, 2010; Peerenboom et al., 2015; Richter et al., 2008; Wahl et al., 2012). Here, too, personality traits and control beliefs assessed at admission predicted the longer-term hedonic and eudaimonic well-being three months after discharge. This finding can be interpreted as reflecting the fact that one´s individual character, acquired thinking patterns and attitudes towards life can be very important in dealing with everyday difficulties and possible impairments in old age, and, thus, may determine the baseline level of SWB in a geriatric population (cf. Diener, 1994). In addition, the result that personality traits in particular showed the highest correlations to longer-term hedonic and eudaimonic well-being could also explain the result reported above that the majority of hedonic and eudaimonic indicators were fairly stable when comparing the assessment at admission and the assessment at the three months follow-up. In other words, since the personality structure is assumed to be rather stable (cf. Pervin, Cervone, & John, 2005), most examined indicators of SWB are stable as well.

6.3 Methodological discussion

This study, despite thorough planning, is not free of weaknesses and imbalances with respect to the study design, theoretical aspects as well as aspects of operationalisation. These shortcomings are discussed in the following section along with an explanation of the considerations that led to the chosen methodological approach.

6.3.1 Study design

First of all, this study had no control group design. It included neither a group of geriatric patients receiving a traditional (i.e., non geriatric-specific) rehabilitation programme nor patients from another geriatric rehabilitation ward (cf. Bordne et al., 2019; Bordne et al., 2020). Moreover, study participation was voluntary. Thus, though participation rates at the three measurement occasions were satisfactory (i.e., 85% at admission: 122 participants of 143 inquiries; 84 % at discharge: 103 participants of 122 participants at admission; 76 % at follow-up: 78 participants of 103 participants at discharge), and – except for sex with a higher percentage of women among the dropouts – no major differences regarding age, multimorbidity, polypharmacy, length of stay, education and living situation could be found between participants who completed all three measurement points (N = 78) and participants

who dropped out during the research process (N = 44) (cf. Bordne et al., 2019), the results of this study cannot easily be generalised.

Another shortcoming concerns the interview situation. The face-to-face interviews during the geriatric rehabilitation programme were conducted in each patient´s room. Relatives were not allowed during the interview situation to prevent the participant from being influenced. But as shared bedrooms with up to four beds were common, while double or single rooms were rather rare, in many cases it was not possible to find a time period in which the participant was alone in the room or to find a spare room to talk to the participant in private. Answers resulting from social desirability are therefore possible for two reasons: first, the mere presence of the interviewer and, second, the presence of the roommate(s). In this regard, biased results due to socially desirable answers could include, for example, that patients rated their SWB somewhat more positively because they did not want to show too much weakness (cf. Bowling et al., 2002). Furthermore, with regard to the interview situation at the follow-up, the questionnaire this time was conducted via telephone or sent to the participants by post because it was not feasible to pay the participants a personal visit at home. For an even better comparability of the data across all three measurement points, however, a similar face-to-face interview situation would have been preferable (cf. Bordne et al., 2019).

Finally, this study had been designed longitudinally to depict the development of SWB and to identify determinants which act as resources or risk factors for the longer-term hedonic and eudaimonic well-being of geriatric rehabilitation patients. In this respect, the chronological assessment order of the variables included in the prediction model – biopsychosocial determinants assessed at admission and indicators of longer-term well-being assessed at follow-up – justifies the interpretation of personality traits and control beliefs as predictors of longer-term hedonic and eudaimonic well-being. However, strictly speaking, the study design does not allow causal inferences to be drawn due to the lack of a rigorous experimental design, which could not be implemented in this applied research setting.

6.3.2 Theoretical background and measurement instruments

This research addressed SWB as one critical QoL component of patients undergoing inpatient geriatric rehabilitation. With regard to the well-being of geriatric patients a hedonic as well as a eudaimonic perspective was taken and predictors were determined for both well-being facets separately. This differentiation between hedonic and eudaimonic aspects of well-being is based on theoretical considerations that postulate the importance of assessing eudaimonic QoL aspects along with hedonic well-being within a very old sample and empirical findings that support a two-factor structure with both a hedonic as well as a eudaimonic well-being factor (cf. Kashdan et al., 2008; Wagner et al., 2018; Wettstein et al., 2015). However, it could also

be shown that these latent factors are not only correlated, but also that they correlate higher than do different indicators of hedonic well-being (i.e., life satisfaction, positive affect, negative affect) among each other (cf. Kashdan et al., 2008). This finding raises the question whether these two factors really differ qualitatively and whether there is a more general, overarching well-being factor (e.g., Kashdan et al., 2008; Longo, Coyne, Joseph, & Gustavsson, 2016). In accordance with these considerations, the present research found that longer-term hedonic and eudaimonic well-being were both predicted by the same variables, namely personality traits and control beliefs. Nonetheless, differentiating between hedonic and eudaimonic indicators for the assessment of well-being and examining separately how these indicators develop during and after geriatric rehabilitation was worthwhile, as it offered a multifaceted and more holistic view of the well-being of geriatric rehabilitation patients. Moreover, this differentiated approach revealed that there are indeed at least some differences in the developmental courses during rehabilitation of the different hedonic and eudaimonic well-being indicators assessed in this study.

Second, a central assumption of this study concerned the relationship (i.e., hierarchical order) of physical functioning and SWB: It was supposed that SWB is the superordinate construct to physical functioning (cf. section 2.5.4). That said, though not examined in this study, it is also possible that there are bidirectional relations between the two outcomes investigated and that the relationship observed between changes in physical functioning and changes in affect, which was mediated by changes in health perceptions, may also be inverted (cf. Bordne et al., 2020). This means that alternative hypotheses are imaginable because it is possible that there are reciprocal influences; i.e., the SWB of geriatric patients may also impact functional outcomes and health perceptions, and health perceptions may also influence physical functioning. Accordingly, there are theoretical considerations in favour of these inverse relationships and supporting empirical evidence from studies with elderly healthy people and elderly patients (e.g., Albert et al., 2012; Böhme & Renneberg, 2015; Connolly, Garvey, & McKee, 2017; Martelli, Nicholson, & Zasler, 2008; Martelli, Zasler, & Tiernan, 2012; Mettner, 2015; Radinovic et al., 2014; Zaslavsky et al., 2014):

It is assumed that an acute health event may trigger strong negative emotions, which can then hinder optimal rehabilitation in terms of relearning and physical progress (cf. Martelli et al., 2008; Martelli et al., 2012). In line with this assumption that strong negative emotions might impact the rehabilitation outcome, depressive symptoms were found to be associated with worse mobile and cognitive functioning (Albert et al., 2012). Moreover, eudaimonic well-being has been found to serve as a predictor for functional outcomes. Mettner (2015) showed that positive VoL at admission to a geriatric rehabilitation ward predicted changes in physical and cognitive performance. In addition, scoring rather low on Ryff´s dimensions of *personal growth* as well as *purpose in life* was shown to be associated with mobility problems (Zaslavsky

et al., 2014). Furthermore, well-being was not only found to impact physical functioning but also self-perceptions of health; i.e., while emotional well-being predicts self-rated health, depression is a predictor for subjective pain (Böhme & Renneberg, 2015; Radinovic et al., 2014). Finally, these self-perceptions of health may in turn influence functional outcomes, as it could be shown that, for example, perceived pain is associated with worse functional abilities in terms of ADL (Connolly et al., 2017). Consequently, it is possible that there are other underlying relations among the variables investigated and no definite causal inferences can be drawn concerning the variables under study. Nonetheless, the research models examined in this thesis are empirically justified and based on theoretically well-established QoL models (cf. Bordne et al., 2020; sections 2.4.2, 2.5.4, 2.6).

Concerning the measurement instruments included in the study interview for assessing indicators of SWB and biopsychosocial antecedents, it must first be noted that some were single-item measures or abbreviated versions of an original instrument. Since a broad spectrum of variables should be covered, but at the same time the questionnaire should not be too long, a balance was achieved by resorting to shorter scales. Especially with regard to the assessment of satisfaction with life and the experience of autonomy it would have been desirable, however, to assess these well-being indicators in a more differentiated way to gain an even deeper understanding of these aspects. Still, given the population under study and the fact that the broad range of variables assessed already necessitated a lengthy interview (cf. Bordne et al., 2019), using brief measurement instruments was important in order to keep the interview feasible and to prevent the interview from being an additional burden for the patients.

Secondly, the study questionnaire was designed as a self-report instrument. Such instruments, which capture subjective statements made by the study participants, lead to study results that may be biased for different reasons. With regard to the specific population of elderly inpatients, the data validity of self-reports can be challenged due to possible impairments concerning the sensory system or cognitive abilities such as the attention span or memory capacity, and may be influenced by the impact of acute or chronic illnesses. Therefore, the adherence to the exclusion criteria of this study (cf. sections 4.3, 4.4) was indispensable for data validity, as it ensured that hearing ability, verbal and cognitive capacities of the patients were sufficient to conduct a longer self-report interview and that their health conditions were not so severe as to prevent them from study participation. In addition, self-reported well-being evaluations may be biased due to social desirability, as mentioned above (cf. section 6.3.1). That said, a truly subjective assessment of well-being, relying on the participants' own judgements, is only possible using a self-report instrument; thus, this approach was chosen deliberately.

6.4 Future directions and practical implications

It is surely desirable to validate the findings of this study by using a different sample of geriatric rehabilitation patients and by implementing a control group design. This is necessary to gain more conclusive insights into the QoL of this target group since the existing research results, especially concerning the SWB of geriatric rehabilitation patients, cannot yet be generalised.

Nonetheless, the research presented here raises awareness of the importance of SWB evaluations in this medical setting and may be a starting point for future research efforts to further advance the "quality of life movement in medicine" (Birnbacher, 1999, p. 26). For example, future studies could expand on this research by extending the follow-up period to half a year or even one year post-discharge to gain an even better understanding of the longitudinal development of the hedonic and eudaimonic well-being of geriatric rehabilitation patients. Moreover, in future research it would also be worthwhile to not only examine the development of SWB beyond discharge, but also to reassess physical functioning during the follow-up. In this research, the assessment of ADL and mobility was only carried out during the rehabilitation stay in the course of the routine GA, and there were two reasons for the decision not to include these two variables in the follow-up. First, a follow-up assessment of ADL and mobility by a trained nurse and physiotherapist as was done during the rehabilitation stay would have required that the post-discharge interviews be conducted at the participants' homes and that the author be accompanied by clinical staff. Unfortunately, such a high organisational and personnel expenditure was not possible within the framework of this research project. Second, it was expected that the prospect of a home visit would represent a general inhibition threshold for study participation that should be avoided. Therefore, it was decided to conduct a telephone interview at the three-months follow-up excluding the reassessment of these functional outcomes. But even if it was not possible to carry out an assessment of physical functioning during follow-up in the present study, in the future it would be desirable to investigate how these functional outcomes and, in particular, how the relationship between changes in physical functioning and changes in affect develop in the longer term.

Prospectively, consideration could also be given to replacing certain measurement instruments used in this study with more differentiated assessment tools (e.g., concerning the assessment of life satisfaction), to adding further indicators of SWB to depict different well-being aspects in even more detail (e.g., inclusion of further eudaimonic indicators such as *environmental mastery* and *personal growth* (cf. Ryff, 1989)), or to extending the pool of possible biopsychosocial determinants to further variables which may also impact the SWB of geriatric rehabilitation patients (e.g., resilience including self-efficacy beliefs, awareness of ageing, taking part in activities) (cf. Diehl et al., 2014; Guccione, 2014; Helvik et al., 2011).

In addition to this need to replicate the results of this study with another geriatric sample, preferably with a control group design, a longer follow-up period, an assessment of physical functioning beyond discharge, and an even more nuanced assessment of SWB and its possible determinants, further research questions arise from this study, as well as practical implications and indications for potentially beneficial interventions that may be considered in future research projects. These are discussed in the following.

First, in this study of all hedonic and eudaimonic well-being indicators, only affect significantly improved during the geriatric rehabilitation process, with the extent of affective progress, however, lagging well behind progress in physical functioning. In addition, only the higher level of positive affect persisted in the longer-term. These results suggest that it could be worthwhile to explore how to expand improvements to other well-being indicators, how to achieve stronger affective improvements, and how to extend short-term effects (cf. Bordne et al., 2019).

More precisely, this study showed that major improvements in the ADL and in mobile abilities during the rehabilitation stay only weakly coincided – if any – with improvements in SWB in terms of an increased experience of positive affect and a decreased experience of negative affect (Bordne et al., 2020). Furthermore, despite major advances in physical functioning during the rehabilitation stay, the remaining SWB indicators did not improve at all (Bordne et al., 2019). These results illustrate the shortcomings of geriatric rehabilitation efforts that concentrate solely on the improvement of functional abilities, expecting that this will incidentally and equally improve the patient´s SWB, without initiating an intervention during geriatric rehabilitation aimed specifically at enhancing SWB. In addition, considering the findings that the relationship between functional and affective changes was fully mediated by changes in self-perceptions of health and that control beliefs, along with personality characteristics, predicted longer-term hedonic and eudaimonic well-being, it is conceivable that supplementing functional training with interventions aiming at the enhancement of a positive self-image, in particular concerning health perceptions, and at strengthening psychological resources such as a sense of control over one´s life may give an extra boost to the SWB of geriatric patients. Providing targeted psychological support could help to (further) improve SWB during the rehabilitation stay and extend the duration of short-term effects. An example of how psychological support for elderly patients could be implemented at hospital admission comes from the “Care and Respect for Elders with Emergencies (CARE)” programme, in which patients aged 65 years and older receive additional attention during an emergency department visit by talking to volunteers trained in strategies for anxiety reduction and cognitive interventions to prevent functional decline and improve satisfaction (cf. Sanon, Baumlin, Kaplan, & Grudzen, 2014). Such an intervention could be adapted for geriatric rehabilitation patients, targeting the reinforcement of positive health perceptions and personal control from

the beginning of their rehabilitation stay. Furthermore, during the course of the rehabilitation process it could be helpful to administer a patient-centred goal-setting approach, as including the patient´s own subjective view when setting and achieving rehabilitation goals may also positively impact self-efficacy beliefs and the QoL of geriatric rehabilitation patients, although the concrete implementation of such an approach is not an easy task (cf. Smit, Bouwstra, van der Wouden, Wattel, & Hertogh, 2018).

Second, on the basis of the finding that only control beliefs and personality traits – neuroticism in particular – predicted longer-term SWB (Bordne et al., 2019), consideration could be given to assessing these psychological characteristics at the beginning of the rehabilitation stay to detect early on which patients' hedonic and eudaimonic well-being might be at risk. Considering SWB as an important rehabilitation outcome and an important facet regarding the QoL of geriatric rehabilitation patients (cf. Wahl et al., 2001), the implementation of such an assessment for detecting patients who may exhibit a lower level of SWB seems important and could lead to an even more specific and individualised treatment plan. Moreover, with regard to the possible bidirectional relationship between physical functioning and SWB (i.e., SWB also impacts functional outcomes) (cf. section 6.3.2) and given that different well-being indicators are inversely associated with the risk of certain diseases and disorders (cf. Kim et al., 2013; Morsch et al., 2015; Ostir et al., 2001; Zaslavsky et al., 2014), a routine screening assessing personality characteristics as determinants of longer-term SWB, supplemented by the assessment of the present level of hedonic and eudaimonic well-being, could be very helpful: "In the future, psychological and medical 'checkups' may routinely involve QOL [sic] assessments, especially if researchers continue to find that such assessments can identify those at high risk for future disorders, diseases, and health-care expenditures. Preventive treatment of those identified on the basis of QOL assessments as 'high risk' could prove to be extremely cost-effective" (Frisch, 1998, p. 36). Such efforts could then also lead to an even higher appreciation of the benefits that come from specific geriatric treatment and, thus, raise further awareness of the need for this medical field specialised in supporting the growing number of elderly, chronically ill people in Germany.

That said, however important the assessment of SWB and its determinants may be in the context of geriatric rehabilitation, in daily geriatric routine and practice one should always be aware that the assessment of a patient´s QoL – regardless of how this QoL turns out to be – must not lead to a devaluation of a patient´s life in general or to the conclusion that a patient´s life is no longer worth living or worth caring for (cf. Birnbacher, 1999).

Lastly, and to take the scope of this research further, QoL as an overarching outcome in the field of geriatric medicine could also be investigated in relation to persons beyond the geriatric patients themselves, such as the nearest relatives, who often act as main caregivers in the domestic context and whose QoL could, therefore, also be affected by the rehabilitation

process (cf. Birnbacher, 1999). It could be revealing to examine whether informal caregivers also benefit from successful rehabilitation efforts. Moreover, if it could be shown that such transfer effects on third parties exist, this would, again, further strengthen the position of geriatric rehabilitation. Although there is no routine assessment of QoL in caregivers during geriatric rehabilitation in Germany, there is some promising evidence in this respect that informal caregivers of patients undergoing geriatric rehabilitation may profit from the implementation of an integrated care pathway (including elements of transition management and shared decision making) in terms of experiencing less caregiver burden after the patient´s discharge (cf. Everink et al., 2018). Thus, further research in this regard could be fruitful.

6.5 General conclusion

Concerning the QoL of geriatric rehabilitation patients, whose health status, in most cases, precludes complete recovery, SWB should be an important QoL facet to assess along with physical functioning. That said, available research results do not provide conclusive findings with regard to hedonic and eudaimonic well-being of geriatric rehabilitation patients, and further efforts are needed to gauge the impact of geriatric rehabilitation on this crucial outcome criterion. Against this background, though this study´s results cannot be generalised indiscriminately due to the methodological issues described above, and given the fact that it was not possible to draw an all-encompassing picture of the QoL of patients undergoing an inpatient geriatric rehabilitation in Germany, this research does provide some key insights into the development of SWB in terms of hedonic and eudaimonic well-being indicators, its relation to changes in physical functioning and its biopsychosocial determinants in this medical context, all of which create a broader knowledge base upon which future studies can build. In addition, it offers an overview of the relevant theroretical conceptualisations with regard to the QoL and the SWB of elderly people as well as the existing geriatric research landscape with regard to the variables under study along with a discussion of further research questions and practical implications for daily geriatric practice which can be derived from this research concerning the enhancement of the SWB of geriatric rehabilitation patients.

In conclusion, given the ageing German society and, accordingly, the increasing burden of multimorbidity, there is more than ever an urgent and growing need for adequate geriatric acute care and specific geriatric rehabilitation. This includes not only the best possible physical and functional treatment but a holistic approach to the needs of the elderly, multimorbid and highly vulnerable geriatric patient: “Concern for the quality of life (QOL) of chronically ill persons begins with the goal of adding quality to years, a social-humanitarian goal” (Lawton et al., 2001, p. 3). Thus, aiming at a holistic improvement of the QoL of geriatric rehabilitation patients –

including an improvement of the patients' SWB considering both hedonic and eudaimonic indicators – is essential. In the end, the fact remains: "The important thing to you is not how many years in your life, but how much life in your years!"

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Appendix

Study questionnaire

Forschungsprojekt

„Ressourcen und Barrieren für Funktionalität und subjektives Wohlbefinden bei geriatrischen Patienten“

Fragebogen T1

Teilnehmer-Nr.:

Interview durchgeführt am:

Interviewbeginn um:

Interviewende um:

T1

Liebe/r Teilnehmerin/Teilnehmer,

Ich freue mich sehr über Ihre Hilfe und Zusammenarbeit.

Wie bereits erläutert, führe ich im Rahmen des Forschungskollegs „Wohlbefinden bis ins hohe Alter“ der Universität zu Köln eine Befragung durch und möchte gerne mehr über Ihr Wohlbefinden erfahren. Hierfür werde ich Ihnen einige Fragen stellen. Ihre Teilnahme ist natürlich freiwillig und Sie können die Befragung auch jederzeit abbrechen oder die Beantwortung einzelner Fragen verweigern oder im Nachhinein einsehen und ggf. korrigieren. Zudem werden alle Ihre Angaben und Daten vertraulich behandelt und ausschließlich in pseudonymisierter Form verarbeitet.

Die Einwilligung zur Teilnahme können Sie jederzeit und ohne negative Konsequenzen zurückziehen und alle bis dahin gewonnenen Daten zu Ihrer Person werden dann umgehend gelöscht.

Die Fragen werden wir nun gemeinsam durchgehen und werden dafür ca. 45 Minuten benötigen.

Für die Fragen, die ich Ihnen stellen werde, gibt es keine „richtigen“ oder „falschen“ Antworten, und Sie müssen *kein/e Experte/Expertin* sein, um die Fragen beantworten zu können. Sie erfüllen den Zweck der Befragung am besten, indem Sie die Fragen so wahrheitsgemäß und spontan wie möglich beantworten.

Wenn Sie zwischendurch Fragen haben, zögern Sie nicht diese zu stellen.
Wenn Sie im Moment erstmal keine weiteren Fragen haben, starten wir nun mit der Befragung.

Im Folgenden geht es zunächst um Ihre körperliche Gesundheit. Hierfür werde ich Ihnen immer nur kurze Fragen zu unterschiedlichen Themen stellen.

Zunächst geht es um Ihren allgemeinen Gesundheitszustand in der letzten Woche.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Selbsteingeschätzte Gesundheit

		V1	V2	V3	V4
1	Wie würden Sie Ihren Gesundheitszustand in der letzten Woche im Allgemeinen beschreiben? War er…	Sehr schlecht	Eher schlecht	Eher gut	Sehr gut

Nun geht es um körperliche Schmerzen in der letzten Woche.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Subjektive Schmerzen

		V1	V2	V3	V4	V5
1	Wie stark waren Ihre Schmerzen in der letzten Woche?	Keine Schmerzen	Leicht	Mäßig	Stark	Sehr stark

Nun denken Sie bitte an die letzten 12 Monate zurück.

Gewichtsverlust

		V0	V1
1	Haben Sie in den letzten 12 Monaten unbeabsichtigt deutlich an Gewicht verloren?	Nein	Ja

Nun geht es um ihre Sehfähigkeit.

Visuelle Beeinträchtigung

		V0	V1
1	Leiden Sie unter einer Sehschwäche (Weit-/Kurzsichtigkeit, grauer/grüner Star, Makuladegeneration, etc.)	Nein	Ja

Wenn Patient/in mit "ja" antwortet: Dann habe ich noch eine Frage zu Ihrer Sehschwäche.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

		V1	V2	V3	V4	V5
2	Wie stark fühlen Sie sich durch Ihre Sehschwäche im Alltag beeinträchtigt?	Gar nicht	Leicht	Mäßig	Stark	Sehr stark

Jetzt möchte ich noch gerne von Ihnen wissen, wie Sie Ihre Gesundheit im Vergleich zu früher und zu anderen Personen in Ihrem Alter sehen.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Zeitlicher und sozialer Gesundheitsvergleich

		V1	V2	V3	V4	V5
1	Wie oft vergleichen Sie Ihren aktuellen gesundheitlichen Zustand mit Ihrem Gesundheitszustand in früheren Jahren?	Nie	Selten	Manch-mal	Häufig	Sehr häufig
2	Wie oft vergleichen Sie Ihren aktuellen gesundheitlichen Zustand mit dem Gesundheitszustand Gleichaltriger?	Nie	Selten	Manch-mal	Häufig	Sehr häufig

Nun können Sie zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

		V1	V2	V3	V4	V5
3	Wenn Sie Ihren aktuellen gesundheitlichen Zustand mit Ihrem Gesundheitszustand vor einem Jahr vergleichen, ist dieser…?	Viel schlechter	Schlechter	Genauso gut	Besser	Viel besser
4	Wenn Sie Ihren aktuellen gesundheitlichen Zustand mit dem Gesundheitszustand Gleichaltriger vergleichen, ist dieser…?	Viel schlechter	Schlechter	Genauso gut	Besser	Viel besser

Die folgenden Aussagen beschäftigen sich mit Ihrem sozialen Umfeld.
Als erstes würde ich gerne Folgendes von Ihnen wissen.

Haushaltsgröße

		Anzahl
1	Wie viele Personen leben ständig in Ihrem Haushalt, Sie selbst eingeschlossen? Zu diesem Haushalt zählen alle Personen, die mit Ihnen zu Hause gemeinsam wohnen und wirtschaften (z.B. gemeinsamer Einkauf). Denken Sie dabei bitte auch an alle im Haushalt lebenden Kinder.	

Es geht nun um Personen, die Ihnen wichtig sind und mit denen Sie in Kontakt stehen. Dabei kann es sich sowohl um Haushaltsmitglieder und Verwandte wie auch um Nachbarn, Freunde und Bekannte handeln.

Soziales Netzwerk

1	„Können Sie mir 1 oder mehrere Personen nennen, die Ihnen wichtig sind? Wer ist das bzw. in welcher Verwandtschafts- oder Freundschaftsbeziehung stehen Sie zu dieser Person?“				
2	In welcher Beziehung steht diese Person zu Ihnen?				
3	*Einschätzung durch Interviewerin:* Geschlecht (*Wenn nicht eindeutig einzuschätzen, nachfragen*)	1) Männlich 2) Weiblich 3) Anderes	1) Männlich 2) Weiblich 3) Anderes	1) Männlich 2) Weiblich 3) Anderes	1) Männlich 2) Weiblich 3) Anderes
4	Wie oft haben Sie Kontakt zu *dieser Person*, z.B. durch Besuche, Briefe, Telefonate, SMS oder Email?	1) Täglich 2) Wöchentlich 3) Monatlich 4) Mehrmals im Jahr 5) Seltener	1) Täglich 2) Wöchentlich 3) Monatlich 4) Mehrmals im Jahr 5) Seltener	1) Täglich 2) Wöchentlich 3) Monatlich 4) Mehrmals im Jahr 5) Seltener	1) Täglich 2) Wöchentlich 3) Monatlich 4) Mehrmals im Jahr 5) Seltener
5	Wie eng fühlen Sie sich mit *dieser Person* heute verbunden?	1) Überhaupt nicht eng 2) Weniger eng 3) Eng 4) Sehr eng	1) Überhaupt nicht eng 2) Weniger eng 3) Eng 4) Sehr eng	1) Überhaupt nicht eng 2) Weniger eng 3) Eng 4) Sehr eng	1) Überhaupt nicht eng 2) Weniger eng 3) Eng 4) Sehr eng
6	Seit wann kennen Sie *diese Person*?	Seit: JJJJ	Seit: JJJJ	Seit: JJJJ	Seit: JJJJ
6_1		*Alternativ* Lebensalter:	*Alternativ* Lebensalter:	*Alternativ* Lebensalter:	*Alternativ* Lebensalter:
7	*Nur wenn mind. 4 Personen genannt:* Wenn Sie mehr als 4 Personen nennen könnten, die Ihnen wichtig sind. Wie viele Personen hätten Sie noch genannt?				

Im Folgenden geht es um die Unterstützung, die Sie von Anderen erhalten oder selbst geben. Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Soziale Unterstützung

		V1	V2	V3	V4	V5
1	Haben Sie in den vergangenen 12 Monaten jemandem Geld geschenkt oder größere Sachgeschenke gemacht?	Nein	Ja			
2	Haben Sie selbst in den vergangenen 12 Monaten Geld geschenkt bekommen oder größere Sachgeschenke erhalten?	Nein	Ja			
3	Wie oft kam es in den letzten 12 Monaten vor, dass Sie jemandem, der nicht bei Ihnen im Haushalt lebt, privat bei Arbeiten im Haushalt geholfen haben, wenn er diese Hilfe brauchte z.B. beim Saubermachen, bei kleineren Reparaturen oder beim Einkaufen? Ich meine damit keine Pflege- und Erwerbstätigkeiten.	Nie	Selten	Manch-mal	Häufig	Immer
4	Wie oft kam es in den letzten 12 Monaten vor, dass jemand, der nicht bei Ihnen im Haushalt lebt, Ihnen bei Arbeiten im Haushalt geholfen hat, wenn Sie diese Hilfe brauchten?	Nie	Selten	Manch-mal	Häufig	Immer
5	Wie oft kam es in den letzten 12 Monaten vor, dass andere Personen von Ihnen getröstet oder aufgemuntert wurden, wenn sie Trost und Aufmunterung brauchten?	Nie	Selten	Manch-mal	Häufig	Immer
6	Wie oft kam es in den letzten 12 Monaten vor, dass Sie selbst getröstet oder aufgemuntert wurden, wenn Sie es brauchten?	Nie	Selten	Manch-mal	Häufig	Immer
7	Wie oft kam es in den letzten 12 Monaten vor, dass Sie anderen Personen Rat gegeben haben, wenn diese Rat brauchten, z.B. bei wichtigen Entscheidungen?	Nie	Selten	Manch-mal	Häufig	Immer
8	Wie oft kam es in den letzten 12 Monaten vor, dass Ihnen jemand bei wichtigen Entscheidungen Rat gegeben hat, wenn Sie diesen brauchten?	Nie	Selten	Manch-mal	Häufig	Immer

Nun denken Sie bitte noch an die letzte Woche zurück.

Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Einsamkeit

		V1	V2	V3	V4
1	Wie oft haben Sie sich in der letzten Woche einsam gefühlt?	Nie oder fast nie	Manchmal	Meistens	Immer oder fast immer

Die folgenden Aussagen beschäftigen sich nun mit Ihrer Persönlichkeit.

Bitte sagen Sie mir, inwiefern die folgenden Aussagen auf Sie selbst zutreffen.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Persönlichkeit

		V1	V2	V3	V4
1	Ich bin eher zurückhaltend, reserviert.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
2	Ich schenke anderen leicht Vertrauen, glaube an das Gute im Menschen.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
3	Ich bin bequem, neige zur Faulheit.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
4	Ich bin entspannt, lasse mich durch Stress nicht aus der Ruhe bringen.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
5	Ich habe nur wenig künstlerisches Interesse.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
6	Ich gehe aus mir heraus, bin gesellig.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
7	Ich neige dazu, andere zu kritisieren.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
8	Ich erledige Aufgaben gründlich.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
9	Ich werde leicht nervös und unsicher.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
10	Ich habe eine aktive Vorstellungskraft, bin fantasievoll.	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu

Menschen nehmen den Einfluss auf ihr eigenes Leben ganz unterschiedlich wahr. Bitte sagen Sie mir, wie gut die folgenden Sichtweisen auf Sie selbst zutreffen.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Kontrollüberzeugungen

		V1	V2	V3	V4
1	Haben Sie das Gefühl, Ihr Leben selbst in der Hand zu haben?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
2	Haben Sie das Gefühl, dass Sie, wenn Sie sich anstrengen, auch Erfolg haben?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
3	Haben Sie das Gefühl, dass Ihr Leben zu großen Teilen von anderen bestimmt wird?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
4	Haben Sie das Gefühl, dass Ihre Pläne oft vom Schicksal durchkreuzt werden?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu

Nun haben wir bereits mehr als die Hälfte geschafft. Sollen wir einmal eine Pause einlegen oder geht es noch?

Jetzt beschäftigen wir uns noch mit Ihrer Lebensgestaltung und Ihren Lebenserfahrungen und wie Sie Ihr eigenes Leben rückblickend aber auch im Moment sehen.

Zunächst würde ich Sie gerne zu einigen Aktivitäten des täglichen Lebens befragen.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

IADL

		V1	V2	V3
1	Können Sie das Telefon benutzen?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
2	Wenn es darum geht, irgendwo hinzukommen, wo Sie nicht zu Fuß hingehen können (z.B. die Organisation einer Taxifahrt, mit dem Bus fahren, etc.): Können Sie dies?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
3	Können Sie Lebensmittel oder Kleidung selbst einkaufen, wenn man Sie nötigenfalls hinbringt?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
4	Können Sie Ihre eigenen Mahlzeiten zubereiten?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
5	Können Sie Ihre Hausarbeit erledigen?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
6	Wie ist das mit der Einnahme von Medikamenten: Können Sie das organisieren und durchführen?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
7	Was die Regelung finanzieller Dinge betrifft, können Sie das?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe

Nun geht es um Ihre Lebensgestaltung.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Autonomieerleben

		V1	V2	V3	V4
1	Gestalten Sie Ihr Leben nach Ihren eigenen Vorstellungen?	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu

Jetzt geht es darum, wie Sie sich selber und Ihr Leben sehen.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Selbst-Akzeptanz

		V1	V2	V3	V4	V5
1	Wenn ich rückblickend mein Leben betrachte, freue ich mich darüber, wie es verlaufen ist.	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu
2	Im Allgemeinen bin ich selbstbewusst und sehe mich positiv.	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu
3	Ich habe das Gefühl, dass andere Menschen mehr aus ihrem Leben gemacht haben als ich.	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu
4	Ich mag die meisten Seiten meiner Persönlichkeit	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu
5	In der Vergangenheit habe ich einige Fehler gemacht, aber ich glaube, alles in allem hat sich das meiste zum Besten gefügt.	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu
6	In vielerlei Hinsicht bin ich enttäuscht von dem, was ich erreicht habe.	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu
7	Ich denke wahrscheinlich weniger positiv über mich als andere Menschen.	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu
8	Mein bisheriges Leben hatte Höhen und Tiefen, aber insgesamt würde ich nichts daran ändern wollen.	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu
9	Wenn ich mich mit meinen Freunden und Bekannten vergleiche, habe ich ein gutes Gefühl dabei, so zu sein wie ich bin.	Stimme gar nicht zu	Stimme eher nicht zu	Weder/noch	Stimme eher zu	Stimme genau zu

Nun denken Sie bitte an die letzte Woche zurück.

Die folgenden Äußerungen beschäftigen sich mit Ihren Gefühlen. Sagen Sie mir bitte, wie häufig Sie die genannten Gefühle in der letzten Woche in etwa erlebt haben.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Affekt

	Wie oft haben Sie sich in der letzten Woche… gefühlt?	V1	V2	V3	V4	V5
1	bekümmert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
2	freudig erregt, erwartungsvoll	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
3	verärgert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
4	eingeschüchtert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
5	begeistert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
6	aufmerksam	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
7	angeregt	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
8	nervös	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
9	entschlossen	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
10	ängstlich	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig

Nun geht es um Ihre Stimmung.
Denken Sie bei Ihren Antworten bitte weiterhin daran, wie Sie sich während der letzten Woche überwiegend gefühlt haben.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Depressivität

		V0	V1
1	Fühlen Sie sich bedrückt?	Nein	Ja
2	Fällt es Ihnen schwer, sich aufzuraffen?	Nein	Ja
3	Können Sie Ihr Leben genießen, auch wenn Ihnen manches schwerer fällt?	Nein	Ja
4	Müssen Sie viel grübeln?	Nein	Ja

Zum Abschluss geht es noch einmal darum, wie Sie selbst Ihr Leben im Moment aber auch rückblickend sehen.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Positive VoL

		V1	V2	V3
1	Fühlen Sie sich im Moment eher optimistisch?	Nein	Weder/noch	Ja
2	Gibt es viele Dinge, auf die Sie sich jeden Tag freuen?	Nein	Weder/noch	Ja
3	Empfinden Sie Ihr jetziges Leben als nützlich?	Nein	Weder/noch	Ja
4	Ist Ihr Leben stark von religiösen oder moralischen Grundsätzen bestimmt?	Nein	Weder/noch	Ja
5	Haben Sie im Moment einen starken Lebenswillen?	Nein	Weder/noch	Ja
6	Hat das Leben für Sie einen Sinn?	Nein	Weder/noch	Ja
7	Fühlen Sie sich in der Lage, Ihre Lebensziele zu erreichen?	Nein	Weder/noch	Ja
8	Sind Sie auf Grund Ihrer persönlichen Lebenseinstellung (z.B. Glaubensgrundsätzen) prinzipiell eher hoffnungsvoll eingestellt?	Nein	Weder/noch	Ja
9	Haben Sie vor, aus Ihrem weiteren Leben das Beste zu machen?	Nein	Weder/noch	Ja
10	Haben Sie viele Ideen, um aus einer schwierigen Lage wieder herauszufinden?	Nein	Weder/noch	Ja
11	Können Sie sich viele Möglichkeiten vorstellen, um die Dinge zu erreichen, die Ihnen wichtig sind?	Nein	Weder/noch	Ja
12	Finden Sie immer einen Weg, um ein Problem zu lösen, auch wenn andere schon aufgegeben haben?	Nein	Weder/noch	Ja
13	Erreichen Sie im Allgemeinen die Ziele, die Sie sich selbst setzen?	Nein	Weder/noch	Ja

Lebenssinn

		V1	V2	V3
1	Sind Sie zufrieden, wenn Sie daran denken, was Sie in der Vergangenheit alles gemacht und geschafft haben?	Nein	Weder/noch	Ja
2	Sind Sie mit Ihrer Vergangenheit im Reinen?	Nein	Weder/noch	Ja

Und nun noch die letzte Frage.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Lebenszufriedenheit

		V0	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
1	Alles in allem, wie zufrieden sind Sie gegenwärtig mit Ihrem Leben?	Ganz und gar unzufrieden										Ganz und gar zufrieden

Geschafft. Nun gibt es nur noch zwei Fragen zu Ihrem Bildungsweg und Ihrer beruflichen Tätigkeit.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

		V1	V2	V3	V4	V5
1	Was ist Ihr höchster Bildungsabschluss	Volks-schule	Mittlere Reife	(Fach-) Abitur	Hochschul-studium	Promotion

2	Was war Ihr zuletzt ausgeübter Beruf und wie lange haben Sie in diesem gearbeitet?	

Ich bedanke mich ganz herzlich bei Ihnen für die Teilnahme!

Ich werde am Ende Ihres Klinikaufenthaltes noch einmal auf Sie zukommen, wobei die Befragung dann wesentlich kürzer ausfallen wird.
Sind Sie damit einverstanden?

Für Rückfragen oder wenn Sie weitere Informationen zum Projekt erhalten möchten, stehe ich Ihnen jederzeit zur Verfügung.

Forschungsprojekt

„Ressourcen und Barrieren für Funktionalität und subjektives Wohlbefinden bei geriatrischen Patienten“

Fragebogen T2

Teilnehmer-Nr.:

Interview durchgeführt am:

Interviewbeginn um:

Interviewende um:

T2

Liebe/r Teilnehmerin/Teilnehmer,

es freut mich, dass ich Sie noch ein weiteres Mal an meiner Befragung teilnehmen. Die Teilnahme ist natürlich weiterhin freiwillig und Sie können die Befragung auch wieder jederzeit abbrechen oder die Beantwortung einzelner Fragen verweigern oder im Nachhinein einsehen und ggf. korrigieren. Ich versichere Ihnen, dass alle Ihre Angaben und Daten vertraulich behandelt und ausschließlich in pseudonymisierter Form verarbeitet werden.

Die Einwilligung zur Teilnahme können Sie auch weiterhin jederzeit und ohne negative Konsequenzen zurückziehen und alle bis dahin gewonnen Daten zu Ihrer Person, auch aus der ersten Befragung, werden dann umgehend gelöscht.

Sind Sie mit der Befragung weiterhin einverstanden?

Ich freue mich sehr über Ihre Hilfe und Zusammenarbeit.

Die Fragen werden wir gemeinsam durchgehen und werden diesmal dafür ca. 20 Minuten benötigen.

Ich werde Ihnen nun wieder einige Fragen stellen, von denen Ihnen schon einige bekannt sind. Weiterhin gilt, dass es für die Fragen keine „richtigen“ oder „falschen“ Antworten gibt und Sie *kein/e Experte/Expertin* sein müssen, um die Fragen beantworten zu können. Sie erfüllen den Zweck der Befragung am besten, indem Sie die Fragen so wahrheitsgemäß und spontan wie möglich beantworten.

Wenn Sie zwischendurch Fragen haben, zögern Sie nicht diese zu stellen.
Wenn Sie im Moment erstmal keine weiteren Fragen haben, starten wir nun mit der Befragung.

Die folgenden Aussagen beschäftigen sich erneut mit Ihrer körperlichen Gesundheit.

Zunächst geht es noch einmal um Ihren allgemeinen Gesundheitszustand in der letzten Woche.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Selbsteingeschätzte Gesundheit

		V1	V2	V3	V4
1	Wie würden Sie Ihren Gesundheitszustand in der letzten Woche im Allgemeinen beschreiben? War er…	Sehr schlecht	Eher schlecht	Eher gut	Sehr gut

Nun geht es noch einmal um körperliche Schmerzen in der letzten Woche.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Subjektive Schmerzen

		V1	V2	V3	V4	V5
1	Wie stark waren Ihre Schmerzen in der letzten Woche?	Keine Schmerzen	Leicht	Mäßig	Stark	Sehr stark

Jetzt möchte ich gerne noch einmal von Ihnen wissen, wie Sie Ihre Gesundheit im Vergleich zu früher und zu anderen Personen in Ihrem Alter sehen.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Zeitlicher und sozialer Gesundheitsvergleich

		V1	V2	V3	V4	V5
1	Wenn Sie Ihren aktuellen gesundheitlichen Zustand mit Ihrem Gesundheitszustand vor einem Jahr vergleichen, ist dieser…?	Viel schlechter	Schlechter	Genauso gut	Besser	Viel besser
2	Wenn Sie Ihren aktuellen gesundheitlichen Zustand mit dem Gesundheitszustand Gleichaltriger vergleichen, ist dieser…?	Viel schlechter	Schlechter	Genauso gut	Besser	Viel besser

Nun denken Sie bitte noch einmal an die letzte Woche zurück.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Einsamkeit

		V1	V2	V3	V4
1	Wie oft haben Sie sich in der letzten Woche einsam gefühlt?	Nie oder fast nie	Manchmal	Meistens	Immer oder fast immer

Nun möchte ich Sie gerne fragen, wie Sie die Pflege und Therapie hier im Krankenhaus und die Beziehung zu den Pflegekräften und Therapeuten erleben.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Qualität der Versorgung und Betreuung

		V1	V2	V3	V4	V5
1	Die Pflegekräfte ermutigen Sie zu klingeln, wenn es Probleme gibt.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
2	Die Pflegekräfte antworten schnell auf Ihr Klingeln.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
3	Die Pflegekräfte geben Ihnen Ihre Medikamente rechtzeitig.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
4	Die Pflegekräfte setzen Spritzen und Infusionen gekonnt.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
5	Die Pflegekräfte/Therapeuten kommen unaufgefordert wieder zu Ihnen zurück.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
6	Die Pflegekräfte/Therapeuten sprechen mit Ihnen.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
7	Die Pflegekräfte/Therapeuten helfen, Ihre Schmerzen zu mindern.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
8	Die Pflegekräfte/Therapeuten interessieren sich dafür, wie es Ihnen geht.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
9	Die Pflegekräfte/Therapeuten lindern Ihre Symptome.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer

10	Die Pflegekräfte/Therapeuten sind sicher im Umgang mit Ihnen.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
11	Die Pflegekräfte/Therapeuten beweisen professionelles Wissen und Fertigkeiten.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
12	Die Pflegekräfte/Therapeuten benutzen die Geräte gekonnt.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
13	Die Therapeuten lassen Therapieeinheiten (unangekündigt) ausfallen.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
14	Die Pflegekräfte/Therapeuten behandeln Sie als Individuum.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
15	Die Pflegekräfte/Therapeuten hören Ihnen aufmerksam zu.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
16	Die Pflegekräfte/Therapeuten unterstützen Sie.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
17	Die Pflegekräfte/Therapeuten sind empathisch.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
18	Die Pflegekräfte/Therapeuten erlauben Ihnen, Gefühle über Ihre Krankheit oder Ihre Behandlung zu äußern.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
19	Die Pflegekräfte/Therapeuten erfüllen Ihre ausgesprochenen und unausgesprochenen Wünsche.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
20	Die Ärzte geben Ihnen die Informationen, die Sie benötigen (z. B. Ergebnisse/Befunde, Entlassdatum)	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer
21	Die Ärzte sind auch außerhalb der Visite erreichbar.	Nie oder fast nie	Selten	Manchmal	Meistens	Immer oder fast immer

Die folgenden Aussagen beschäftigen sich nun wieder mit Ihrer Persönlichkeit.

Menschen nehmen den Einfluss auf ihr eigenes Leben ganz unterschiedlich wahr. Bitte sagen Sie mir, wie gut die folgenden Sichtweisen auf Sie selbst zutreffen.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Kontrollüberzeugungen

		V1	V2	V3	V4
1	Haben Sie das Gefühl, Ihr Leben selbst in der Hand zu haben?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
2	Haben Sie das Gefühl, dass Sie, wenn Sie sich anstrengen, auch Erfolg haben?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
3	Haben Sie das Gefühl, dass Ihr Leben zu großen Teilen von anderen bestimmt wird?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
4	Haben Sie das Gefühl, dass Ihre Pläne oft vom Schicksal durchkreuzt werden?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu

Die folgenden Aussagen beschäftigen sich zum Abschluss noch einmal mit Ihrer Lebensgestaltung und Ihren Lebenserfahrungen und wie Sie Ihr eigenes Leben rückblickend aber auch im Moment sehen.

Zunächst geht es noch einmal um Ihre Lebensgestaltung.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Autonomieerleben

		V1	V2	V3	V4
1	Gestalten Sie Ihr Leben nach Ihren eigenen Vorstellungen?	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu

Nun denken Sie bitte noch einmal an die letzte Woche zurück.

Die folgenden Äußerungen beschäftigen sich mit Ihren Gefühlen. Sagen Sie mir bitte, wie häufig Sie die genannten Gefühle in der letzten Woche in etwa erlebt haben.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Affekt

	Wie oft haben Sie sich in der letzten Woche… gefühlt?	V1	V2	V3	V4	V5
1	bekümmert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
2	freudig erregt, erwartungsvoll	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
3	verärgert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
4	eingeschüchtert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
5	begeistert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
6	aufmerksam	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
7	angeregt	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
8	nervös	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
9	entschlossen	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
10	ängstlich	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig

Nun geht es noch einmal um Ihre Stimmung.
Denken Sie bei Ihren Antworten bitte weiterhin daran, wie Sie sich während der letzten Woche überwiegend gefühlt haben.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Depressivität

		V0	V1
1	Fühlen Sie sich bedrückt?	Nein	Ja
2	Fällt es Ihnen schwer, sich aufzuraffen?	Nein	Ja
3	Können Sie Ihr Leben genießen, auch wenn Ihnen manches schwerer fällt?	Nein	Ja
4	Müssen Sie viel grübeln?	Nein	Ja

Zum Abschluss geht es noch einmal darum, wie Sie selbst auf Ihr Leben blicken.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Positive VoL

		V1	V2	V3
1	Fühlen Sie sich im Moment eher optimistisch?	Nein	Weder/noch	Ja
2	Gibt es viele Dinge, auf die Sie sich jeden Tag freuen?	Nein	Weder/noch	Ja
3	Empfinden Sie Ihr jetziges Leben als nützlich?	Nein	Weder/noch	Ja
4	Ist Ihr Leben stark von religiösen oder moralischen Grundsätzen bestimmt?	Nein	Weder/noch	Ja
5	Haben Sie im Moment einen starken Lebenswillen?	Nein	Weder/noch	Ja
6	Hat das Leben für Sie einen Sinn?	Nein	Weder/noch	Ja
7	Fühlen Sie sich in der Lage, Ihre Lebensziele zu erreichen?	Nein	Weder/noch	Ja
8	Sind Sie auf Grund Ihrer persönlichen Lebenseinstellung (z.B. Glaubensgrundsätzen) prinzipiell eher hoffnungsvoll eingestellt?	Nein	Weder/noch	Ja
9	Haben Sie vor, aus Ihrem weiteren Leben das Beste zu machen?	Nein	Weder/noch	Ja
10	Haben Sie viele Ideen, um aus einer schwierigen Lage wieder herauszufinden?	Nein	Weder/noch	Ja
11	Können Sie sich viele Möglichkeiten vorstellen, um die Dinge zu erreichen, die Ihnen wichtig sind?	Nein	Weder/noch	Ja
12	Finden Sie immer einen Weg, um ein Problem zu lösen, auch wenn andere schon aufgegeben haben?	Nein	Weder/noch	Ja
13	Erreichen Sie im Allgemeinen die Ziele, die Sie sich selbst setzen?	Nein	Weder/noch	Ja

Und nun noch die letzte Frage.
Sie können hierbei zwischen folgenden Antwortmöglichkeiten wählen… (*Antwortkarte vorlegen*).

Lebenszufriedenheit

		V0	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
1	Alles in allem, wie zufrieden sind Sie gegenwärtig mit Ihrem Leben?	Ganz und gar unzufrieden										Ganz und gar zufrieden

So, geschafft! Ich bedanke mich ganz herzlich bei Ihnen für die erneute Teilnahme!

Wenn Sie dazu bereit sind, würde ich Sie gerne in ungefähr drei Monaten nach Ihrer Entlassung noch einmal telefonisch kontaktieren, um zu hören, wie es Ihnen in der Zwischenzeit so ergangen ist. Sind Sie damit einverstanden?

Für Rückfragen oder wenn Sie weitere Informationen zum Projekt erhalten möchten, stehe ich Ihnen jederzeit zur Verfügung.

Vielen Dank und alles Gute!

Forschungsprojekt

„Ressourcen und Barrieren für Funktionalität und subjektives Wohlbefinden bei geriatrischen Patienten“

Fragebogen T3

Teilnehmer-Nr.:

Interview durchgeführt am:

Interviewbeginn um:

Interviewende um:

T3

Liebe/r Teilnehmerin/Teilnehmer,

mein Name ist Saskia Bordne von der Universität zu Köln. Sie waren vor einiger Zeit bei uns im St. Marien-Hospital Köln in stationärer geriatrischer Rehabilitation und wir haben bereits zweimal Gespräche zusammen geführt, vielleicht erinnern Sie sich. Ich hatte angekündigt, dass ich Sie drei Monate nach Ihrer Entlassung noch einmal telefonisch kontaktieren werde, wozu Sie sich bereit erklärten und es freut mich, dass Sie noch ein letztes Mal an meiner Befragung teilnehmen.

Die Teilnahme ist natürlich weiterhin freiwillig und Sie können die Befragung auch wieder jederzeit abbrechen oder die Beantwortung einzelner Fragen verweigern oder im Nachhinein einsehen und ggf. korrigieren. Ich versichere Ihnen, dass alle Ihre Angaben und Daten vertraulich behandelt und ausschließlich in pseudonymisierter Form verarbeitet werden.

Die Einwilligung zur Teilnahme können Sie auch weiterhin jederzeit und ohne negative Konsequenzen zurückziehen und alle bis dahin gewonnen Daten zu Ihrer Person, auch aus den ersten beiden Befragungen, werden dann umgehend gelöscht.

Sind Sie mit der Befragung weiterhin einverstanden?

Ich freue mich sehr über Ihre Hilfe und Zusammenarbeit.

Die Fragen werden wir wieder gemeinsam durchgehen und werden diesmal dafür ca. 15-20 Minuten benötigen.

Ich werde Ihnen nun wieder einige Fragen stellen, von denen Ihnen schon einige bekannt sind. Weiterhin gilt, dass es für die Fragen keine „richtigen“ oder „falschen“ Antworten gibt und Sie *kein/e Experte/Expertin* sein müssen, um die Fragen beantworten zu können. Sie erfüllen den Zweck der Befragung am besten, indem Sie die Fragen so wahrheitsgemäß und spontan wie möglich beantworten.

Wenn Sie zwischendurch Fragen haben, zögern Sie nicht diese zu stellen.
Wenn Sie im Moment erstmal keine weiteren Fragen haben, starten wir nun mit der Befragung.

Zunächst freut es mich zu hören, dass Sie weiterhin *zu Hause* wohnen.

		V0	V1
1	Mussten Sie seit Ihrer Entlassung aus der Rehabilitation im St. Marien-Hospital in Köln noch einmal stationär behandelt werden?	Nein	Ja
Wenn ja:			
1_1	Wo wurden Sie behandelt?		
1_2	Warum wurden Sie behandelt?		

Die folgenden Aussagen beschäftigen sich erneut mit Ihrer körperlichen Gesundheit.

Zunächst geht es noch einmal um Ihren allgemeinen Gesundheitszustand in der letzten Woche.

Selbsteingeschätzte Gesundheit

		V1	V2	V3	V4
1	Wie würden Sie Ihren Gesundheitszustand in der letzten Woche im Allgemeinen beschreiben? War er…	Sehr schlecht	Eher schlecht	Eher gut	Sehr gut

Nun geht es noch einmal um körperliche Schmerzen in der letzten Woche.

Subjektive Schmerzen

		V1	V2	V3	V4	V5
1	Wie stark waren Ihre Schmerzen in der letzten Woche?	Keine Schmerzen	Leicht	Mäßig	Stark	Sehr stark

Jetzt möchte ich gerne noch einmal von Ihnen wissen, wie Sie Ihre Gesundheit im Vergleich zu früher und zu anderen Personen in Ihrem Alter sehen.

Zeitlicher und sozialer Gesundheitsvergleich

		V1	V2	V3	V4	V5
1	Wenn Sie Ihren aktuellen gesundheitlichen Zustand mit Ihrem Gesundheitszustand vor einem Jahr vergleichen, ist dieser…?	Viel schlechter	Schlechter	Genauso gut	Besser	Viel besser
2	Wenn Sie Ihren aktuellen gesundheitlichen Zustand mit dem Gesundheitszustand Gleichaltriger vergleichen, ist dieser…?	Viel schlechter	Schlechter	Genauso gut	Besser	Viel besser

Die folgenden Aussagen beschäftigen sich nun wieder mit Ihrer Persönlichkeit.

Menschen nehmen den Einfluss auf ihr eigenes Leben ganz unterschiedlich wahr. Bitte sagen Sie mir, wie gut die folgenden Sichtweisen auf Sie selbst zutreffen.

Kontrollüberzeugungen

		V1	V2	V3	V4
1	Haben Sie das Gefühl, Ihr Leben selbst in der Hand zu haben?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
2	Haben Sie das Gefühl, dass Sie, wenn Sie sich anstrengen, auch Erfolg haben?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
3	Haben Sie das Gefühl, dass Ihr Leben zu großen Teilen von anderen bestimmt wird?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu
4	Haben Sie das Gefühl, dass Ihre Pläne oft vom Schicksal durchkreuzt werden?	Trifft gar nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu

Es geht nun um einige Aktivitäten des täglichen Lebens.
Ich möchte gerne von Ihnen wissen, wie gut Sie momentan *zu Hause* zurechtkommen und wie selbstständig Sie in Ihrem Alltag sind.

IADL

		V1	V2	V3
1	Können Sie das Telefon benutzen?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
2	Wenn es darum geht, irgendwo hinzukommen, wo Sie nicht zu Fuß hingehen können (z.B. die Organisation einer Taxifahrt, mit dem Bus fahren, etc.): Können Sie dies?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
3	Können Sie Lebensmittel oder Kleidung selbst einkaufen, wenn man Sie nötigenfalls hinbringt?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
4	Können Sie Ihre eigenen Mahlzeiten zubereiten?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
5	Können Sie Ihre Hausarbeit erledigen?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
6	Wie ist das mit der Einnahme von Medikamenten: Können Sie das organisieren und durchführen?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe
7	Was die Regelung finanzieller Dinge betrifft, können Sie das?	Überhaupt nicht ohne Hilfe	Mit ein wenig Hilfe	Ohne Hilfe

Nun geht es um Ihre Lebensgestaltung.

Autonomieerleben

		V1	V2	V3	V4
1	Gestalten Sie Ihr Leben nach Ihren eigenen Vorstellungen?	Trifft nicht zu	Trifft eher nicht zu	Trifft eher zu	Trifft genau zu

Nun denken Sie bitte noch einmal an die letzte Woche zurück.

Die folgenden Äußerungen beschäftigen sich mit Ihren Gefühlen. Sagen Sie mir bitte, wie häufig Sie die genannten Gefühle in der letzten Woche in etwa erlebt haben.

Affekt

	Wie oft haben Sie sich in der letzten Woche… gefühlt?	V1	V2	V3	V4	V5
1	bekümmert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
2	freudig erregt, erwartungsvoll	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
3	verärgert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
4	eingeschüchtert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
5	begeistert	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
6	aufmerksam	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
7	angeregt	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
8	nervös	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
9	entschlossen	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig
10	ängstlich	Nie	Eher selten	Manch-mal	Häufig	Sehr häufig

Nun denken Sie bitte noch einmal an die letzte Woche zurück.

Einsamkeit

		V1	V2	V3	V4
1	Wie oft haben Sie sich in der letzten Woche einsam gefühlt?	Nie oder fast nie	Manchmal	Meistens	Immer oder fast immer

Nun geht es noch einmal um Ihre Stimmung.
Denken Sie bei Ihren Antworten bitte weiterhin daran, wie Sie sich während der letzten Woche überwiegend gefühlt haben.

Depressivität

		V0	V1
1	Fühlen Sie sich bedrückt?	Nein	Ja
2	Fällt es Ihnen schwer, sich aufzuraffen?	Nein	Ja
3	Können Sie Ihr Leben genießen, auch wenn Ihnen manches schwerer fällt?	Nein	Ja
4	Müssen Sie viel grübeln?	Nein	Ja

Nun geht es noch einmal darum, wie Sie selbst auf Ihr Leben blicken.

Positive VoL

		V1	V2	V3
1	Fühlen Sie sich im Moment eher optimistisch?	Nein	Weder/noch	Ja
2	Gibt es viele Dinge, auf die Sie sich jeden Tag freuen?	Nein	Weder/noch	Ja
3	Empfinden Sie Ihr jetziges Leben als nützlich?	Nein	Weder/noch	Ja
4	Ist Ihr Leben stark von religiösen oder moralischen Grundsätzen bestimmt?	Nein	Weder/noch	Ja
5	Haben Sie im Moment einen starken Lebenswillen?	Nein	Weder/noch	Ja
6	Hat das Leben für Sie einen Sinn?	Nein	Weder/noch	Ja
7	Fühlen Sie sich in der Lage, Ihre Lebensziele zu erreichen?	Nein	Weder/noch	Ja
8	Sind Sie auf Grund Ihrer persönlichen Lebenseinstellung (z.B. Glaubensgrundsätzen) prinzipiell eher hoffnungsvoll eingestellt?	Nein	Weder/noch	Ja
9	Haben Sie vor, aus Ihrem weiteren Leben das Beste zu machen?	Nein	Weder/noch	Ja
10	Haben Sie viele Ideen, um aus einer schwierigen Lage wieder herauszufinden?	Nein	Weder/noch	Ja
11	Können Sie sich viele Möglichkeiten vorstellen, um die Dinge zu erreichen, die Ihnen wichtig sind?	Nein	Weder/noch	Ja
12	Finden Sie immer einen Weg, um ein Problem zu lösen, auch wenn andere schon aufgegeben haben?	Nein	Weder/noch	Ja
13	Erreichen Sie im Allgemeinen die Ziele, die Sie sich selbst setzen?	Nein	Weder/noch	Ja

Und nun möchte ich noch gerne wissen...

Lebenszufriedenheit

		V0	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
1	Alles in allem, wie zufrieden sind Sie gegenwärtig mit Ihrem Leben?	Ganz und gar unzufrieden										Ganz und gar zufrieden

Zum Abschluss möchte ich noch gerne wissen, wie zufrieden bzw. unzufrieden Sie mit der stationären geriatrischen Rehabilitation im St. Marien-Hospital waren.

Bewerten Sie Ihren Aufenthalt bitte mit einer Schulnote, wobei eins bedeutet, dass Sie die Behandlung im St. Marien-Hospital sehr gut fanden und sechs bedeutet, dass Sie die Behandlung als ungenügend beurteilen.

		Sehr gut	Gut	Befrie-digend	Aus-reichend	Mangel-haft	Un-genügend
1	Die Behandlung im St. Marien-Hospital Köln war…	1	2	3	4	5	6
Erinnern Sie sich an Aspekte Ihres Aufenthaltes in unserem Hause, welche Ihnen in positiver oder negativer Erinnerung geblieben sind?							
2	Positive Aspekte						
3	Negative Aspekte						

So, geschafft! Ich bedanke mich ganz herzlich bei Ihnen für die Teilnahme!

Für Rückfragen oder wenn Sie weitere Informationen zum Projekt erhalten möchten, stehe ich Ihnen jederzeit zur Verfügung.

Vielen Dank und alles Gute!

Ich lebe mein Leben in wachsenden Ringen,

die sich über die Dinge zieh'n.

Ich werde den letzten vielleicht nicht vollbringen,

aber versuchen will ich ihn.

Rainer Maria Rilke (1875 – 1926)

The longer men live

The more time there is to think

To think is to grow,

And, growing, live

(Quoted in Stieglitz, 1949, n.p.)

GROW
GERONTOLOGICAL RESEARCH ON WELL-BEING
NRW FORSCHUNGSKOLLEG | WOHLBEFINDEN BIS INS HOHE ALTER