A Planned Change Process of Physical Activity Promoting Structures in Nursing Homes Using a Participatory Integrated Counselling Approach

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1. Introduction

Nursing homes represent a vital component of the care infrastructure. According to the latest care statistics, approximately 15% of individuals requiring care in Baden-Württemberg resided in a nursing home (Statistical Office of Baden-Württemberg, 2025). Nursing homes are typically utilised when at-home or partial-inpatient care is no longer feasible or suitable. This form of care provides comprehensive nursing as well as social and domestic support around the clock. In recent years, there has been an increased demand for care and support services among residents. The key drivers of this trend were the ageing population and the broadening of the *concept of care dependency* [Pflegebedürftigkeitsbegriff] (Federal Ministry of Health, 2017). Furthermore, an increasing number of individuals are opting to reside in nursing homes following hospitalisation. When a need for care is identified in a hospital setting, it is often associated with relatively sudden, serious illnesses, and the level of care required is usually higher than in other situations. In 6.4% of cases, these individuals move into a nursing home following their hospital stay (Rothgang and Müller, 2023).

This shift has significant implications for the nursing home staff. The demand for staff is projected to rise in line with the number of hospital cases and the increasing number of people requiring long-term care (Eppers, 2024). In recent years, individuals requiring care are reaching nursing homes at an increasingly later age and requiring a higher level of care (Nützel et al., 2014; Rothgang and Müller, 2023; Weinstein, 2018).

As people enter nursing homes at an older age and with multiple morbidities, their needs change significantly. In order to cater to complex clinical pictures and limited resources, it is essential to tailor care more individually and flexibly. This also means adapting physical activity (PA) promotion to each person's physical capabilities, existing limitations, and risks. This is essential for preventing overexertion, falls and injuries, while ensuring that mobility, independence and quality of life are maintained for as long as possible. PA recommendations for older people in nursing homes differ significantly from those for older people without care needs. The sedentariness of nursing home residents is exceptionally high, which is why every interruption of inactivity has a health benefit (Pomiersky et al., 2024).

However, embedding PA promotion in nursing homes remains challenging. Everyday life is focused on providing medical care and assistance, often leaving little room for PA promotion or considering mobilisation as sufficient PA promotion (Coleman and Ganong, 2014). In nursing homes, there is a constant lack of time and personnel resources and the rigid structures and established routines hinder the embedding of new health initiatives. Also, the cultural norms and attitudes within the institution may not prioritise or value PA, viewing it as a non-essential component of care (Bowes et al., 2021; Collingridge Moore et al., 2019; Frahsa et al., 2020; Heinzelmann, 2004; Nowossadeck, 2013). Previous research has shown that providing temporary PA interventions can enhance residents' physical and cognitive function. However, the sustainability of these interventions is very rare, and after the end of such interventions, the original state usually returns after a short time (Frändin et al., 2016; Rodríguez-Larrad et al., 2021).

In light of the changing conditions of the residents, the acute staff shortages and the findings of previous research, there is a clear need for a planned and sustainable change in PA promotion and PA-promoting structures within the nursing home setting. The dissertation's primary research interest is thus focused on the sustainable embedding of PA promotion in nursing home structures. The research is grounded in the field of organisational sociology, particularly Kurt Lewin's *Model of Change*, which is used to conceptualise processes of change in three steps (Chapter 4). To address the research interest, the dissertation presents theoretical, methodological, and empirical considerations from a social science perspective that encompass all steps of a planned change approach. The dissertation's approach is guided by the primary pilot study, *BaSAlt,* and is characterised by a participatory integrated counselling approach (Chapter 5). Five publications build the basis of this dissertation, with one theoretically oriented publication, one practically oriented publication, and three empirically oriented publications (Chapter 6). Chapter 7 provides a comprehensive synthesis of the findings, bringing together theoretical, practical and empirical insights. Chapter 7.1 presents the overall discussion of key findings, structured along the themes of identification, initiation, and institutionalisation of change. Chapter 7.2 provides a detailed exposition of how the research gap was minimised in the dissertation, while also outlining the implications for future research. Chapter 7.3 discusses the practical implications of the findings, particularly in terms of how nursing

homes and their stakeholders can utilise them to foster more active and supportive living environments for residents.

2. The Context of Nursing Care

Nursing homes have a long history, dating back to the Middle Ages. Societal attitudes toward ageing and the care of older adults have long shaped the image of nursing homes. Whenever there is a change in either of these areas, it invariably has an impact on the nursing home as an institution (Heinzelmann, 2004). Nursing homes represent a vital social institution, constituting an integral part of our society and facilitating ongoing interaction between the institution and the broader community. Over time, numerous reforms and modifications were implemented, culminating in the current form of the nursing home institution. The existing structures were broken down, modified and reorganised (Heinzelmann, 2004). The extensive range of factors taken into account in change processes underscores the significance of considering the overall social context, as it invariably exerts direct or indirect influences. The effects are evident in legislation, media reports, staff attitudes, and the home's philosophy.

2.1. Terms and Definitions

The term *setting* describes the living environment and the social contexts in which people are situated. The term *setting of a nursing home* refers to the living environment in which older people are cared for (Federal Ministry of Health, 2025a; Matolycz, 2011). In Germany, a distinction is made between *full inpatient care* [vollstationäre Pflege] and *partial inpatient care* [teilstationäre Pflege]. This dissertation deals with full inpatient care, which in turn can be divided into three different types of homes: the *residential home for older adults* [Altenwohnheim], the *retirement home* [Altenheim] and the *nursing home* [Pflegeheim]. In the context of full inpatient care, this dissertation focuses on nursing homes, where full nursing and domestic care are provided to residents 24 hours a day, 365 days a year (Federal Ministry of Health, 2025a). The primary organisational goal of nursing homes is to enable people to lead a lifestyle that is no different from that of those living outside the institution and to ensure a high quality of life (Heinzelmann, 2004).

The majority of nursing home residents are 80 years and over (Statistical Office of Baden-Württemberg, 2023). Due to medical progress, the state of health of people between the

ages of 60 and 70 is stable, making it impossible to categorise this age group as old[1] (Heinzelmann, 2004). In 2023, only 3.6% of the 60 to 70-year-olds in Baden-Württemberg required care, whereas 44.8% of the people in need of care were aged 80 years and over (Statistical Office of Baden-Württemberg, 2023). Nowadays, there is an increasing division into *young old* [junge Alte] and *old old* [alte Alte]. While attributes such as a sharp decline in physical and mental performance are attributed to the *old old*, the *young old* are described with positive attributes, including financial independence, which in turn leads to a wide range of activities, such as travelling, voluntary work, further education, and sports.

In the social and scientific context, the term *very old* [Hochbetagte] is often used to describe the group of the *old old* (Heinzelmann, 2004). According to the German Federal Statistical Office, individuals aged 85 years and older are considered *very old*, comprising the majority of nursing home residents (Federal Statistical Office of Germany, 2023). In 2023, 45.9% of nursing home residents in Baden-Württemberg were between 80 and 89 years old, and 26.3% were 90 years and older (Statistical Office of Baden-Württemberg, 2023).

2.2. Political Regulations

In Germany, there are specific political regulations on PA promotion. Political factors include legal requirements at the level of the nursing home, the care organisation, the federal state and the country. Since 2014, life in a nursing home in Baden-Württemberg has been regulated by the *Law for Supportive Forms of Housing, Participation and Care* [Gesetz für unterstützende Wohnformen, Teilhabe und Pflege (WTPG)]. According to §10 WTPG, nursing homes are required to provide humane and stimulating care, ensuring an appropriate quality of living and domestic care (State Law of Baden-Württemberg, 2014). Through activating care, the independence of the residents is maintained and promoted as far as possible (Heinzelmann, 2004).

[1] With the introduction of the *general pension insurance* [allgemeine Rentenversicherung] in 1889, a person was considered *old* from the age of retirement (70 years) (Badekow et al., 2019; Heinzelmann, 2004). The concept of old age was therefore firmly linked to economic aspects, while social and medical factors played a subordinate role. Nowadays, however, this link is no longer appropriate, as the end of working life is variable.

German nursing homes receive a supplement for *additional care and activation*. This supplement is used to employ extra staff who is not employed as nursing staff and undertakes individual or group activities with all residents. The *additional care and activation* is regulated by the *Carers Directive* [Betreuungskräfte-Richtline (Betreuungskräfte-RL)] and the *11th Social Security Code* [11. Sozialgesetzbuch] (§43b SGB XI; §53b SGB XI) (Federal Ministry of Health, 2025b). This *additional care and activation* is designed to encourage residents to lead more active and fulfilling lives, promoting their overall well-being (GKV Spitzenverband, 2022). Due to their frailty, even a minimum amount of PA, such as activities of daily living, transfers or strolls, can be exhausting. This means that low-threshold and low-intensity PA opportunities are sufficient to improve residents' physical condition (Burke and Jones, 2023; Quehenberger et al., 2014).

2.3. Current Trends in Care

In 2023, there were a total of 2.059 nursing homes with full inpatient care in Baden-Württemberg (Statistical Office of Baden-Württemberg, 2023). It should always be kept in mind that only a minority of older people in Baden-Württemberg reside in a nursing home, yet the institution remains of great social relevance (Heinzelmann, 2004). In 2023, approximately 535.000 (85%) of the 624.831 people in need of care in Baden-Württemberg were cared for at home, and approximately 90.000 (15%) in nursing homes (Statistical Office of Baden-Württemberg, 2023). Current statistics confirm that the need for care is increasing due to the ageing population. The number of people requiring care in Baden-Württemberg is expected to rise to approximately 623.000 in 2035 (Ghiorghita and Laske, 2023).

Due to the rising life expectancy, the proportion of older people in the overall population increases (Federal Statistical Office of Germany, 2022a). Through medical advances, the need for care is often delayed, leading to later entry into nursing homes, shorter lengths of stay, and increased multimorbidity among residents (Nützel et al., 2014; Weinstein, 2018). A survey of 282 nursing homes revealed that residents live in a nursing home for around two years before they die. In almost half of the institutions surveyed, residents died in the first year after moving into the nursing home. This trend has been recognisable since 2019 (Caritas Germany, 2024).

According to forecasts for Baden-Württemberg, the nursing care rate is expected to rise from 4.9% in 2021 to 5.6% in 2035 (Ghiorghita and Laske, 2023). This development will further exacerbate the existing problem of a lack of skilled nursing staff, as it is estimated that there will be a shortage of over 300.000 fully qualified nursing staff in Germany by 2035 (Flake et al., 2018; Rothgang et al., 2012). Despite political efforts to address the emerging care gap, the shortage of skilled nursing staff remains a persistent issue.

3. Lines of Research

3.1. Influencing Factors on Daily Physical Activity Promotion in Nursing Homes

Promoting PA in nursing homes is crucial for enhancing the health and well-being of residents. Previous research focused on individual, infrastructural, and external factors (Baert et al., 2015; Benjamin et al., 2011; Forster et al., 2021; Galik et al., 2021; Guerin et al., 2008; Peryer et al., 2022; Resnick et al., 2008). However, in the majority of the studies, these factors were investigated separately and not in combination (Auerswald et al., 2020; Benjamin et al., 2016; Brett et al., 2019; Forster et al., 2021; Galik et al., 2021, 2013; Grönstedt et al., 2013; Henskens et al., 2018; Logan et al., 2022; Lok et al., 2017; Oswald et al., 2006).

3.1.1. Individual Factors

The state of research on PA-related individual factors is multifaceted and growing. It is well known that sufficient PA among older adults increases physical and mental health and that an insufficient amount of PA and a sedentary lifestyle promote muscle decrease, falls and depression (Auerswald et al., 2020; Barber et al., 2015; Bean et al., 2002; Gennuso et al., 2013; Lampinen et al., 2000). However, the widely differing physical and mental conditions of the residents pose a significant challenge (Weissbach et al., 2023). Studies have identified several physical and health-related factors influencing PA among nursing home residents, especially those with cognitive impairments (Brett et al., 2019; Galik et al., 2013; Henskens et al., 2018; Logan et al., 2022). Mental health and cognitive function play critical roles in PA participation. Depression, anxiety, and cognitive impairments, such as dementia, can significantly hinder willingness and ability to PA (Horne et al., 2021; Knippenberg et al., 2019; Marmeleira et al., 2017). Considering personal preferences and attitudes, research suggests that PA should be individually tailored to align with the varying interests and needs, thereby enhancing participation and effectiveness (Benjamin et al., 2011; Maurer et al., 2018). In this regard, time-limited interventions are often unsustainable as the original condition returns quickly (Frändin et al., 2016; Rodríguez-Larrad et al., 2021). Considering the limited time and personnel resources, it is more promising to integrate PA promotion directly into everyday life elements, rather than focusing solely on structured programmes. The personal preferences can also be

taken into account here (Collingridge Moore et al., 2019; Maurer et al., 2018; Nowossadeck, 2013). Moreover, research highlights the importance of creating a socially stimulating environment that encourages residents' PA. Nursing home residents place great importance on social contact and value sociocultural activities. However, the perceived environment, such as the feeling of safety, often hinders participation in PA-promoting and social actions (Abbott et al., 2018; Jeon et al., 2019). Research indicates that staff who is well-trained and positively inclined towards PA is more likely to encourage and facilitate residents' activation. In order to support this, staff training is required in both care aspects and PA promotion (Baert et al., 2015; Benjamin et al., 2011; Hoekstra and Gentili, 2020; Jeon et al., 2019; Peryer et al., 2022).

3.1.2. Infrastructural Conditions

Even though nursing home residents have the opportunity to leave the institution at any time to pursue hobbies or meet relatives and friends, this possibility is severely limited due to health and infrastructural conditions (Altmeier et al., 2021; Heinzelmann, 2004). Especially in rural areas, institutions for daily needs are often not within walking distance, and the topography of the surrounding area is not conducive to strolls (Jansen et al., 2017). Generally, it can be said that the more physically independent a resident is, the more flexible he or she can be in reacting to daily routines and integrating PA into daily life (Benjamin et al., 2011). According to previous research, the life space of nursing home residents is mainly limited to their private rooms and the neighbouring areas (e.g., dining rooms or lounges), where residents spend approximately 90% of their day. Transfers between these areas take place several times a day. The most significant motivators for transfer movements are breakfast, dinner and lunch (Jansen et al., 2017). These results suggest that nursing homes must offer sufficient opportunities for PA within the facility, as residents spend most of their time there. Many nursing homes already have a well-developed infrastructure in place to provide residents with the appropriate physical and mental support. Cafeterias, group rooms or green spaces are standard features of most nursing homes (Hämel, 2016). In newly built nursing homes, the corridors are often interconnected, allowing for strolls in a circle, which are particularly beneficial for residents with dementia who have a strong urge to move around (Jansen et al., 2017). They can walk around in a protected area without the constant accompaniment of staff. Single-storey nursing homes with an enclosed garden also support the walking range of all

residents. Kitchens are often integrated into the living area, allowing residents to participate in household activities. Rooms for activities on each floor and in each living area are also conducive to PA, as the time required to transfer residents is kept to a minimum (Hämel, 2016). Infrastructural conditions that support PA are a stimulus for social interaction, which is highly valued among nursing home residents. Attractive gardens or communal areas combine a transfer movement with subsequent social contact (Abbott et al., 2018; Johansson et al., 2022).

3.1.3. Community Engagement and External Support

Volunteers play a significant role in the everyday life of nursing homes, relieving staff of a substantial portion of the structured activities. Studies have proven that residents greatly appreciate the social interaction with volunteers and feel motivated to participate regularly (Lowndes et al., 2021; Weissbach et al., 2023). Volunteers' work has a positive impact on residents' quality of life, sense of security, mobility, and health status (Weissbach et al., 2023). In rural areas, volunteers are often more strongly represented, which can lead to additional incentives for activity (Hämel, 2016). The Covid-19 pandemic led to a sharp drop in volunteers' work, as access to nursing homes was severely restricted (Frahsa et al., 2020; Weissbach et al., 2023). This made rebuilding the volunteer structures after the pandemic all the more important. De Sandes-Guimarães et al. (2023) investigated the effects of reintegrating volunteer-led activities on residents' quality of life after the Covid-19 pandemic. The results revealed that the general health of both residents and nursing staff improved significantly after the reintegration of volunteer activities, which in turn had a positive impact on the quality of the nursing homes. In addition to volunteers, partners from the neighbourhood are an essential resource for promoting both PA and social interaction. Partners, such as local clubs, schools, or kindergartens, promote normalisation and *open* the nursing home to the outside world. They also improve the quality of care and life and organise social and cultural events. Such partnerships are often funded by public programmes and thus enhance the cost-effectiveness of the nursing home, which is essential for organisational growth (Hämel, 2016). Besides partners from the neighbourhood, external service promoters take over a high amount of PA programmes, especially group activities. If these providers drop out, for example, during crises, nursing staff is not prepared to cope, and the programmes are then of a lower quality (Frahsa et al., 2020).

3.2. Organisational Embedding of Physical Activity Promotion in Nursing Homes

Barriers to the successful embedding of PA promotion into the organisational structures are well investigated and include a lack of funding, a lack of well-trained staff, and prescribed daily routines that hinder PA due to the over-prioritisation of basic care (Baert et al., 2015; Benjamin et al., 2011; Frahsa et al., 2020; Peryer et al., 2022). An inadequate indoor building infrastructure, unsuitable premises, and a lack of material, including its storage options, make it even more difficult (Benjamin et al., 2011; Guerin et al., 2008; Parker et al., 2004; Sallis et al., 1997). Structurally older nursing homes often have limited manoeuvrability, including low numbers of elevators or steep ramps only, which impede access to the garden or other floors. Relatives have expressed a preference for music in the community areas, as an overly quiet atmosphere has also been perceived as a barrier to social engagement (Benjamin et al., 2011). Political barriers at various levels often arise when it comes to promoting PA in nursing homes. Restrictions during health-threatening events are equally severe as a lack of support at the management and care organisation level (Baert et al., 2015; Benjamin et al., 2011; Guerin et al., 2008; Peryer et al., 2022). Previous research has identified a supportive management culture as a crucial factor in promoting successful PA in nursing homes (Baert et al., 2015; Benjamin et al., 2011; Guerin et al., 2008; Peryer et al., 2022). Further, an appropriate amount of PA-promoting actions, well-developed PA-promoting structures and their flexible handling are crucial for the organisational embedding of PA promotion (Frahsa et al., 2020; Lowndes et al., 2021; Maurer et al., 2018).

3.2.1. The Availability of Structured Activities and Related Responsibilities

The availability of structured activities in the nursing home plays a central role in the extent of social participation and the promotion of PA. Generally, residents are not obligated to participate in any work or activity but are free to choose them (Hämel, 2016). A comparison of the gender distribution reveals a significantly higher proportion of women than men residing in nursing homes. This discrepancy is attributed to the fact that the average life expectancy of women is several years longer than that of men (Babitsch et al., 2014; Dorin et al., 2016). As a result, the structured activities of the weekly schedule are primarily focused on the female residents. Popular activities include bingo, handicrafts, and singing. A few nursing homes also try to organise activities specifically for

men, such as get-togethers or card games. Individual preferences are also supported in some cases, such as offering a hobby bike to a former bicycle mechanic or providing special activities on public holidays (Hämel, 2016). However, this is not standard, as a lack of staff hinders the ability to meet individual preferences permanently (Benjamin et al., 2011). Demographic change also has a significant impact on everyday life in homes (Heinzelmann, 2004). People who are dependent on care are increasingly multimorbid when they move in (Nützel et al., 2014; Weinstein, 2018), which has a direct influence on the structured activities as they need to be less demanding (Maurer et al., 2018). Structured activities should always aim to include a meaningful task so that residents feel needed and valued (Auerswald et al., 2020; Baert et al., 2015; Lok et al., 2017; Oswald et al., 2006; Sallis et al., 2006). Research has shown that staff, residents and relatives want more activities to combat boredom, especially at weekends. The day shift is often better staffed than the night shift, which is why activities take place during the day and not in the evening (Hämel, 2016).

Partners of the neighbourhood (e.g., sports clubs or music clubs) and volunteers are a precious personnel resource when it comes to structured activities. The formation of partnerships and the type of structural embedding are contingent on the willingness of the nursing home management. There are three categories of embedding these cooperations into the nursing home structures (Hämel, 2016):

(1) Separating additional activities and everyday care work,
(2) including partners and volunteers in the structures of the nursing home, and
(3) including the nursing home in the structures of the neighbourhood.

(1) The weakest form of involvement is when volunteers or partners organise activities that have nothing to do with day-to-day care and are clearly separated from the tasks of nursing staff (e.g., weekly arts and crafts sessions). These activities usually take place in a separate room, and the organisation is entirely up to the volunteers or partners. There is no cooperation or communication between them and the nursing staff (Hämel, 2016).

(2) In the moderate form of involvement, especially in Germany, volunteers or partners are often trained to offer specific programmes. For example, programmes for residents with dementia or special activities in the palliative phase. In this case, it is not the everyday life outside the institution that is reflected, but the normality of the nursing home's

everyday life. This form is characterised by embedding the additional tasks into the structures of the nursing home. Volunteers are often integrated into the daily care routine, for example, by serving meals to residents. In the majority of nursing homes, voluntary work is not only used to humanise care but also to humanise costs. As a consequence, this form of integration can lead to a merging of the status of nursing staff and volunteers (Hämel, 2016).

(3) In the third and strongest form of inclusion, the nursing home is integrated into the structures of the neighbourhood, which can be seen in the organisational and representative structures of the nursing home. Just like the residents, the volunteers and partners in the neighbourhood are not a homogeneous group, but rather individuals with diverse interests. This can be used to promote person-centred care and services in accordance with the WTPG. With this type of involvement, the nursing home gives up a certain amount of control over the neighbourhood, which leads to participatory development. Volunteers and partners are involved in the home's processes and their change processes, including basic principles, mission statements, care concepts, and volunteer work concepts. This is a type of direct cooperation with the neighbourhood and can lead to promising planning and development of various actions in different areas. Volunteers, partners, and responsible nursing and management staff are working closely together to develop new methods and tasks. Embedding resources from potential partners in the neighbourhood into the existing structures of the nursing home is a promising approach to promote residents' physical and mental abilities. This also relieves the burden on nursing staff, who often has no capacity for additional PA-promoting actions in addition to basic care. However, further research is urgently needed in this area, particularly with regard to other key stakeholders, such as policymakers (Hämel, 2016).

3.2.2. Flexibility in Decision-Making Programmes and a Supportive Management

Nursing homes have clear structures to which care is oriented, and prescribed daily routines leave little space for PA promotion (Benjamin et al., 2011; Frahsa et al., 2020; Heinzelmann, 2004). Basic care is time-consuming, and the timeslots for mealtimes must be met. Consequently, integrating PA between mealtimes and basic care is hard to realise and often not prioritised. As the nursing staff is fully occupied with care duties, external service providers and volunteers frequently provide group activities. These

responsibilities are not typically integrated into organisational decision-making processes, rendering them unsustainable and vulnerable to crises. When nursing staff is required to assume responsibility for these group activities, a lack of the necessary competencies is typically (Frahsa et al., 2020).

It has been proven that the residents' needs are primarily focused on social interaction during daily routines. The main orientation points for daily routines are breakfast, lunch, and dinner. The dining room serves as the central meeting place for residents and provides a setting for rituals that foster PA or social interaction. Due to staff shortages, everyday helpers often carry out care tasks during meal times, which are documented as social interactions, although this is only partially true. Overall, due to legal requirements, it is difficult to break out of the nursing home's existing structures and routines and change people's mindsets (Johansson et al., 2022; Lowndes et al., 2021). In recent years, several projects have attempted to change structures and individual behaviour. Nursing staff has limited time for social interaction, such as short conversations or small activities. Staff is often unable to fulfil regenerative tasks, which are also part of the job description, as basic care takes up too much time. In this regard, previous research has shown that an excessive focus on fundamental care can have adverse consequences on the residents' social life and quality of life, as they are frequently removed from their surroundings to receive care (Lowndes et al., 2021).

Despite the rigid structures and daily routines, some nursing homes deliberately loosen these structures to increase the quality of life and work. Flexible decision-making processes create an environment where staff can respond dynamically to changing circumstances and the residents' interests. This leads to higher staffing levels and lower staff turnover (Cohen-Mansfield and Bester, 2006; Maurer et al., 2018). The dynamic is driven by a resident-centred care philosophy (Bowes et al., 2021; Hämel, 2016). As indicated by previous research, a biopsychological and needs-oriented focus is decisive in the promotion of PA in nursing homes and requires a supportive home management culture (Bischoff et al., 2021; Bundesvereinigung Prävention und Gesundheitsförderung, 2022; Cordes et al., 2021; Gassert and Weiß, 2021; Krupp et al., 2021; Otto and Wollesen, 2022).

Nursing home management's information culture and communication culture are crucial in promoting PA among residents (Sallis et al., 2006; Sauter et al., 2019). A direct

information culture fosters a shared commitment and well-informed, motivated staff members (Hoekstra and Gentili, 2020; Jeon et al., 2019; Sallis et al., 2006). To enhance staff competencies, numerous training opportunities are available. The most common one is training in care and hygiene, but there are also many opportunities for PA promotion. Home management should communicate and facilitate these training courses to the staff (Baert et al., 2015; Peryer et al., 2022). According to previous research, residents prefer a well-known staff member to an unfamiliar external service provider for structured activities (Benjamin et al., 2011). Nevertheless, even though staff training improves structured activities, integrating sufficient PA opportunities into everyday life should not be neglected (Björk et al., 2017; Jenull-Schiefer and Janig, 2004). Previous research confirmed that a lack of support from home management creates a significant barrier to PA promotion. A clear, supportive directive from the home management fosters an activity culture that values and promotes PA. To contribute to the overall physical and mental well-being of residents, home management must participate in PA initiatives actively (Baert et al., 2015; Benjamin et al., 2011; Guerin et al., 2008; Peryer et al., 2022).

3.3. Research Gaps and Research Considerations

As discussed in the previous chapters, nursing homes aim to provide a lifestyle similar to that outside the institution. As social institutions, nursing homes have evolved through numerous reforms influenced by societal changes (Heinzelmann, 2004). Although the majority of older adults are cared for in their own homes, demand for nursing home care is increasing. This highlights issues such as staff shortages, high workloads and the need for improved care programmes to meet the needs of an ageing population (Benjamin et al., 2011; Federal Statistical Office of Germany, 2022b, 2022c; Heinzelmann, 2004; Nützel et al., 2014; Rothgang et al., 2020; Weinstein, 2018).

The nursing home setting is characterised by staff shortage and limited time resources (Collingridge Moore et al., 2019; Nowossadeck, 2013). Thus, the organisational structures are essential to ensure quality of care and life (§1, WTPG). In addition to sufficient social contact, a high quality of life is also characterised by an adequate amount of PA (Lowndes et al., 2021). The positive effects of PA in old age on physical and mental health have already been sufficiently researched (Fave et al., 2018; Fox et al., 2007; Maynou et al., 2021; Paluska and Schwenk, 2000).

Promoting PA in nursing homes is essential for residents' health and well-being, involving individual, infrastructural, organisational, political, and external factors (Brett et al., 2019; Galik et al., 2013; Henskens et al., 2018; Logan et al., 2022; Sallis et al., 2006). Promoting PA on an organisational level involves the availability of structured activities, flexible decision-making processes, and a supporting management culture (Hämel, 2016; Maurer et al., 2018; Sallis et al., 2006; Sauter et al., 2019). To ensure comprehensive care, it is essential to adopt a holistic approach to the nursing home structures. There is a significant research gap in this area, as only a limited number of studies have adopted a holistic approach to this topic and setting. Furthermore, a substantial number of studies have examined specific subgroups of people from the nursing home setting. However, to date, these studies have never examined all the relevant groups of people simultaneously (Hurley et al., 2019; Jeon et al., 2019; Koskela et al., 2015). Additionally, studies focusing on time-limited interventions predominate, leaving a clear research gap in studies that span more extended periods and are not limited to a specific intervention (Brett et al., 2019; Henskens et al., 2018; Lok et al., 2017).

In the past, numerous reforms and modifications have been implemented, leading to the current configuration of the nursing home. To the best of the author's knowledge, the restructuring processes have not yet been sufficiently taken into account in the context of a holistic approach to promote PA in nursing homes. Only one study by Jeon et al. (2019) generated knowledge about individual, infrastructural, organisational, political, and external factors within a single study. The study has yielded valuable recommendations concerning the stimulation desired by residents in their daily lives, as well as the barriers present at various levels. Many residents associate PA with high intensity and impact, consider it inappropriate for people in old age and do not recognise the connection to functional independence. Furthermore, residents do not express a desire to participate in structured activities. Informal activities that facilitate social interaction and provide a meaningful context are preferred to structured activities. However, social activities can act as a motivator for PA and are considered age-appropriate. A particular focus must be placed on the lack of knowledge and alternatives, as well as bored and uninterested residents, home-specific restrictions, and former life activities. The study by Jeon et al. (2019) highlights a research gap that often exists in the field of PA promotion in nursing homes:

The findings are based on residents' experiences and perspectives; however, the perspectives of staff and relevant stakeholders are not sufficiently included.

To bring about a structural change in the long term, it is essential to identify the characteristics of the setting, explore the current structures, analyse barriers and opportunities for integrating PA promotion into everyday life, and investigate influencing factors. The decisive factor for success is the commitment of all stakeholders involved, especially the home management. This is increased through a participatory research approach. By involving stakeholders on-site, home-specific conditions and preferences are taken into account, and the solutions developed are more likely to fit into daily routines. A participatory approach fosters a sense of ownership and empowerment, ensuring continuous feedback and adaptation, and allowing individuals to respond promptly to changes in the environment. Furthermore, a well-developed participatory approach facilitates the transfer of scientific results into practice, thereby creating a societal impact that is independent of the specific research project. Nevertheless, applying a participatory research approach in the nursing home setting to develop structures that promote PA is not widespread, and there is still a clear research gap in the availability of a well-developed guide for use in nursing homes. If any guides exist, researchers are often unaware of them or do not know how to utilise them in a meaningful way (van Dijk-de Vries et al., 2020). There is a need for a practical guide designed to improve structures, routines, and decision-making processes that promote PA and engage stakeholders in all phases of change. Such a tool needs to be applicable for both researchers and practitioners to bridge the gap between research and practice.

4. An Organisational Sociological View on Physical Activity Promoting Structures

Nursing homes are social institutions that aim to care for individuals who can no longer live independently in their own homes (Coleman and Ganong, 2014). Person-centred care is central to maintaining physical and mental abilities, and a sufficient level of PA is essential to achieve this. A significant amount of research already demonstrates the wide-ranging benefits of PA in old age and provides guidelines for PA and PA promotion for nursing home residents (Auerswald et al., 2020; de Souto Barreto et al., 2016; Hamer et al., 2013; King and King, 2010; McPhee et al., 2016; Rütten and Pfeifer, 2016; Tudor-Locke et al., 2011; Watanabe et al., 2020; WHO, 2020). As previously mentioned, the nursing home setting has special characteristics, and individual, infrastructural, organisational, political, and external factors influence residents' PA behaviour. Due to time and staffing constraints, it is highly relevant to embed PA promotion into institutional structures and daily routines to ensure a sufficient level of activity, regardless of potential barriers caused by various influencing factors. In an institution such as a nursing home, it is a challenge to change existing structures and routines in order to integrate PA promotion.

In this dissertation, a two-part theoretical approach adequately addresses the complexity of the topic and provides a sufficient theoretical foundation for explaining the results of the planned change process. The structures of nursing homes have undergone special characteristics that have evolved over the decades. These structures are crucial for promoting a PA-friendly everyday life. Chapter 4.1 discusses in detail the structural characteristics of nursing homes as an institution, the changes they have undergone over the years and the challenges these structures pose if the level of PA promotion is to be increased within the organisation. Changing old and embedding new PA-related structures in the nursing home setting requires a fundamental process theory model to analyse all phases of change adequately. Chapter 4.2 outlines a three-step model of organisational change as a theoretical model and embeds it in the research framework. For a sustainable and prosperous change process, the existing PA-related structures need to be analysed; change must be initiated based on the generated data; and the new status must be consolidated. As a result, PA promotion does not depend on individuals but is sustainably embedded into the organisational structures.

4.1. The Institutional Structures of a Nursing Home

Nursing homes used to give the impression of a social island, isolated from the outside world. Nowadays, the social context is given greater consideration. Social change, which has been accompanied by the introduction of the *pension and care insurance* [Renten- und Pflegeversicherung], as well as technical innovations and demographic shifts, have led to a restructuring of nursing homes. This reorganisation also led to a change in the residents' way of life. Over time, more and more aspects became recognisable that justified the shift of the nursing home from a total institution to a pseudo-total institution (Heinzelmann, 2004). While it is almost impossible to break up existing structures and introduce new approaches in total institutions, pseudo-total institutions are more likely to allow for change. About holistic promotion of PA in the context of nursing homes as pseudo-total institutions, there are key aspects that need to be addressed to bring about change. These key aspects are depicted in the following subchapters.

4.1.1. The Origins of the Nursing Home as a Total Institution

The origin of the concept of the total institution is found in Erving Goffman, who published a study in 1968 entitled *Asylums: Essays on the Social Situation of Mental Patients and Other Inmates* (Goffman, 1968). Based on his findings, he developed a new framework to fully grasp complex social structures. In a study by Davies (1989), the concept of a total institution is defined as follows, according to Goffman (1968):

> *"A total institution may be defined as a place of residence and work where a large number of like-situated individuals cut off from the wider society for an appreciable period of time together lead an enclosed formally administered round of life"* (Goffman, 1968, p. 11).

According to Goffman (1968), total institutions can be summarised into five groups. Nursing homes were also assigned to the first group when the concept was created.

(1) Institutions set up for the care of people who are considered dependent and harmless (e.g., homes for the blind and nursing homes),
(2) institutions established for the care of people who are incapable of caring for themselves and pose a threat to the community (e.g., asylums),

(3) institutions established to protect the community from danger, where the welfare of the persons segregated therein is not the direct purpose of the institution (e.g., prisons, penitentiaries),
(4) institutions that were set up to increase efficiency and are justified by this instrumental reason (e.g., barracks, boarding schools), and
(5) institutions that were established as places of refuge and are also religious training centres (e.g., monasteries) (Davies, 1989; Heinzelmann, 2004).

All five groups of total institutions combine three essential aspects that distinguish them from other institutions: The temporal aspect, the local aspect and the power structural aspect.

4.1.1.1. The Temporal Aspect

While all institutions require a certain amount of time from their members, the investment of time in total institutions is significantly higher than in other social institutions (Goffman, 1968; Heinzelmann, 2004). Schedules in total institutions are clearly structured. For example, meals are served to all members at the same time every day of the week, and prescribed activities are to be carried out in fixed periods of time. To achieve the institution's respective goals, schedules are organised effectively and aligned with these objectives. In addition, the whereabouts of the members are clearly defined and always known (Davies, 1989; Frahsa et al., 2020).

4.1.1.2. The Local Aspect

In Western society, there is a separation between the places of sleep, play and work. This characteristic is cancelled in all total institutions, as the three components take place within the institution. The merging of the everyday components in one place emphasises the relevance of structured everyday life to ensure that everything runs smoothly in accordance with the institution's objectives (Davies, 1989; Goffman, 1968; Heinzelmann, 2004). The unification of all elements of life in one place also means that the institution is sealed off from the outside world. This isolation is explicitly intended in some total institutions (*closed total institutions*, e.g., prisons). In *open total institutions*, leaving the institution is possible, but controlled. So, some patients in psychiatric institutions are allowed to leave the institution for a few hours if they report to the porter. Leaving an institution permanently, for example, moving out of a nursing home, is also permitted. The

distinction between *closed* and *open total institutions* is often linked to the type of entry. If members enter the institution voluntarily, it is more often an *open total institution* (e.g., a nursing home). In the case of a *closed total institution*, members generally do not enter voluntarily (e.g., prisons). The literature also refers to mixed forms. These are institutions that cannot be clearly categorised as *closed* or *open total institutions*. These include monasteries, where monks are theoretically allowed to leave the monastery but have sworn a lifelong oath that actually binds them to life within the monastery (Davies, 1989).

4.1.1.3. The Power Structural Aspect

Total institutions are characterised by hierarchical structures (Davies, 1989; Heinzelmann, 2004). In nursing homes, the nursing staff establishes rules for members and ensures compliance with them (Heinzelmann, 2004). Activities during the day are organised according to the institution's rules and usually take place with many members present. As a result, interpersonal relationships are often enforced. A total institution justifies itself to society through its respective objectives, to which the rules are also oriented. These rules are characterised by the exercise of power in all areas, which leads to an asymmetrical and formal relationship between nursing staff and members (Davies, 1989; Heinzelmann, 2004). All members of the institution are treated equally, which in extreme cases can lead to a loss of identity (Davies, 1989). The consequences of such living conditions are a weakening of self-esteem and a suppression of the individual, which, however, is the declared objective in some institutions (e.g., concentration camps) and a desired side effect in others (Davies, 1989; Goffman, 1968; Heinzelmann, 2004).

4.1.2. The Structural Change Towards a Pseudo-Total Institution

According to Goffman's concept of the *total institution* (Goffman, 1968), nursing homes belonged to the category of total institutions. It was argued that the hierarchical structures and rules in nursing homes had just as much of an impact on the residents' personalities as in psychiatric wards or prisons. However, this contradicted the official organisational objectives. More than 50 years after the term of the total institution was introduced, the framework has been critically analysed several times and modified by modern findings. Although it is a fact that nursing home residents live relatively separately from their environment and under the care of nursing staff, it is no longer possible to draw direct comparisons with institutions such as prisons or psychiatric wards, particularly concerning central concepts of control over time and the use of power by nursing staff. The reforms

that took place from the early 1970s onwards were fundamental to the reorganisation of the nursing homes' institutional structures. A social change occurred in which ageing was no longer viewed as an illness, but rather strategies and ways for proper ageing were incorporated into homes (Heinzelmann, 2004). One impetus for these reforms was provided by Jochen Anthes' 1975 essay, which demonstrated that nursing homes exhibited strong totalitarian characteristics (Anthes, 1975). Based on an analysis of 500 nursing homes, it became apparent that the residents' freedom of behaviour was restricted, as they had to follow the instructions of the nursing staff. The daily routine was strictly defined (e.g., meal and rest times), and specific activities were prohibited (Anthes, 1975; Heinzelmann, 2004).

As a result of the reforms, such restrictive regulations are no longer found in today's nursing homes, making it increasingly difficult to categorise nursing homes as total institutions (Heinzelmann, 2004). Nursing homes in today's society only partially correspond to the aspects of a total institution defined by Goffman. This is why the term pseudo-total institution was introduced. The concept of the pseudo-total institution, introduced by Heinzelmann (2004), paved the way for the modern categorisation of nursing homes. Examining the three central aspects of a total institution—namely, the temporal aspect, the local aspect, and the power-structural aspect—allows for a clear delineation of the differences between modern nursing homes and classic total institutions.

4.1.2.1. The Temporal Aspect

Classic characteristics of total institutions include the fixed length of stay for members and the uncertain future prospects that await them after leaving the institution. However, the length of stay in a nursing home is indefinite; usually ending with the resident's death. This has a different effect on the resident's self-concept and everyday life than for a member of a total institution (Heinzelmann, 2004). A nursing home's daily routine is clearly structured, which supports the strong sense of routine among the residents. A daily routine is crucial for providing adequate care to the large number of residents and is primarily centred around basic care, meals, and activities, while still leaving residents enough time to organise their own leisure activities (Heinzelmann, 2004; Jeon et al., 2019). According to a time budget survey by the Federal Statistical Office of Germany, the time spent on everyday activities hardly differs between nursing home residents and older people who care for themselves. In particular, activities such as reading, watching television and

strolling are carried out to an almost identical extent. Household activities, such as cooking or cleaning, are not typically performed by nursing home residents. However, many residents still engage in similar functional and meaningful activities, such as folding towels or setting the table (Kuratorium Deutsche Altershilfe, 1996; Heinzelmann, 2004). For people of all ages, but especially older individuals, sufficient time for retreat and contemplation is crucial. Nursing homes provide residents with enough freedom to organise their own personal retreat, although there is a basic structure to the daily routine in order to ensure economically efficient work. These aspects support the classification of nursing homes as a pseudo-total institution, as the aim is to mirror the world of people of the same age, rather than, as in total institutions, to change behaviour or live out an extreme lifestyle (Heinzelmann, 2004).

4.1.2.2. The Local Aspect

In nursing homes, life is centred in one place. Consequently, residents' social lives are often restricted, as they rarely leave the nursing home independently and therefore mainly socialise with other residents and staff. Nevertheless, the boundaries to the outside world are open and remaining in the institution is nowhere as radical as in total institutions. Nursing homes are often located in the town centre, and mentally and physically fit residents are allowed to leave the institution at any time. Maintaining social contact with the outside world is both possible and desirable (Heinzelmann 2004). But, as already mentioned, residents spend most of their day within the institution. Generally, the importance of living space increases with age and the development of physical and mental impairments. This applies to nursing home residents, as well as to older individuals who care for themselves (Heinzelmann, 2004). In a study by Jansen (2017), the life space of nursing home residents was analysed for the first time in spatial and temporal resolution using a sensor network. The results revealed the time spent by residents in different zones (private room, living area, outside the living area and outside the building). The 65 residents studied spent 36.6% of the day in their own room (zone 1) and 53.8% of the day in the neighbouring living areas (zone 2). The latter is mainly due to the fixed meal times. Breakfast, lunch, coffee break, and dinner are fixed routines that residents attend. However, sociodemographic factors, mobility, cognitive status and psychosocial factors are also decisive for the limited range of movement in everyday life (Jansen, 2017).

4.1.2.3. The Power Structural Aspect

Nursing homes aim to support residents in leading an individualised lifestyle. Living in the institution is voluntary, which distinguishes nursing homes from total institutions such as prisons. This results in a completely different status and relationship with the nursing staff. However, the exercise of informal power, such as discrimination or being made to wait, can also occur in nursing homes. But nursing staff is often hardly aware of this in the everyday routine. The residents are dependent on the support of the nursing staff, which creates a specific power imbalance. However, this is not as pronounced as in total institutions (Heinzelmann, 2004). Residents do not want to be a burden, and therefore, it is more likely for them to endure a difficult situation than to ask for help (Jeon et al., 2019). It is worth mentioning that the presence of nursing staff should not be equated with a control situation, as some residents require support. Therefore, the presence of nursing staff is inevitable. Additionally, residents can leave the nursing home at any time to escape the nursing staff's control (Heinzelmann, 2004). In his book *Asylums*, Goffman (1961) described how total institutions are controlled by nursing staff, with members under constant observation. Due to the steep power imbalance between members and nursing staff, members fear punishment, loss of care work, or privileges. This is why the members want to fulfil the expectations of the nursing staff at all costs. Due to the personal and medical needs of nursing home residents, similar fears can still be observed in today's nursing homes, although nursing staff is employed to provide support for living and not to exercise control or power. Nevertheless, other studies link the necessary care work in nursing homes with negative experiences among residents. According to Marson and Powell (2014), many staff members use baby talk when communicating with residents and, due to the stereotype of the frail older adult, offer underchallenging activities. The study's results showed that the use of baby talk reduces residents' attentiveness and impairs their cognitive abilities in this situation.

4.1.3. Conclusion for the Theoretical Framework

In Goffman's time, nursing homes were legitimately described as total institutions. However, the care reforms of today's society no longer allow this categorisation. The term *pseudo-total institution* is particularly appropriate for nursing homes, as they are not formally conceived as total institutions. Residents can leave the institution at any time. However, this is rarely utilised due to health, institutional-, and infrastructural barriers

(Breitenstein, 1990; Heinzelmann, 2004). The previous descriptions confirm that the lives of residents in nursing homes are not significantly different from those of other older individuals. The main organisational goal has, therefore, been achieved. The greater the similarity between everyday life in the nursing home and the previous everyday life of the residents, the higher the quality of life. However, it is not possible to achieve complete conformity with life before moving into the nursing home, as moving in is due to health-related factors that have made independent everyday life impossible. The primary difference between nursing home residents and other older adults is the flexibility of their daily structure. Due to fixed times for meals and activities, there is at least an informal pressure in nursing homes to adapt to this daily structure. This restricts the individual behaviour of each resident to a certain extent. The provision and performance of functional, meaningful activities, to which residents attach great importance, are also not possible in nursing homes to the same extent as they were before moving in (Heinzelmann, 2004). Overall, even if there are limits to the extent to which a nursing home can replicate a home-like environment, nursing homes in today's society are a nearly identical reflection of the outside world and are rightly described as *pseudo-total institutions* (Heinzelmann, 2004; Jeon et al., 2019).

Nevertheless, it is challenging to integrate PA promotion into the structures of a pseudo-total institution. But it is all the more important, as residents mainly stay in their own rooms and the neighbouring living areas (Jansen et al., 2017). In extreme situations, such as the Covid-19 pandemic, the isolation of residents has increased drastically. Residents were no longer allowed to leave the institution, and neither visitors nor service providers were permitted to enter (Frahsa et al., 2020). A 12-month longitudinal study by Jadczak et al. (2023) revealed that the residents' radius of movement changed significantly during the Covid-19 pandemic. 68% of residents (n = 296) reduced their range of movement, 5.3% (n = 23) were able to maintain it, and 26.7% (n = 116) increased it during the pandemic. The results clearly indicate that the gap between active and inactive residents widens significantly, particularly in extreme situations. While PA decreases for some residents due to access restrictions and contact bans, other residents utilise the free time they have gained and increase their range of movement.

Theoretical considerations, such as the nursing home being a pseudo-total institution, provide insight into areas and structures where the integration of PA promotion is necessary

and possible. Sufficient PA promotion must be generated on-site, as residents rarely leave the nursing home. Additionally, PA promotion must be consciously integrated into the daily routine to avoid interfering with basic care. Due to time, financial and staffing shortages, PA promotion must be as low-threshold as possible. Moreover, the support of the neighbourhood, the external service providers and especially the home management must be ensured. To adopt a holistic approach to promoting PA, it is necessary to take into account the existing structures and resources available, as well as to analyse and consider the procedural nature of the initiative. It is essential not to focus on the institution's weaknesses, as this can hinder the chances of improvement. The more knowledge there is about the structures and personal interactions, the greater the improvement in residents' quality of life (Marson and Powell, 2014).

4.2. An Analysis of Organisational Change According to Kurt Lewin

A holistic approach to PA promotion must consider the processual aspects of change. In this context, several models address organisational change. Overall, the concept of organisational change is characterised by changes in strategies, structures, cooperation and personnel whose need for change has been identified through organisational analyses (Medley and Akan, 2008). No theory underlines the field of organisational change management as a whole, but a variety of different perspectives can be found in the literature (Palmer et al., 2017). The theoretical origins of planned organisational change are located in the field of organisational development, which was significantly influenced by Kurt Lewin (1890-1947). Kurt Lewin is best known for his research in the field of social psychology (Burnes, 2019). His work on organisational dynamics served as a conceptual foundation for understanding planned change processes and marked a significant milestone for other change theories (Cummings et al., 2016; Gallos, 2006; Medley and Akan, 2008). Lewin's work has been applied by several researchers, such as Kippenberger (1998), followed by its use in the field of organisational development by Burnes (2004) and MacIntosh and MacLean (2001). Lewin's theories built the foundation for the organisational development movement, which is applied in both business and social institutional sectors (Medley and Akan, 2008).

Figure 1: Description of the original model of Kurt Lewin (Lewin, 1963)

One of the best-known approaches in the field of organisational change is Lewin's three-step *Model of Change* (Figure 1), which is often cited as his key contribution to organisational change (Burnes, 2004a). Nevertheless, the model was criticised regularly, as it is not an original depiction of Lewin, but was only published after his death. According to critics, the processual depiction of the three steps (unfreezing, moving, and freezing) was not conceived by Lewin in this form and is therefore an untested idea with no scientific connection to his previous research. The allegedly simple, linear, and prescriptive structures of the model, as well as the lack of cognitive dimensions, were also criticised (Burnes, 2019). However, Lewin never intended his deliberations on organisational change to be independent of his previous research (Burnes, 2004a). The study by Burnes (2019) clearly presents this, based on the two *Human Relations* articles (Lewin, 1947a, 1947b). Both articles linked the *Model of Change* with research on field theory, group dynamics, and action research.

4.2.1. Locating the *Model of Change* in Kurt Lewin's Research

The three-step *Model of Change* is a sophisticated, integrated approach for analysing, understanding, and initiating change at group, organisational, and societal levels. Upon closer examination, the core elements of the model (unfreezing, moving, and freezing) are a classic description of Lewin's field theory for achieving sustainable social change in three steps (Burnes, 2019). This becomes particularly clear when comparing the definition of the field theory with the definitions of the three-step *Model of Change*.

The field theory is defined as

> *"(1) identifying and destabilizing the current quasi-stationary equilibrium (i.e., the constellation of forces in the life space that supports the present behavior); (2) locomotion through the life space (i.e., changing behavior); (3) creating a new quasi-*

stationary equilibrium that enables the new behavior to be safe from regression" (Burnes, 2019, p. 44).

In comparison, Lewin's description of a successful approach to behaviour change, later known as the three-step *Model of Change*, is as follows:

> *"A successful change includes therefore three aspects: unfreezing (if necessary) the present level L1, moving to the new level L2, and freezing group life on the new level. Since any level is determined by a force field, permanency implies that the new force field is made relatively secure against change."* (Lewin, 1947a, p. 35).

Therefore, the central difference lies in the terminology used for the steps, whereby the field theory is characterised by scientific terms and the *Model of Change* by simple and generally understandable terms (Figure 2).

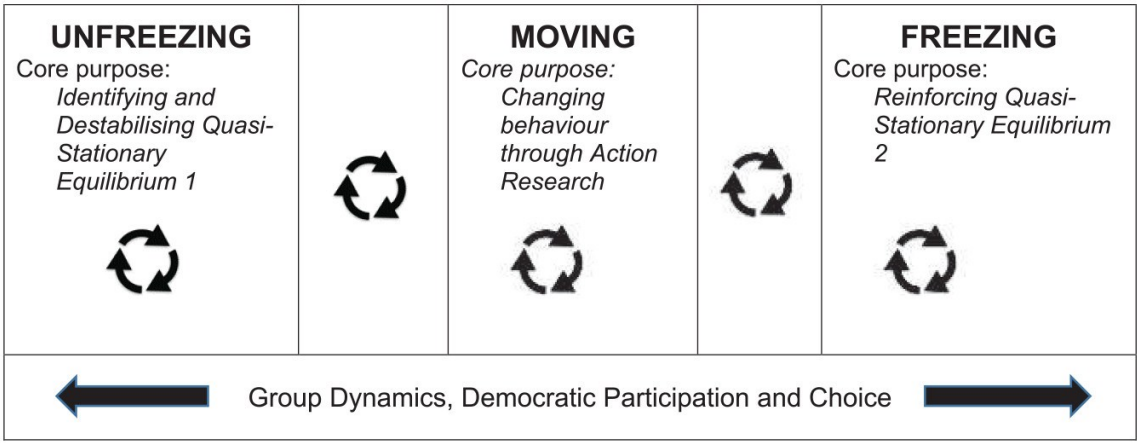

Figure 2: A field theory-based view of Lewin's three-step Model of Change (Burnes, 2019)

The model is in continuity with Lewin's research at every stage and does not mark a discontinuity with it (Burnes, 2019). According to Lewin, "the effect of group decision [to change] can probably best be understood by relating it to a theory of quasi-stationary social equilibria, to social habits and resistance to change, and to the various problems of unfreezing, changing and freezing social levels" (Lewin, 1947d, p. 344). The turning point for the change in terminology was Lewin's desire to induce a real-world change. He wanted to extend his theoretical research to practical applications and had to choose a generally understandable language. Introducing the new terminology did not intend to indicate any alteration to the theories and practices that Lewin had been developing since the 1920s.

In summary, *unfreezing* refers to the process of destabilising an existing quasi-stationary equilibrium. *Changing/Moving* represents the phase of transition, and *freezing* describes the establishment of a new quasi-stationary equilibrium that is stable and resistant to regression (Burnes, 2019).

In the following remarks of this dissertation, the second step is labelled as *changing* instead of *moving*. This term has already been integrated into this model in the context of action research (Burnes, 2019; Lewin, 1936) and is a more appropriate term for analysing the processual changes in structures and attitudes that promote PA in nursing homes.

Lewin supported the assumption that every social conflict can be resolved by understanding and restructuring the domain of life (Burnes, 2004a). In this context, the development of field theory is regarded as a meta-theory on which Lewin's later research successively builds. The beginnings of field theory lay in the exploration of forces that promote or inhibit child development (Burnes, 2019; Lewin, 1936). However, after developing the field theory, Lewin wanted to distance himself from purely theoretical considerations and use the theory to bring about change in the real world. Instead of merely examining the process of change, Lewin developed methods that deliberately provoke this change. By extending the approach to social and organisational change, his work on action research and group dynamics emerged (Burnes, 2019). Lewin's work on field theory, group dynamics, and action research is often viewed as separate topics. However, Lewin viewed these theoretical concepts as a unified concept, in which each element supports and reinforces the others. The holistic view of the elements is fundamental to understanding and bringing about planned change, not only at an individual level, but also within groups, organisations and society.

To summarise, field theory and group dynamics emerged from the motivation to understand how social groups are formed, motivated and maintained. Intending to change and to embed the behaviour of such social groups, Lewin developed action research and the *Model of Change* as primary methods (Burnes, 2004a). This methodology enables a change process to be precisely planned and the permanence of the new state to be taken into account in the objectives from the outset.

4.2.2. Kurt Lewin's Three Steps of Organisational Change

In the first step (unfreezing), the inhibiting and promoting forces of the habitat are analysed to explore the current state. In the second step (changing), the active forces and thus the habitat are changed. In the final step (freezing), the forces are analysed again to define and solidify the new state. The three steps are characterised by joint decision-making and the consideration of group dynamics (Burnes, 2019, 2004a). The concept of group dynamics describes a social group's influence on the individual and, consequently, on its behaviour (Burnes, 2019; Lewin, 1992). The origin of *dynamics* lies in the Greek culture, meaning *force*. The group dynamics approach investigates the forces operating in groups, their modifications, and consequences (Cartwright, 1951). Understanding group dynamics is essential for creating social change within a group or organisation. Routines and behaviours are not only a result of the forces operating in the domain of life, but also have a substantial impact on the values and norms of the group (Burnes, 2004a; Lewin, 1947c). In addition to understanding the dynamics within a group, the joint decision-making processes of all members are crucial for successful change in three steps. Every member needs to be engaged in and committed to changing his or her behaviour (Burnes, 2004a). In the first step, the group experiences a *felt need*—the desire to change something in their current environment. In the second step, the process of change is managed together by gradually approaching the desired state. In the third step, the achieved state is consolidated through democratic decision-making (Burnes, 2019).

4.2.2.1. Unfreezing

The first step of the *Model of Change* is firmly linked to the origins of field theory, enabling the understanding and change of social group behaviour. Field theory describes the interdependent forces acting within the habitat of a person or group (Burnes, 2019, 2004a; Lewin, 1946a, 1943a, 1942a). These forces influence not only the group structures, but also the individual behaviour of the group members (Burnes, 2019, 2004a; Lewin, 1947b). To bring about change, the habitat and the forces at work within it must be understood first and considered as a whole (Bürkland, 2021; Burnes, 2019, 2004a; Jones, 2007). Prior to the change process, people's behaviour is relatively stable and *frozen* because the existing forces are in balance and have been consolidated over the years (Burnes, 2019; Lewin, 1943b, 1943c). In order to bring about change, the forces must be unbalanced (step 1: unfreezing) (Burnes, 2019). By unfreezing the existing situation,

"certain events are now 'possible' (or 'impossible') which were previously 'impossible' (or 'possible')" (Lewin, 1936, p. 14). This state can also be described as a fluid state and is highly challenging. The higher the fluidity, the easier it is to bring about change by overcoming inhibiting forces and strengthening supporting forces (Burnes, 2019; Lewin, 1947b, 1936). As soon as the conditions for change are in place, members of the organisation can begin to shed their current behaviours and adopt new ones (Burnes, 2019, 2004a; Lewin, 1947a; Medley and Akan, 2008).

4.2.2.2. Changing

The term *changing* was introduced in the context of action research to describe the transition between the initial and final states (Burnes, 2019, 2004a; Lewin, 1947d, 1936). A "successful action is based on analysing the situation correctly, identifying all the possible alternative solutions and choosing the one most appropriate to the situation at hand" (Burnes, 2004a, p. 983). The process of change is not linear but iterative, as changes in one force influence one or more other forces in the habitat (Burnes, 2019). Lewin also described the change process as iterative, clarifying and gradually harmonising with the desired state. Research is leading to measures, which in turn are leading to evaluation and further research (Bürkland, 2021; Burnes, 2019, 2004a; Hodges and Gill, 2015; Lewin, 1947d, 1946a, 1936). Overall, the transformation process is challenging to predict, as the existing forces interact in different ways (Burnes, 2004a; Lewin, 1947d, 1946a). Preferably, the change process should build on existing knowledge and structures and involve employees in the decision-making processes (Dewar and Sharp, 2006). Involving employees is a central aspect of action research in order to ensure democratic decision-making (Burnes, 2019; Lewin, 1947b; Oreg et al., 2011).

Due to the iterative and participatory nature of the change process, action research is often used as a stand-alone approach rather than as a component of the three-step *Model of Change*, which contradicts Lewin's original intentions (Adelman, 1993). Lewin (1946a) clarified that "the purpose of action research is to allow those involved to understand and manage the process of locomotion, that is, to allow them to move successfully through their life space" (Burnes, 2019, p. 40). A joint factual analysis of the habitat, combined with a democratic decision-making process, leads to a gradual approach to the desired state, which ideally satisfies all those involved. Lewin's second article on group dynamics, which primarily addressed the second step of the *Model of Change*, is an unfinished

manuscript by the researcher. However, it is apparent that Lewin viewed field theory as an investigative process in which forces are identified, and that action research facilitates the process of change (Burnes, 2019; Lewin, 1947d).

4.2.2.3. Freezing

The last step of the model is the least treated in Lewin's manuscripts due to his sudden death. However, when examining other studies, it is clear that the group's democratic decision-making is regarded as the central element here (Burnes, 2019; Lewin, 1943c, 1942b). Once the desired state has been achieved, the inhibiting forces are overcome and the promoting forces are strengthened (Burnes, 2019; Lewin, 1943b, 1943c). But changes to processes and structures in organisations are often short-lived, as the original state often returns quickly after the initial commitment (Lewin, 1963). To maintain the new state, it must be protected from regression (Burnes, 2019; Lewin, 1963, 1946b, 1944). The goal must not only be to achieve the new state, but also to ensure that the change is sustainable from the very beginning (Burnes, 2004a; Lewin, 1947c). To prevent organisations from reverting to a previous state and to ensure long-term operational success, new values, behaviours, and attitudes must be institutionalised. The members of the organisations have to accept and integrate the latest practices and systems in the long term to complete the planned organisational change (Medley and Akan, 2008). The new state must also be congruent with the behaviour of the members to a certain degree in order to avoid regression (Burnes, 2004a). This is the reason why Lewin always regarded a change process as a group activity as well, “because unless group norms and routines are also transformed, changes to individual behaviour will not be sustained” (Burnes, 2004, p. 986). However, in terms of organisational concepts, *freezing* often also entails changes in the organisation’s culture, policy, as well as its norms and practices (Burnes, 2004a). Critics argued that the step of freezing does not align with today’s complex world, which demands flexibility and adaptation (Cummings et al., 2016). But *freezing* in this context means preventing individuals and groups from regressing to their old behaviours. Lewin was therefore in no way opposed to the fluid and complex reality. He merely wanted to avoid a relapse into old behaviour patterns but was always open to further change (Burnes, 2004a).

Conclusively, the *Model of Change* is at no point an untested idea that lacks a theoretical foundation. Instead of simplicity, the model is based on Lewin's deep understanding of human behaviour. Additionally, the model is not linear, but rather represents an iterative process of fact-finding, resulting actions, and repeated fact-finding (Burnes, 2019; Lewin, 1947a, 1947d). Cummings et al. (2016) also emphasise that the model must be considered in conjunction with all of Lewin's research work in order to understand it comprehensively. In this regard, field theory is always to be seen as a meta-theory. It is also described by French and Bell (1973) as the taproot from which research into organisational development has originated (Burnes, 2019). According to Medley and Akan (2008), new conditions will result in greater effectiveness and sustainability when put into this framework.

4.2.3. Conclusion for the Theoretical Framework

Lewin's research on field theory, group dynamics, and action research provides a solid foundation for a planned change process (Burnes, 2004a). Although the *Model of Change* was initially intended to change the behaviour of individuals and groups, the model can also be applied to the integration and analysis of organisational change processes. Lewin devoted most of his life to generating results through his research that serve minorities and disadvantaged groups. The nursing home setting is characterised by its population of very elderly individuals, who constitute a particularly vulnerable group. A further characteristic of this setting is the presence of complex structures and fixed procedures. The maintenance of these structures and procedures relies on a large number of individuals with diverse connections and relationships with one another. The setting of a nursing home is not about the similarity or dissimilarity of individuals or groups but about the interdependence of fate (Lewin, 1939). Despite their shared high age and need for care, nursing home residents are a very heterogeneous group that differs in their former way of life and behavioural traits. Only the fate of being dependent on care has brought these people together in the organisation and formed the group of residents. Lewin's social themes were comprehensive, whereas his organisational themes were very narrow. During his research work in the United States, Lewin developed programmes on organisational topics such as styles of leadership, worker motivation, performance, group problem-solving, communication and attitude change (Burnes, 2004a). Especially after his death, Lewin’s work on organisational change became increasingly popular, particularly through the emergence of *Organisation Development*, which has become the standard

approach to planned change and continues to evolve (Burnes, 2004a; French and Bell, 1995). Since the 1970s, the approach has focused intensely on organisational development. This includes socio-technical systems, organisational culture, organisational and individual learning and radical change (Burnes, 2004a). In the organisational context of a nursing home, it is particularly important to consider aspects such as value systems, power structures, organisational policy and organisational climate (Burnes, 2004a; Medley and Akan, 2008). Objectives and outcomes are often dependent on power structures, particularly in an organisational context, rather than on consensus building and rational decision-making, such as in the original behaviour change studies (Burnes, 2004a; Pfeffer, 1992, 1981). With the specific purpose of analysing change processes that affect organisational PA-promoting structures, there are additional factors that need to be taken into account. First and foremost are decision-making programmes, informal routinisation and dealing with crises. Organisational structures also have a direct influence on some individual factors, such as the acquisition of skills and personal attitudes towards PA promotion (Frahsa et al., 2020). In today's society, social and organisational processes are often interrelated. This is why a holistic approach is needed for decision-making and change processes, which considers culture, power, and politics, as well as the individual prerequisites of residents on a physiological, psychological, and social level (Burnes, 2004a; Frahsa et al., 2020). After the change process, all aspects and factors should be congruent with the organisation's mission and vision. At the same time, the organisation revises its vision, mission, work strategy, and operational structure to support the desired new state (Medley and Akan, 2008). The change process at an organisational level is an iterative work process that can generally only be brought about very slowly. Based on Lewin's field theory, this means that existing routines and behaviours (quasi-stationary equilibrium) no longer dominate, but new patterns emerge that create a new state (new quasi-stationary equilibrium) (Burnes, 2004a; Kippenberger, 1998; Lewin, 1947c).

In the present dissertation, the *Model of Change* enables the consideration of a theoretical approach, as well as its practical application. For non-profit institutions in particular - including nursing homes - the model provides the basis for an effective organisational change. As already explained, the nursing home setting is characterised by special conditions that must be taken into account in every step of the model. In the step of unfreezing, non-profit organisations must pay particular attention to various stimuli that make it

possible to initiate change if needed. These stimuli include raising donations, recruiting volunteers or the impetus provided by a group of experts (Medley and Akan, 2008). The desired new state must already be consciously considered here (Bürkland, 2021; Hodges and Gill, 2015).

In the step of change, action research provides those involved with the opportunity to identify the necessary processes for change and to understand the influence of various stakeholders, both within and outside the organisation, who can support the change. When working with nursing homes in particular, it is also relevant to involve employees and volunteers in the change process, as these people will integrate the changes in everyday life (bottom-up approach) (Bürkland, 2021; Dewar and Sharp, 2006; Hodges and Gill, 2015). Changes occur through learning processes at an organisational and individual level, which are mutually dependent. Modifications at the organisational level have an impact on individual and group behaviour over time. At the same time, individual learning can also lead to changes in organisational structure. It is crucial to identify the people responsible who can initiate change at both levels (Dewar and Sharp, 2006). Structural changes should be prioritised over individual behavioural changes, as these can occur in a relatively short period of time (Burnes, 2004a). Lewin (1947c) mentioned that "it is fruitless to concentrate on changing the behaviour of individuals because the individual in isolation is constrained by group pressures to conform" (Burnes, 2004a, p. 983). As a consequence of the structural change, group behaviour will also change over time, which in turn affects individual behaviour.

In the step of freezing, the newly achieved state is stabilised and consolidated in order to protect it from regression (Burnes, 2019; Lewin, 1943d, 1936). Sustainable embedding must be ensured in all cases in order to prevent a decline back to the original state. Even if nursing homes appear less fluid than other organisations due to their rigid structures and processes, they still react to external influences (Burnes, 2019). Sustainable embedding is reflected at the organisational level by decision-making programmes, the distribution of responsibilities, the organisational climate, the plans for crises and the vision and mission statements (Bürkland, 2021; Frahsa et al., 2020; Hodges and Gill, 2015). At an individual level, sustainability is achieved when skills have been acquired and attitudes towards PA promotion have positively changed (Frahsa et al., 2020). Essentially, the new

state must not be made dependent on individuals, but on organisational structures (Burnes, 2004a).

Lewin's *Model of Change* is all the more suitable for illustrating organisational decision-making processes and structural developments in organisations concerning embedding PA-promoting structures (Medley and Akan, 2008). Characterised by the process-based analytical lens, the *Model of Change* provides non-profit organisations, such as nursing homes, with the opportunity to make decision-making processes and structures more efficient to achieve the desired change with a higher probability (Burnes, 2004a). Lewin's considerations offer insights into the change process and are fundamental for successful planned organisational change. According to Medley and Akan (2008), future research should use the model in various organisational contexts to generate more knowledge in this area.

5. Methodological Considerations

5.1. Contextualising Within the Primary Study

This dissertation is part of the *BaSAlt* study funded by the German Federal Ministry of Health from 2019 to 2023, grant no. ZMVI1-2519FSB114. The project was embedded in the new funding priority *PA and PA promotion*. All funded projects focused on different living environments, population subgroups and age groups. The overarching objective of this study was to examine the *National Recommendations for PA* and the promotion of PA in various settings. *BaSAlt* investigated the setting of a nursing home. The sample comprised eight nursing homes from four different non-profit care organisations in the Federal State of Baden-Württemberg, Germany. Three nursing homes were located in urban areas, and five nursing homes were located in peripheral regions. The nursing homes differed in the number of living areas (one to three areas) and capacity (33 to 59 residents). One of the urban nursing homes dropped out due to the Covid-19 pandemic. *BaSAlt* dealt with PA promotion and individual physical counselling in nursing homes to ensure residents' autonomy with a low degree of need for care for as long as possible. To reach this goal, a biopsychosocial analysis and counselling approach was applied in order to develop strategies for PA promotion and generate knowledge about promoting and hindering factors for embedding PA promotion in this setting. *BaSAlt* was conceptualised as a quasi-experimental pre-post comparative study. The study had a two-fold focus, including **(1) a setting analysis and counselling on PA-promoting potentials, patterns, interactions, and climate** and (2) an individual analysis and counselling on PA and sedentary behaviour, geriatric assessment, activity and health biography, as well as motivation and subjective state of health (University of Tübingen, 2019). Looking at the two-fold focus of the study, this dissertation is located on the organisational level. The dissertation research includes the setting analysis of PA-promoting potentials, patterns, interactions, and climate, as well as the organisational counselling to embed PA-promoting actions into the organisational structures and routines. The study's objectives and research questions addressed in the dissertation are marked in bold for a clear understanding. Several research questions were developed based on the study's two-fold focus. As a first step, the team aimed to generate knowledge about the existing structural and personal conditions of residents' PA. For this purpose, an analysis of current PA behaviour was conducted, including

exploring factors that promote and hinder PA, and integrating PA-promoting actions on-site.

The guiding three research questions were:

(1) What are the structural conditions of older adult PA in nursing homes?
(2) Which factors are considered as promoting or inhibiting the successful embedding of strategies to promote PA in nursing homes?
(3) What are the individual conditions of older adult PA in nursing homes?

As a second step, an integrated counselling approach was developed based on the generated knowledge that aimed to address both the individual and organisational levels. In order to increase individual PA and PA-promoting structures, the four guiding research questions were:

(1) What should an integrated counselling concept that aims to improve residents' PA behaviour by addressing their social and structural environment contain?
(2) How can employees (multipliers) and residents be involved in the participatory process of analysis and counselling?
(3) Which PA-promoting activities are considered valuable and feasible?
(4) To what extent does counselling create a PA-friendly climate and setup in nursing homes?

(Thiel et al., 2021b).

The dissertation's organisational-level focus encompassed the vast majority of the study's research questions. In line with the first part of the *BaSAlt* study, the dissertation focused primarily on a setting analysis by (1) identifying the promoting and inhibiting factors of PA in nursing home everyday lives and (2) addressing the structural conditions for PA promotion. In line with the second part of the *BaSAlt* study, the dissertation also focused on the organisational integrated counselling approach by (1) conceptualising the approach in order to develop, integrate and embed PA-promoting actions into the nursing home structures and daily life. The counselling was characterised by (2) a participatory approach involving staff, residents, home managers, volunteers and external service providers. The integrated PA-promoting actions were (3) evaluated in order to analyse practical

and feasible actions and reduce barriers that occurred. Finally, (4) a pre-post comparison of the structural conditions was made.

5.2. Using a Participatory Research Approach

A characteristic method of this dissertation is the participatory research approach. The benefits of participatory research are well known but have so far hardly been applied in the nursing home setting. There are different types of participation, and the challenge at the beginning of a study is to choose the ideal type for the target group. A light form of participation is characterised by little leeway for the participants. Their ideas and needs are met in a workshop, and the research based on this takes place without the involvement of the target group. In comparison, a strong participation is characterised by an open expectation of results and scope for development. The target group is allowed to participate and take on responsibility. The right stakeholders are identified, clear goals and expectations are set, and continuous dialogue takes place. The project method is always adapted to fit the current context, needs, and circumstances. Using a strong form of participation increases the probability of disseminating outcomes and successful practices across disciplines (Frahsa, 2022).

In the research field of PA promotion in nursing homes, to the best of knowledge, only a single study identified the need for a flexible, inclusive approach to improving residents' PA (Jeon et al., 2019). In recent years, the importance of participatory research as a strategy in qualitative social research has increased. In a joint process of knowledge production, new insights are generated for both researchers and practitioners. The participatory research approach adopted in the *BaSAlt* study proved to be the most effective method of opening up new, broader perspectives on developing everyday PA-promoting actions and changing PA-promoting structures. Three well-established fundamental principles served as guiding principles during the study's participatory process. First, social commitment and the support of home management allowed democratic decision-making. Second, safe spaces were created for the participatory approach to support expressing personal views, opinions and experiences. An institutional setting makes it even harder to express those feelings, which makes a safe space for all participants all the more important. Different views and perspectives are decisive for the process of knowledge and, thus, for successful participatory research. A safe space is a communicative space free of domination but not

conflict-free. Diverse points of view are considered and worth discussing. Third, the group of participants in the participatory research was characterised by individuals who were not professional researchers but experts in their field. Often, participants belong to a marginalised group whose views are rarely considered and whose voices are rarely heard. So, the most important principle is to research with this group of people, rather than *about* them (Bergold and Thomas, 2012). The worst-case scenario in participatory research is to involve vulnerable groups without providing them with tangible results. Consequently, participants will have less trust in research, which is not ideal for future research (Hoekstra and Gentili, 2020).

Within *BaSAlt*, there was tight cooperation between the research team and the participating nursing homes. Also, members of collaborating institutions, such as musician groups, joined the participatory process. The broad field of participants led to different perspectives, meaningful discussions and a full understanding of the project's objectives, resources, and capacities. However, challenges also arose, such as power dynamics among stakeholders or limited resources (Hoekstra and Gentili, 2020; Smith et al., 2023). From the beginning of the project, planning and decision-making responsibilities were established and documented to provide guidelines for those unfamiliar with participatory research (Hoekstra and Gentili, 2020; van Dijk-de Vries et al., 2020). Societal, economic and scientific impacts were fostered by ensuring commitment from the institutional stakeholders (Hoekstra and Gentili, 2020; van Dijk-de Vries et al., 2020). The high degree of participation within the *BaSAlt* study led to inclusive, relevant and impactful outcomes during and beyond the funding period (Smith et al., 2023).

Within *BaSAlt*, the participatory research approach characterised the organisational counselling. The organisational counselling aimed to develop and integrate PA-promoting actions that lead to structural changes in the participating nursing homes. The project team acted as experts in all phases of organisational counselling, guiding and supporting the local stakeholders in the development and integration process.

Organisational counselling consisted of three phases. In *Future Workshop I*, relevant stakeholders for PA promotion, such as nursing and management staff, residents, volunteers and external service promoters, collected possible actions for PA promotion. The actions were discussed in terms of responsibility, resources, timeline and other

organisational aspects. At the end of *Future Workshop I*, the participants prioritised the actions discussed and decided which actions would be pursued in *Future Workshop II*.

Future Workshop II took place six weeks after *Future Workshop I*. During these six weeks, the participants compiled a catalogue of favoured actions. For all favoured actions, the participants also prepared a concrete plan for integration. In *Future Workshop II*, the favoured actions were turned into concretely planned actions based on the catalogue of actions. The SMART-concept (von Unger et al., 2011) and Goal Attainment Scaling (Schaefer, 2015) were used for planning.

The *Evaluation Workshop* took place six months after *Future Workshop II*. During these six months, the PA-promoting actions were integrated into the nursing homes' everyday routines and organisational structures. In the *Evaluation Workshop*, the integrated actions were evaluated according to a five-level Goal Attainment Scaling together with all participants.

5.3. Specific Research Questions

This dissertation delves into the theoretical and practical underpinnings of organisational change in nursing homes, aiming to develop a comprehensive strategy for integrating PA into daily routines, organisational structures, and individual mindsets. Combining qualitative and quantitative research methods, this dissertation seeks to contribute to the existing body of knowledge on PA promotion in nursing homes, offering practical recommendations for the management level, staff, carriers and policymakers. In order to embed PA promotion into the nursing homes' structures, a holistic approach is required, including individual, infrastructural, organisational, political, and external factors (Sallis et al., 2006). Recognising the significance of a planned change process is crucial for overcoming the rigid organisational and daily structures prevalent in nursing homes and enhancing the physical and mental well-being of one of society's most vulnerable populations.

The dissertation comprises five articles with different focal points.

Articles 1 and 2 address the prevailing barriers to PA in the nursing home setting and the challenges posed by rigid organisational structures in promoting PA in everyday life. Moreover, factors for PA derived from theory are examined in practice in order to form the basis for the following articles. Given the precarious situation at the time, particular

attention is paid to the influence of the Covid-19 pandemic on PA and the promotion of PA in nursing homes. The research questions for articles 1 and 2 are as follows:

Article 1

- What are the existing barriers to PA and PA promotion in the nursing home setting?
- What approaches promote PA and health in the nursing home setting?
- Which organisational structures hinder PA and PA promotion in nursing homes?

Article 2

- Outside of weekly-scheduled structured activities, how did PA patterns change among nursing home residents during the Covid-19 pandemic?
- What promoting and hindering factors significantly influenced PA patterns among nursing home residents and did factors change from the pandemic?

Articles 3 and 4 address the development, integration and evaluation of PA-promoting actions within the context of a nursing home. The 10-step participatory programme is presented in a sequential manner. Each step encompasses a specific stage of the programme, from the generation of ideas to the evaluation of the integrated actions. Article 3 provides an in-depth academic exposition of the organisational development process, while article 4 offers a more accessible presentation for stakeholders on site, accompanied by supporting materials. The research questions for articles 3 and 4 are as follows:

Article 3

- How can PA-promoting actions be developed by using a participatory integrated counselling approach?
- What are the factors that promote and hinder the implementation of PA-promoting actions?

Article 4

- How can the participatory integrated counselling approach be made accessible to all stakeholders at a low-threshold and implemented without scientific support?

Article 5 addresses the learning processes induced by the development of PA-promoting actions using a participatory integrated counselling approach. The learning processes of

both individuals and organisations are contemplated at disparate levels, alongside the impact of these processes on an organisation's readiness for promoting PA. The research questions for article 5 are as follows:

Article 5

- To what extent was organisational readiness for PA promotion embedded at the beginning of the project?
- What are the post-intervention changes in organisational readiness?
- To what extent does individual and organisational learning change organisational readiness for PA promotion?

5.4. Allocating the Articles to the Theoretical Background

The theoretical underpinnings of this dissertation encompass two strands of thought: the nursing home as a pseudo-total institution and Lewin's *Model of Change*. In such institutions, where daily living is characterised by extensive structuring and regimentation, even minor alterations can exert profound effects. Consequently, systematic planning of modifying processes is crucial to ensure that residents' needs are met while concurrently maintaining the efficacy of institutional processes. This dissertation comprises five articles that highlight all three steps of the change process, as outlined by Kurt Lewin. The dissertation's objective is defined as an organisational change towards more PA-promoting structures by using an integrated participatory counselling approach (Figure 3).

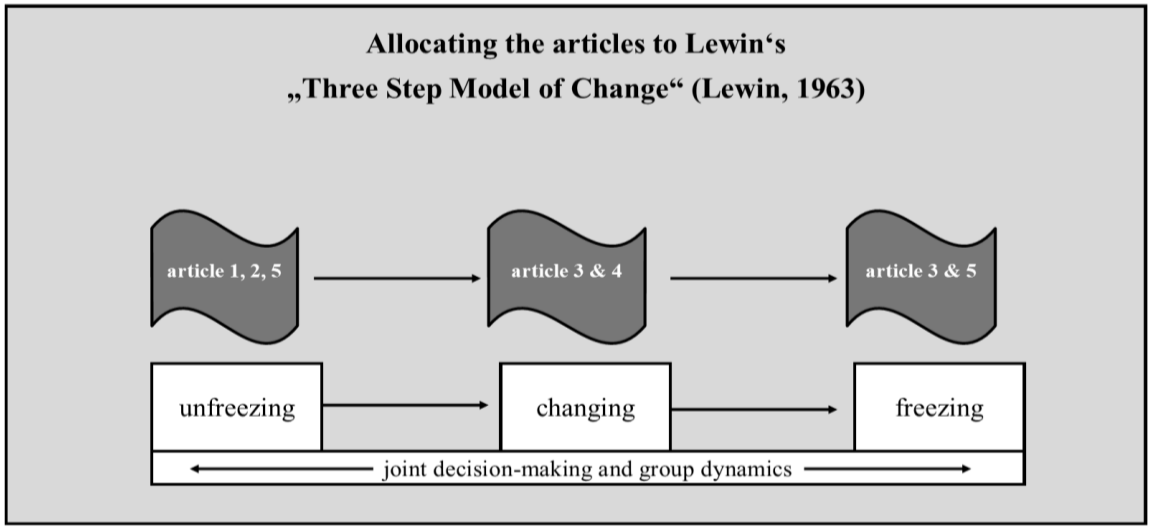

Figure 3: Allocating the articles to the theoretical background of Kurt Lewin

Articles 1, 2 and 5 provide valuable insights into the step of unfreezing (step 1). **Article 1** provides a theoretical foundation for PA promotion in nursing homes, addressing the prerequisites, conditions, and existing barriers. The unique characteristics of a pseudo-total organisation, as defined by Heinzelmann (2004), are elaborated upon, emphasising the necessity of a holistic approach that encompasses individual, infrastructural, organisational, political, and external factors. **Article 2** provides a complement to the theoretical summaries by presenting empirical research, aiming to reveal the current state prior to the initiation of change, as outlined by Lewin (1963). The article focuses on the local aspect, where all elements of daily life occur within the nursing home. In order to gain the impression of the situation as a whole that Lewin required in 1942, methods such as direct systematic observation and analyses, such as a tree analysis, were used. This methodological approach facilitates the identification of established routines, group behaviour, and correlating factors. A notable focus in **article 2** is on the extreme situation of the Covid-19 pandemic and its repercussions on the initiation of organisational change. **Article 5** presents the results of a tool evaluating organisational readiness for PA promotion in nursing homes. A large number of scientifically validated items assess various structural areas in terms of their conditions for promoting PA. **All three articles** align with Burnes (2004a), who asserts that a holistic perspective is crucial for a comprehending and effecting planned change. **Articles 2 and 5** undertake an analysis of existing resources and structures, drawing upon extant research to identify areas where change is both necessary and possible. **All three articles** advocate an iterative change process, underpinned by empirical research, to establish a foundation for action. Effecting change within the identified conditions without neglecting the primary objective of the nursing home is quite challenging.

In an institution such as a nursing home, it is challenging to change existing routines and embed PA-promoting structures. Articles 3 and 4 provide valuable insights into the step of changing (step 2). **Articles 3 and 4** address the development, integration and embedding of PA promotion in the nursing home setting in ten steps. Considering the nursing home as a pseudo-total institution with no separation between the places of sleeping, eating, being active and relaxing, it is all the more important to offer sufficient PA opportunities over the course of the day (Davies, 1989; Goffman, 1968; Heinzelmann, 2004). Residents rarely leave the nursing home, yet they still enjoy being engaged in functional

and meaningful activities (Heinzelmann, 2004; Jansen, 2017; Kuratorium Deutsche Altershilfe, 1996; Marson and Powell, 2014). Based on this level of knowledge, **both articles** place a particular emphasis on integrating PA promotion into everyday structures. These low-threshold PA opportunities provide residents with a sense of purpose without placing undue demands on staff time and without interfering with basic care (Marson and Powell, 2014). The change process is built on existing knowledge and structures and involves all relevant stakeholders in decision-making (Dewar and Sharp, 2006). The 10-step approach provided a precisely planned change process that considered mutually agreed objectives from the very beginning. The 10-step approach aligns with the research of Lewin (1963) and Burnes (2019), which involves generating a felt need in the unfreezing phase, managing the changing phase by gradually approaching the desired state, and consolidating the achieved state through democratic decision-making in the freezing phase. **Article 3** explains the iterative change process scientifically, whereas **article 4** conveys the content in a lower-threshold way to enable integration in practice without scientific support.

Articles 3 and 5 provide valuable insights into the step of freezing (step 3). **Article 5** examines the changes at both organisational and individual levels that have resulted from the participatory change process and the associated actions to promote PA. To maintain the new state, it must be protected from regression and, therefore, institutionalised (Burnes, 2019; Lewin, 1963, 1946b, 1944; Medley and Akan, 2008). Essentially, the new state must depend on organisational structures, not individuals (Burnes, 2004a). Therefore, **article 5** evaluates the institutionalisation of the new state by investigating the new PA routines, organisational culture, and policies that support PA promotion, and the distribution of responsibilities in relation to PA promotion (Bürkland, 2021; Burnes, 2004a; Frahsa et al., 2020; Hodges and Gill, 2015). Because unless organisational structures are transformed, changes on an individual level will not be sustained (Burnes, 2004a). **Article 3** provides significant groundwork for this final step in the change process by highlighting the planned embedding of the developed PA-promoting actions in the workshops. The holistic view of all elements in **both articles** is fundamental to bringing about planned change on both the individual and organisational levels (Burnes, 2004a).

The interrelationship between social and organisational processes necessitates a holistic approach to planned change that considers culture, power, and politics, as well as the

individual physiological, psychological, and social needs of residents (Burnes, 2004a; Frahsa et al., 2020). It is crucial that any changes are made without neglecting residents' care. Achieving optimal outcomes necessitates the active involvement of stakeholders. However, the integration of PA promotion is a perpetual balancing act between allocating resources efficiently and fulfilling individual needs. According to Medley and Akan (2008), future research should use Lewin's *Model of Change* in various organisational contexts to generate more knowledge in this area. This dissertation contributes to expanding the state of knowledge in the pseudo-totalitarian institution of nursing homes. **Articles 1 to 4** enabled sustainable change from the very beginning by preparing for change through an analysis of the status quo (**articles 1 & 2**) and moving to a new level with shared decision-making (**articles 3 & 4**) (Lewin, 1963). **Article 5** completes the iterative process of fact-finding (**articles 1 & 2**), resulting actions (**articles 3 & 4**), and repeated fact-finding (**article 5**) (Burnes, 2019; Lewin, 1947a, 1947d).

6. Overview of Publications

6.1. List of Articles

No.	Authors	Status	Title
1	Ansgar Thiel, **Lea-Sofie Hahn**, Annika Frahsa	Published in 2023	*Senioreneinrichtungen [Nursing homes].* In A. Thiel, S. Tittelbach, G. Sudeck, P. Wagner & A. Woll (Eds.), *Handbuch Bewegungsbezogene Gesundheitsförderung [Handbook on physical activity-related health promotion]* (pp. 446-455).
2	**Lea-Sofie Hahn**, Ansgar Thiel, Dorothée Trüb, Gerhard W. Eschweiler, Andreas M. Nieß, Gorden Sudeck, Annika Frahsa	Published in 2023	*Patterns of physical activity among nursing home residents before and during the Covid 19 pandemic - a systematic observation.*
3	**Lea-Sofie Hahn**, Ansgar Thiel, Viola Dembeck, Daniel Haigis, Leon Matting, Rebekka Pomiersky, Gerhard W. Eschweiler, Andreas M. Nieß, Gorden Sudeck, Annika Frahsa	Published in 2024	*A 10-Step Participatory Program for Developing, Implementing, and Evaluating Physical Activity Promoting Actions in Nursing Homes in Germany.*

4	Ansgar Thiel. Gorden Sudeck, Andreas M. Nieß Gerhard W. Eschweiler, **Lea-Sofie Hahn,** Daniel Haigis, Leon Matting, Rebekka Pomiersky, Julia Schmid, Annika Frahsa	Published in 2023	*Bewegungsförderung im Pflegeheim – ein Praxisleitfaden [Physical activity promotion in nursing homes - a practical guide].*
5	**Lea-Sofie Hahn**, Ansgar Thiel, Viola Dembeck, Daniel Haigis, Leon Matting, Rebekka Pomiersky, Gerhard W. Eschweiler, Andreas M. Nieß, Gorden Sudeck, Annika Frahsa	Published in 2025	*Addressing organizational learning to increase readiness for physical activity promotion in seven German nursing homes.*

6.1.1. Identification Through Theory (articles 1 & 2)

Authors	Title	Journal	Topic	Status
Ansgar Thiel, **Lea-Sofie Hahn**, Annika Frahsa	*Senioreneinrichtungen [Nursing homes]*	A. Thiel, S. Tittelbach, G. Sudeck, P. Wagner & A. Woll (Eds.), *Handbuch Bewegungsbezogene Gesundheitsförderung [Handbook on physical activity-related health promotion]* (pp. 446-455)	Book chapter • Describing the specific characteristics of the nursing home setting • Describing personal, interpersonal and infrastructural barriers to physical activity • Introducing projects of good practice • Knowledge that physical activity promotion in nursing homes depends on multiple influencing factors • Recommending the integration of low-threshold activities into the daily routines with low costs of personnel and finances	Published in 2023

Contribution to article 1 by Lea-Sofie Hahn

- Contributing co-author
- Co-writing of the book chapter, in particular responsible for:
  - Chapter 2.2: Bestehende Barrieren für körperliche Aktivität im Setting Pflegeheim [Existing barriers to physical activity in the nursing home setting]
  - Chapter 3: Gute Praxis – ausgewählte Modellprojekte [Good practice - selected model projects]

Authors	Title	Journal	Topic	Status
Lea-Sofie Hahn, Ansgar Thiel, Dorothée Trüb, Gerhard W. Eschweiler, Andreas M. Nieß, Gorden Sudeck, Annika Frahsa	*Patterns of physical activity among nursing home residents before and during the Covid 19 pandemic - a systematic observation.*	European Review of Aging and Physical Activity IF (2023): 6.3	Peer-reviewed research article • Systematic observation (823.5h) in eight nursing homes in 2020 and 2021 to statistically analyse physical activity patterns and related factors • Identification of a high level of sedentary behaviour (84.7% of the observed persons in 2020; 91.6% in 2021) • Identification of the factors mealtime, daytime, presence of men and guided low-threshold activities, as a significant influence on physical activity • Knowledge that in crises, nursing staff can not properly offer physical activity promotion • Knowledge that feasible and resource-limited activities need to be integrated into the daily routines of nursing homes	Published in 2023

Contribution to article 2 by Lea-Sofie Hahn

- First author
- Conception of the study, supervised by Ansgar Thiel and Annika Frahsa
- Data collection on-site (32 of 111 days, supported by trained student assistants)
- Statistical analysis
- Writing the original draft of the manuscript
- Revision of the manuscript together with Ansgar Thiel and Annika Frahsa

6.1.2. Initiation of Change (articles 3 & 4)

Authors	Title	Journal	Topic	Status
Lea-Sofie Hahn, Ansgar Thiel, Viola Dembeck, Daniel Haigis, Leon Matting, Rebekka Pomiersky, Gerhard W. Eschweiler, Andreas M. Nieß, Gorden Sudeck, Annika Frahsa	*A 10-Step Participatory Program for Developing, Implementing, and Evaluating Physical Activity Promoting Actions in Nursing Homes in Germany*	BMC Public Health. Collection on sedentary behavior and disease risk. IF (2024): 4.5	Peer-reviewed research article • A multiple case study approach (2021-2023) to successfully embed activity-promoting structures in nursing homes • Co-developing and co-evaluating physical activity promoting actions (n=54) in seven nursing homes, differentiated into *activities of daily living*, *structured activities*, and *activity-friendly environments* • Offering individual counselling to 18 residents to develop individual activity schedules • Generating a 10-step programme for co-developing and co-evaluating PA-promoting actions in nursing homes • Knowledge that home-specific actions largely depend on the mission and vision of the nursing home and that the lack of staff can partially be compensated by neighbours, volunteers and local clubs/organisations	Published in 2024

Contribution to article 3 by Lea-Sofie Hahn

- First author
- Guiding the workshops (supported by project members)
- Identifying the areas of physical activity promotion and the adapted domains of active living
- Developing the 10-step programme for co-developing and co-evaluating physical activity-promoting actions together with Annika Frahsa and Ansgar Thiel
- Writing the original draft of the manuscripts
- Revision of the manuscript together with Ansgar Thiel and Annika Frahsa

Authors	Title	Journal	Topic	Status
Ansgar Thiel, Gorden Sudeck, Andreas M. Nieß, Gerhard W. Eschweiler, **Lea-Sofie Hahn**, Daniel Haigis, Leon Matting, Rebekka Pomiersky, Julia Schmid, Annika Frahsa	*Bewegungsförderung im Pflegeheim – ein Praxisleitfaden [Physical activity promotion in nursing homes - a practical guide]*	University of Tübingen	Practical guide • Presenting dimensions and national recommendations for physical activity and physical activity promotion • Developing and presenting a practical guide to embed physical activity-promoting structures and increase individual activity levels • Offering tools, methods and examples for good practice	Published in 2023

Contribution to article 4 by Lea-Sofie Hahn

- Contributing co-author
- Writing several chapters, in particular:
  - Chapter 6: Dimensionen von Bewegung und Bewegungsförderung [Dimensions of physical activity and physical activity promotion]
  - Chapter 7: Der Weg zu einem aktiveren Alltag [The path to a more active everyday life] with the exeption of subchapter 7.3: Erhebung von Merkmalen auf Ebene der Bewohnenden [Survey of characteristics at resident level] and subchapter 7.5: Beispiele guter Praxis [Examples of good practice]
- Guiding the editorial office, supported by Viola Dembeck

6.1.3. Institutionalisation of Physical Activity Promotion (article 5)

Authors	Title	Journal	Topic	Status
Lea-Sofie Hahn, Ansgar Thiel, Viola Dembeck, Daniel Haigis, Leon Matting, Rebekka Pomiersky, Gerhard W. Eschweiler, Andreas M. Nieß, Gorden Sudeck, Annika Frahsa	*Addressing organizational learning to increase readiness for physical activity promotion in seven German nursing homes*	PLoS One IF (2023): 2,9	Peer-reviewed research article • Investigating processes to increase organisational readiness for physical activity promotion • Identifying key learning processes • Generating organisational modifications to align physical activity promotion with home-specific needs • Demonstrating the feasibility of embedding physical activity promotion within nursing home structures	*Published in 2025*

Contribution to article 5 by Lea-Sofie Hahn

- First author
- Qualitative content analysis with a twofold focus (supported by Viola Dembeck as a critical friend)
  - Analysis of changes in organisational readiness in nursing homes (pre-post-intervention)
  - Analysis of organisational and individual learning processes that led to changes in organisational readiness
- Applying a theoretical model of organisational learning from public management to the nursing home setting
- Writing the original draft of the manuscript
- Revision of the manuscript together with Ansgar Thiel and Annika Frahsa

6.2. Article 1: “Senioreneinrichtungen”

Ansgar Thiel, **Lea-Sofie Hahn** and Annika Frahsa (2023). Senioreneinrichtungen. In A. Thiel, S. Tittelbach, G. Sudeck, P. Wagner & A. Woll (Eds.), *Handbuch Bewegungsbezogene Gesundheitsförderung* (pp. 446-455). Schorndorf: Hofmann.

E9 Senioreneinrichtungen

Ansgar Thiel, Lea-Sofie Hahn & Annika Frahsa

Pflegeheim, Bewegungsbedarfe, pseudototale Institution, Aktivitätsbarrieren, Forschungsbeispiele

1 Bedarfe für Bewegung und Gesundheitsförderung

Ausreichend körperliche Aktivität trägt entscheidend zur Erhaltung der körperlichen und mentalen Gesundheit im Alter bei. Es ist hinreichend bekannt, dass ein sitzender Lebensstil das Risiko für Muskelschwund, Stürze sowie Depressionen und damit die Wahrscheinlichkeit vorzeitiger Sterblichkeit enorm erhöht (Auerswald, Meyer, von Holdt & Voelcker-Rehage, 2021; Barber, Foster & Birch, 2015; Bean et al., 2002; Gennuso, Gangnon, Matthews, Thraen-Borowski & Colbert, 2013; Lampinen, Heikkinen & Ruoppila, 2000). Im Jahr 2030 werden Prognosen zufolge 3,4 Millionen Menschen pflegebedürftig sein (Pflegereport 2030 Bertelsmannstiftung). Der Zustand dieser Personen ist zumeist gekennzeichnet durch Mobilitätseinschränkungen und damit verbunden starken Limitierungen bei Aktivitäten des täglichen Lebens (Hajek et al., 2017). Durch eine regelmäßige und ausreichende körperliche Aktivierung können die physische und psychische Leistungsfähigkeit sowie die Lebensqualität verbessert und somit Voraussetzungen für ein gesundes Altern geschaffen werden (Auerswald et al., 2020).
Die aktuellen nationalen und internationalen Empfehlungen (WHO, 2010; BZgA 2017; Rütten & Pfeifer, 2017; s. Kap, B5) lauten allgemein, dass Erwachsene wöchentlich 150 Minuten moderate oder 75 Minuten ausdauerorientierte körperliche Aktivität mit (relativ gesehen) höherer Intensität praktizieren sollten. Zusätzlich sollen speziell ältere Menschen mit Mobilitätseinschränkungen an mindestens drei Tagen in der Woche Gleichgewichtsübungen zur Sturzprävention bei moderater oder höherer Intensität ausüben. Ältere Erwachsene sollten muskelkräftigende körperliche Aktivitäten an mindestens zwei Tagen pro Woche durchführen. Wie alle Altersgruppen sollten auch ältere Erwachsene lange, ununterbrochene Sitzphasen meiden und nach Möglichkeit das Sitzen regelmäßig mit körperlicher Aktivität unterbrechen.
Trotz dieser Erkenntnisse und hohen Relevanz ist Bewegung im Setting Pflegeheim oft nur begrenzt zu beobachten. Studien zufolge erreicht mehr als die Hälfte der

Bewohnenden nicht die aktuellen Empfehlungen für körperliche Aktivität (Gobbi et al., 2012). Laut aktueller Erkenntnisse verbringen Pflegeheimbewohnende circa 80 % ihrer Wachphasen im Sitzen, dies bedeutet in Einzelfällen Sitzzeiten von bis zu neun Stunden am Tag (Auerswald et al., 2020; Barber et al., 2015; Parry & Chow, 2018; Phillips, 2015; Ruuskanen & Parkatti, 1994). Zudem nimmt innerhalb des ersten Jahres nach Einzug in ein Pflegeheim die Ganggeschwindigkeit signifikant ab (Cramer-Ebner, Dorn, Feilcke & Hach, 2016; Lotvonen, Kyngäs, Koistinen, Bloigu & Elo, 2017; Ruuskanen & Parkatti, 1994).

Dies ist durchaus nicht nur eine Konsequenz mangelnder Motivation der Bewohnenden, sich körperlich zu betätigen, sondern scheint zu einem erheblichen Teil auch auf die organisationalen Strukturen von Pflegeheimen zurückzuführen zu sein, die den Bewohnenden nicht ausreichend Bewegungsgelegenheiten bieten (Frahsa et al., 2020). Auf die Strukturen des Settings Pflegeheim und deren Bedeutung für die Aktivität von Bewohnenden wird im Folgenden genauer eingegangen. Daran schließt sich eine exemplarische Darstellung von Modellprojekten an, die auf eine Schaffung von bewegungsfreundlichen Strukturen in Pflegeheimen abzielen.

2 Voraussetzungen und Rahmenbedingungen

2.1 Das Pflegeheim als pseudototale Institution

Pflegeheime ähneln zumindest ansatzweise sogenannten „totalen Institutionen“ (Davies, 1989; Goffman, 1961; Goodman, 2013). Unter den Begriff der totalen Institution fallen spezifische funktionale Einrichtungen, die durch die bürokratische Kontrolle der menschlichen Bedürfnisse der in dieser Institution versorgten Gruppe charakterisiert sind. Die Alltagsaktivitäten in solchen Einrichtungen folgen in der Regel weitgehend a priori festgelegten Zeitplänen. „Totale Institutionen“ sind teilweise von der Außenwelt abgeschottet und stattfindende Aktivitäten werden zu einem gewissen Teil von Mitarbeitenden kontrolliert (Goodman, 2013). Diese Charakteristika lassen sich teilweise auch am Setting Pflegewohnheim beobachten. So werden die Bewohnenden durch Pflegepersonal „überwacht“ und haben in nur eingeschränktem Maße Entscheidungsfreiheit hinsichtlich der Bestimmung der täglichen Routinen und der Lebensumstände. Oftmals befinden sich die Bewohnenden auch in einem Abhängigkeitsverhältnis zum Pflege- und Betreuungspersonal, was zu einem Konformitätsdruck führen kann, die Erwartungen der Pflegekräfte zu erfüllen (Marson & Powell, 2014). Dennoch haben Bewohnende in Pflegeheimen deutlich mehr Freiheiten als

beispielsweise Personen in typischen totalen Institutionen wie Gefängnissen. Obwohl in Pflegeheimen die ökonomischen Zwänge der Organisation und die aus Tätigkeitsprofilen resultierenden Verantwortlichkeiten des Personals oft limitierend wirken können, sind Pflegeheime heute so konzipiert, dass der Tagesablauf zumindest ansatzweise die Lebenswelten der außerhalb einer solchen Einrichtung lebenden gleichaltrigen Menschen widerspiegelt und Freiräume zur individuellen Lebensgestaltung eingeräumt werden (Heinzelmann 2004, S. 222–230).
Sowohl das Maß, in welchem die Bewohnenden von Pflegeheimen ihre Freiräume bei der Gestaltung des Lebensalltags nutzen, als auch das Ausmaß der Aktivierung durch die Einrichtung selbst sind entscheidend für das Erreichen des Mindestmaßes an gesundheitsförderlicher körperlicher Aktivität.

2.2 Bestehende Barrieren für körperliche Aktivität im Setting Pflegeheim

Wie Studien zeigen, ist das Ausmaß der körperlichen Aktivität von Bewohnenden in Pflegeheimen einerseits beeinflusst von baulichen und organisatorischen Voraussetzungen, andererseits aber auch von der Interaktion zwischen Betreuenden und Bewohnenden auf zeitlicher, sachlicher und sozialer Ebene (Altmeier, Thiel & Frasa, 2021; Benjamin, Edwards, Ploeg & Legault, 2014; Chen, 2009; Gobbi et al., 2012).
Untersuchungen konnten zeigen, dass mit zunehmendem Alter immer mehr Barrieren für körperliche Aktivität entstehen. Häufig auftretende Barrieren sind gesundheitliche Probleme, Gebrechlichkeit, Angst vor Verletzungen und Umwelteinschränkungen (Chen, 2009; Gobbi et al., 2012). Vor allem bauliche Voraussetzungen sind auch in Pflegeeinrichtungen oftmals ein limitierender Faktor. Dazu zählen beispielsweise Türschwellen, defekte Aufzüge oder enge Räumlichkeiten. Diese baulichen Hindernisse stellen aber nicht nur eine Barriere an sich dar, sondern vermitteln den Bewohnenden auch ein Gefühl von Hilflosigkeit oder gar Gefangenschaft, was sich negativ auf deren Wohlbefinden auswirken kann (Altmeier et al., 2021). Einen bedeutsamen Einfluss auf das Auf- oder Abbauen von Barrieren in Pflegeeinrichtungen hat aber auch das Personal. Eine positive Einstellung der Mitarbeitenden gegenüber körperlicher Aktivität ist Grundvoraussetzung für einen aktiven Alltag der Bewohnenden. So kann die morgendliche Pflege zeiteffizient durchgeführt werden, indem der Bewohnende mit Hilfsmitteln aus dem Bett gehoben wird und vom Personal gewaschen und angezogen wird. Die morgendliche Routine kann aber auch als aktivierende Pflege durchgeführt werden. Hier darf der Bewohnende gewisse Dinge noch selbst erledigen. Beispielsweise das Waschen des Gesichts oder das Kämmen der Haare (Altmeier

et al., 2021). Vor allem seit dem Ausbruch der COVID-19-Pandemie und den damit einhergehenden Kontaktbeschränkungen ist eine positive Einstellung des Pflegepersonals gegenüber körperlicher Aktivität wichtiger denn je (Frahsa et al., 2020).
Es lässt sich festhalten, dass die Teilhabe an körperlichen Aktivierungen von Barrieren unterschiedlicher Arten negativ beeinflusst werden kann (Chen, 2009). Da sich personale, interpersonale und umweltbezogene Faktoren jedoch immer gegenseitig bedingen, ist eine ganzheitliche bewegungsförderliche Gestaltung des Settings ein zentraler Faktor für den Abbau von Aktivitätsbarrieren (Bauman et al., 2012).
In der Literatur werden für das Setting Pflegeheim verschiedene Ansätze für Bewegungs- und Gesundheitsförderung genannt. Ein Ansatz, der aktuell häufig verfolgt wird, ist das Konzept der aktivierenden Pflege. Hierbei wird versucht, zur Erhaltung verbliebener Fähigkeiten der Bewohnenden bewegungs- und gesundheitsförderliche Ansätze mit Aktivitäten des alltäglichen Lebens zu verbinden, entsprechend der Bundesrahmenempfehlungen der Nationalen Präventionskonferenz (Blüher & Kuhlmey, 2019).
Ein weiterer Ansatz ist der der partizipativen Gesundheitsförderung. Die Charakteristik dieses Ansatzes im Setting Pflegeheim ist die systematische Einbindung von interessierten Bewohnenden mit ihrem Erfahrungswissen, um geeignete Maßnahmen zu entwickeln oder bestehende Maßnahmen entsprechend zu gestalten (Blüher & Kuhlmey, 2019).
Der Ansatz der komplementärmedizinischen Gesundheitsförderung verbindet Bewegungsförderung mit dem Alltagserleben von Pflegeheimbewohnenden. Hierbei werden spielerische Elemente in die Tagesstruktur integriert, aber auch hauswirtschaftliche Elemente, wie die Anlage und Pflege von Kräuterbeeten. Dabei liegt ein Schwerpunkt auf täglicher, möglichst selbstständiger und tagesrhythmisch-basierter Wiederholung von Elementen (Blüher & Kuhlmey, 2019).

3 Gute Praxis – ausgewählte Modellprojekte

Potenziale für Bewegungsförderung zeigen drei unterschiedliche aktuelle Modellprojekte, die Bewohnende ebenso wie Mitarbeitende im Setting adressieren: BaSAlt, POLKA und PROCARE.

3.1 BaSAlt

Das Projekt BaSAlt (Verhältnisorientierte **B**ewegungsförderung und individuelle Bewegungsber**a**tung im **S**etting „**Alt**enwohnheim“) ist ein biopsychosoziales Ana-

lyse- und Beratungsprojekt, das im Rahmen des Förderschwerpunkts Bewegungsförderung vom Bundesministerium für Gesundheit gefördert und von der Universität Tübingen umgesetzt wird (2019–2022). Durch BaSAlt sollen bewegungsförderliche Strukturen in Pflegeheimen geschaffen werden, die langfristig zu einem gesteigerten Wohlbefinden und zu einer guten Lebens- und Arbeitsqualität aller Akteure beitragen. In acht Pflegeheimen wird die Transferierbarkeit der Nationalen Empfehlungen für Bewegung und Bewegungsförderung untersucht. Aufbauend auf einer umfassenden Assessmentphase zur Identifizierung von förderlichen und hinderlichen Faktoren sowie einer bewegungsbezogenen Individualanalyse von Bewohnenden werden in einem partizipativen Prozess Einrichtungsleitungen, Mitarbeitende, externe Dienstleister und Bewohnende integriert zu Strategien der Bewegungsförderung beraten (Thiel et al., 2021). Diese Strategien unterscheiden sich in den Einrichtungen und reichen von niedrigschwelligen und im Alltag realisierbaren Interventionen, wie dem Einbezug von Bewohnenden in hauswirtschaftliche Tätigkeiten, über bauliche Veränderungen im Außenbereich, wie Hochbeete oder Barfußpfade, bis hin zu organisationalen Veränderungen, wie der Verankerung von aktivierender Pflege durch ein 3-Schritte-Programm in Dienstbeschreibungen und Pflegeplänen. Durch die alltagsweltliche Perspektive können strukturelle Barrieren, die bei systematischen und exklusiven Gesundheitsförderungsangeboten sichtbar werden, automatisch verhindert werden.

3.2 POLKA

Das mehrdimensionale Modellprojekt (**P**flegeeinrichtungen als K**O**mpetenzzentren in der Gesundheitsversorgung durch Mu**L**tiplikation von Körperlicher **A**ktivität) basiert auf einem ganzheitlichen und partizipativen Ansatz. Durch den hier gewählten Ansatz liegt der Fokus darauf, die strukturellen Barrieren, die in der Organisation entstehen können, durch den partizipativen Entwurf von Maßnahmen direkt zu identifizieren und zu umgehen. Die Umsetzung des Projekts erfolgt durch den Deutschen Verband für Gesundheitssport und Sporttherapie und wird von der gesetzlichen Krankenversicherung DAK-Gesundheit unterstützt. In 30 Pflegeeinrichtungen werden in einem Zeitfenster von fünf Jahren (2019–2024) bewegungsförderliche Maßnahmen entwickelt und implementiert, die sowohl das Pflegepersonal als auch die Bewohnerschaft fokussieren (Bundesvereinigung Prävention und Gesundheitsförderung, 2022). POLKA hat hierfür Tandems für Bewegungsförderung ins Leben gerufen, die aus Lots*innen und Expert*innen bestehen. Die Lots*innen sind für die bedarfsorientierte

Betreuung und die strukturelle Umsetzung zuständig. Die Aufgabe der Expert*innen liegt in der fachlich kompetenten Durchführung der bewegungsförderlichen Maßnahmen und wird nach Bedarf durch die Lots*innen rekrutiert. Auch An- und Zugehörige erhalten die Möglichkeit, sich an diesem Prozess zu beteiligen und durch ihren Besuch Positives zu bewirken (Gassert & Weiß, 2021; Krupp et al., 2021).

3.3 PROCARE

Das Projekt PROCARE zielt auf eine bedarfsorientierte Umsetzung von Verhaltens- und Verhältnisprävention in stationären Pflegeeinrichtungen ab und wird von der Universität Hamburg in Zusammenarbeit mit der Techniker Krankenkasse und sechs weiteren Hochschulen umgesetzt. Durch PROCARE sollen körperliche Aktivität, kognitive Leistungsfähigkeit und psychosoziale Gesundheit von Pflegebedürftigen gefördert werden. Um bedürfnis- und bedarfsorientierte Bewegungsangebote zu gestalten, werden sowohl die Mitarbeitenden als auch die Heimbewohnenden in den Entwicklungs- und Planungsprozess miteinbezogen. In einer viermonatigen Multikomponenten-Intervention zur Bewegungsförderung wird der Erhalt der motorischen, kognitiven und psycho-sozialen Ressourcen der Bewohnenden adressiert (Bischoff et al., 2021; Cordes et al., 2021) Zudem erhalten Mitarbeitende eine zehnwöchige Ergonomie- und Haltungsschulung zum arbeitsbelastungsverträglichen Verhalten, mit der bereits positive Effekte in Bezug auf die Hebeleistung, das ergonomische Verhalten und die Linderung von Rückenschmerzen erzielt werden konnten (Otto & Wollesen, 2022). Hierbei stehen weniger die strukturellen Barrieren im Fokus als vielmehr die individuellen Bedürfnisse und Bedarfe im Sinne einer verhaltensbezogenen Schulung.

Ausblick

Im Setting Pflegeheim sind sowohl die Bewohnenden als auch Pflegefachkräfte und weitere Mitarbeitende relevante Adressat*innengruppen von Bewegungsförderung. Gute Konzepte zur bewegungsorientierten Gesundheitsförderung berücksichtigen daher die diversen Bedarfe und Bedürfnisse unterschiedlicher Gruppen im Setting, sodass Menschen passgenau angesprochen werden können.
Bewegungsförderung ist gerade in diesem Setting ein komplexes Vorhaben, das von einer Vielzahl möglicher Einflussfaktoren abhängt und so gestaltet werden muss, dass es niedrigschwellig ist, sich leicht in den Alltag integrieren lässt und ohne gro-

ßen personellen und finanziellen Aufwand umgesetzt werden kann. Ein kontinuierlicher Dialog zwischen allen Beteiligten ist eine wesentliche Voraussetzung für erfolgreiche Programme zur Förderung von körperlicher Aktivität in Pflegeheimen.

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6.3. Article 2: “Patterns of Physical Activity Among Nursing Home Residents Before and During the Covid 19 Pandemic - A Systematic Observation”

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Patterns of physical activity among nursing home residents before and during the Covid 19 pandemic—a systematic observation

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Abstract

Background The Covid-19 outbreak in spring of 2020 posed an array of challenges for nursing homes, including promoting resident physical activity (PA). Given the diversity of factors affecting resident PA, we explored how activity patterns outside weekly-scheduled structured activities changed during the pandemic and what factors promoted or inhibited PA during the pandemic.

Methods We conducted systematic direct observations over 823.5 h in eight nursing homes in Southern Germany in 2020 and 2021. *Results:* In 2020, 84.7% of person observation units were classified as sedentary (average activity level: 1.14 MET). In 2021, the percentage increased to 91.6% of observed person units (average activity level: 1.08 MET) ($t = 6.947$; $p = .000$). According to tree classification, influencing factors of PA included mealtime and daytime in 2020 and 2021, as well as presence of men residents only in 2020 and guided low threshold activities in 2021.

Conclusions Nursing homes constitute highly sedentary places—an issue exacerbated by access restrictions for external activity experts and significant others as well as behavioural restrictions for residents during the Covid-19 pandemic. Staff could not compensate due to existing time restraints and lack of training in PA promotion. Based on our findings, we recommend future studies to develop feasible and resource-low activities to be integrated into the daily routines of nursing homes.

Keywords Covid-19 pandemic, Nursing home, Physical activity patterns, Long-term care facilities, Older adults

Background

During the early part of the Covid-19 pandemic in the spring of 2020, public health authorities in Germany and various other countries [1] published access restrictions and behavioural guidelines for long-term care facilities. Nursing homes were particularly susceptible to high transmission rates from their infrastructural and organisational conditions, like shared bathroom facilities and common living areas. Restrictions aimed to protect older adults in need of care who lived in those settings; however, restrictions also prohibited or limited options for weekly-scheduled structured activities led by external activity experts and guided low threshold activity opportunities, such as strolls with relatives. At the same

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time, internal staff—who tended to focus on implementing contact restrictions and hygiene measures—did not take over physical activity (PA) promotion [2]. Given the importance of regular PA for the health and physical functioning of older adults, lockdown measures intended to save lives posed life-threatening implications instead [3]. Published annually in Germany, the nursing report determined 70% of nursing home resident relatives described residents as more lonely, depressed, and listless for 2021. Likewise, mental performance and mobility deteriorated [4].

In most cases, PA does not extend beyond everyday activities, such as self-care or moving from one place to another [5–7], yet previous studies identified several factors affecting resident PA levels. *Day of the week* significantly influenced resident PA according to Klenk et al. [8]. For example, on Sundays, residents tend to be less physically active than on other days of the week. Furthermore, PA is often initiated in connection with different *daytimes* (am/pm), especially before and after breakfast, lunch, and dinner (*food intake*). Meals are part of residents monthly fees; therefore, received by all residents [9]. In terms of gender *(men* and *women)*, men seem slightly more active during the day than women residents [6, 10]; more women (66% women) reside in nursing homes than men [11]; and residents spend most of their time among same-gender residents [12]. Since more women reside in nursing homes, more women participate in weekly-scheduled structured activities, which more likely cater to women's interests [5, 6, 10]. Additionally, *staff or significant others* and their presence influence resident PA. Although residents experience little overall interaction with staff during the course of the day, residents are significantly more likely to be active when staff encourage them [6, 7, 13, 14]. *Activities*—initiated by staff during everyday life—also influence resident PA. Guided low threshold activities include playing with a ball, folding laundry, or setting the table. According to den Ouden et al. [15], they observed residents in those activities in 31% of all observations, with staff often providing support. Sufficient on-site, low threshold activity opportunities are important since many residents cannot independently leave the home to engage in other PA programs in the neighbourhood [13].

Although previous studies identified several factors proven to impact PA among older adults who live in nursing homes, little is known about the impact of the Covid-19 pandemic on PA in nursing home settings. Furthermore, previous studies mostly used accelerometers, interviews, or questionnaires, yet without detailed information about physical and social contexts where PA occurs or monitored group behaviour capabilities [16]. Systematic direct observation constitutes a methodological alternative for studying naturally occurring activity patterns of individuals and groups in specific settings, such as nursing homes, and considering the influence of physical and social environments on PA [17–20] as well as changes in PA behaviour.

In our study, we provide an overview of daily PA—not weekly-scheduled structured activities—of nursing home residents. According to literature, only 54% of women and 34% of men residents participate in weekly-scheduled structured activities [12] that occur on special premises. Previous studies often developed such PA programmes to increase resident PA [5, 21, 22]. However, few residents benefit from weekly programmes offered two to three days a week with low participation or on weekends when no activities take place. To provide a representative overview of resident everyday PA and explore potential changes among their PA from Covid-19 restrictions, we build upon a systematic observation of PA patterns in eight nursing homes in Southwestern Germany between 2020–2021. Our study asked two interrelated research questions:

(1) Outside of weekly-scheduled structured activities, how did PA patterns change among nursing home residents during the Covid-19 pandemic?
(2) What promoting and hindering factors significantly influenced PA patterns among nursing home residents and did factors change from the pandemic?

Materials and methods

Study setting

As part of the larger BaSAlt project on PA promotion and counselling in nursing homes *('Verhältnisorientierte Bewegungsförderung und individuelle Bewegungsberatung im Setting Altenwohnheim ' – ein biopsychosoziales Analyse– und Beratungsprojekt*, funded by the German Federal Ministry of Health 2019–2023, grant no. ZMVI1-2519FSB114), our present study occurred in eight different nursing homes in Southwestern Germany. Institutions differed by environmental context (periphery and urban); management (non-profit institutions), and resident population composition [17]. Living places varied from 33 to 52 and nursing homes contained one (ground level) to three living areas. More women than men lived in all homes; two homes included protected areas for residents with dementia—the reason the number of cognitively impaired residents was higher compared with other homes. Table 1 shows detailed information about nursing home sites.

Study design and instrument

We conducted observations guided by the system for observing play and recreation in communities—*SOPARC*

Table 1 Detailed information about nursing home sites

Nursing home	Environmental context	Number of residents	Observed living area
1	Periphery	33	**One living area** dining area (eight tables), TV area (armchairs and sofas), office, kitchen (extra room), floors
2	Periphery	46	**One living area** dining area (four tables and one sofa) with kitchen, floors
3	Periphery	52	**Two living areas** dining areas (three tables each), kitchens (extra rooms), one relaxing area (armchairs and sofas), floors
4	Periphery	48	**Two living areas** dining areas (two to four tables) with kitchen, floors, relaxing area (armchairs)
5	Periphery	40	**Two living areas** dining areas with kitchen (three to five tables), floors
6	Urban	59	**Two living areas** (only observed in 2020) dining areas (five tables), relaxing area (armchairs), floors
7	Urban	46	**Three living areas** dining areas (three tables each) with kitchen (in two areas), floors
8	Urban	39	**Three living areas** dining areas with kitchen (two to four tables), two relaxing areas (armchairs and sofas), floors

—direct observation method [23] to collect data on PA patterns in everyday lives of residents and Thiel et al.'s [19, 20] systematic direct observation tool developed for an observational study on social dynamics of physical (in)activity. Table 2 shows our observation instrument categories.

We collected *temporal and spatial-related information* (category 1), such as date, weekday, or time, to classify our large amount of data and identify activity hotspots throughout the day or week [24, 25]. To gain knowledge about the indoor *infrastructure* (category 2), we investigated barriers and facilitators for promoting PA (walking aids or PA-provoking objects, such as balls). We developed items concerning *person-related information* (category 3) following McKenzie and colleagues [24, 25]. Observers classified observed persons into personal categories (resident, caregiver, significant other, such as relatives), assigned gender (men, women), and activity categories adapted for nursing home settings (passive, sitting, standing, seated rolling, walking+). We adapted resident gait patterns for the sample [26] into five categories (overlapping, foot to foot, crotch length one foot, crotch length ≥ two feet). To collect *group-related information* (category 4), in line with Thiel et al. [20], we defined all people who entered the observed area as the sample (total number of people observed). To gather further information, we documented verbal and non-verbal (e.g., feeding) interpersonal interactions [24, 25] as well as guided low threshold activities as an important and integral part of daily life in nursing homes. Guided low threshold activities included all PA proposals spontaneously integrated into everyday life by staff. Observers also

Table 2 Observation instrument categories

Category	Observed Factor	
-1-Temporal and spatial-related information	nursing home date weekday period and area of observation screening time & -ID	Field notes
-2-Infrastructural-related information	barriers to PA (+ photo) PA-provoking objects (e.g., balls) activity-enhancing potentials (walking aids) use of activity-enhancing potentials weekly activity plans	
-3-Person-related information	gender personal categories (resident, caregiver, significant other) activity categories (passive, sitting, standing, seated rolling, walking +) gait patterns (overlapping, foot to foot, crotch length one foot, crotch length ≥ two feet)	
-4-Group-related information	total number of people observed group interactions (verbal, non-verbal) overall activity (%) guided low threshold activities	

recorded field notes [25, 27] between screenings and collected weekly activity nursing home schedules to enrich quantitative data with more detailed descriptions of observed PA patterns.

Data collection

The first observation period ran January to March 2020, the second February to March 2021. We observed various living areas of participating homes to obtain realistic impressions of everyday life. We chose the same observation period both years to avoid seasonal effects. We observed community areas—where meals are served, small activities held, visitors received, or people simply lingered or talked—with a minimum size of 40 m^2 within nursing homes since a large proportion of residents spent their time there during the day. We did not observe residents in outdoor areas since few residents went outside due to winter season-related cold weather with snowfalls and rain. To capture resident daily PA fluctuations, observation intervals ranged from 10 am to 6 pm (weekdays) and 9 am to 5 pm (weekends). To ensure inter-rater reliability, observers were introduced to all items used in the screening instrument and in a group session, the observers were shown pictures of nursing home residents. Gender, gait patterns and activity categories were discussed together to generate a common understanding. Each observer was accompanied by a developer of the instrument on the first day of data collection and the examples from the group session were available at all times. Nine trained observers collected data with the observation instrument in predefined observation areas in 15 min intervals. In a pilot phase, developers tested the instrument to identify and address problem areas as well as set observation intervals. Intervals were defined by 15 min since nursing homes tend to be low-activity settings [5–7]. Every 15 min, observers overlooked areas and documented all PA-related information with the screening instrument (Table 2). Between screenings, observers wrote fieldnotes about special incidents.

Table 3 provides information about screening days, number of screenings, observation hours, and person observation units in 2020 and 2021. Since the same persons were monitored several times a day, an enormous number of person observation units resulted. In 2020, on-site observations stopped after 34 days from the Covid-19 outbreak and regulations in Germany limiting access to nursing homes for external people.

For statistical analyses, we considered the following factors, derived from the existing literature [5–10, 12–14]:

(1) Day of the week (weekday/weekend)
(2) Food intake (mealtime/no mealtime)
(3) Men residents (present/not present)
(4) Women residents (present/not present)
(5) Staff or significant others (present/not present)
(6) Daytime (morning [am]/afternoon [pm])
(7) Activities (guided low threshold activity/unstructured being)

To compare PA, regardless of the total number of people in the observed area, residents were classified into five activity categories. For data evaluation, each activity category was assigned a MET value (metabolic equivalent unit) according to existing literature (Table 4) [28–32]. Overall, we selected rather low MET values (0.95–2.6) for data analysis since residents tended to perform all activities very slowly and with low energy consumption [29].

We defined *passive* (0.95 MET) as lying down or sleeping [28]. We rated *sitting* (1.0 MET) as resting energy expenditure during quiet sitting [29]. *Sitting rolling* (1.5 MET) described moving around independently in a wheelchair using legs but not arms. Elsewhere, the activity was rated as predominantly sedentary, rarely physically active and thus the limit for sedentary behaviour [30, 32]. We defined *standing* (2.0 MET) as standing independently with (e.g., staff, cane) or without help [30], and we rated *walking+* (2.6 MET) as normal walking (on level surface) [31].

Data analysis

We performed statistical analyses supported by IBM SPSS Statistics 25. For data analysis, due to the high fluctuation of residents, we first calculated t-tests for independent groups to investigate the impact of possible influencing factors on resident PA before and during the Covid-19 pandemic. Additionally, we applied

Table 3 Overview of observations in 2020 and 2021

Year	2020	2021	Total
Observation days	34	77	111
Screenings	800	2494	3294
Observation hours	200	623.5	823.5
Person observation units	8.454	22.598	31.052
Resident observation units	6.153	18.697	24.850

Table 4 MET values of the activity categories

Activity category	MET value
Passive	0.95
Sitting	1.0
Sitting rolling	1.5
Standing	2.0
Walking+	2.6

a Bonferroni correction to counteract the problem of erroneously rejecting a null hypothesis from calculating multiple comparisons. To check the practical relevance of differences, we calculated effect sizes of differences using Cohen's d.

Second, to analyse interaction effects between predictors and differentiate the most pronounced contrast groups concerning PA, we carried out a classification tree analysis (CTA) to identify contrasting groups of PA and test influencing factors for possible interaction effects [33–35]. We used the Exhaustive CHAID algorithm ('Exhaustive Chi-squared Automatic Interaction Detector') for its possibility of a categorial merging for each predictor variable until only two categories remain for each predictor [35]. As a specific 'stopping rule' for the analysis, the significance level for splitting nodes and merging categories was set at $p=0.05$. The depth was set at three and the minimum number of cases in parent nodes was set at 100 and 50 for child nodes. We calculated reliability measures using the risk estimate of misclassification (variance within the nodes). The quality of a tree model was calculated via the explained variance of the tree (variance between the nodes).

Third, we transcribed handwritten qualitative field notes and systematically scanned them for relevant aspects (MAXQDA, 2018) to interpret tree analysis results. We used qualitative data to contextualise and enrich quantitative data.

Results

We next present results regarding (1) the development of resident PA during the Covid-19 pandemic; (2) different factors influencing PA before and during the Covid-19 pandemic; and (3) field notes to complement results with examples from resident everyday life.

Development of residents' PA from 2020–2021

Table 5 shows daily activity differences depending on several influencing factors. In 2020, 84.7% of residents spent most of the day sedentary (average activity level: 1.14

Table 5 Differences in daily activity depending on several influencing factors in 2020 and 2021

Independent variables	Activity 2020 [MET]	Activity 2021 [MET]	Comparison 2020/2021	Cohen´s d
Day of the week				
Weekday	1.12	1.08	t = 4.586 *p* = .000*	0.225
Weekend	1.11	1.10	n.s	
Food intake				
Mealtime	1.09	1.06	t = 3.070 *p* = .002*	0.206
No Mealtime	1.13	1.09	t = 3.203 *p* = .002*	0.169
Men residents				
Present	1.11	1.08	t = 3.428 *p* = .001*	0.158
Not present	1.14	1.07	n.s	
Women residents				
Present	1.12	1.08	t = 4.430 *p* = .000*	0.184
Not present	1.00	1.23	n.s	
Staff or significant other				
Present	1.12	1.08	t = 4.671 *p* = .000*	0.210
Not present	1.10	1.09	n.s	
Daytime				
Morning (am)	1.09	1.06	n.s	
Afternoon (pm)	1.14	1.09	t = 3.531 *p* = .000*	0.188
Activities				
Guided low threshold activity	1.12	1.06	n.s	
Unstructured being	1.12	1.08	t = 3.713 *p* = .000*	0.159

n.s. = not significant; *Significance level after Bonferroni correction: $p = 0.05/7 = 0.007$

MET). In 2021, the percentage of sedentary residents increased further to 91.6% (average activity level: 1.08 MET) ($t=6.947$; $p=0.000$). Our more detailed analysis shows a significant decrease for most categories—with small effect sizes— on resident PA in 2021 compared with 2020.

Sedentariness and PA-related contrast groups

We depict tree models for 2020 and 2021 in Figs. 1 and 2. The activity levels of the classification tree analysis (*sedentary, rather passive, lightly active, moderately active, extremely active*) range from 0.95 to 2.6 MET. For a representative calculation and presentation of the influencing factors, all activity levels cover a range of 0.33 MET to be identical. Residents were significantly more inactive in 2021 (91.6% of residents exhibited predominantly sedentary behaviour) than in 2020 (84.7%). In 2020, 90.7% of residents in the most inactive cluster (node 1, 2020) were sedentary, while in 2021 all residents (100%) were inactive (node 5, 2021). For clusters representing the highest activity, the picture is similar. In 2020, 24.1% of residents in the most active cluster were physically active (node 4, 2020); in 2021, only 11.0% (node 3, 2021).

In detail, the classification tree shows interaction effects between predictors. The first level of the classification tree depicts the factor that explains the largest amount of variance among resident PA— *daytime* (am/pm) in 2020 and *food intake* (mealtime/no mealtime) in 2021 (temporal-related information). At the second level, data shows that in 2020, PA during the afternoon was significantly lower if men residents were present, while in 2021, residents were more active outside mealtime when they could use their time freely (temporal-, personal- and group-related information). At a third level, in 2020, PA in the afternoon was particularly low during mealtimes if men residents were present. In 2021, there was no observable PA at all in the morning outside of mealtime when guided low threshold activities took place (temporal-, personal- and group-related information).

Figure 3 depicts PA clusters in a direct comparison between 2020 and 2021. In 2021, sitting times clearly increased in all clusters; thus sedentary behaviour appears much more pronounced during the pandemic than before.

Contextualisation with qualitative data from field notes

Although weekly-scheduled structured activities took place in unobserved areas, on average only eight residents participated. In contrast, low threshold activities in observed areas were initiated and partly guided by staff, which potentially covered all residents in the common areas. These activities happened spontaneously and only when time was available. For instance, "According to the weekly schedule, only few weekly-scheduled structured activities take place (e.g., bowling), but staff often initiates guided low threshold activities in the observation area, such as haptic games, singing, or quizzes" (Field notes, 2021).

As expected, mealtime was associated with physical inactivity—in 2021 even more than in 2020. Residents were hardly involved in any meal-related activities, usually not setting or clearing the table. For example, an observer recorded in field notes, "Staff hands out the food while residents sit at the tables and wait" (Field notes, 2021). When relatives were allowed to spend time in shared areas, they also contributed to resident inactivity by "often visit[ing] at mealtime and sit[ting] at the table to assist residents with eating" (Field notes, 2020). However, it was only observed in 2020, when relatives were allowed to spend time in shared areas. Since "Many relatives come to visit and go directly to the resident's room, as they are not allowed to stay in the shared areas" (Field notes, 2021), PA during mealtimes happened only exceptionally with rather mobile residents. For example, "Normally, staff members start setting the table for lunch, sometimes a resident is helping. After the meal, the staff collects the dirty dishes. Sometimes, a staff member cleans up with residents and has them wipe down the tables" (Field notes, 2021).

Field notes also indicated the relevance of meals as orientation points for PA as many residents come to the dining area long before meals are served: "The observed area fills up about 30 min before lunch and many residents come to the dining area independently (with and without walking aids). Outside of mealtime, only a few residents walk through the area" (Field notes, 2021).

Social interactions played a relevant role in these physically active situations, both in 2020 and 2021. For example, "Two women residents chatted after they walked to each other. [...] Some residents go outside together for a walk" (Field notes, 2020); or " ...residents are often pushed into the observed area long before meals. Even those who can walk independently often arrive early. [...] Especially during the pandemic, residents seem to crave social contact and therefore come out of their rooms more often to go to the shared areas" (Field notes, 2021). However, social interactions 'in motion' happened more often when Covid-19-related restriction rules were softened and mostly observable when only women were present. Not least, these interactions often occurred spontaneously, for example when two residents met each other and started to talk while walking through the corridors together.

> *The women residents walk to the women's club meeting on the first floor. [...] A resident is picked*

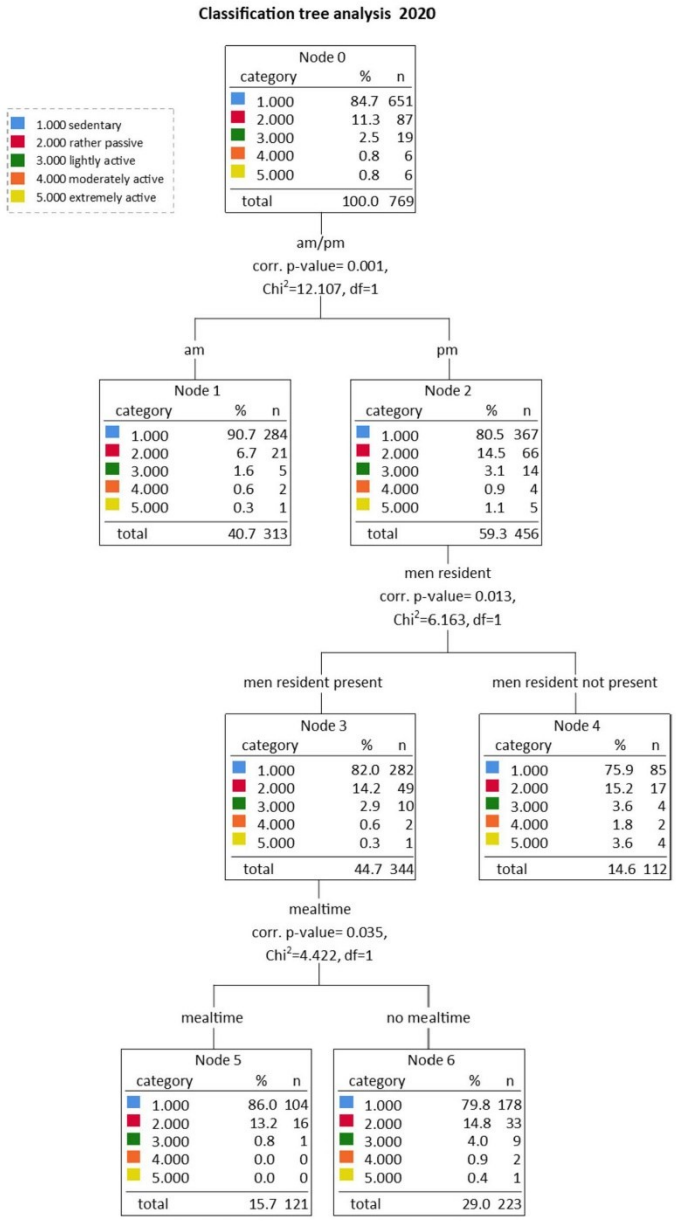

Fig. 1 Classification tree of predictors associated with physical activity (PA; 2020). PA levels of groups 1 = sedentary; 2 = rather passive; 3 = lightly active; 4 = moderately active; and 5 = extremely active

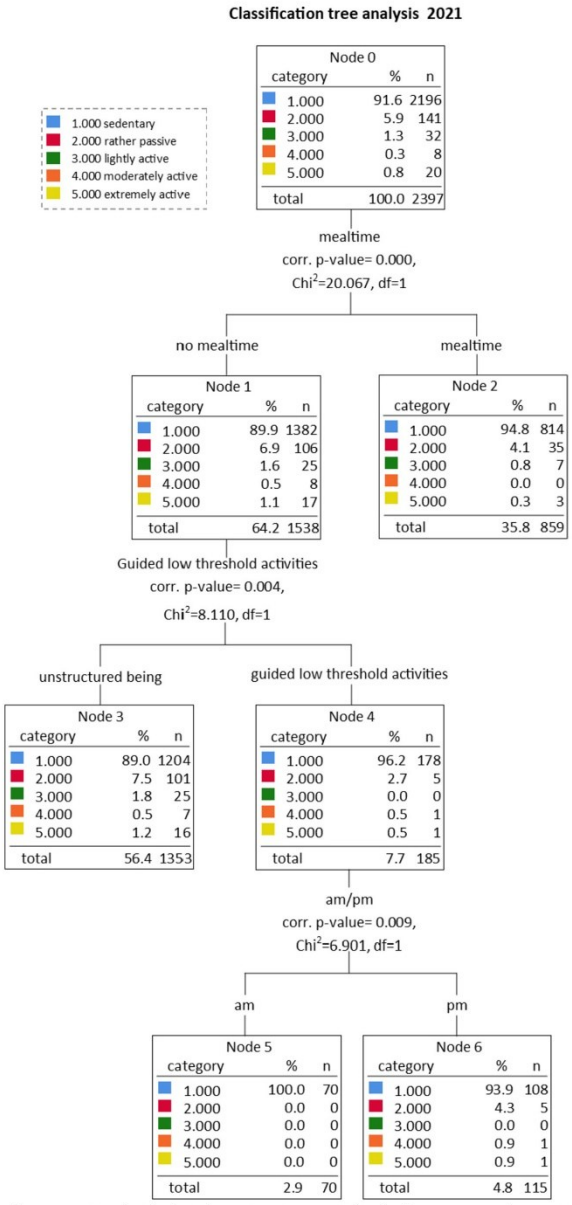

Fig. 2 Classification tree of predictors associated with physical activity (PA; 2021). PA levels of groups: 1 = sedentary; 2 = rather passive; 3 = lightly active; 4 = moderately active; and 5 = extremely active

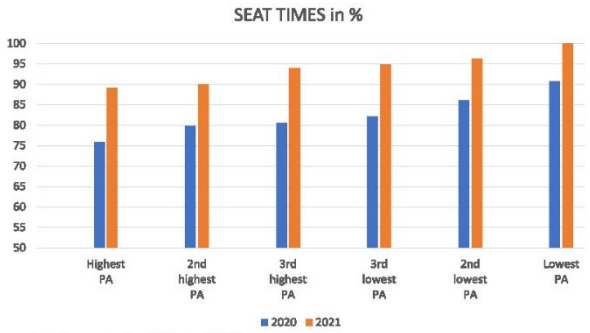

Fig. 3 Physical activity clusters directly comparing 2020 and 2021

up by an external person, and they walk through the corridors [...] Two women residents talk about their strolling plans after coffee. (Field notes, 2020)

During lockdown periods, visits—if permitted at all—only took place in resident rooms or outside the nursing home. However, such activities happened much less frequently in 2021 than in 2020. Activities with visitors in community areas came to an almost complete halt during lockdowns. For instance,

A resident is picked up by a visitor for a walk. [...] A relative goes to his mother's room and tells the observers that he is unfortunately only allowed to see her in her room and not in the shared areas anymore. (Field notes, 2021)

Discussion/conclusion

To represent activity in everyday life, we analysed PA patterns of nursing home residents outside weekly-scheduled structured activities just before and during the Covid-19 pandemic. We found a decrease among residents with already low active time from 2020 to 2021; we primarily linked the decrease to behavioural and access restrictions due to the Covid-19 pandemic. We confirmed previous studies that already described a general trend towards sedentariness in nursing homes [5–7]. We also identified factors promoting and hindering PA in this setting [5–13] and showed resident PA is influenced by temporal-related factors, yet also personal- and group-related factors.

The influence of daytime and guided low threshold activities on PA

According to our classification tree, daytime significantly influenced resident PA with higher inactivity in the morning than in the afternoon. However, daytime is not the decisive factor when looked at in more detail. Before the pandemic (2020), inactivity in observed areas resulted from some residents attending weekly-scheduled structured activities two to three days a week. Here, we even observed a lower participation rate than in other studies, as on average only eight residents per session took part in the weekly-scheduled structured activities such as gymnastics, bowling, or painting [12]. During the pandemic (2021)—with hardly any weekly-scheduled structured activities—low threshold activity opportunities in everyday life became all the more important. According to our classification tree, since external activity experts were not allowed in homes, an enormous amount of inactivity occurred, although staff offered low threshold PA. For staff with limited expertise in PA promotion, complex activations were not possible and mostly simple activities—partly unrelated to PA, such as working on crossword puzzles—in sitting positions took place.

The influence of mealtime on PA

We found the most dynamic times of day to be directly before and after meals. Meals prove to represent fixed points in resident daily routines, which aligns with other studies [2, 7, 9]. Studies considered mealtime as an activity-provoking highlight of the day, not least because meals are usually served outside private rooms, hence, mealtimes force residents to leave their private rooms and make their ways to dining areas [2, 7, 9].

Low threshold activities related to meals provide new opportunities to encourage residents to be physically active outside weekly-scheduled structured activities. In our study, we observed residents in some participating homes taking over tasks, such as handing out food or setting tables. Even more effective when supported by staff, spontaneous activities provide possible positive impact on resident PA [6, 13, 15]. Spontaneous

activity opportunities are possible without investing a large amount of time and personnel, not least of all because residents—as Hoppe [14] also found—show willingness to take over household activities if asked by staff.

The influence of nursing staff and other social contacts on PA

All homes in our study offered various weekly-scheduled structured or guided low threshold activities to slow down the physical and mental decline of residents prior to the pandemic. During the lockdown, weekly-scheduled structured activities were reduced or even completely suspended, not least from access restrictions for external activity experts. Even if weekly-scheduled structured activities could not be compensated by nursing staff [2], they still made an effort to offer guided low threshold activities during the day. Here, we cannot confirm Hoppe's [14] findings that nursing homes neglect activities, yet we support not solely relying on external activity experts for PA programmes, since it possibly leads to limitations during pandemics.

Generally, although staff members can positively influence resident PA, lack of time often hinders them [14], as well as lack of competencies for offering PA promotion [2]. Employing PA professionals in-house—which is usually not done in nursing homes—addresses such deficiencies [13, 14]. Furthermore, staff should focus even more on motivating inactive residents, and not only focus on those who are already very active [13]. Since PA in observed areas mostly occurs 'in motion' between residents and from time to time with visitors as well, another option would be including significant others to promote PA, while socially interacting with residents since it can stimulate socialisation and improve quality of life [6].

Strengths and limitations

To our knowledge, our study is the first to systematically observe nursing home resident PA patterns before and during Covid-19. Our combined quantitative and qualitative observations allowed for estimating PA in different everyday life situations and contextualising (in)activity by capturing social, temporal, and personal characteristic activity patterns. Yet, our study also has limitations. Even if gender seems a significant influencing factor on resident PA, the result requires critical reflection. The gender distribution in our study is comparable to the distribution reported in previous studies [11]. Men were observed as less likely to participate in spontaneously-initiated low threshold activities, such as setting the table or folding laundry. Some gender-related findings possibly stem from the presence of almost no men in participating nursing homes, not from a possible activity hindering influence of men. Considering the intensity of PA, a MET value of 1.0 was generally assigned to the category *sitting* without distinguishing between active and passive sitting. Thus, based on our data analysis, categorising sitting behaviour generally as inactive behaviour could lead to an overestimated sedentariness because sitting does not necessarily mean doing nothing physical. In future research, we recommend *sitting* further differentiated into *active* and *passive*. Another limitation involves the difference in observation days between 2020 and 2021 possibly affecting our results. In 2020, observations stopped early from Covid-19 pandemic restrictions. Nevertheless, we observed the same residential areas in both years, only for fewer days in 2020. A final limitation involves direct observation not covering all areas of participating homes. We did not observe rooms where weekly-scheduled structured activities occurred with the screening instrument, yet we recorded activities in field notes. However, only a few—not most—residents participated in activities two to three days a week.

Conclusions

By identifying promoting and hindering factors for resident PA and PA pattern effects from the pandemic, we provide insights into everyday contexts of PA in nursing homes. Even before the Covid-19 outbreak, sedentary behaviour dominated during observations. Cancelled weekly-scheduled structured activities influenced PA behaviour to some extent, even though on average only eight residents participated. It once again underlines the importance of guided low threshold activities since they can be integrated into everyday life without much effort and performed 'in motion.' Nevertheless, even these activities could partially not be performed during the pandemic due to hygiene measures and led to an increase of sedentariness in everyday life.

We suggest findings from our study could be used to integrate feasible and resource-low activities into nursing home daily routines. In the long-term, more active everyday life can slow down the physical and mental decline of residents; thus improving quality of life and autonomy with lower needs for care.

Abbreviations

PA	Physical Activity
MET	Metabolic Equivalent Unit
CTA	Classification Tree Analysis
CHAID	Exhaustive Chi-squared Automatic Interaction Detector

Acknowledgements

We would like to thank the nursing homes that agreed to participate in this observational study and that continue to participate in our research on PA promotion. The opportunity to observe the physical activity patterns of residents, staff, and significant others throughout the day gives us an important insight into the daily life, routines, and processes of nursing homes.

Authors' contributions
Theoretical foundation, AT, AF, LH; study conceptualization, AF, AT, LH, DA; methodology, AF, LH, AT, DA; data collection, LH, DA, formal analysis, LH, AF, AT; writing—original draft preparation, LH.; writing—review and editing, AF, AT; supervision, AF, AT; funding acquisition, AT, AF, GS, AN, GE. All authors have read and agreed to the published version of the manuscript.

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Availability of data and materials
The datasets generated for this study can be requested via email to the corresponding author.

Declarations

Ethics approval and consent to participate
Ethical approval for the study was granted by the Ethics Committee of the University of Tübingen (no. AZ A2.5.4-096_aa).

Consent for publication
The study presented in the paper was designed as an observation to study naturally occurring physical activity behaviours, patterns, and interactions. Therefore, it was deemed essential that the researchers would neither directly nor indirectly interact with participants during observation periods. Prior to the study, heads of the nursing homes gave informed written consent for this study. We also informed residents, significant others, and legal representatives in written form prior to observation and via public displays on observation days about the study processes and contents.
According to the Ethics Committee and in compliance with German law, this study is not regarded as a human subject research. Given the interdisciplinary design of the overall BaSAlt project, we committed ourselves to comply with the guidelines for human studies and declare that the research was conducted ethically in accordance with the World Medical Association Declaration of Helsinki.

Competing interests
The authors declare that they have no competing interests.

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Publisher's Note

6.4. Article 3: “A 10-Step Participatory Program for Developing, Implementing, and Evaluating Physical Activity Promoting Actions in Nursing Homes in Germany”

Lea-Sofie Hahn, Ansgar Thiel, Viola Dembeck, Daniel Haigis, Leon Matting, Rebekka Pomiersky, Gerhard W. Eschweiler, Andreas M. Nieß, Gorden Sudeck and Annika Frahsa (2024). A 10-step participatory program for developing, implementing, and evaluating physical activity promoting actions in nursing homes in Germany. *BMC Public Health*, 24(419). doi:10.1186/s12889-024-17727-3.

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RESEARCH Open Access

A 10-step participatory program for developing, implementing, and evaluating physical activity promoting actions in nursing homes in Germany

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Abstract

Background Since multidimensional barriers challenge nursing homes, a socio-ecological approach is needed for physical activity promotion in this setting. So far, little is known about how such an approach can be transferred into the successful development and implementation of PA-promoting actions together with stakeholders on-site. We aimed to investigate the actions and dimensions of PA-promoting actions and their sustainable implementation. To contribute to closing this gap, we present a 10-step program for co-developing and co-evaluating PA-promoting actions in nursing homes through an integrated counselling approach.

Methods We used a multiple case study approach that built upon manifold data sources, collected in 7 nursing homes over 3 years between 2021 and 2023. We collected fieldnotes and photologs from 14 future workshops (2 per home); 7 evaluation workshops (1 per home); 36 individual counsellings (2 sessions per resident), as well as 87 implementation protocols (action type and frequency), 11 evaluation questionnaires (changes among resources, cooperations, and collaborations); 7 goal attainment scales and 18 individual activity schedules. In addition, we retrieved and documented progress information at regular intervals by phone or email.

Results With staff, residents, relatives, and volunteers, we co-developed 112 ideas for PA promotion; from which 54 ideas were implemented and integrated into everyday life, differentiated into "activities of daily living," "structured activities," and "activity-friendly environments."; 18 residents in 4 homes participated in individual counselling to develop individual activity schedules. Eighteen actions were rated as "(much) more successful than expected"; 10 "(much) worse than expected," and 23 "as successful as expected." Three actions were not evaluated.

Discussion The participatory integrated counselling approach led to home-specific actions and promoted implementation into everyday life. The number and dimensions of actions implemented largely depended on the mission and vision of the respective home. The lack of staff could partially be compensated for by involving neighbourhoods, volunteers, and community organisations, such as local clubs.

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Conclusion To effectively promote PA in nursing homes, a tailored approach considering structural conditions, locations, volunteer engagement, and organisational visions is essential. Long-lasting partnerships and low-threshold opportunities prove promising. Future research should delve into structural-level change processes and outcomes in this context.

Keywords Physical Activity Promotion, Nursing homes, Participatory Integrated Counselling Approach

Introduction

Regular sufficient physical activity (PA) can improve nursing home resident physical and mental performance and health as well as their quality of life and social interactions [1–4]. Sedentary behaviour poses an enormous health risk and even low-intensity activities, such as gardening, can increase independence and individual mobility [5, 6]. At the same time, PA promotion in nursing homes tends to be hindered by multidimensional barriers on several levels.

Socio-ecological models provide a framework for analysing and developing actions to overcome existing barriers [4, 7, 8]. According to Sallis et al. (2006), PA occurs in *behavioural settings*, such as neighbourhoods, which are especially important for physically active residents and people who visit. Inside nursing homes, several DOMAINS OF ACTIVE LIVING represent areas of potential PA (active recreation, household activities, occupational activities, and active transport) affected by several environments. *Perceived environments* are decisive factors for nursing home residents choosing whether they participate in interventions and how comfortable they feel during PA [7]. The availability, accessibility, and safety of indoor and outdoor areas significantly impact resident PA, especially for mobile residents [9, 10]. Inadequate indoor building infrastructure [11–13], unsuitable premises [14], or bad weather conditions like heatwaves [15] also count as environmental barriers and negatively influence and challenge PA promotion. *Policy environments* concern homes (e.g., missions and visions), carriers (e.g., PA promotion embedded in concepts), or governments (e.g., legal requirements and guidelines) [7]. Political decisions, such as restrictions taken during health-threatening events, especially decrease the amount of resident PA [16]. Other potential influences on PA promotion can be found in *information-* (e.g., communication structures), *social cultural-* (e.g., social climate), and *natural-environments* (e.g., weather) [7]. Moreover, *intrapersonal conditions* influence individual PA behaviour, especially for advancing age since changes occur day to day [7]. Since residents tend to have various physical and/ or cognitive impairments [2, 11, 17, 18], tailored PA programs are beneficial from health perspectives, increase resident motivation to participate, and enhance their knowledge about advantages of sufficient PA [9, 11, 14, 18, 19]. Particularly residents with predominantly sedentary lifestyles before moving into nursing homes benefit from tailored programs [19]. However, nursing staff often feel insufficiently trained or unmotivated to provide structured PA programs, afraid of injuring themselves or residents [2, 18]. This phenomenon is often related to a lack of support from home management or carriers [2, 11, 14, 18] because PA promotion is deprioritised by facilities or rigid organisational structures make it difficult to integrate sufficient PA into everyday life [16]. Meals, basic care, and other fixed components of home routines often leave no room for PA promotion, which particularly affects immobile residents unable to go for strolls or perform other small activities independently [9, 11, 14, 18, 20].

Despite vast knowledge about PA benefits for older adults, little research exists about implementing PA-related actions in nursing home settings [21–27]. Most studies address intrapersonal conditions, particularly for residents with cognitive impairments, such as dementia, to reduce risks of fall [21–23] or slow cognitive decline [24]. Other studies aim to increase quality of life and decrease depressive symptoms [25, 26]. Furthermore, studies on intrapersonal levels investigate effects of individually tailored intervention programs [27] or aim to improve future PA programs or activities of daily living through their investigations [1, 28]. Other studies consider home-policy environments, such as embedding PA programs into nursing home daily routines, yet do not consider perceived environments [29, 30]. Only a few studies consider intrapersonal conditions and the social cultural, home-policy, and perceived environment at the same time [31–33]. Moreover, these studies either include only specific groups of residents [33] or involve only occupational therapists and not nursing staff [32]. Many studies apply predetermined, time-limited interventions in different homes and do not take individual contexts into account [21, 24, 25]. Only a single study identified the need for a flexible, inclusive approach to improve resident PA and the necessity for staff to communicate PA benefits and requirements to residents [31].

Less is known about how a process can look like that successfully develops and implements PA-promoting actions together with nursing home staff and different relevant actor groups, such as relatives, external activity promoters, and volunteers. Furthermore, the increasing numbers of migrants working in care affect the understanding of gender and cultural diversity and also affect everyday life in nursing homes in coming decades [4].

Thus, considering intrapersonal conditions and different environments is crucial when it comes to PA promotion in nursing homes. In response, we present a 10-step program for developing and evaluating PA-promoting actions in nursing homes working with staff, residents, relatives, and volunteers within a participatory integrated counselling approach. We consider all levels of the socio-ecological model [7] to sustainably implement PA-promoting actions into everyday nursing home life. We investigate the development, implementation and evaluation of PA-promoting actions that aim to change everyday activity and PA-related structures of the nursing home.

Materials and methods

Our study took place within the larger *BaSAlt* project on PA promotion and counselling in nursing homes (German Federal Ministry of Health 2019–2023, grant no. ZMVI1-2519FSB114). Homes of four different non-profit carriers in the Federal State of Baden-Wuerttemberg, Germany, were chosen to represent different forms of organisations regarding environmental contexts (periphery/urban), capacity (33–52 living places), and resident population composition [34]. More women than men lived in all 7 homes; 2 homes included protected areas for residents with dementia—this is the reason why these 2 homes had more residents with dementia compared to the other homes.

We used a multiple case study approach to examine real-world, contemporary, multiple-bounded systems (cases) with longitudinal detailed, in-depth data collection. We built upon manifold sources of information, including ethnographic field notes and documents collected over 3 years between 2021 and 2023 [35]. We conducted organisational counselling, including 21 workshops, with people living and working in this setting and individual counselling with 18 residents and their relatives. We conducted the participatory integrated counselling approach in 7 homes (an eighth home dropped out due to the pandemic). We collected fieldnotes and photologs from 14 future workshops (2 per home); 7 evaluation workshops (1 per home); and 36 individual counsellings (2 sessions per resident), as well as 87 implementation protocols (action type and frequency); 11 evaluation questionnaires (changes among resources, cooperations, and collaborations); 7 goal attainment scales (GAS) [36]; and 18 individual activity schedules. In addition, we retrieved and documented progress information at regular intervals by phone or email.

We used a participatory integrated counselling approach to promote PA in nursing homes. Organisational counselling was based on 3 workshops (FUTURE WORKSHOP I+II and an EVALUATION WORKSHOP) and 2 individual counselling sessions (INDIVIDUAL COUNSELLING I+II). We developed and used a 10-step program (Table 1) to plan and implement PA-promoting actions and assess goal attainment. Scientific project team members guided all workshops and individual counselling. The 7 nursing homes received €8500 each to put PA-promoting actions—developed from participatory integrated counselling—into practice. Ideally, INDIVIDUAL COUNSELLING I starts directly after FUTURE WORKSHOP I; INDIVIDUAL COUNSELLING II takes place 6 weeks after INDIVIDUAL COUNSELLING I; and EVALUATION WORKSHOP occurs 6 months after FUTURE WORKSHOP II to guarantee sufficient time to implement PA-promoting actions into everyday life.

In FUTURE WORKSHOP II, actions were systematically planned according to the SMART concept (Table 2) [37]. The actions were described (**S**pecification), success was defined (GAS=0) (**M**easurability), and single actions were voted on in plenary (**A**cceptance). If there was a simple majority, the action was approved for implementation into everyday life. Necessary preparations for implementation were collected and responsibilities allocated (**R**ealisability). Lastly, a start date was set (**T**iming).

INDIVIDUAL COUNSELLING I+II followed the 5 A concept [38] (Table 3). First, in INDIVIDUAL COUNSELLING I, individual motives and goals for PA were identified together with residents and relatives. Personal requirements were considered as well as socio-infrastructural conditions (**A**ssess). Second, experts (e.g., project team or physiotherapists) made recommendations for PA – based on the needs and requirements identified (**A**dvise). Third, preferred activities were recorded in an individualised activity schedule, and goals were defined (**A**gree). Fourth, if desired, experts provided support to make successful implementation more likely (e.g., coping plans) (**A**ssist). After 6 weeks, possible barriers to implementation were discussed in INDIVIDUAL COUNSELLING II and, if possible, eliminated (**A**rrange).

Results

We aimed to investigate the actions and dimensions of PA-promoting actions developed during our participatory integrated counselling approach as well as their sustainable implementation in the structures of the nursing home. The analytic approach was situated within the socio-ecological framework [7], which allowed us to consider the complexity of promoting PA in the nursing home setting. We present results regarding (1) actions and dimensions of PA promotion implemented in participating nursing homes—developed in FUTURE WORKSHOP I+II and INDIVIDUAL COUNSELLING I+II—followed by (2) GAS for evaluating implementation [36].

Table 1 10-step program

FUTURE WORKSHOP I

Step 1 – Collecting potential actions & discussing in small groups

Following a brainstorming session about potential PA-promoting offers with all participants, small groups discussed favoured actions together with researchers to consider different perspectives.

Step 2 – Cataloguing actions

Actions were catalogued and organised by *opportunities*, *resources*, *commitments*, and *goals* for promoting PA.

Step 3 – Favouring & considering actions in detail

As homework, participants collected actions they wanted to implement in daily home routine and considered actions in detail to present to the expert team.

FUTURE WORKSHOP II

Step 4 – Planning actions

Actions prioritised were systematically planned following the SMART concept [37] – including specification, measurability, acceptance, realisability and timing (further details below).

Step 5 – Creating goal attainment scaling 1.0

To assess success later, each action was assessed according to GAS [36]. Therefore, participants set expected goals by phrasing action success in 1 sentence (GAS = 0). The expert team determined positive and negative gradations (GAS = -2, -1, + 1, +2) retrospectively using field notes from workshops, then submitted them to homes for confirmation. Additionally, participants decided whether individual counselling for residents should be offered by a team of experts in their homes within the next weeks.

INDIVIDUAL COUNSELLING I + II

Step 6 – Developing individual activity schedules

Individual counselling I was structured according to the 5 A concept [38] (further details below) and aimed to integrate PA opportunities, including actions developed in future workshops, into individual daily resident lives based on individual PA motives and goals [39]. Relatives supported cognitively impaired residents during individual counselling and in implementing the activity schedule.

Step 7 – Handling barriers

After 6 weeks, individual counselling II was scheduled with residents and relatives to handle possibly arising barriers and to reflect activities scheduled together.

EVALUATION WORKSHOP

Step 8 – Implementing-supervising

Implementing actions into everyday life was supervised by the project team over 6 months between future workshops I + II by providing support when problems arose. Within 6 months, homes integrated actions into organisational structures and daily routines [40]. Responsible persons sent implementation protocols regularly. Evaluation questionnaires were surveyed after 3 and 6 months.

Step 9 – Revising goal attainment scaling 2.0

In the evaluation workshop, actions developed during future workshop I + II were evaluated according to a 5-level GAS. Actions were rated in different areas (social, neighbourhood, green care, infrastructure, employees & caregivers, individual activity behaviour, and specifications of the nursing home) based on the GAS of future workshop II. To design the GAS lower threshold, rating scales were reformulated into statements (-2 = much worse than expected; -1 = worse than expected; 0 = as expected; +1 = better than expected; +2 = much better than expected).

Step 10– Goal Attainment Scaling 3.0

Individual counselling was rated according to GAS, as well evaluated the success of the 2 sessions. Success was not evaluated for each resident but for the counselling approach in the home.

Table 2 Steps of the SMART-concept

Specification	Describing the action
Measurability	Defining success
Acceptance	Consenting the team
Realisability	Planning implementation
Timing	Starting the action

Table 3 Steps of the 5 A-concept

Assess	Identifying personal activity goals [39] and considering individual needs and nursing home social-infrastructural conditions
Advise	Advising from PA experts about needs
Agree	Agreeing upon goals by recording individual activities in resident activity schedules
Assist	Providing support for changing behaviour, such as action or coping plans)
Arrange	Arranging a follow-up meeting 6 weeks later to handle barriers

PA-related actions and dimensions in participating nursing homes

A total of 112 potential actions for promoting PA were developed in the 7 nursing homes during future workshop I. The number of actions varied between nursing homes, ranging from 12 to 20. The nursing homes selected 50% of the potential actions ($n = 57$) for further development in future workshop II, then implemented into everyday life. During individual counselling I + II, actions from future workshops were integrated into weekly resident schedules (Monday–Friday), as well as therapy appointments and individual PA opportunities, such as strolls with relatives. The participatory approach allowed everyone to contribute as many ideas for potential actions as possible using a brainstorming method. In a second step, the results of the brainstorming process were prioritised considering the feasibility of the potential actions.

According to Sallis et al.'s [7] and Bauman et al.'s [8] socio-ecological models, Fig. 1 presents the PA-promoting actions within different environments. The inner circle represents the near environment and *Related Actions*. The outer circle represents external influencing factors on PA and *Supporting Actions* for areas in the inner circle.

Three external factors influenced PA promotion in the outer circle: Political Environment and Legal Framework (e.g., laws and regulations in care related to PA promotion); Specifications of the Carrier (e.g., mission statement); and Specifications of the Nursing Home (e.g., home's vision and mission statement, job descriptions, or budget planning). The management level of nursing homes also provided supporting actions to integrate PA promotion into organisational structures. Three supporting actions developed in the counselling approach included the *Establishment of Designated Staff*

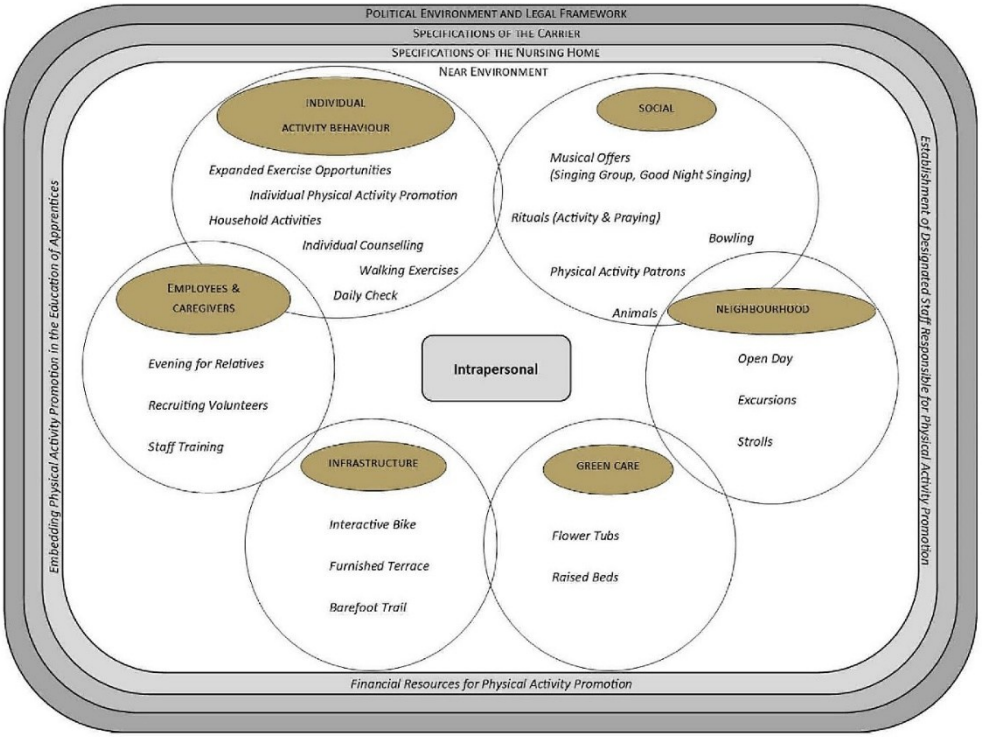

Fig. 1 Areas of physical activity promotion

Responsible for PA Promotion ($n=7$ implementations); *Financial Resources for PA Promotion* ($n=7$ implementations); and *Embedding PA Promotion in the Education of Apprentices* ($n=1$ implementation). All external influencing factors promoted or hindered PA in nursing homes.

Six PA programs to increase INDIVIDUAL ACTIVITY BEHAVIOUR were represented the most in the inner circle. Four out of seven homes made use of *Individual Counselling* to identify individual activity motives of 18 residents and make their everyday lives more active according to their interests. The opportunity to participate in *Household Activities*, such as baking or folding laundry was offered in every nursing home. A *Daily Check* was implemented in 2 homes and aimed to scan everyday life at regular intervals to identify potentials for low-threshold PA opportunities. Five SOCIAL activities within the homes were a popular way of indirectly promoting PA, such as *Musical Offers* and cooperating with external activity promoters (*Animals or PA Patrons*). However, 3 PA-promoting actions such as *Strolls*, or short *Excursions* also extended beyond boundaries of homes into the NEIGHBOURHOOD. A popular activity among older people was GREEN CARE with *Raised Beds* or *Flower Tubs*. There was also a focus on EMPLOYEES & CAREGIVERS in 5 homes to provide highly qualitative activities for residents. Staff received *Training* to expand their PA offers and expertise. In addition to *Recruiting Volunteers*, family members were also made aware of PA (*Evening for Relatives*). Three actions were also implemented in INFRASTRUCTURE. First, an *Interactive Bike* designed to motivate residents by showing videos of routes they cycled. Second, a *Barefoot Trail* for mobile residents and wheelchair users. Third, a *Furnished Terrace* with chairs, banks, and umbrellas to create attractive meeting places, residents enjoyed going to.

In summary, the number of actions varied greatly from home to home (ranging from 5 to 12). We adapted the 4 DOMAINS OF ACTIVE LIVING [7] for the special conditions of nursing home settings. Table 4 depicts the classification of the developed PA-promoting actions implemented in the NEAR ENVIRONMENT of the nursing homes and either directly or indirectly promoted PA.

Table 4 Classification of the developed actions into adapted DOMAINS OF ACTIVE LIVING according to Sallis et al. (2006)

Activities of Daily Living	Structured Activities	Activity-Friendly Environment
Directly	*Directly*	*Directly*
• Flower Tubs	• Musical Offers	• Walking Exercises
• Raised Beds	• Rituals	• Excursions
• Household Activities	• Bowling	• Strolls
Indirectly	• Individual PA Promotion	• Interactive Bike
• Daily Check	*Indirectly*	• Barefoot Trail
	• Expanded Exercise Opportunities	*Indirectly*
	• Individual Counselling	• PA Patrons
	• Evening for Relatives	• Animals
	• Recruiting Volunteers	• Open Day
	Staff Training	• Furnished Terrace

Table 5 Results of the goal attainment scaling split into physical activity-promoting areas

	Much worse than expected	Worse than expected	As successful as expected	More successful than expected	Much more successful than expected	Not evaluated
SOCIAL	3		1	1	3	
NEIGHBOURHOOD	1			4	1	1
GREEN CARE	1		3	1	1	
INFRASTRUCTURE			3			
EMPLOYEES & CAREGIVERS	1				1	2
INDIVIDUAL ACTIVITY BEHAVIOUR	1		4	3	3	
SPECIFICATION OF THE NURSING HOME		3	12			
Total	7	3	23	9	9	3

Success of implemented PA-promoting actions

Of the 57 total actions selected—developed during FUTURE WORKSHOP I+II—54 (95%) were implemented in different areas. Eighteen actions (33%) were rated as "(much) more successful than expected"; 23 (43%) "successful as expected"; 10 (19%) "(much) worse than expected"; and 3 actions could not be evaluated (Table 5).

Financial Resources and *Establishment of Designated Staff Responsible for PA Promotion* were assessed as "successful as expected" in all nursing homes (SPECIFICATIONS OF THE NURSING HOME). A *Daily Check* for low-threshold PA-promoting potentials was successfully realised in 1 of 2 homes and *Individual Counselling* for residents was conducted in 4 of 7 nursing homes (INDIVIDUAL ACTIVITY BEHAVIOUR). Overall, almost all actions for increasing INDIVIDUAL ACTIVITY BEHAVIOUR were rated "successful as expected" or better (10 out of 11 actions). *Strolls* (supervised and unsupervised) and cooperating with external activity promoters (*Animals* or *PA Patrons*) were frequently applied actions within NEIGHBOURHOOD and SOCIAL. Actions were evaluated as "much more successful than expected" in all performing homes as well as a large number of *Musical Offers* (SOCIAL). However, participating nursing homes evaluated SOCIAL actions heterogeneously. Actions directed at EMPLOYEES & CAREGIVERS were implemented successfully into the nursing home structures, except for *Recruiting Volunteers*. GREEN CARE actions were rated mostly "as successful as expected."

A glance at the individual homes shows that 5 of 7 that participated in workshops rated success negatively and positively (Table 6). In 2 homes, only positive evaluations were achieved. Whether homes were located in urban or periphery areas did not make a difference.

Individual Counselling was conducted in 4 of 7 nursing homes with participant numbers ranging from 2 to 6 (INDIVIDUAL ACTIVITY BEHAVIOUR). Success was assessed for all counselling overall in each home (Table 7). Results were mostly positive; only 1 nursing home rated *Individual Counselling* "much worse than expected," which was due to a low number of participants.

Discussion

We developed a 10-step program for developing, implementing, and evaluating PA-promoting actions in nursing homes by using a participatory integrated counselling approach. We now discuss 3 principal findings: 1) the participatory integrated counselling approach leads to a wide range of home-specific actions; (2) the need for adapting the DOMAINS OF ACTIVE LIVING to cover the special conditions of the setting and specific nursing homes; and (3) the relevance of cooperation when it comes to PA promotion.

Table 6 Goal attainment scaling divided by home

	Much worse than expected	Worse than expected	As successful as expected	More successful than expected	Much more successful than expected	Not evaluated
Home 1 (periphery)	1	1	4	2		2
Home 2 (periphery)			3	1	2	
Home 3 (periphery)			4	1		
Home 4 (urban)	1		6			
Home 5 (periphery)	1	1	1	3	2	
Home 6 (urban)	Dropped Out					
Home 7 (urban)	1		3		2	
Home 8 (periphery)	3	1	2	2	3	1
In total	**7**	**3**	**23**	**9**	**9**	**3**

Table 7 Success evaluation of the individual counselling

	Much worse than expected	Worse than expected	As successful as expected	More successful than expected	Much more successful than expected	Number of residents with individual counselling
Home 1 (periphery)			x			6
Home 2 (periphery)	no individual counselling					
Home 3 (periphery)	no individual counselling					
Home 4 (urban)	x					2
Home 5 (periphery)				x		6
Home 6 (urban)	dropped out					
Home 7 (urban)					x	4
Home 8 (periphery)	no individual counselling					
Total						**18**

Addressed areas of PA promotion when using a participatory integrated counselling approach

When it comes to PA promotion, nursing homes are facilities with special conditions obligated to provide offers for maintaining and promoting mobility [41]. They are individually different from their structural conditions, peripheral or urban locations, the number of volunteers, and the mission concept of the carrier (SPECIFICATION OF THE NURSING HOME). In addition, barriers often exist for PA promotion at environmental [2, 9, 11, 14, 17, 18]; individual [2, 9, 11, 14, 17–20]; and organisational [2, 9, 11, 14, 18, 20] levels requiring development of home-specific actions. We used a participatory integrated counselling approach making it possible to consider different intrapersonal, socio-cultural, organisational, environmental, and political prerequisites and thus developing home-specific actions for more active everyday lives [7, 8] (Fig. 1). Using a participatory integrated counselling approach means active involvement when developing actions and supporting implementation into nursing home everyday life. Actions are adapted for residents who are frail, cognitively impaired, or with dementia and their benefit [2, 11, 17, 18], and the probability of reaching residents with previously sedentary lifestyles increases [19]. *Staff Training* (EMPLOYEES & CAREGIVERS) and resulting *Expanded Exercise Opportunities* (INDIVIDUAL ACTIVITY BEHAVIOUR) empowered staff to feel competent to provide PA-promoting actions [2, 18], which also resulted in staff communicating benefits of sufficient PA to residents and relatives, increasing their motivation and participation [9, 14, 18, 19]. In all participating homes during different workshops, we connected people with otherwise little or no opportunities for exchange and communication on these topics due to their working positions. Sallis et al. (2006) and Sauter et al. (2019) already confirmed the importance of information sharing and communication structures. For example, regular visits from a therapy dog required cooperation from many parties, such as home management, volunteers, and external activity promoters. It turned out the

dog provided more than therapy only; the dog promoted PA on 4 legs that could increase quality of life and social interactions [1–4]. When the therapy dog visited the home, residents left their rooms to see and play with the dog (SOCIAL). Implementing actions—in general—was only possible with home management support [2, 11, 14, 18], which provided *Responsible Staff* as well as *Financial Resources for PA Promotion* (SPECIFICATION OF THE NURSING HOME). By prioritising PA promotion and thus embedding actions in weekly and annual plans, activating residents was possible even within rigid organisational structures [9, 11, 14, 18, 20].

Assigning PA-promoting actions in DOMAINS OF ACTIVE LIVING

PA as a multidimensional construct requires a socio-ecological approach to adequately capture its complexity. We drew on Sallis' model [7] since all areas of activity are covered at different levels. We adapted the DOMAINS OF ACTIVE LIVING to the nursing home setting to better illustrate the special conditions of the setting. Nursing homes vary greatly concerning their structural conditions, peripheral or urban locations, number of volunteers, or carrier missions and visions [16, 42]. Residents with physical or mental disabilities depend on protected environments that only partially reflect their former everyday lives. DOMAINS OF ACTIVE LIVING include (1) Activities of Daily Living; (2) Structured Activities; and (3) Activity-Friendly Environment.

Activities of daily living

Activities of daily living are among the most effective opportunities to activate residents. Through biography work, earlier interests are queried and considered. Popular activities of daily living in nursing homes are low-intensity activities, such as setting the table, doing laundry, or baking [5, 6]. These activities are intended to provide self-occupation and diversion, and residents feel valued and needed [25, 26]. Activities of daily living are meaningful for residents and do not require great amounts of material and time or financial and personnel resources.

Due to high sedentariness in this setting, even the slightest activities of daily living, like table setting or distributing newspapers at tables, were successful activations. In this regard, it was essential to ask about earlier interests when moving in to fulfil individual preferences. Activities of daily living could be integrated successfully into daily home routines without great expenditures of time, personnel, or money [7]. For example, challenges during the pandemic involved hygiene regulations that prohibited working with food, like peeling potatoes, or folding laundry. Yet meaningful activities lead to physical and mental improvements for residents and create feelings of engagement, independence, and value [1, 2, 7].

Structured activities

Nursing homes should create a balanced mix of activating and regenerating activities. In contrast to the activities of daily living, which are used by residents to pass time, structured activities should intend to be functional and also cover specific preventive (e.g., fall prevention) as well as therapeutic aspects [21–26]. They can be directly (e.g., strolls) or indirectly (e.g., singing) active, yet always require a guiding person (e.g., external activity promoter or nursing staff).

In our project, each nursing home possessed special characteristics reflected in individual actions and covered the adapted DOMAINS OF ACTIVE LIVING to different extents. In total, 54 PA-promoting actions were integrated into the everyday nursing home life. Implementation was strongly modulated by home missions and visions [7], which—in contrast to Sallis et al.—showed a greater impact than carrier specifications. One home developed almost entirely directly structured activities implemented in weekly schedules. Another home sought to promote PA by offering social events that motivated residents to leave their rooms and meet one another (indirectly structured activities). Both homes belonged to the same carrier.

Activity-friendly environment

Due to physical and cognitive limitations, most residents are unable to leave and move around nursing homes independently [2, 11, 17, 18]. Thus, it is even more important to provide adequate infrastructures (e.g., walking aids or handrails) and opportunities (e.g., PA-promoting objects) for PA inside the nursing homes [11–13]. Infrastructures outside nursing homes primarily include visits from relatives or friends, but also public and private transportation for external activity promoters, such as therapists or volunteers. For the few residents who still leave nursing homes independently, the walkability (supermarkets, bakeries, or parks for strolling within walking distance) modulates PA positively [7]. Cooperations with clubs or institutions in nearby environments are especially beneficial for immobile residents since they cannot leave homes without accompaniment.

Infrastructural conditions varied greatly from home to home [11–13] and aisle widths or balconies could not be changed easily. But actions like a *Furnished Terrace*, *Barefoot Trail*, *Flower Tubs*, or *Raised Beds* led to an activity-friendly environments within nursing home boundaries and guaranteed fresh air activities or regeneration [7]. Another popular action was supervised *Strolling*, which generated relatively high personnel costs. An activity-friendly environment could save staff resources

by allowing cognitively and physically fit residents to go for walks unsupervised or take walks in the home's garden rather than in neighbourhoods. The advantages of safe and attractively designed outdoor areas in terms of PA became apparent again [7]. The definition of the word *Stroll* was also crucial. If a *Stroll* was defined as 'interrupting sitting time,' changing rooms in facilities or walking to group activities counted as successful *Stroll*.

The influence of resident PA cooperation

Cooperation with institutions, especially in neighbourhoods, like preschools or nursery schools, were a popular option for integrating external activity promoters. Due to staff shortages, many actions developed within the participatory integrated counselling approach were group-oriented and offered by volunteers to activate as many residents as possible. Volunteers, in particular, took on a variety of PA-promoting actions, such as *Bowling* or *Musical Offers*—it guaranteed regular implementation even with staff shortages and additionally covered the SOCIAL component [2, 43]. However, bureaucratic hurdles, such as mandatory contracts or fear of missing legal liabilities, often hindered establishing such cooperation, especially in urban areas. As a result, it was not always possible to offer the desired variety of activities since staff were often occupied with basic care. Here, confirmed Baert et al.'s findings: the extent of PA depends mostly on staff's capacity and also on personal attitudes towards PA since the remaining time after basic care can often be arranged by staff according to their preferences. In peripheral and urban areas, actions offered by external activity promoters were sometimes rated worse than expected (e.g., *PA Patrons*) due to more time-consuming planning processes; therefore, actions could only be initiated with enormous delays. However, to minimise reliance on external activity promoters, project nursing homes also provided targeted training for staff. Additionally, promoting PA was included in education curricula [7, 43]; it ensured adequate numbers of PA offerings not solely dependent on external activity promoters and minimised fears of failure promoting PA among staff [2, 7].

Strengths and limitations

Our study strengths include involving staff and residents in the various workshops; all 7 nursing homes developed actions specifically tailored to their conditions. Since implementing PA increased from providing offers for the maintenance and promotion of mobility [41], our study supported nursing homes meeting recent mandatory care standards for maintaining mobility (§ 113a SCGB IX). Furthermore, financial resources for PA promotion were partly provided by the project, which made successful implementation of actions much more likely.

Study limitations include constant personnel changes (home management, nursing staff), which delayed project progress. In addition to staff changes, the pandemic also contributed to delayed schedules as time frames were unmet and EVALUATION WORKSHOPS occurred 1 year after FUTURE WORKSHOP II. Overall, working with people in nursing home settings allowed insights into real organisational structures and PA-promoting action conditions as developed and implemented.

Conclusion

The multitude of influencing factors, such as structural conditions, peripheral or urban locations, number of volunteers, and missions and visions of carriers requires home-specific actions for promoting PA. Only offering predetermined and time-limited interventions is insufficient. PA-promoting actions can be developed and integrated within a participatory integrated counselling approach with different stakeholders. Instead of a scientific project team, other activity experts (e.g., physiotherapists) can also guide counsellings as the specifications are sufficiently standardised [44]. Low-threshold opportunities usually hold promise for promoting PA successfully and either directly or indirectly related to PA. Although partner cooperations in the field are time-intensive to set up, they are often long-lasting. The most effective actions occurred in the area of neighbourhood, green care, individual activity behaviour, and specification of the nursing home. Actions such as strolls (neighbourhood) or raised flower beds (green care) reflect the former life of the residents and are a familiar pastime. Actions such as household activities (individual activity behaviour) can be highly individualised, and residents feel as a part of everyday duties. Specifications of the nursing home build the base of successful PA promotion by providing budget, material, and personnel. Future research should focus on processes of change at structural levels to better understand the complex phenomena of promoting PA in nursing home settings. Nevertheless, every individual and organisational step counts when it comes to PA promotion among nursing home residents.

Abbreviations

PA	Physical Activity
GAS	Goal Attainment Scaling
WHO	World Health Organization

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Author contributions

Theoretical foundation, AT, AF, LH; study conceptualisation, AF, AT, LH; methodology, AF, LH, AT; data collection, LH, DH, VD, LM, RP; formal analysis, LH, AF, AT; writing—original draft preparation, LH; writing—review and

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Data availability
No datasets were generated or analysed during the current study.

Declarations

Ethics approval
We received ethical approval for the study from the Ethics Committee of the Faculty of Economics and Social Sciences at the University of Tübingen (no. AZ A2.5.4–096_aa). We collected and stored personal data under the European Data Protection Basic Regulation (DSGVO) coordinated by data protection officers of participating institutions. We treated data confidentially and processed it pseudonymously.

Consent to participate
The study presented in the paper was designed as a participatory counselling approach to develop and evaluate PA-promoting actions. Informed consent was obtained from all participants. Prior to commencing the study, heads of nursing homes provided informed written consent. We also informed all participants about the study processes and contents before workshops.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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Publisher's Note

6.5. Article 4: “Bewegungsförderung im Pflegeheim – ein Praxisleitfaden”

Ansgar Thiel, Gorden Sudeck, Andreas M. Nieß, Gerhard W. Eschweiler, **Lea-Sofie Hahn**, Daniel Haigis, Leon Matting, Rebekka Pomiersky, Julia Schmid und Annika Frahsa (2023). Bewegungsförderung im Pflegeheim – Ein Praxisleitfaden. Universität Tübingen. Available under: https://uni-tuebingen.de/de/224661.

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EBERHARD KARLS UNIVERSITÄT TÜBINGEN

/ BEWEGUNGSFÖRDERUNG / IM PFLEGEHEIM

EIN PRAXISLEITFADEN

INHALT

TEIL 1/

/ PROF. DR. **ANSGAR THIEL** /
> PROJEKTLEITUNG BASALT
> DEKAN DER WIRTSCHAFTS- & SOZIALWISSENSCHAFTLICHEN FAKULTÄT

Die FÖRDERUNG DER **KÖRPERLICHEN** AKTIVITÄT IST **ENTSCHEIDEND**

> Die demographische Alterung wird sich in den nächsten Jahrzehnten zu einer der größten volkswirtschaftlichen und sozialen Herausforderungen in Deutschland entwickeln. Dabei stellt insbesondere die Gruppe der geburtenstarken Jahrgänge, die sogenannten Baby-Boomer, eine Herausforderung dar. Das Verhältnis von Beitragszahlenden zu Beziehenden von Altersrenten wird für das Jahr 2040 auf 1:1,3 prognostiziert. Die Alterung der Bevölkerung lässt außerdem eine erhebliche Steigerung von altersbedingten Erkrankungen und Pflegebedürftigkeit erwarten, was sich insbesondere für Kranken- und Pflegeversicherungen zu einer extremen Belastung entwickeln kann.

Vor diesem Hintergrund gilt es alles dafür zu tun, die biopsychosoziale Gesundheit älterer Menschen bestmöglich und so lange wie möglich zu erhalten. Dies gilt insbesondere auch für die Betreuung von Menschen in Pflegeeinrichtungen. Eine entscheidende Rolle kommt dabei der Förderung regelmäßiger Bewegung zu. Regelmäßige körperliche Aktivität trägt dazu bei, körperliche Funktionen, wie Kraft, Ausdauer und Flexibilität zu erhalten oder sogar zu verbessern. Dies führt nicht nur zu einer Steigerung des allgemeinen Wohlbefindens, sondern auch zu einer Reduktion des Sturzrisikos, zur Förderung der Mobilität und trägt somit zum Erhalt von Selbstständigkeit bei.
Die Förderung von körperlicher Aktivität in der Gruppe ist ein ausgezeichnetes Mittel, die soziale Vernetzung älterer Menschen zu stärken. Dem Sozialaspekt wird bei der Frage nach der Betreuung hochaltriger Menschen oft zu wenig Aufmerksamkeit entgegengebracht. Internationale Studien zeigen, dass ein nicht unbeträchtlicher Teil der hochaltrigen Menschen an Einsamkeit leidet, was nicht folgenlos bleibt. Einsame ältere Menschen haben zum Einen fast doppelt so häufig Schwierigkeiten bei den Aktivitäten des täglichen Lebens wie nicht einsame ältere Menschen. Zum Anderen geht mit Einsamkeit eine erhebliche Steigerung des Demenzrisikos einher. Gemeinsame Bewegungsangebote können dem entgegenwirken, indem soziale Kontakte geknüpft und gepflegt werden, was das Gefühl der Gemeinschaft, Zu- und Zusammengehörigkeit fördern kann.

Die Förderung von körperlicher Aktivität und gemeinsamem Bewegen, vor allem in Pflegeheimen, wird erst seit wenigen Jahren intensiv diskutiert. Zwar ist dies vielen Verantwortlichen bewusst, doch es gibt in vielen Pflegeeinrichtungen strukturelle Hindernisse, die Bewegung erschweren können. Dazu gehören beispielsweise die begrenzte Verfügbarkeit von Personal und Zeit, unzureichende räumliche Gegebenheiten oder eine fehlende Sensibilisierung der Mitarbeitenden für die Bedeutung von Bewegung.

Um Bewegung in Pflegeheimen zu fördern, sind gezielte Maßnahmen wie zielgruppenspezifische Bewegungsangebote, Schulung des Personals und bauliche Anpassungen erforderlich. Zudem ist es wichtig, dass das Thema Bewegung und die individuellen Bedürfnisse der Bewohnenden in der Pflegeplanung berücksichtigt werden.

Das BaSAlt-Projekt hat sich der Aufgabe gewidmet, die wissenschaftlichen Grundlagen für eine solche zielgruppenorientierte Bewegungsförderung in Pflegeeinrichtungen zu schaffen. BaSAlt verfolgt einen ressourcenorientierten Ansatz und möchte die Bewohnenden dazu befähigen, aktiv(er) zu sein.
Bei der Umsetzung dieses Ansatzes wird partizipativ vorgegangen, d.h. Strategien der Bewegungsförderung werden gemeinsam mit Heimleitungen und Pflegepersonal unter Berücksichtigung der Bedürfnisse von Bewohnenden und der strukturellen Voraussetzungen der Einrichtung erarbeitet. <

TEIL 2/

/ **UTE HAUSER** /
> GESCHÄFTSFÜHRERIN DER ALZHEIMER GESELLSCHAFT BADEN-WÜRTTEMBERG E.V.
> SELBSTHILFE DEMENZ & PROJEKTBEIRAT BASALT

BEWEGUNG IST **LEBEN** – DAS **ZEIGT** DAS **PROJEKT** BaSAlt EINDRÜCKLICH

> Bewegungsförderung und Aktivierung können nachhaltig bereichernde Veränderungen in den Alltag von Bewohner*innen und Mitarbeitenden in Pflegeheimen bringen. Bewegung ist dabei mehr als körperliche Aktivität: Sie fördert Wohlbefinden, Selbständigkeit, Gemeinschaft, Zugehörigkeit – Basiselemente der Lebensqualität für alle Menschen und im Besonderen für die deutschlandweit rund 1,8 Millionen Menschen mit einer Demenzerkrankung. Als zentrale Ansprechpartner zum Thema Demenz in Baden-Württemberg freuen wir uns deshalb sehr über die gewonnenen Erkenntnisse und gratulieren zum erfolgreichen Abschluss.

Bewegung und Demenz stehen in enger Beziehung zueinander. Bewegung ist ein elementarer Baustein zur Prävention gegen chronisch degenerative Erkrankungen wie Demenz. Mit einem gesunden Lebensstil, zu dem körperliche und geistige Aktivität, soziale Kontakte und eine ausgewogene Ernährung zählen, lässt sich das Erkrankungsrisiko reduzieren. Durch Bewegung können vorhandene motorische Fähigkeiten positiv beeinflusst, damit Alltagskompetenzen stabilisiert und das Voranschreiten der Erkrankung hinausgezögert werden.

Aber auch wenn die körperlichen, motorischen und / oder geistigen Fähigkeiten im Alter oder durch eine Demenzerkrankung abnehmen – es bleibt, dass jeder Mensch Teil der Gemeinschaft sein und in seinen individuellen Stärken ernst- und wahrgenommen werden möchte.

BaSAlt macht deutlich, dass Bewegung und im Zuge dessen Prävention und Gesundheitsförderung lebenslange Aufgaben sind – sie enden nicht mit dem Umzug in eine stationäre Einrichtung. Im Gegenteil: wenn Menschen weniger auf ihre eigenen Fähigkeiten und Ressourcen zurückgreifen können, steigt der Bedarf an Unterstützung und Begleitung und oft beginnt erst dann die eigentliche Arbeit. Die Partizipation und Schulung von Mitarbeitenden sowie die Schaffung struktureller Veränderungen für Momente und Orte der Bewegung und Begegnung sind wichtige Voraussetzung für die Bewegungsförderung im Pflegeheim.

Ob mit oder ohne Demenz, das Projekt BaSAlt hat eindrucksvoll gezeigt, was Bewegungsförderung bewirken kann, wenn sie auf die vorhandenen Fähigkeiten der Personen passgenau abgestimmt ist. Für die eine Bewohnerin sind es die niedrigschwelligen hauswirtschaftlichen Tätigkeiten, wie das Tischdecken oder das gemeinsame Backen, die sie aktivieren und zufrieden stimmen. Für den anderen Bewohner der Spaziergang über den Barfuß-Pfad, für den nächsten das Tanzen in der Gruppe. Momente der Bewegung, der Selbsterfahrung, des Glücks, des Lebens.

In diesem Sinne bleibt zu wünschen, dass diese Handreichung auf vielfaches Interesse stößt und über das Projekt BaSAlt hinaus zu mehr Bewegung und Lebensqualität in Pflegeheimen führt. <

Herzlichst
UTE HAUSER

Bewegung ist LEBEN in jedem Alter

UND IN JEDER **LEBENSSITUATION**

/ DR. PHIL. **CHRISTOPH ROTT** /
> PROJEKTBEIRAT BASALT & VORSTANDSMITGLIED LANDESSENIORENRAT BADEN-WÜRTTEMBERG

> Der aktuelle Erkenntnisstand zu Altern und Bewegung lässt sich in einigen wenigen Sätzen zusammenfassen. Physiologische Alterungsprozesse, die eine Leistungs- und Funktionsminderung zur Folge haben, sind unvermeidbar und betreffen Jede und Jeden. Das Ausmaß aber, in dem sie in Erscheinung treten, hängt entscheidend von körperlicher Aktivität und Bewegung ab. Inaktivität beschleunigt und verstärkt Alterungsprozesse, Aktivität bremst sie und hält sie im Zaum. Dies gilt auch für Menschen in stationären Einrichtungen und unabhängig vom Gesundheits- und Funktionsstatus.

Hier setzt das BaSAlt-Projekt an. Das Setting ‚Altenwohnheim' ist traditionell eine bewegungsarme (sedentäre) Lebenswelt, die Bewohnerinnen und Bewohner weisen in der Regel hohe Funktionseinschränkungen auf. Wie kann trotz dieser ungünstigen Voraussetzungen eine Aktivierung, die durchaus gewünscht, aber durch strukturelle Zwänge eingeschränkt ist, gelingen?

Dass hier dringender Handlungsbedarf besteht, hat die Bestandsaufnahme der körperlichen Aktivität der Bewohnerinnen und Bewohner in den beteiligten vollstationären Einrichtungen ergeben. Das BaSAlt-Projekt kommt zu dem Ergebnis, dass nach wie vor das Ausmaß an körperlicher Aktivität erschreckend gering ist. Darüber hinaus hat das BaSAlt-Projekt deutlich gemacht, dass es nicht ausreicht, Bewegungsaktivitäten durch externe Dienstleistende in stationären Einrichtungen anzubieten. Notwendig ist ein integriertes Beratungskonzept auf der Organisationsebene und auf der individuellen Ebene.

Bestandteile des Konzepts sind partizipative Strategien der Bewegungsförderung sowie Erkenntnisse über förderliche und hinderliche Faktoren der Implementierung dieser.

Das im BaSAlt-Projekt realisierte Vorgehen einer verhältnisorientierten Bewegungsförderung mit individueller Bewegungsberatung ist ein erster Schritt, um partizipative Strategien der Aktivitätsförderung im Setting Altenwohnheim zu etablieren. Die teilnehmenden Einrichtungen waren kleine Heime und sicherlich eine positive Auswahl mit Interesse an Bewegungsförderung. Deutlich wurde, wie aufwändig und schwierig es selbst in diesen Heimen ist, sich den übergeordneten Projektzielen (Bewohnende möglichst lange möglichst autonom und den aktuellen Pflegegrad möglichst lange halten) anzunähern. Diese Ziele dürfen aber nicht aus den Augen verloren werden.

Trotzdem macht das Projekt Mut. Traditionelle stationäre Einrichtungen werden keine Zukunft haben, wenn sie an dem Paradigma körperlicher Inaktivität aus Organisations- und Schutzargumenten festhalten. Für eine der beteiligten Einrichtung waren die Schlussfolgerungen aus dem Projekt, dass Bewegung nicht nur Lebensqualität bedeutet, sondern ein Grundbedürfnis ist. Menschen können sich nur wohlfühlen, wenn dieses Grundbedürfnis nach Bewegung befriedigt wird. Dieser Grundsatz gilt für jedes Lebensalter, jede Lebenssituation und jedes Setting. <

DIE

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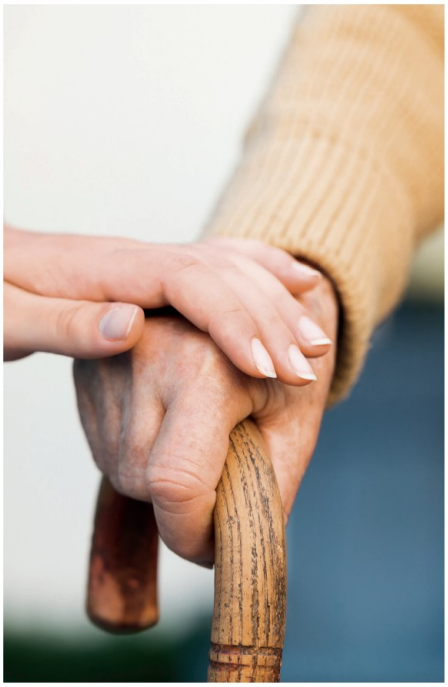

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— *STANISLAW JERZY LEC*

TEIL 3/

ZIELSETZUNG

UND INHALT der BROSCHÜRE

> Diese Broschüre informiert Sie über die Relevanz des Themas körperliche Aktivität im Pflegeheim und zeigt Ihnen Optionen auf, wie Sie mehr Bewegung in den Heimalltag integrieren können, um die Bewohnenden aktiv zu halten.

Es gibt bereits Handreichungen und Expertenstandards, die den Erhalt oder die Förderung von Mobilität in der Pflege oder eine Steigerung der körperlichen Aktivität von Bewohnenden zum Ziel haben. Was ist also das Besondere an dieser Broschüre? In dieser Broschüre werden keine vorgefertigten Übungsreihen oder konzipierte Interventionen abgebildet. Diese Broschüre soll Sie als Mitarbeitende in einer Pflegeeinrichtung selbst dazu befähigen, passende, niedrigschwellige Aktivitätsangebote zu planen, umzusetzen und nachhaltig in den Heimalltag zu integrieren. Die von Ihnen geplanten und umgesetzten Maßnahmen im Bereich der Bewegungsförderung zeigen dabei eine Schnittmenge mit den Maßnahmen zum Erhalt und der Steigerung von Mobilität auf, können jedoch auch noch weitere Perspektiven wie Gesundheit oder Sinnstiftung einbeziehen. Somit setzt diese Broschüre explizit ihr Augenmerk auf Maßnahmen zur Bewegungsförderung, die von Ihnen selbst entwickelt werden und das Ziel der Steigerung der körperlichen Aktivität von Bewohnenden haben. Was das konkret bedeutet und wie dies umgesetzt werden kann, finden Sie auf den folgenden Seiten. Zunächst werden die aktuellen Empfehlungen für Bewegung und Bewegungsförderung vorgestellt und die Grundlage gelegt, weshalb körperliche Aktivität im Pflegeheim große Relevanz besitzt TEIL 5. Daraus abgeleitet werden Dimensionen der Bewegungsförderung dargestellt TEIL 6.

Im nächsten Schritt – dem Kernstück dieser Broschüre – wird Schritt für Schritt vorgestellt, wie Sie in Ihrer Einrichtung Ideen für bewegungsförderliche Maßnahmen sammeln, konkretisieren, umsetzen und evaluieren können. Daran anschließend erfolgen Praxisbeispiele von konkreten Maßnahmen, die in teilnehmenden Einrichtungen des BaSAlt-Projekts umgesetzt wurden. Diese können als Ideengrundlage dienen und zeigen die Vielschichtigkeit von Bewegungsförderung auf TEIL 7. Abschließend folgt der Ausblick, wie eine aktivere Gestaltung des Pflegeheimalltags weitergedacht werden kann TEIL 8. Im Anhang befinden sich Kopiervorlagen und Anhänge, die es ermöglichen sollen, selbst konkrete Maßnahmen zur Steigerung körperlicher Aktivität zu planen, umzusetzen und zu evaluieren. <

BEWEGUNGSEMPFEHLUNGEN

für ältere Menschen und ältere Menschen mit Pflegebedarf

/ JEDE BEWEGUNG ZÄHLT! / ●○○

Inaktive ältere Personen profitieren von jeder Unterbrechung von inaktivem Verhalten. Jede zusätzliche Bewegung erbringt einen gesundheitlichen Nutzen

/ REGELMÄSSIGE BEWEGUNG / ●●○

Regelmäßig mindestens 150 Minuten pro Woche etwas anstrengende körperliche Aktivitäten oder mindestens 75 Minuten anstrenge körperliche Aktivitäten oder eine Kombination aus beidem

/ BEWEGUNG ZUM ERHALT DES GESUNDHEITS-ZUSTANDS VON MENSCHEN IN PFLEGEEINRICHTUNGEN / ●○○

> Mindestens 3000 Schritte pro Tag um Gebrechlichkeit vorzubeugen

> 4600 Schritte Gesamtaktivität um die Gesundheit im Allgemeinen zu erhalten

/ KRÄFTIGUNGSORIENTIERTE BEWEGUNG / ●●○

An mindestens 2 Tagen pro Woche etwas anstrengende bis angestregende Kräftigungsübungen, die alle großen Muskelgruppen beinhalten

/ KOMBINIERTE BEWEGUNGSÜBUNGEN / ●○○

An mindestens 3 Tagen pro Woche Übungskombinationen, die Gleichgewicht und Kräftigung beinhalten, um Alltagsfunktionen zu erhalten und Stürzen vorzubeugen

> ABBILDUNG 1 < IN ANLEHNUNG AN:
RÜTTEN & PFEIFER, 2016 / > WHO, 2020 / > WATANABE ET AL., 2020 / > TUDOR-LOCKE ET AL., 2011 /

> KÖRPERLICHE AKTIVITÄT <

Körperliche Aktivität ist die Bewegung der Skelettmuskulatur, die den Energieverbrauch einer Person ansteigen lässt. Neben alltäglichen Aktivitäten, wie Haus- oder Gartenarbeit oder mit eigener Muskelkraft von A nach B gelangen, zählen auch regelmäßiges Training und Übungen zu körperlicher Aktivität von Bewohnenden.

> MOBILITÄT <
DAS VERHÄLTNIS ZWISCHEN MOBILITÄT UND KÖRPERLICHER AKTIVITÄT

Mobilität bezieht sich primär auf die Eigenbewegung des Menschen, die auf Lageveränderungen (z. B. vom Sitzen zum Aufstehen und Gehen) und die Fortbewegung (z. B. Gehen von A nach B) ausgerichtet sind. Mobilität ist damit elementar, um Aktivitäten des täglichen Lebens durchzuführen und Teilhabemöglichkeiten zu erweitern. Mobilitätsförderung kann durch individuelle Beratung, eine mobile Alltagsgestaltung sowie die Gestaltung räumlicher Umgebung und die Nutzung von Hilfsmitteln erfolgen. Bewegungsförderung, verstanden als Förderung von körperlicher Aktivität (in Alltagshandlungen und Freizeit) sowie von Bewegungsübungen und körperlichem Training tragen somit zur Mobilitätsförderung bei. Bewegungsförderung zielt jedoch nicht allein auf Alltagshandlungen ab, sondern kann weitergehende, vielfältige Potenziale für die körperliche, psychische und soziale Gesundheit aufweisen.

> SEDENTÄRES VERHALTEN <

Sedentäres Verhalten beschreibt eine Verhaltensweise, die durch ein geringes Ausmaß an körperlicher Aktivität, einen niedrigen Energieaufwand oder durch körperliche „Ruhe" gekennzeichnet ist. Ist der Alltag einer Person sedentär, bedeutet dies, dass die Person den Großteil ihrer Zeit im Sitzen oder Liegen verbringt.

> BEWEGUNGSFÖRDERUNG <

Als Bewegung gilt jegliche Art von körperlicher Aktivität, die zu einem höheren Energieverbrauch führt als in Ruhe. Bewegungsförderung zielt vor allem darauf ab, Bewegung zu ermöglichen, beziehungsweise zu erleichtern. Bewegung und körperliche Aktivität werden somit synonym verwendet.

TEIL 4/

Aktiver
HEIMALLTAG

NATIONALE **EMPFEHLUNGEN** FÜR BEWEGUNG UND BEWEGUNGSFÖRDERUNG

> KÖRPERLICHE AKTIVITÄT < ist eine Möglichkeit, die Gesundheit von Menschen im Pflegeheim zu stärken und kann dabei auch eine Bedingung für den Erhalt und die Steigerung von > MOBILITÄT < sein. Jedoch kann auch eine gesteigerte Mobilität zu einer Steigerung von körperlicher Aktivität führen. Mobilität bezieht sich dabei auf die Eigenbewegungen des Menschen, um sich fortzubewegen oder die Körperlage zu verändern (z.B. vom Sitzen in den Stand zu kommen und zu gehen) und hat im Pflegekontext einen hohen Stellenwert (Deutsches Netzwerk für Qualitätsentwicklung in der Pflege [DNQP], 2020).

Im Rahmen dieser Broschüre liegt der Fokus auf der körperlichen Aktivität, welche neben der physischen Leistungsfähigkeit (z.B. von einem Stuhl aufstehen als Aspekt der Mobilität), auch motorische Fähigkeiten (z.B. Kraftfähigkeit) und die Ausübung von Aktivitäten des täglichen Lebens verbessern kann (Crocker et al., 2013).

Dementsprechend wird in Empfehlungen für gesundheitswirksame Bewegung der Weltgesundheitsorganisation (Bull et al., 2020) sowie in nationalen Bewegungsempfehlungen (Rütten & Pfeifer, 2016) formuliert, dass ältere Erwachsene regelmäßig körperlich aktiv sein sollten, um dadurch bedeutsame Gesundheitswirkungen zu erzielen und Krankheitsrisiken zu reduzieren.

Diese Empfehlungen für optimale Bewegungsumfänge und -intensitäten für ältere Erwachsene erscheinen für Pflegeheimbewohnende jedoch ziemlich hoch zu sein. Fachgesellschaften haben daher schon erste spezifische Empfehlungen für Menschen im Pflegeheim formuliert. Diese bauen auf der Erkenntnis auf, dass bereits jede zusätzliche Bewegung gerade bei eher inaktiven Personen einen gesundheitlichen Nutzen hat. Sie beinhalten die Steigerung der allgemeinen Aktivität und aktivierenden Pflege, die Verankerung von Gruppenaktivitäten und insbesondere die Unterbrechung von Zeiten der Inaktivität (Sitzzeiten). Die empfohlene Schrittzahl für Pflegeheimbewohnende liegt bei 4600 Schritte am Tag (Tudor-Locke et al., 2011). Wie sich im Laufe des BaSAlt-Projekts gezeigt hat, wird diese Schrittzahl nur von sehr wenigen Bewohnenden erreicht und ein Großteil des Alltags wird im Sitzen verbracht (Pomiersky et al., 2023). Um > SEDENTÄRES VERHALTEN < zu verringern und Aktivität zu steigern wird empfohlen, die Sitzzeiten regelmäßig zu unterbrechen, Kräftigungsübungen durchzuführen und dies auch als Gruppenaktivitäten anzubieten.

Um das Aktivitätsniveau der Bewohnenden zu steigern, geben – neben den Empfehlungen für gesundheitswirksame Bewegung – die Empfehlungen für > BEWEGUNGSFÖRDERUNG < weitergehende Hinweise auf Basis bisheriger Forschungsarbeiten (Rütten & Pfeifer, 2016). Dabei stehen auch strukturelle Veränderung auf organisationaler Ebene im Fokus (Rütten & Pfeifer, 2016).
Das Motto „Jede Bewegung zählt" (WHO, 2020), um Sitzzeiten zu unterbrechen und einen gesundheitlichen Nutzen zu erzielen, bezieht sich somit auf die einzelnen Personen aber auch auf die Pflegeheime als Ganzes. In > ABBILDUNG 1 < werden die genannten Bewegungsempfehlungen integriert dargestellt.

TEIL 5/

DAS
FORSCHUNGSPROJEKT
BaSAlt
IN DER **ÜBERSICHT**

> *Das BaSAlt-Projekt steht für Verhältnisorientierte Bewegungsförderung und individuelle Bewegungsberatung im Setting ‚Altenwohnheim' – ein biopsychosoziales Analyse- und Beratungsprojekt.* Das Forschungsprojekt hat das Ziel zu überprüfen, inwieweit die nationalen Empfehlungen für Bewegung und Bewegungsförderung in Pflegeheimen umsetzbar sind. BaSAlt ist eines von acht Modellprojekten aus dem Förderschwerpunkt „Bewegung und Bewegungsförderung" des Bundesministeriums für Gesundheit und wurde von 2019 bis 2023 an der Universität Tübingen durchgeführt. Insgesamt wurden Kooperationen mit acht Pflegeheimen aus den Landkreisen Tübingen, Esslingen und Reutlingen eingegangen.

BaSAlt untersucht anhand verschiedener lebensweltlicher Setting Analysen bewegungsförderliche und -hinderliche Faktoren, Bewegungsmuster und -interaktionen auf Basis systematischer Beobachtungen, Interviews, Audits und Gruppendiskussionen. Mit bewegungsbezogenen Individualanalysen werden objektive körperliche Aktivität und sedentäres Verhalten untersucht. Zudem werden Erhebungen zu motivationalen Aspekten, subjektiven Befindens- und Beschwerdestatus sowie geriatrische Assessments durchgeführt.

Basierend auf den gesammelten Daten werden bewegungsförderliche Strategien entwickelt. Diese Strategien können auf organisationaler (bezogen auf die Einrichtung) und individueller (bezogen auf die Bewohnenden) Ebene angewendet werden und durch sie kann Bewegungsförderung gezielter in den Heimalltag integriert werden. <

/ HIERFÜR WURDEN FOLGENDE FRAGEN BERÜCKSICHTIGT /

- WAS SIND DIE STRUKTURELLEN UND PERSONALEN BEDINGUNGEN DES BEWEGUNGSVERHALTENS ÄLTERER ERWACHSENER IN VOLLSTATIONÄREN PFLEGEEINRICHTUNGEN?
- WIE MUSS EIN INTEGRIERTES BERATUNGSKONZEPT AUSSEHEN, DAS ÜBER EINE VERÄNDERUNG LEBENSWELTLICHER STRUKTUREN DAS BEWEGUNGSVERHALTEN DER BEWOHNENDEN VERBESSERN KANN?
- WAS KANN EINE GEZIELTE SETTINGSPEZIFISCHE ORGANISATIONS- UND INDIVIDUALBERATUNG VOR ORT HINSICHTLICH DER FÖRDERUNG DES BEWEGUNGSVERHALTENS LEISTEN?

TEIL 6/

Dimensionen

VON

BEWEGUNG UND BEWEGUNGSFÖRDERUNG

> Die erfolgreiche Gestaltung eines aktiven Alltagslebens hängt von vielen verschiedenen Faktoren ab. BaSAlt stützt sich auf das sozio-ökologische Modell von Sallis et al. (2006), welches die Interaktionen der Menschen mit ihrer Umgebung in Bezug auf Bewegungsförderung thematisiert. Individuelle Faktoren, wie Mobilität und mentale Verfassung, sind im Alter stark tagesformabhängig. Umso wichtiger ist es, Aktivitäten attraktiv, sicher, komfortabel und leicht zugänglich zu gestalten. Körperliche Aktivität kann in den folgenden vier Bereichen eines aktiven Lebens stattfinden. <

/ AKTIVE FORTBEWEGUNG /

> Bewohnende können auf verschiedene Art und Weise in Bewegung gebracht werden. Aktivierende Einzel- und Gruppenangebote stehen immer auf dem Wochenplan, jedoch birgt der Heimalltag noch mehr zusätzliche Potentiale für Bewegung. Innerhalb von BaSAlt wurden attraktive Orte der Begegnung geschaffen, die Bewohnende zu kleinen Spaziergängen in den angelegten Garten oder zur bestuhlten Terrasse motivieren sollen. Doch auch soziale Angebote, die innerhalb von BaSAlt oftmals einen musikalischen Fokus aufwiesen, lassen die Bewohnenden aktiv werden, indem sie sich zum Ort des Geschehens hinbewegen. <

/ HAUSWIRTSCHAFTLICHE TÄTIGKEITEN /

> Innerhalb des BaSAlt-Projekts wurden viele Aktivitäten entwickelt, die niedrigschwellig und alltagsintegrativ ausgelegt sind. Das bedeutet, dass Bewegung ohne großen personellen, finanziellen und zeitlichen Aufwand in den Heimalltag integriert werden kann. Hauswirtschaftliche Tätigkeiten (z.B. Backen, Tisch decken, Handtücher falten) sind eine häufig genutzte Möglichkeit, um Bewohnende aktiv werden zu lassen. Diese sinnvollen Tätigkeiten lassen die Bewohnenden Wertschätzung durch ihre Aktivitäten für die Gemeinschaft erfahren. <

/ BERUFLICHE TÄTIGKEITEN /

> Die Schulung von Mitarbeitenden im Rahmen des BaSAlt-Projekts sensibilisierte Mitarbeitende gegenüber Bewegungsförderung im Pflegealltag. Offenheit und Interesse ist maßgeblich für Erfolg und Nachhaltigkeit und durch den Erwerb von Wissen kann das Personal selbst kleine Aktivierungen in den Alltag einbauen. <

/ AKTIVE FREIZEITGESTALTUNG /

> Im Pflegeheim sollte auf ein ausgewogenes Angebot zwischen aktivierenden und regenerierenden Aktivitäten geachtet werden. Bewegungsförderliche Maßnahmen aller Art wurden innerhalb des Projekts gemeinsam mit den Mitarbeitenden entwickelt, um individuell auf das Heim zugeschnittene Aktivitäten anbieten zu können. <

TEIL 7/

DER WEG ZU EINEM AKTIVEREN ALLTAG

> Um bewegungsfreundliche Elemente erfolgreich in den Heimalltag zu integrieren, müssen zunächst eine oder mehrere **verantwortliche Personen** benannt werden TEIL 7.1. Anschließend kann eine Bestandsaufnahme erfolgen, indem **förderliche und hinderliche Faktoren** für Bewegungsförderung innerhalb der Einrichtung erfasst werden TEIL 7.2. Durch **individuelle Bewegungsberatungen** (Individualebene) können zusätzlich individuelle Bedürfnisse, Ziele und Möglichkeiten der Bewohnenden identifiziert und individuelle Aktivitätspläne erstellt werden TEIL 7.3. Auf Organisationsebene werden **bewegungsförderliche Maßnahmen** für die Integration in den Heimalltag entwickelt. Maßgeblich für die langfristige Umsetzung und Aufrechterhaltung der Maßnahmen sind die **Maßnahmen- und Nachhaltigkeitsevaluation** TEIL 7.4. Beispiele guter Praxis aus dem BaSAlt-Projekt TEIL 7.5 dienen als Inspiration und Vorlage für die Umsetzung in weiteren Einrichtungen. <

TEIL 7.1 / VERANTWORTLICHKEIT FÜR BEWEGUNGSFÖRDERUNG IN DER EINRICHTUNG /

> Vor der Identifizierung bewegungsförderlicher und -hinderlicher Faktoren und der Entwicklung spezifischer Maßnahmen, muss mindestens eine verantwortliche Person für das Thema Bewegungsförderung innerhalb der Einrichtung festgelegt werden. Die Verantwortlichen müssen nicht zwingend eine berufliche Qualifikation in diesem Bereich aufweisen, es genügen gleichermaßen Erfahrung und persönliches Interesse. Ebenso sind sie nicht in der kompletten Eigenverantwortung in Bezug auf Maßnahmenplanung und -durchführung, jedoch ist es maßgeblich eine offizielle Ansprechperson zu haben, die die Kommunikation zwischen den verschiedenen Arbeitsbereichen leitet und federführend Aufgaben übernimmt sowie verteilt. <

TEIL 7.2 / IDENTIFIZIERUNG VON ENTWICKLUNGS- UND VORZEIGEBEREICHEN DER EINRICHTUNG /

> Entwicklungs- und Vorzeigebereiche für Bewegungsförderung einer Einrichtung können mit verschiedenen Methoden erhoben werden. In diesem Kapitel werden das sogenannte Photovoice und ein eigens für diese Broschüre erstellter Fragebogen vorgestellt. Beide Methoden können von den verantwortlichen Mitarbeitenden des Pflegeheims durchgeführt werden. <

TEIL 7.2.1 / PHOTOVOICE /

/ HIER KÖNNEN VERSCHIEDENE PERSONEN FOTOS MACHEN (Smartphone, Tablet, Digitalkamera), **UM AUS IHRER PERSPEKTIVE ZU DOKUMENTIEREN** /
> WAS BRINGT MENSCHEN BEI UNS IN BEWEGUNG?
> WAS BEHINDERT BEWEGUNG VOR ORT?

> Bereits in dieser ersten Phase gilt es, weitere Mitarbeitende, Angehörige und Bewohnende mit ins Boot zu holen und ihre Erfahrungen einzubinden. Die entstanden Fotos können dann gemeinsam diskutiert werden, um sich darüber auszutauschen, was die Fotos ausdrücken, ob es sich um förderliche oder hinderliche Faktoren für Bewegung handelt, wofür die Fotos stehen, warum die abgebildete Situation so ist wie sie ist und welche Veränderungen vorgenommen werden können bzw. sollen.

Häufig werden die Fotos zusammen mit den Diskussionsergebnissen aufbereitet und in einer Ausstellung anderen Interessierten präsentiert – dazu bieten sich die Gemeinschaftsbereiche der Einrichtung an. <

/ ARBEITSHILFEN FÜR EINE SOLCHE PARTIZIPATIVE ERHEBUNG gibt es beispielsweise auch beim Netzwerk für partizipative Gesundheitsforschung /

> ABBILDUNG 2 <:
AUSZUG FRAGEBOGEN „GELEGENHEITEN FÜR BEWEGUNGSFÖRDERUNG“

	GELEGENHEITEN FÜR BEWEGUNGSFÖRDERUNG	KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ KOOPERATIONEN /	Unsere Einrichtung pflegt Kooperationen mit Ärzt*innen, durch die Rezepte zügig ausgestellt werden können.	x		
	Unsere Einrichtung pflegt Kooperationen mit externen Bewegungsförderern.		x	
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
		1	1	0
/ KOMMUNIKATIONS-STRUKTUREN /	Innerhalb unserer Einrichtung tauschen sich Pflegepersonal und Leitungsebene über das Thema Bewegungsförderung aus.		x	
	Möglichkeiten zur körperlichen Aktivierung der Bewohnenden können von Angehörigen mit dem Personal besprochen werden.		x	
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
		0	2	0
		GESAMTSUMME	GESAMTSUMME	GESAMTSUMME
		1	3	0

> ABBILDUNG 3 <:
AUSZUG FRAGEBOGEN „RESSOURCEN FÜR BEWEGUNGSFÖRDERUNG“

	RESSOURCEN FÜR BEWEGUNGSFÖRDERUNG	KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ INFRASTRUKTUR UMGEBUNG /	Unsere Einrichtung hat Zugang zu ÖPNV in fußläufiger Entfernung.	x		
	Unsere Einrichtung befindet sich in fußläufiger Entfernung von interessanten Begegnungsstätten.	x		
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
		2	0	0
/ INFRASTRUKTUR BAULICH AUSSEN /	Unseren Bewohnenden stehen Sitzmöglichkeiten im Außenbereich zur Verfügung.	x		
	Die Außenbereiche unserer Einrichtung sind vor Witterungen geschützt.	x		
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
		2	0	0
		GESAMTSUMME	GESAMTSUMME	GESAMTSUMME
		4	0	0

> ABBILDUNG 4 <:
AUSZUG FRAGEBOGEN „VERPFLICHTUNGEN FÜR BEWEGUNGSFÖRDERUNG“

	VERPFLICHTUNGEN FÜR BEWEGUNGSFÖRDERUNG	KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ INFORMELLE VERPFLICHTUNGEN DURCH ANDERE /	In unserer Einrichtung werden Bewohnende durch Mitarbeitende in Alltagsaktivitäten (Botengänge, Essensausgabe) miteinbezogen.		x	
	In unserer Einrichtung werden bewegungsförderliche Rituale durch Mitarbeitende in den Pflegealltag integriert.			x
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
		0	1	1
/ PERSÖNLICHE VERPFLICHTUNGEN /	Die Mitarbeitenden unserer Einrichtung haben eine positive Einstellung zu Bewegungsförderung.		x	
	Die Mitarbeitenden unserer Einrichtung haben eine positive Einstellung zu Bewegung im Alter.		x	
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
		0	2	0
		GESAMTSUMME	GESAMTSUMME	GESAMTSUMME
		0	3	1

> ABBILDUNG 5 <:
AUSZUG FRAGEBOGEN „ZIELE FÜR BEWEGUNGSFÖRDERUNG“

	ZIELE/ NATIONALE EMPFEHLUNGEN FÜR BEWEGUNGSFÖRDERUNG	KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ STRUKTURIERTE BEWEGUNGSANGEBOTE /	In unserer Einrichtung werden mindestens 150 Minuten moderate oder 75 Minuten intensive Bewegungseinheiten für Bewohnende angeboten, die vom Personal oder von Externen durchgeführt werden.			x
	In unserer Einrichtung werden Einheiten zu Gleichgewichtstraining angeboten, die vom Personal oder von Externen durchgeführt werden.			x
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
		0	0	2
		GESAMTSUMME	GESAMTSUMME	GESAMTSUMME
		0	0	2

TEIL 7 .2.2

FRAGE BOGEN

> Der Fragebogen zu Entwicklungs- und Vorzeigebereichen berücksichtigt vier Stellschrauben der Bewegungsförderung: Gelegenheiten, Ressourcen, Verpflichtungen und Ziele. Im Folgenden sind exemplarisch ausgefüllte Ausschnitte aus dem Fragebogen zum besseren Verständnis aufgeführt. <

> ABBILDUNG <:
ABBILDUNG 2 / > ABBILDUNG 3 / > ABBILDUNG 4 / > ABBILDUNG 5 /
Der komplette Fragebogen befindet sich im Anhang 9.1.

/ GELEGENHEITEN FÜR BEWEGUNGSFÖRDERUNG /
Setzen sich aus Kooperationen mit Bewegungsförderern (z.B. Kindergärten, Schulen), Kommunikationsstrukturen (z.B. regelmäßige Dienstbesprechungen) und dem Angebot niedrigschwelliger Bewegungsgelegenheiten im Alltag (z.B. Alltagsaktivitäten) zusammen > ABBILDUNG 2 <.

/ RESSOURCEN FÜR BEWEGUNGSFÖRDERUNG /
Sind aktivitätsunterstützende Infrastrukturen (z.B. gut begehbare Außenbereiche), aber auch ausreichend materielle, personelle und finanzielle Ressourcen > ABBILDUNG 3 <.

/ VERPFLICHTUNGEN FÜR BEWEGUNGSFÖRDERUNG /
Finden auf organisationaler (z.B. Anzahl der Bewegungsangebote im Wochenplan), informeller (z.B. Bewegungsrituale), persönlicher (z.B. Einstellung der Mitarbeitenden gegenüber Bewegungsförderung) und externer / gesetzlicher Ebene (z.B. Verankerung von Bewegungsförderung im Trägerkonzept) statt > ABBILDUNG 4 <.

/ ZIELE FÜR BEWEGUNGSFÖRDERUNG /
Beziehen sich auf das Angebot strukturierter Aktivitäten, die im Einklang mit den Nationalen Empfehlungen für Bewegung und Bewegungsförderung konzipiert wurden > ABBILDUNG 5 <.

Die Ergebnisse aus Fragebogen und Photovoice dienen als Basis für weitere Planungsprozesse, um bewegungsförderliche Maßnahmen zu entwickeln und in den Alltag zu integrieren. Sowohl Photovoice als auch der Fragebogen können von den verantwortlichen Personen für Bewegungsförderung in der Einrichtung durchgeführt beziehungsweise ausgefüllt werden. Es besteht jedoch auch die Option auf die Unterstützung von Bewegungsexpert*innen im Bereich Pflege aus Wissenschaft, öffentlicher Verwaltung, Sozialversicherungen oder einschlägigen Fachgesellschaften zurückzugreifen.

TEIL 7 .3

Erhebung von MERKMALEN auf Ebene der BEWOHNENDEN

> Neben Maßnahmen, die vor allem die Strukturen und Prozesse im Heim betreffen, wurden im BaSAlt-Projekt auch Optionen erprobt, gezielt einzelne Bewohnende zu mehr Bewegung zu motivieren. Hierbei können Erkenntnisse über individuelle Voraussetzungen von Menschen im Pflegeheim genutzt werden. Es werden Bewohnende identifiziert, die sich mit hoher Wahrscheinlichkeit wenig bewegen und in hohem Maße sedentär sind. Außerdem finden sich Anhaltspunkte für individuelle Beratungen auf Basis körperlicher, psychischer und sozialer Voraussetzungen.

Diese Erkenntnisse können durch Assessments auf der individuellen Ebene der Bewohnenden gewonnen werden, welche teilweise schon standardmäßig im Pflegeprozess erfasst werden oder mit Blick auf den Erhalt und Förderung von Mobilität in der Pflege nützlich sein können. Auf Basis solcher Informationen können gezielt einzelne Bewohnende angesprochen werden, aber auch Maßnahmen auf Organisationsebene konkret auf Gruppen von Bewohnenden zugeschnitten werden. Einen Überblick über potenziell relevante Informationen und Erhebungsverfahren finden Sie auf der rechten Seite in > TABELLE 1 <.

Die Erfassung des Gewichtsstatus und der Alltagsaktivitäten, können erste Hinweise auf geringes Aktivitätsverhalten geben. So sind besonders Bewohnende mit Adipositas sowie Bewohnende mit zunehmend benötigter Unterstützung bei Alltagsaktivitäten relevant, da sie mit höherer Wahrscheinlichkeit körperlich inaktiv sind (Pomiersky et al., 2023). Unter Berücksichtigung der geistigen Leistungsfähigkeit kann entschieden werden, ob eine individuelle Bewegungsberatung mit dem Bewohnenden (unter Einbezug von Angehörigen) sinnvoll ist. Eine Betrachtung der Kraftfähigkeiten kann hilfreich sein, da Muskelkraft eine Voraussetzung körperlicher Aktivität und ein Bedingungsfaktor für Mobilität darstellt. Somit sind vor allem Bewohnende mit geringen Kraftfähigkeiten gefährdet, zu wenig aktiv zu sein (Pomiersky et al., 2023). Des Weiteren kann ein Blick auf die individuellen Beweggründe für Aktivitäten nützlich sein, um die Sicht der einzelnen Bewohnenden auf ihr Bewegungsverhalten zu ergründen und dies bei individuellen Empfehlungen und Bewegungsangeboten mit berücksichtigen zu können. Im Anhang TEIL 9 .2 und TEIL 9 .3 ist hierfür ein Erhebungsverfahren abgebildet, um individuelle Motive und Ziele der Bewohnenden zu erfassen, sofern die geistige Leistungsfähigkeit für diesen Zugang ausreichend ist.

RELEVANTE MERKMALE

für körperliche Aktivität und sedentäres Verhalten bei Pflegeheimbewohnenden und mögliche Erhebungsverfahren

/ MERKMAL /	/ BEISPIELE FÜR GEEIGNETE ERHEBUNGSVERFAHREN /
GEWICHTSSTATUS / KÖRPERKOMPOSITION	/ KÖRPERGEWICHT / / BODY-MASS-INDEX / > WHO,2021* / KALIPER / > LOHNMAN, 1981 / BIOELEKTIRSCHE IMPEDANZANALYSE / > SERGI ET AL., 2015*
ALLTAGSAKTIVITÄTEN	/ BARTHEL-INDEX / > MAHONEY & BARTHEL, 1965* / KATZ-INDEX OF INDEPENDENCE IN ACTIVITIES OF DAILY LIVING / > KATZ, 1983 / BRISTOL ACTIVITIES OF DAILY LIVING SCALE / > BUCKS ET AL., 1996 / LAWTON INSTRUMENTAL ACTIVITIES OF DAILY LIVING / > LAWTON & BRODY,1969
GEISTIGE LEISTUNGSFÄHIGKEIT / KOGNITION	/ MINI-MENTAL-STATE-EXAMINATION / > MMSE; FOLSTEIN ET AL., 1975* / DEMENZ-DETEKTIONS-TEST / > DEMTEC-TEST; KALBE ET AL., 2004 / MONTREAL-COGNITIVE-ASSESSMENT-TEST / > MOCA-TEST; NASREDDINE ET AL., 2005
ALLGEMEINE KRAFT	/ HANDKRAFT MAXIMAL, ISOMETRISCH / > DYNAMOMETER; ROBERTS ET AL.,2011* / AUFSTEHTEST / > MEHMET ET AL., 2020

> TABELLE 1 <

*WURDEN IM BASALT-PROJEKT VERWENDET.

Im Rahmen des BaSAlt-Projekts wurden die in > TABELLE 1 < aufgeführten Erhebungsverfahren mit Hilfe von geschultem Pflegefachpersonal durchgeführt. Die einzelnen Erhebungsverfahren sind leicht umzusetzen, bedürfen jedoch einer Schulung im Vorfeld. Aus den Erhebungen wurden die Informationen strukturiert zusammengestellt. Diese Informationen bildeten die Basis für individuelle Beratungsgespräche mit den teilnehmenden Bewohnenden und dienten als Information über den aktuellen Status der einzelnen Bewohnenden.

Die individuelle Beratung zur Steigerung körperlicher Aktivität wurde dann durch Bewegungsfachkräfte aus dem BaSAlt-Projektteam durchgeführt (s. TEIL 7.4). Ziel der individuellen Beratung war es, die Bewohnenden dafür zu sensibilisieren, dass Bewegung wichtig für ihre Gesundheit ist. Durch die Erarbeitung konkreter, auf persönliche Motive und Ziele abgestimmter Wochenpläne, konnte eine gewisse Verbindlichkeit hinsichtlich der Umsetzung körperlicher Aktivität geschaffen werden. In > ABBILDUNG 6 < sehen Sie hierzu ein Beispiel. Im Anhang TEIL 9.4 finden sie eine Kopiervorlage. Auf Wunsch wurden auch individuelle Übungen (Eigenübungen) vermittelt.

Im Hinblick auf die individuelle Beratung zur körperlichen Aktivität ist eine Zusammenarbeit von Pflegefachpersonal und weiteren Berufsgruppen mit Bewegungsexpertise wünschenswert. Alternativ wäre für Pflegefachpersonen eine spezifische Schulung möglich. Zu beachten gilt, dass einzelne Übungen, für deren Durchführung Personal erforderlich ist, einer weitergehenden Beobachtung und ggfls. Anpassung bedürfen. <

MEINE / BEWEGUNGSIDEEN /

> ABBILDUNG 6 <

AUSGEFÜLLTER BEWEGUNGSPLAN AUS DER INDIVIDUELLEN BERATUNG VON BEWOHNENDEN

TEIL 7.4

ENTWICKLUNG und Evaluation bewegungsförderlicher Maßnahmen

In die Entwicklung der Maßnahmen sollten alle Mitarbeitenden eingebunden werden, die berufliche Vorerfahrungen im Bereich Bewegungsförderung aufweisen oder ein starkes persönliches Interesse an der Thematik haben. Oftmals sind Ehrenamtliche eine wichtige Stütze bei der Umsetzung verschiedener Aktivitäten im Pflegeheim, weshalb auch deren Anwesenheit bei der Maßnahmenentwicklung berücksichtigt werden sollte. Optional können auch Bewohnende oder Angehörige miteinbezogen werden. Die Vielfalt an teilnehmenden Personen ermöglicht einen heimspezifischen breitgefächerten Maßnahmenkatalog (s. TEIL 9.5), der nicht nur **direkte Maßnahmen** (Aktives), sondern auch **indirekte Maßnahmen** (Soziales) zur Bewegungsförderung enthalten kann. Mit Hilfe eines 10-Schritt-Programms gelangt man von der Ideensammlung hin zur Erfolgsbewertung der Maßnahmen > TABELLE 2 <.

/ 10-SCHRITT- PROGRAMM /

SCHRITT 1
/ IDEENSAMMLUNG /

WER MACHT WAS?

Alle Teilnehmenden sammeln Ideen für bewegungsförderliche Maßnahmen. Die Ideen werden auf Kärtchen geschrieben und für alle sichtbar an einer Pinnwand befestigt.

LEITFRAGEN

- Wie kann das Heim bewegungsfreundlicher gestaltet werden (Materialien, Aktivitäten,...)?
- Welche niedrigschwelligen Gelegenheiten für Bewegungsförderung sollen in den Heimalltag integriert werden? / Wie können die Bewohnenden ohne großen Aufwand zu mehr Bewegung animiert werden?
- An welchen Stellschrauben muss gedreht werden, um das Heim bewegungsfreundlicher zu gestalten?
- Welche Art der Bewegungsförderung würden Sie gerne mit den Bewohnenden durchführen?

MATERIAL

- Kärtchen zum Beschriften
- Stifte
- Pinnwand

SCHRITT 2
/ GRUPPENBILDUNG & DISKUSSION DER IDEEN /

WER MACHT WAS?

In Kleingruppen von **2-4 Teilnehmenden** werden nun **1-2 Ideen** pro Gruppe ausgewählt und detaillierter besprochen.

LEITFRAGEN

- Wer setzt die Idee im Alltag um?
- Wie oft soll die Maßnahme durchgeführt werden?
- Was könnten für Herausforderungen in der Planung & Umsetzung auftreten?
- Welche Neuanschaffungen sind nötig und wie werden diese finanziert?
- Wann soll die Maßnahme starten?

MATERIAL

- Notizblock
- Stifte

SCHRITT 3
/ VORSTELLUNG DER ERGEBNISSE /

WER MACHT WAS?

Jede Kleingruppe stellt ihre Überlegungen zu den von ihnen ausgewählten Ideen vor.

MATERIAL

- Notizblock

SCHRITT 4
/ FAVORISIERUNG DER IDEEN /

WER MACHT WAS?

Jeder Teilnehmende darf seine / ihre drei Lieblingsideen auf der Pinnwand kennzeichnen (Klebepunkte, Striche, etc.).

MATERIAL

- Pinnwand mit Kärtchen
- Klebepunkte o.ä.

SCHRITT 5

/ MASSNAHMENKATALOG /

WER MACHT WAS?

Alle Maßnahmen werden im Maßnahmenkatalog aufgelistet (TEIL 9.1).
Die favorisierten Maßnahmen werden gekennzeichnet.

MATERIAL

> Maßnahmenkatalog

SCHRITT 6

/ AUSWAHL AN MASSNAHMEN FESTLEGEN /

WER MACHT WAS?

Im Plenum legen sich die Teilnehmenden auf eine Anzahl von Maßnahmen aus dem Maßnahmenkatalog fest, die konkret geplant werden sollen.

MATERIAL

> Maßnahmenkatalog

/ FALLS NICHT ALLE 10 SCHRITTE IN EINEM TERMIN ABGEARBEITET WERDEN, IST HIER EIN SINNVOLLER PUNKT FÜR EINE UNTERBRECHUNG. /

SCHRITT 7

/ PLANUNG DER MASSNAHMEN /

WER MACHT WAS?

Die ausgewählten Maßnahmen werden nach dem SMART-Konzept (Von Unger, H., Block, M., Wright, M., 2011) geplant. Dieses Konzept erleichtert die Umsetzung der Maßnahmen in den Alltag. Der Maßnahmenkatalog wird für die ausgewählten Maßnahmen erweitert (TEIL 9.2).

MATERIAL

> Erweiterter Maßnahmenkatalog

SMART

> Spezifikation
> Messbarkeit
> Akzeptanz
> Realisierbarkeit
> Terminierung

STEP 8

/ ERFOLGSDEFINITION /

WER MACHT WAS?

Sobald die bewegungsförderlichen Maßnahmen geplant sind, sollte für jede Maßnahme ein **Erfolgssatz** definiert werden.
Optional können auch noch ein bis zwei postive und negative Abstufung pro Maßnahmen definiert werden (Schäfer, 2015).

MATERIAL

> Tabelle für die Erfolgsdefinition

	-2 VIEL SCHLECHTER ALS ERWARTET	-1 SCHLECHTER ALS ERWARTET	0 WIE ERWARTET (ERFOLGSDEFINITION)	+1 BESSER ALS ERWARTET	+2 VIEL BESSER ALS ERWARTET
/ MASSNAHME 1 /			Wenn **10** Bewohnende an unserem neuen bewegungsförderlichen Angebot *Hochbeet* teilnehmen, ist es ein Erfolg.		
/ MASSNAHME 2 /			Wenn die Maßnahme *Bewegungsritual* **zweimal** in der Woche durchgeführt wird, ist es für uns ein Erfolg.		
/ ... /					

STEP 9
/ **UMSETZUNG DER MASSNAHMEN IM ALLTAG** /

WER MACHT WAS?

Für jede Maßnahme gibt es **einen oder mehrere Verantwortliche** (s. Maßnahmenkatalog). Die Maßnahmen werden nach dem Maßnahmenkatalog umgesetzt.
Es sollte sich regelmäßig über Fortschritte und Probleme ausgetauscht werden (Dienstbesprechung; monatliches Treffen für Bewegungsförderung).
Während dieser Treffen können bereits kleine Stellschrauben in der Umsetzung verändert werden, um die Integration in den Alltag zu optimieren oder aufgetretene Probleme zu beheben.

MATERIAL

> Maßnahmekatalog

STEP 10
/ **ERFOLGSBEWERTUNG** /

WER MACHT WAS?

Nach ca. 6 Monaten können die einzelnen Maßnahmen in ihrem Erfolg bewertet werden, da sich innerhalb dieser Zeit eine Routine entwickelt haben sollte (Lally et al., 2010). **Alle Verantwortlichen** der Maßnahmenumsetzung entscheiden im **Plenum** darüber, ob die einzelne Maßnahme „so erfolgreich war wie erwartet" oder besser/ schlechter umgesetzt wurde.

MATERIAL

> Tabelle mit den Erfolgsdefinitionen

> TABELLE 2 <
10-SCHRITT-PROGRAMM

TEIL 7.5

BEISPIELE GUTER Praxis

> Im BaSAlt Projekt wurden insgesamt 114 Ideen für Bewegungsförderung entwickelt, von denen 57 als konkrete Maßnahmen ausgearbeitet und 54 auch implementiert wurden. > TABELLLE 7 < zeigt die Einordnung der Maßnahmen in die vier Bereiche eines aktiven Lebens (s. TEIL 6).

Als Beispiele guter Praxis werden aus dem Bereich **Aktive Fortbewegung** „Individualberatung", „Barfußpfad" und „Fahrradergometer" vorgestellt.
Im Rahmen der **Hauswirtschaftlichen Tätigkeiten** werden „Alltagscheck" und "Hochbeete" beschrieben. In Bezug auf **Berufliche Tätigkeiten** erfolgt eine Übersicht über die „Schulung von Betreuungskräften" und das daraus resultierende „erweiterte Bewegungsangebot". „Kooperationen mit Praxispartner", „Rituale" und „Tiere" sind Praxisbeispiele aus dem Bereich **Aktive Freizeitgestaltung.**

Die Einschätzungen zum personellen, materiellen und zeitlichen Aufwand sowie die Auslegung in eine eher aktive oder soziale Richtung ist auf Basis der durchgeführten Maßnahmen innerhalb des BaSAlt-Projekts erfolgt.
Jede Einrichtung verfügt über individuelle Voraussetzungen, welche die Planung und Umsetzung beeinflussen.

/ AKTIVE FORTBEWEGUNG /
- > INDIVIDUELLE BEWEGUNGSFÖRDERUNG
- > INDIVIDUALBERATUNG
- > FAHRRADERGOMETER
- > TERRASSENGESTALTUNG
- > BARFUSSPFAD
- > 2-SCHRITT PROGRAMM
- > AUSFLÜGE
- > SPAZIERGÄNGE

/ HAUSWIRTSCHAFLICHE TÄTIGKEITEN /
- > BLUMENPFLEGE
- > HOCHBEET
- > ALLTAGSCHECK
- > ALLTAGSAKTIVITÄTEN

BUDGET FÜR BEWEGUNGSFÖRDERUNG
UND **VERANTWORTLICHE PERSONEN**
FÜR BEWEGUNGSFÖRDERUNG

/ BERUFLICHE TÄTIGKEITEN /
- > TAG DER OFFENEN TÜR
- > ANGEHÖRIGENABEND
- > EHRENAMTLICHE REKRUTIEREN
- > SCHULUNG VON BETREUUNGSKRÄFTEN & ERWEITERTES BEWEGUNGSANGEBOT
- > BEWEGUNGSFÖRDERUNG IN DER AUSBILDUNG

/ AKTIVE FREIZEITGESTALTUNG /
- > KOOPERATIONEN MIT PRAXISPARTNERN
- > MUSIKALISCHE ANGEBOTE
- > AKTIVIERENDE UND SOZIALE RITUALE
- > KEGELN
- > TIERE

> ABBILDUNG 7 <
ÜBERSICHT DER ENTWICKELTEN BEWEGUNGSFÖRDERLICHEN MASSNAHMEN

/ PFLANZEN, PFLEGEN & AB AUF'S BROT! /

/ INHALT /
dieser Maßnahme ist die Bepflanzung und Pflege von Hochbeeten. Unterstützt werden die Bewohnenden vom Pflegepersonal oder von Ehrenamtlichen und Angehörigen. Die Maßnahme kann sowohl als Einzel- oder Gruppenaktivität erfolgen.

/ BESONDERS /
an dieser Form des Hochbeets ist die Unterfahrbarkeit mit dem Rollstuhl, damit auch immobile Bewohnende an der Gartenarbeit teilnehmen können. Nicht nur die Pflege an sich, sondern auch „kleine Spaziergänge zum Naschen" bieten Anreiz für Bewegung. Die Maßnahme kann zudem die Erinnerungsfunktion anregen und die geernteten Produkte können gemeinsam für das Abendbrot vorbereitet und verzehrt werden.

/ **KÖRPERLICHE** AKTIVITÄT / ●○○
/ **SOZIALE** KOMPONENTE / ●●○
/ **ZEITLICHE** RESSOURCE / ●●○
/ **PERSONELLE** RESSOURCE / ●●○
/ **MATERIELLE** RESSOURCE / ●●●

/ MASSNAHMEN-CHECKLISTE: /
- ☐ Finanzierung und Aufbau organisiert
- ☐ Verantwortlichkeiten für Pflege und Betreuung
- ☐ Pflanzmaterial
- ☐ Maßnahme organisational verankert (z.B. Wochenplan)

/ SPIEL, SPASS & GESANG MIT VEREINEN IN DER UMGEBUNG /

/ INHALT /

dieser Maßnahme ist die Knüpfung von Kooperationen mit Einrichtungen & Vereinen in der Umgebung. Besonders beliebt sind Kindergärten und Musik- oder Gesangsvereine. Patenschaften mit Kindergärten bieten z.B. die Möglichkeit für generationsübergreifendes Spielen. Vereine aktivieren die Bewohnenden oft durch musikalische Angebote, die durch Bewegungselemente ergänzt werden.

/ BESONDERS /

an dieser Maßnahme sind die sozialen Interaktionen und die Integration des Heims in die Nachbarschaft. Durch die Kooperationen mit Einrichtungen und Vereinen in der Umgebung werden neue Bewegungsimpulse geschaffen und das Pflegepersonal entlastet.

> **KÖRPERLICHE** AKTIVITÄT ●○○
> **SOZIALE** KOMPONENTE ●●●
> **ZEITLICHE** RESSOURCE ●○○
> **PERSONELLE** RESSOURCE ●○○
> **MATERIELLE** RESSOURCE ●○○

/ MASSNAHMEN-CHECKLISTE: /

- ☐ Einrichtungen und Vereine in der Umgebung finden
- ☐ Kooperationsvertrag (wenn nötig)
- ☐ Ansprechpersonen in den Einrichtungen / Vereinen
- ☐ Maßnahme organisational verankert (z.B. Wochenplan)

/ FAHRRAD FAHREN IN MÜNCHEN, PARIS ODER DER EIGENEN NACHBARSCHAFT /

/ INHALT /

dieser Maßnahme ist ein Ergometer, welches auch mit dem Rollstuhl genutzt werden kann. Über ein digitales System wird eine visuelle Darstellung der gefahrenen Strecke auf einen Monitor projiziert. Bei den Streckenvideos kann sich aus einer Reihe an vorproduzierten Videos bedient werden, aber auch der Heimatort kann durch den Hersteller abgefilmt werden.

/ BESONDERS /

an dieser Maßnahme sind die individuelle Dosierung der Intensität sowie der soziale Charakter. Die Strecken können gemeinsam betrachtet werden, was Gespräche währenddessen und im Nachgang anregen kann. Auch bei schlechtem Wetter oder in den Wintermonaten ist das Gerät einsatzbereit.

/ **KÖRPERLICHE** AKTIVITÄT / ●●●
/ **SOZIALE** KOMPONENTE / ●○○
/ **ZEITLICHE** RESSOURCE / ●○○
/ **PERSONELLE** RESSOURCE / ●○○
/ **MATERIELLE** RESSOURCE / ●●●

/ MASSNAHMEN-CHECKLISTE: /

- ☐ Finanzierung (Anschaffung & Folgekosten)
- ☐ Platzierung in Einrichtung
- ☐ Eigene Streckenvideos in Produktion geben?
- ☐ Maßnahme organisational verankert (z.B. Wochenplan)

/ BARFUSSPFAD – EIN ERLEBNIS FÜR DIE SINNE /

/ INHALT /

dieser Maßnahme ist das Nutzen eines Barfußpfades, welcher individuell nach den Bedürfnissen der Einrichtung erstellt wird. Durch die Verwendung unterschiedlicher Materialien für den Untergrund (bspw. Hackschnitzel, Kiesel etc.) soll die Wahrnehmung und Bewegung der Bewohnenden gefördert werden.

/ BESONDERS /

an dieser Maßnahme ist die Nutzung innerhalb der Einzel- oder Gruppenaktivierung. Dabei können Mitarbeitende oder Angehörige mit den Bewohnenden den Barfußpfad frei nutzen. Eine Sicherung und Minderung des Sturzrisikos wird zudem durch einen durchgehenden Handlauf und die Befahrbarkeit mittels Rollator ermöglicht. Auch Rollstühle können über den Untergrund geschoben werden.

/ KÖRPERLICHE AKTIVITÄT /	●●○
/ SOZIALE KOMPONENTE /	●●○
/ ZEITLICHE RESSOURCE /	●●○
/ PERSONELLE RESSOURCE /	●●○
/ MATERIELLE RESSOURCE /	●●●

/ MASSNAHMEN-CHECKLISTE: /

- ☐ Platzierung
- ☐ Finanzierung (Fördermittel etc.)
- ☐ Installation des Pfads
- ☐ Maßnahme organisational verankert (z.B. Wochenplan)

/ BEWEGUNGSFÖRDERUNG ERLERNEN UND WEITERGEBEN! /

/ INHALT /

dieser Maßnahme ist die Schulung von Betreuungskräften für Bewegung und Bewegungsförderung. Die Schulung wird dabei von Bewegungsexpert*innen geleitet, welche Anreize für Übungen geben und motivationale Aspekte beziehungsweise mögliche Barrieren aufzeigen.

/ BESONDERS /

an dieser Maßnahme ist die Gruppenaktivität innerhalb der Einrichtung. Durch die Schulung sollen mehrere Mitarbeitende befähigt werden, gruppenorientierte Bewegungsangebote mit unterschiedlichem Übungsmaterial in der Einrichtung anzubieten. Dadurch kann ein abwechslungsreicheres Bewegungsangebot geschaffen werden und die Abhängigkeit von externen Dienstleister*innen verringert sich.

/ KÖRPERLICHE AKTIVITÄT /	●●○
/ SOZIALE KOMPONENTE /	●●○
/ ZEITLICHE RESSOURCE /	●●○
/ PERSONELLE RESSOURCE /	●●○
/ MATERIELLE RESSOURCE /	●●○

MASSNAHMEN-CHECKLISTE:

- ☐ Bewegungsexpert*innen für Schulung
- ☐ Teilnehmer*innen der Schulung
- ☐ Materialien (Bälle, Tücher etc.)
- ☐ Maßnahme organisational verankert (z.B. Wochenplan)

/ BEWEGUNGSFÖRDERER AUF VIER PFOTEN /

/ INHALT /

dieser Maßnahme ist der Einsatz von Tieren in den Einrichtungen. Dabei stellen Tiere, wie bspw. Hunde oder Katzen, einen Anreiz zur vermehrten Bewegung von Bewohnenden dar.

/ BESONDERS /

an dieser Maßnahme ist die Interaktion mit Tieren. Dadurch wird niedrigschwellige Bewegung generiert, indem die Bewohnenden ihre Zimmer verlassen und mit dem Hund interagieren (hinunterbeugen oder streicheln). Auch die Aktivierung in der Gruppe ist möglich.

/ **KÖRPERLICHE** AKTIVITÄT / ●●○
/ **SOZIALE** KOMPONENTE / ●●○
/ **ZEITLICHE** RESSOURCE / ●●○
/ **PERSONELLE** RESSOURCE / ●●○
/ **MATERIELLE** RESSOURCE / ●●○

MASSNAHMEN-CHECKLISTE:

- ☐ Tierhalter & Besuchszeiten
- ☐ Finanzierung (wenn nötig)
- ☐ Maßnahme organisational verankert (z.B. Wochenplan)

/ AKTIVIERENDE UND SOZIALE RITUALE IM HEIMALLTAG /

/ INHALT /

dieser Maßnahme ist die organisationale Verankerung von Ritualen, welche direkt Bewegung und körperliche Aktivität ansprechen. Auch sozialorientierte Heimrituale, wie bspw. das abendliche Singen können indirekt die Bewegung von Bewohnenden fördern.

/ BESONDERS /

an dieser Maßnahme ist die Regelmäßigkeit der Aktivität in der Einrichtung. Durch niedrigschwellige Maßnahmen können regelmäßige Bewegung und soziale Interaktionen erzeugt werden. Durch kreative Maßnahmengestaltung von Mitarbeitenden kann zudem die Abwechslung an Aktivitäten gewährleistet werden.

/ **KÖRPERLICHE** AKTIVITÄT / ●○○
/ **SOZIALE** KOMPONENTE / ●●○
/ **ZEITLICHE** RESSOURCE / ●○○
/ **PERSONELLE** RESSOURCE / ●○○
/ **MATERIELLE** RESSOURCE / ●○○

MASSNAHMEN-CHECKLISTE:

- ☐ Art des Rituals
- ☐ Verantwortlichkeiten (Mitarbeitende)
- ☐ Maßnahme organisational verankert (z.B. Tagesablauf)

/ INDIVIDUALBERATUNG – MOTIVE FÜR MEHR BEWEGUNG ERKENNEN /

/ **INHALT** /

dieser Maßnahme ist die individuelle Beratung von Bewohnenden zum Thema Bewegung und körperliche Aktivität. Informationen zu vermehrter Bewegung durch Einzel- oder Gruppenaktivitäten werden gegeben und individuelle Bewegungsübungen können vermittelt werden. Angehörige werden mit einbezogen und Expert*innen führen die Beratung durch.

/ **BESONDERS** /

an dieser Maßnahme ist die individuelle Förderung von Bewegung u.a. durch den Einbezug von Angehörigen. Diese können Multiplikator*innen für Bewegung und deren Förderung darstellen. Die Übungen oder aufgezeigten Bewegungsangebote werden in einem Plan verankert, was Verbindlichkeiten schafft.

/ **KÖRPERLICHE** AKTIVITÄT / ●●●
/ **SOZIALE** KOMPONENTE / ●●○
/ **ZEITLICHE** RESSOURCE / ●○○
/ **PERSONELLE** RESSOURCE / ●●○
/ **MATERIELLE** RESSOURCE / ●○○

MASSNAHMEN-CHECKLISTE:

- ☐ Einbeziehung von Angehörigen
- ☐ Bewegungsexpert*in & Beratungstermin
- ☐ Einbezug der Übungen in den Tagesablauf

/ ALLTAGSCHECK – MEHR BEWEGUNG IM ALLTAG /

/ **INHALT** /

dieser Maßnahme ist die Stärkung der aktivierenden Pflege. Der Alltagscheck geht über die aktivierende Pflege hinaus und soll Potentiale für mehr Bewegung im Alltag identifizieren. Der Einbezug in hauswirtschaftliche Tätigkeiten und Aktivitäten des täglichen Lebens sollen fokussiert werden.

/ **BESONDERS** /

an dieser Maßnahme ist der Charakter der pflegerischen Unterstützung für den Erhalt und die Förderung von Mobilität. Dabei können unterschiedlichste Aktivitäten, wie bspw. das Zähneputzen oder Wäsche zusammenlegen angeregt werden.

/ **KÖRPERLICHE** AKTIVITÄT / ●●○
/ **SOZIALE** KOMPONENTE / ●●○
/ **ZEITLICHE** RESSOURCE / ●●●
/ **PERSONELLE** RESSOURCE / ●●●
/ **MATERIELLE** RESSOURCE / ●○○

MASSNAHMEN-CHECKLISTE:

- ☐ Interesse der Bewohnenden abfragen
- ☐ Regelmäßiger Austausch zwischen den Mitarbeitenden
- ☐ Maßnahme organisational verankert (z.B. Tagesablauf)

TEIL 8/

AUS
B L I C K

> Mit den 54 umgesetzten Maßnahmen innerhalb des BaSAlt-Projekts wurden weitere Weichen für mehr körperliche Aktivität im Heimalltag gestellt. Zugleich werden die Empfehlungen des *Expertenstandards Mobilität* berücksichtigt. Durch die in BaSAlt gewählte Umsetzung von Strategien auf organisationaler und individueller Ebene kann Bewegungsförderung gezielter in den Heimalltag integriert werden, um somit nachhaltig Bewegung mit Gesundheitsnutzen und Förderung der sozialen Teilhabe des Einzelnen stattfinden zu lassen.

Die Covid-19 Pandemie hat uns innerhalb des BaSAlt-Projekts vor besondere Herausforderungen gestellt, da Einrichtungen nicht betreten werden durften und somit Zugänge in digitaler Form kreiert werden mussten. > DIGITALE BEWEGUNGSANGEBOTE < in Form von angeleiteten Videos durch geschultes Personal wurden den Einrichtungen zur Verfügung gestellt, um Anregungen für Betreuungskräfte zu bieten, aber auch Angehörigen die Möglichkeit zu geben gemeinsam mit den Bewohnenden aktiv zu werden.

Die Sensibilisierung von relevanten Akteuren innerhalb des Pflegeheims (Pflegekräfte, Leitungsebene) aber auch außerhalb der Einrichtung (Heimaufsicht, regulierende Behörden) war ein großer Erfolg. Das Projekt lieferte die Erkenntnis, dass Bewegungsförderung im Alltag kreativ umgesetzt werden kann und dass kleine Veränderungen von gewohnten Abläufen und Strukturen große Wirkung erzielen können.

Am Ende stellt sich die Frage, was bleibt zu tun, damit Bewegungsförderung zukünftig für die einzelnen Einrichtungen ermöglicht und erleichtert werden kann. Wir sehen insbesondere zwei Bereiche mit Entwicklungspotential für Bewegungsförderung in Pflegeheimen. <

/ VERANKERUNG VON BEWEGUNGSFÖRDERUNG IN AUSBILDUNG UND LEHRE /

> Bewegung und Bewegungsförderung sollte in Zukunft in Pflegeausbildung und -studium verpflichtend verankert werden. Gleichzeitig sollte in Ausbildung und Studium von gesundheitsbezogenen Berufsbildern auch der Aspekt der Prävention in der Pflege mehr berücksichtigt werden. Gegenwärtig ist die Verankerung des Themas Bewegung und Bewegungsförderung bei Auszubildenden im Trägerkonzept nicht verpflichtend. Einige Trägerkonzepte weisen bereits Inhalte dazu auf, aber auch dies sollte flächendeckend verankert werden. Neben dem Aspekt der Bildung sollten auch durch politische Entscheidungen Rahmenbedingungen für Bewegung und Bewegungsförderung in Pflegeeinrichtungen geschaffen werden, indem zum Beispiel spezielle Stellenprofile entwickelt und finanziert werden. <

/ BERUFLICHE GESUNDHEITSFÖRDERUNG: WER KOMMT IN BEWEGUNG? /

> BaSAlt hatte bei der Entwicklung von Maßnahmen insbesondere die Bewohnenden im Blick. Zugleich gilt es, Bewegungsförderung als Teil des beruflichen Gesundheitsmanagements in der Pflege weiter zu etablieren. Im Sinne einer bewegungsförderlichen Einrichtung sollten auch Möglichkeiten der beruflichen Gesundheitsförderung mit Mitarbeitenden mitgedacht und umgesetzt werden. Auch in diesem Bereich gibt es erste Modellprojekte, die partizipativ und einrichtungsspezifisch Maßnahmen entwickeln und erproben. Durch diese wird Bewegung in den alltäglichen Arbeitsprozess, den Arbeitsweg und die Freizeitgestaltung von Mitarbeitenden gebracht. <

> DIGITALE BEWEGUNGSANGEBOTE <
ZU DEN VIDEOS EINFACH
QR-CODE SCANNEN

TEIL 9/9.1 FRAGE
B O G E N

	GELEGENHEITEN FÜR BEWEGUNGSFÖRDERUNG		/ KEINE NEIN	/ VEREINZELT TEILWEISE	/ AUSREICHEND JA
/ KOOPERATIONEN /	Unsere Einrichtung pflegt Kooperationen mit Ärzt*innen, durch die Rezepte zügig ausgestellt werden können.	Rezepte für Physio- oder Ergotherapie können bei Bedarf zeitnah und regelmäßig ausgestellt werden.			
	Unsere Einrichtung pflegt Kooperationen mit externen Bewegungsförderern.	Als externe Bewegungsförderer zählen zum Beispiel Therapeut*innen, die verschriebene Therapien durchführen oder Übungsleiter*innen, die Bewegungsangebote übernehmen.			
	Unsere Einrichtung pflegt Kooperationen mit Ehrenamtlichen oder Freundeskreisen von Bewohnenden.	Ehrenamtliche oder der Freundeskreis sind Personen, die zur körperlichen Aktivierung der Bewohnenden beitragen können, durch zum Beispiel Spaziergänge.			
	Unsere Einrichtung pflegt Kooperationen mit Einrichtungen in der direkten Umgebung.	Einrichtungen in der direkten Umgebung sind zum Beispiel Kindergärten, die Kirchengemeinde oder Sportvereine.			
			ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
/ KOMMUNIKATIONSSTRUKTUREN /	Innerhalb unserer Einrichtung tauschen sich Pflegepersonal und Leitungsebene über das Thema Bewegungsförderung aus.	Regelmäßige Sitzungen (monatlich/ im Quartal, etc.), in denen sich bewusst mit dem Thema Bewegungsförderung auseinandergesetzt wird (Welche Angebote können neu etabliert / verändert werden?; Betrachtung einzelner Bewohnender).			
	Möglichkeiten zur körperlichen Aktivierung der Bewohnenden können von Angehörigen mit dem Personal besprochen werden.	Wünsche von Angehörigen werden beachtet, zum Beispiel spezielle Vorlieben aus dem früheren Alltag, wie Backen oder Spazieren gehen.			
			ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME

GELEGENHEITEN FÜR BEWEGUNGSFÖRDERUNG		KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ NIEDRIGSCHWELLIGE BEWEGUNGSGELEGENHEITEN /				
In unserer Einrichtung werden durch Personal oder Externe niedrigschwellige bewegungsförderliche Angebote ermöglicht, wie Messen/ Andachten, Bastelnachmittage oder Haushaltsaktivitäten.	Niedrigschwellige bewegungsförderliche Angebote sind Angebote, die ohne großen personellen, finanziellen oder zeitlichen Aufwand durchgeführt werden können und einfach in den Alltag zu integrieren sind.			
Unsere Einrichtung erhält Besuch von Tieren oder hält selbst Haustiere.	Dazu zählen Tiere mit therapeutischem Bezug (Therapiehund) und/oder nicht-therapeutischem Bezug (Hasengehege, Haustiere von Besucher*innen).			
Besuche sind in unserer Einrichtung rund um die Uhr erlaubt.	Besucher*innen können einen wichtigen Beitrag zur körperlichen Aktivierung der Bewohnenden leisten, was durch flexible Besuchszeiten begünstigt wird.			
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
		GESAMTSUMME	GESAMTSUMME	GESAMTSUMME

RESSOURCEN FÜR BEWEGUNGSFÖRDERUNG		KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ INFRASTRUKTUR UMGEBUNG /				
Unsere Einrichtung hat Zugang zu ÖPNV in fußläufiger Entfernung.	Der ÖPNV kann für Ausflüge mit mobilen Bewohnenden genutzt werden, aber auch Besuche von Angehörigen begünstigen.			
Unsere Einrichtung befindet sich in fußläufiger Entfernung von interessanter Begegnungsstätten.	Interessante Begegnungstätten sind zum Beispiel Kindergärten, Cafés oder das Gemeindezentrum.			
Unsere Einrichtung befindet sich in fußläufiger Entfernung von Einrichtungen des täglichen Bedarfs.	Einrichtungen des täglichen Bedarfs sind zum Beispiel Supermärkte oder Bäckereien.			
Unsere Einrichtung befindet sich in fußläufiger Entfernung von Grün- oder Blauflächen.	Grün- oder Blauflächen, wie Seen, Flüsse, Parks oder Wälder ermöglichen mobilen Bewohnenden Spaziergänge in der näheren Umgebung.			
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
/ INFRASTRUKTUR BAULICH AUSSEN /				
Unsere Einrichtung verfügt über eine ausgebaute Terrasse und / oder einen Balkon.	Die Terrassen/ Balkone sind nutzbar für Aktivitäten oder Aufenthalte während des Alltags und sind für Bewohnende (barriere-)frei zu erreichen.			
Unseren Bewohnenden stehen Sitzmöglichkeiten im Außenbereich zur Verfügung.	Die Sitzmöglichkeiten im Außenbereich können Aktivitäten, Ruhepausen oder Zusammenkünften dienen.			
Die Außenbereiche unserer Einrichtung sind vor Witterungen geschützt.	Sonnen- / Regenschirme oder Überdachungen schützen vor Witterungen.			
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME

RESSOURCEN FÜR BEWEGUNGSFÖRDERUNG		KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ MATERIAL /	Unsere Einrichtung verfügt über Materialen, um die Bewohnenden zu aktivieren.	Unterstützende Materialien für Aktivierungen sind zum Beispiel Gewichte, Bälle oder Luftballons.		
	Unsere Einrichtung verfügt über Sitzmöglichkeiten für Aktivierungen.	Für einige Aktivierungen werden zum Beispiel spezielle Sitzmöglichkeiten benötigt, wie Stühle ohne Armlehnen.		
			ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
/ PERSONAL /	Unsere Einrichtung hat eine geringe Mitarbeitendenfluktuation außerhalb der Leitungsebene.	Es müssen in nicht all zu häufigen Abständen neue Mitarbeitende in das Heimgeschehen eingearbeitet werden und die Bewohnenden haben vertraute Gesichter vor Augen.			
	Unsere Einrichtung hat eine geringe Mitarbeitendenfluktuation auf Leitungsebene.	Die Mitarbeitenden und Bewohnenden werden in nicht all zu häufigen Abständen mit einem neuen Führungsstil konfrontiert.			
	Unsere Einrichtung erfüllt den vorgegebenen Personalschlüssel.	Ist der vorgegebene Personalschlüssel erfüllt, macht dies regelmäßige Aktivierungen für Bewohnende wahrscheinlicher.			
	Unsere Einrichtung beschäftigt Alltagshelfende / Pflegeassistent*innen.	Alltagshelfende oder Pflegeassistent*innen können die Bewohnenden zusätzlich aktivieren.			
	Unsere Einrichtung bietet den Mitarbeitenden Zugang zu Schulungen im Bereich *körperlicher Aktivierung*.	Die Mitarbeitenden haben die Möglichkeit innerhalb oder außerhalb der Arbeitszeit an Schulungen teilzunehmen, die ihre Kompetenz im Bereich *körperliche Aktivierung* erhöht.			
	Unsere Einrichtung hat Bewegungsexpert*innen, die angestellt und/oder ehrenamtlich tätig sind.	Bewegungsexpert*innen können Angebote zu *körperlicher Aktivierung* übernehmen, wie zum Beispiel Sitztanz oder Kräftigungsübungen.			

RESSOURCEN FÜR BEWEGUNGSFÖRDERUNG		KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
	Unsere Einrichtung beschäftigt Sozialarbeiter*innen.	Sozialarbeiter*innen können die Bewohnenden zusätzlich aktivieren.		
	Die Mitarbeitenden unserer Einrichtung weisen einen beruflichen Werdegang mit Erfahrungen im Bereich Bewegungsförderung auf.	Ein adäquater beruflicher Werdegang zeichnet sich durch absolvierte Schulungen, berufliche Vorerfahrung oder persönliches Interesse im Bereich der körperlichen Aktivität aus.		
			ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
/ EXTERNE FINANZIELLE RESSOURCEN /	Bewegungsförderliche Aktivitäten unserer Einrichtung werden durch den Freundeskreis oder Spenden finanziert / unterstützt.	Die Unterstützung durch externe finanzielle Ressourcen kann das Angebot für Bewegungsförderung erweitern.			
/ INTERNE FINANZIELLE RESSOURCEN /	Unsere Einrichtung verfügt über interne finanzielle Ressourcen für Bewegungsförderung.	Teile des Jahresetats sind zum Beispiel für Materialien oder Personal für Bewegungsförderung reserviert.			
			ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
			GESAMTSUMME	GESAMTSUMME	GESAMTSUMME

VERPFLICHTUNGEN FÜR BEWEGUNGSFÖRDERUNG		KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ ORGANISATIONALE VERPFLICHTUNGEN /				
In unserer Einrichtung wird von jedem Bewohnenden (bei Einzug) eine Bewegungsbiographie erstellt und das Thema Bewegungsförderung durch einen Mitarbeitenden thematisiert.	Es werden frühere bewegungsbezogene Interessen abgefragt und Angehörige können Wünsch äußern bzw. die Einrichtung informiert über ihre bewegungsförderlichen Angebote.			
In unserer Einrichtung werden Bewohnende vom Pflegepersonal systematisch in die Pflegeplanung und den Alltag integriert.	Es wird darauf geachtet, dass Bewohnende Teile der Grundpflege selbst durchführen (Haare kämmen, etc.) oder nützliche Aufgaben im Alltag übernehmen (Tisch decken, etc.).			
In unserer Einrichtung hängt ein Wochenplan aus.	Niedergeschriebene Angebote erhöhen die Wahrscheinlichkeit der Durchführung.			
Der Wochenplan unserer Einrichtung enthält Angebote zur Bewegungsförderung, die vom Personal oder von Externen durchgeführt werden.	Bewegungsförderliche Angebote sind zum Beispiel Sitztanz, Gymnastik oder Bewegungsgeschichten.			
In unserer Einrichtung erhält jeder Bewohnende Einzelaktivierungen, die vom Personal oder von Externen durchgeführt werden.	Bei Einzelaktivierungen kann auf die individuellen Wünsche der Bewohnenden eingegangen werden.			
In unserer Einrichtung erhält jeder Bewohnende Gruppenaktivierungen, die vom Personal oder von Externen durchgeführt werden.	Bei Gruppenaktivierungen können mehrere Bewohnende gleichzeitig aktiviert werden und das soziale Miteinander wird gefördert.			
Bei unseren angebotenen Aktivitäten wird darauf geachtet, dass auch dementiell veränderte und / oder immobile Bewohnende teilnehmen können.	Die Angebote sind so konzipiert, dass auf die variierenden Bewohnendenzusammensetzung bei den einzelnen Durchführung eingegangen werden kann.			
Unsere Einrichtung bietet Frischluftaktivitäten an, die vom Personal oder von Externen durchgeführt werden.	Frischluftaktivitäten können außerhalb der Einrichtung (Ausflüge, Spaziergänge) oder innerhalb der Einrichtung (Kaffee auf der Terrasse) stattfinden.			

VERPFLICHTUNGEN FÜR BEWEGUNGSFÖRDERUNG		KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
/ INFORMELLE VERPFLICHTUNGEN BEWEGUNGSKULTUR /				
In unserer Einrichtung werden die Bewohnenden von Mitarbeitenden in ihrer Mobilität unterstützt / gefördert, um ihre Bewegungfähigkeit zu erhalten.	Unterstützung kann zum Beispiel durch Gehtraining auf den Fluren erfolgen oder durch die Ermutigung zum Gehen am Rollator.			
In den Tätigkeitsbeschreibungen unserer Mitarbeitenden finden sich auch Aspekte zur körperlichen Aktivierung.	Spezielle Anweisungen für verschiedene Berufsgruppen in Bezug auf Bewegungsförderung.			
Unsere Einrichtung bietet kulturelle Angebote an, die vom Personal oder von Externen durchgeführt werden.	Kulturelle Angebote sind zum Beispiel Lesenachmittage oder Fotoausstellungen mit anschließender Diskussion.			
Das Thema Bewegungsförderung ist im Jahresplan unserer Einrichtung verankert.	Eine Verankerung im Jahresplan erhöht die Wahrscheinlichkeit der Durchführung geplanter größerer Aktivitäten, wie Ausflüge oder eine Bewegungsolympiade.			
Das Thema Bewegungsförderung ist im Leitbild unserer Einrichtung verankert.	Eine Verankerung im Leitbild ermöglicht einen bewussten Fokus auf Bewegungsförderung.			
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
In unserer Einrichtung werden Bewohnende durch Mitarbeitende in Alltagsaktivitäten (Botengänge, Essensausgabe) miteinbezogen.	Jedem Bewohnenden werden Alltagsaktivitäten angeboten und er / sie kann selbst entscheiden, ob er / sie mitwirken möchte.			
In unserer Einrichtung werden bewegungsförderliche Rituale durch Mitarbeitende in den Pflegealltag integriert.	Regelmäßig durchgeführte Rituale sind zum Beispiel kurze Aktivierungen vor jedem Mittagessen.			
		ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME

VERPFLICHTUNGEN FÜR BEWEGUNGSFÖRDERUNG			KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
PERSÖNLICHE VERPFLICHTUNGEN	Der Heimleitung unserer Einrichtung ist die Bedeutung von Bewegungsförderung bewusst.	Die Heimleitung erkennt, dass Bewegungsförderung ein wichtiger Teil des Alltags ist und ist sich der positiven Effekte von körperlicher Aktivierung im Alter auf die körperliche und geistige Leistungsfähigkeit der Bewohnenden bewusst.			
	Der Pflegedienstleitung unserer Einrichtung ist die Bedeutung von Bewegungsförderung bewusst.	Die Pflegeleitung erkennt, dass Bewegungsförderung ein wichtiger Teil des Alltags ist und ist sich der positiven Effekte von körperlicher Aktivierung im Alter auf die körperliche und geistige Leistungsfähigkeit der Bewohnenden bewusst.			
	Der / den Wohnbereichsleitung/en unserer Einrichtung ist die Bedeutung von Bewegungsförderung bewusst.	Die Wohnbereichsleitung erkennt, dass Bewegungsförderung ein wichtiger Teil des Alltags ist und ist sich der positiven Effekte von körperlicher Aktivierung im Alter auf die körperliche und geistige Leistungsfähigkeit der Bewohnenden bewusst.			
	Die Mitarbeitenden unserer Einrichtung haben eine positive Einstellung zu Bewegungsförderung.	Die Mitarbeitenden erkennen, dass Bewegungsförderung ein wichtiger Teil des Alltags ist.			
	Die Mitarbeitenden unserer Einrichtung haben eine positive Einstellung zu Bewegung im Alter.	Die Mitarbeitenden erkennen die positiven Effekte von körperlicher Aktivierung im Alter auf die körperliche und geistige Leistungsfähigkeit der Bewohnenden.			
			ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
EXTERNE VERPFLICHTUNGEN	Das Thema Bewegungsförderung ist in unserem Trägerkonzept verankert.	Eine Verankerung im Trägerkonzept ermöglicht einen bewussten Fokus auf Bewegungsförderung.			

VERPFLICHTUNGEN FÜR BEWEGUNGSFÖRDERUNG			KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
GESETZLICHE VERPFLICHTUNGEN	Das Thema Bewegungsförderung ist in unserem Pflegekonzept verankert.	Eine Verankerung im Pflegekonzept ermöglicht einen bewussten Fokus auf Bewegungsförderung.			
			ZWISCHENSUMME	ZWISCHENSUMME	ZWISCHENSUMME
			GESAMTSUMME	GESAMTSUMME	GESAMTSUMME

ZIELE/ NATIONALE EMPFEHLUNGEN FÜR BEWEGUNGSFÖRDERUNG			KEINE NEIN	VEREINZELT TEILWEISE	AUSREICHEND JA
STRUKTURIERTE BEWEGUNGSANGEBOTE	In unserer Einrichtung werden mindestens 150 Minuten moderate oder 75 Minuten intensive Bewegungseinheiten für Bewohnende angeboten, die vom Personal oder von Externen durchgeführt werden.	Bewegungseinheiten in Anlehnung an die Bewegungs-empfehlungen der WHO.			
	In unserer Einrichtung werden Einheiten zu Gleichgewichtstraining angeboten, die vom Personal oder von Externen durchgeführt werden.	Gleichgewichtstraining in Anlehnung an die Bewegungs-empfehlungen der WHO.			
	In unserer Einrichtung werden Einheiten zu Kraft- und Muskelaufbau angeboten, die vom Personal oder von Externen durchgeführt werden.	Bewegungseinheiten in Anlehnung an die Bewegungs-empfehlungen der WHO.			
			GESAMTSUMME	GESAMTSUMME	GESAMTSUMME

TEIL 9.2

Individuelle
MOTIVE UND ZIELE
ZUR KÖRPERLICHEN AKTIVITÄT VON BEWOHNENDEN

> Dieser Fragebogen kann dazu genutzt werden, die Bewohnenden nach ihren Motiven und Zielen zur körperlichen Aktivität zu befragen. Je nach Ergebnis können gezielte Maßnahmen angestrebt werden oder die Person zu spezifischen vorhandenen oder neu geschaffenen Aktivitäten angeregt werden. <

/ ZUNÄCHST FOLGT EIN LEITFADEN, WIE DER FRAGEBOGEN EINGESETZT WERDEN KANN. DARAN ANSCHLIESSEND IST DER FRAGEBOGEN SELBST ABGEBILDET. /

/ LEITFADEN /

Menschen haben ganz unterschiedliche Gründe, warum sie sich bewegen.

> Als erstes sehen Sie mehrere Personen, die sich gemeinsam bewegen.

> Bewegen Sie sich, oder würden Sie sich bewegen, um dadurch Menschen **kennenzulernen**, oder um mit anderen **gesellig zusammen zu sein**?

Als nächstes sehen Sie hier ein Bild von einer Frau, die mit dem Rollator aus dem Sessel aufgestanden ist und z.B. zur Toilette oder in den Speisesaal läuft.

> Bewegen Sie sich oder würden Sie sich bewegen, um ihre **Selbstständigkeit im Alltag** zu erhalten, oder um **körperlichen Beschwerden** entgegenzuwirken?

Hier sehen Sie einen Mann, der schlecht gelaunt im Sessel sitzt und sich besser fühlt, wenn er sich bewegt und z.B. einen Spaziergang macht.

> Bewegen Sie sich oder würden Sie sich bewegen, um **Stress abzubauen**, oder um etwas **gegen** ihre **Energielosigkeit** zu tun?

Auf diesem Bild sehen Sie einen Mann, der sich bewegt und gleichzeitig ein Rätsel löst.

> Bewegen Sie sich oder würden sie sich bewegen, um **geistig fit** zu bleiben, oder um ihre **Denkfähigkeit zu erhalten**?

Das letzte Bild, dass ich dabeihabe, zeigt eine Person, die auf der Waage steht.

> Bewegen Sie sich oder würden Sie sich bewegen, wegen ihrer **Figur**, oder um ihr **Gewicht** zu **regulieren**?

Wunderbar, dann sind wir alle Beweggründe durch.

Wenn ich nun das Gesamtbild sehe, wird deutlich, dass Ihnen folgende Kategorien wichtig sind...

> Was denken Sie über das Profil?

> Erkennen Sie sich in diesem Profil wieder?

TEIL 9.3

/ BMZI PROFIL /

TEIL 9.4

MEINE / BEWEGUNGSIDEEN /

	MONTAG	DIENSTAG	MITTWOCH	DONNERSTAG	FREITAG	SAMSTAG	SONNTAG
/ VORMITTAG /							
/ NACHMITTAG /							

TEIL 9.5

/ MASSNAHMENKATALOG /

NAME & KURZBESCHREIBUNG DER IDEE > SMART: SPEZIFIKATION	/ NÄCHSTE SCHRITTE > SMART: REALISIERBARKEIT	/ ZEITMANAGEMENT > SMART: TERMINIERUNG	/ BENÖTIGTE RESSOURCEN	/ VERANTWORTLICHKEITEN	/ ERFOLGSDEFINITION > SMART: MESSBARKEIT	/ ANNAHME DER MASSNAHME IM PLENUM > SMART: AKZEPTANZ
> BESCHREIBUNG	> WAS STEHT ALS NÄCHSTES AN, DAMIT DIE IDEE WIRKLICHKEIT WIRD? > WAS MUSS GETAN WERDEN?	> BIS WANN MÜSSEN DIE NÄCHSTEN SCHRITTE GEPLANT WERDEN? > WANN SOLL DIE MASSNAHME STARTEN?	> WIE VIEL GELD WIRD BENÖTIGT? > WIE VIEL PERSONAL WIRD BENÖTIGT?	> WER IST VERANTWORTLICH FÜR DIE PLANUNG? > WER IST VERANTWORTLICH FÜR DIE UMSETZUNG?	> WORAN KÖNNEN WIR FESTMACHEN, DASS DIE IDEE ERFOLGREICH UMGESETZT WURDE? > WANN IST ES FÜR UNS EIN ERFOLG? > s. Tabelle für die Erfolgsdefinition der Maßnahmen	STIMMEN FÜR DIE IDEE JA / NEIN
/ IDEE 1 /						
/ IDEE 2 /						
/ IDEE 3 /						
/ IDEE 4 /						
/ IDEE 5 /						
/ IDEE 6 /						
/ IDEE 7 /						
/ IDEE 8 /						
/ IDEE 9 /						
/ ... /						

TEIL 10/

DANKSAGUNG

> Die vorliegende Praxisbroschüre wurde in enger Zusammenarbeit von Wissenschaft und Praxis entwickelt. Sie beruht auf Ergebnissen und Daten, die im BaSAlt-Projekt in Tübingen – gefördert durch den Förderschwerpunkt „Bewegung und Bewegungsförderung" des Bundesministeriums für Gesundheit, gewonnen wurden. Wir möchten uns an dieser Stelle herzlich bei allen Pflegeheimen bedanken, die an diesem Projekt teilgenommen haben. Unser Dank geht an die folgenden Heime, die die Voraussetzungen für die Entwicklung der Praxisbroschüre geschaffen haben. <

/ **GUSTAV-SCHWAB-STIFT** /
> GOMARINGEN (DIE ZIEGLERSCHEN)

/ **KAROLINENSTIFT** /
> TÜBINGEN (DIE ZIEGLERSCHEN)

/ **SENIORENZENTRUM MARTINSHAUS** /
> KIRCHENTELLINSFURT (DIE ZIEGLERSCHEN)

/ **SENIORENZENTRUM HAUS IN DER DORFMITTE** /
> WANNWEIL (DIE ZIEGLERSCHEN)

/ **SENIORENZENTRUM IM DORF** /
> BEMPFLINGEN (DIE ZIEGLERSCHEN)

/ **PFLEGEWOHNHAUS NEHREN** /
> NEHREN (EVANGELISCHE HEIMSTIFTUNG)

/ **CHRISTIANE-VON-KÖLLE-STIFT** /
> TÜBINGEN (SAMARITER STIFTUNG)

TEIL 11/

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6.6. Article 5: “Addressing organizational learning to increase readiness for physical activity promotion in seven German nursing homes”

Lea-Sofie Hahn, Ansgar Thiel, Viola Dembeck, Daniel Haigis, Leon Matting, Rebekka Pomiersky, Gerhard W. Eschweiler, Andreas M. Nieß, Gorden Sudeck and Annika Frahsa (2025). Addressing organizational learning to increase readiness for physical activity promotion in seven German nursing homes. PLoS One 20(5): e0315241. https://doi.org/10.1371/journal.pone.0315241.

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RESEARCH ARTICLE

Addressing organizational learning to increase readiness for physical activity promotion in seven German nursing homes

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Abstract

Promoting physical activity among nursing home residents is essential for enhancing physical and mental well-being. However, organizational structures often prioritize basic care and indirectly hinder physical activity promotion. This study investigates organizational and individual learning processes to increase readiness for physical activity promotion in seven German nursing homes between 2020 and 2023. We selected a heterogeneous mix of nursing homes from the applications representing different forms of organizations regarding environmental contexts, capacity, care providers, and resident population composition. We used a mixed-methods approach for data collection, including interviews, documents, surveys, photologs, and field-notes. Data was treated confidentially and recorded pseudonymously. Applying qualitative content analysis, we revealed that physical activity promotion was initially insufficiently incorporated into organizational structures. Through a comprehensive assessment tool, we analyzed post-intervention changes in organizational readiness. Using a public management organizational learning model, we identified key processes that drove these changes. To maintain reflexivity, two authors analyzed data and discussed the results. Combining different data collection forms reduced the risk of researcher bias. Collaborating with external stakeholders helped validate the findings. Our findings highlight the significance of individual and organizational learning, which led to notable shifts: Individual learning improved staff awareness for the relevance of and competencies in physical activity promotion, as well as resident participation levels in actions offered. Organizational learning led to an adaptation of weekly activity schedules, modification of existing actions to promote PA in close alignment with home-specific needs, and the creation of PA-friendly infrastructures.

Data availability statement: Qualitative data (interview transcripts, nursing home documents, observational notes, field diaries, photos) cannot be shared publicly because they contain personally sensitive information about participants and would allow identification of the respective nursing homes. This was agreed upon with the Ethics committee at the WISO Faculty of the University of Tuebingen and stated in the informed consent letters signed by participants. Excerpts from data are available upon reasonable request from the corresponding author via the Office of the Ethics Committee, Deanery of the Faculty of Economics and Social Sciences, University of Tuebingen, ethikkommission@wiso.uni-tuebingen.de.

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Competing interests: The authors have declared that no competing interests exist.

Health-promoting leadership and shared values emerged as crucial factors in fostering a culture of physical activity promotion. Our study demonstrates the feasibility of promoting physical activity in nursing homes by integrating it into organizational structures and fostering a culture of readiness. This approach can enhance resident well-being and quality of life.

Introduction

In the context of nursing homes (NHs), physical activity (PA) is to be clearly distinguished from mobilization. Mobilization refers to encouraging and assisting residents to move and engage in PA [1,2]. PA, in turn, leads to many physical and mental health benefits for the aging population [3–6]. Residents of NHs are usually characterized by a high degree of vulnerability, frailty, and inactivity. Precisely for this reason, promoting PA among NHs residents is crucial [7–12]. Previous studies often focused on how PA impacts emotions and quality of life of NH residents [13]. Other studies identified motivators and barriers to the participation in concrete PA programs (e.g., exercise classes) [14] overall PA promotion in NHs, i.e., the structures, cultures, and actions that shape the context for PA [15], or the role of individual training to increase different PA parameters among NH residents [16,17].

Despite strong evidence of PA's benefits and the different forms in which PA can be provided in NHs, NHs still prioritize basic care over PA. Residents have limited autonomy in organizing their own daily routines or selecting their activities [18–24].

To the best of our knowledge, no studies have investigated the organizational and individual changes in the implementation process of PA promotion in NHs [25]. However, understanding such changes is crucial in achieving sustainable implementation beyond a project and making a NH ready at organizational level. A NH is organizationally ready to continuously promote PA if the individual and organizational factors are designed to promote PA. The decisive factors can be very wide-ranging and include, for example, individual skills acquisition (individual learning) or the regular provision of PA promoting programs by adapting the weekly schedule (adapting PA infrastructures) [26].

Organizational readiness has also been described to consist of three central dimensions [27,28]:

(1) *individual and organizational motivation*, such as beliefs about and support for a specific intervention [27,28],

(2) *general organizational capacities*, such as financial and human resources that are needed to initiate any innovation [27,28], and

(3) *intervention-specific capacities*, such as skills and knowledge, that are needed to initiate a specific innovation [27,28].

In the context of PA promotion, organizational readiness has slightly different relevancies [29]. An organization has been described as highly ready for PA promotion when [24]:

(1) it is part of everyday life,

(2) it is related to knowledge, cognition, and action and does not happen arbitrarily, and

(3) occurs within the structures and fixed schedules.

An increase in organizational readiness requires *organizational learning*. It is a process of change that improves the problem-solving ability of an organization and, thus, appropriately incorporates PA promotion [30–32]. Generating new concepts or goals and integrating new routines, policies, and norms can initiate learning processes on both the individual and the organizational level [15,30,33–37]. Kim differentiates four learning processes on two levels in his OADI-SMM model (**O**bserve, **A**ssess, **D**esign, **I**mplement-**S**hared **M**ental **M**odels) to enhance organizational readiness: **single loop learning** at the organizational and individual levels and **double loop learning** at the organizational and individual levels [35].

[1] **Single loop learning**: For **organizational single loop learning**, inefficient actions are modified to ensure correct performance based on the organization's decision premises [33,38]. Therefore, actions must be reflected upon and communicated to achieve individual behavioral changes–this is **individual single loop learning** [33,35–37].

[2] **Double loop learning**: Organizational needs and barriers are reflected to develop effective strategies [33]. By wanting to solve organizational problems, individuals change their mental models and thus increase change efficiency by wishing to implement an organizational change and feeling confident that they can do so – this is **individual double loop learning**. Over time, individual mental models – that characterize the actions of individuals – become shared mental models and form the framework of **organizational double loop learning**. Shared mental models such as routines or structures must be firmly incorporated into the organization and considered in decision-making processes [30,32,35,36,39].

NHs have been described as pseudo-total institutions [4], characterized by highly organized and pre-structured daily life, limited but present outside interaction (e.g., visitors, occasional outings), partial autonomy, blurred boundaries through hierarchical structures, and some level of control by the institution, and collective living arrangements with reduced privacy. In those institutions, learning processes run differently than in voluntary organizations or commercial enterprises [33]. In relation to existing research [13–17,25], it is still unclear which learning processes enhance organizational readiness to ensure successful PA promotion. Given this gap, our sociological focus lies in the organizational structures, decision-making processes, and individual awareness toward PA promotion in NHs. Within this study, we contribute to theory building and identify possible practical recommendations for incorporating PA promotion in NHs. The practical implications of this study are significant for various stakeholders. Our findings offer a framework for integrating PA into daily (care) routines, emphasizing the importance of individualized approaches and structural support within NHs. The study underscores the importance of creating environments that support active aging, contributing to resident overall well-being. Given the knowledge gap in understanding learning processes within NHs, this study aims to explore organizational readiness and its evolution through individual and organizational learning. Specifically, we ask the following research questions:

(1) To what extent was organizational readiness for PA promotion incorporated at the beginning of the study?

(2) What are the post-study PA changes in organizational readiness, when it comes to motivation, general capacity, and intervention-specific capacities?

(3) To what extent does individual and organizational learning change which dimensions of organizational readiness for PA promotion?

Materials and methods

Study setting and sampling

This study occurred within the larger *BaSAlt* project on PA promotion and counseling in NHs (funded by the German Federal Ministry of Health 2019–2023, grant no. ZMVI1–2519FSB114) [40]. We recruited homes through a public tender between July 1 and December 31, 2019. We selected a heterogeneous mix of NHs from the applications representing different forms of organizations regarding environmental contexts (periphery/urban), capacity (33–52 living places), care providers (church-based/non-denominational), and resident population composition. The final sample consisted of eight NHs from four different non-profit care organizations in the Federal State of Baden-Württemberg in Germany. Three NHs were located in urban areas and five in peripheral areas. One of the urban NHs dropped out during the Covid-19 pandemic.

Study phases

In a multi-stage process, a tool was developed that is theoretically embedded [27–29,41–43], draws on expert input and feedback, and is applicable in the NH context. The *PAIAN* tool (***P**hysical **A**ctivity **I**nfrastructure **A**udit tool for **N**ursing homes*) within the manual "*Bewegungsförderung im Pflegeheim – Ein Praxisleitfaden*" [Physical Activity Promotion in Nursing Homes – A Practical Guide] [44] can identify areas that require action to promote PA, but also areas in which PA promotion is already (partly) established. The tool was developed by reviewing existing audit tools and adding information collected during systematic observation in the participating 8 NHs. We conducted field-testing of the draft tool in two NHs for face validity and re-analyzed the draft with stakeholders to identify potential missing elements and blind spots. *PAIAN* addresses all three phases of the implementation process to identify strengths and weaknesses of organizational readiness for PA promotion.

Phase 1: In 2020, data from systematic observations, guided interviews, employee surveys, document analysis, and photovoice were used to analyze organizational readiness at the beginning of the project. Findings from this phase on options and barriers to promote PA among NH residents, significant others, and staff are reported upon elsewhere in detail [10,25].

Phase 2: Based on the results, NH-specific PA promoting actions were co-developed by staff, residents, significant others, and the research team in two counseling workshops per NH. The actions covered a broad range of PA promoting actions, from activities of daily living to structured physical activities, and the creation of PA-friendly environments. The actions were integrated into NHs' day-to-day structures and co-evaluated afterward [26,45].

Phase 3: In 2023, data from systematic observations, documents, counseling workshops, goal attainment scaling, final symposium, and follow-up interviews were used to analyze organizational readiness towards the end of the research study. The findings from this analysis are presented in this study.

Data collection

A mixed-methods approach was used for data collection:

(1) semi-structured face-to-face qualitative interviews (n = 20) and follow-up interviews (n = 6 NHs) with nursing-, management-, medical staff, volunteers, and residents; main themes of the interviews were (1) current state of PA promotion, (2) general structures in everyday care and support, (3) external actors for PA promotion, and (4) relevant infrastructure for PA,

(2) analysis of documents of all eight NHs, including care concept and schedules, annual and weekly plans, training programs, guiding principles, and maintenance inspection results (n = 56),

(3) a cross-sectional survey among employees and significant others on aging concepts and PA behavior (PACE, PASE) (n = 59),

(4) photovoice study [18] on promoting and hindering factors for PA promotion (n = 27 participants, and n = 158 photographs),

(5) systematic observations [11] with ethnographic fieldnotes to note peculiarities in PA patterns and organizational processes. Observations were conducted once a year in 2020 (200 hours of observation in 8 NHs), 2021 (623 hours of observation in 7 NHs), and 2022 (595 hours of observation in 7 NHs) – the differentiating amount of hours of the systematic observations was caused by Covid-19 access restrictions,

(6) integrated counseling [26] with ethnographic fieldnotes and photologs on an organizational (14 future workshops in 7 NHs) and individual level (18 individual counseling with residents (and relatives) in 4 NHs),

(7) standardized documentation (n = 244) of implemented PA actions, including evaluation questionnaires (after 3 and 6 months) and implementation protocols for each action (monthly),

(8) evaluation of PA promoting actions based on Goal Attainment Scaling [45], fieldnotes and photologs (7 evaluation workshops in 7 NHs),

(9) fieldnotes of the final symposium with stakeholders (n = 36). These included NH management representatives, care organization, and local politicians

Data analysis

Our data analysis for this study had a twofold focus: (a) analysis of changes in organizational readiness in NHs post-intervention and (b) analysis of organizational and individual learning processes that led to changes in organizational readiness.

Analysis of changes in organizational readiness post-intervention

We applied conventional qualitative content analysis to provide descriptive insights and an understanding of the understudied subject [46]. We conducted this systematic analysis using *MAXQDA 2022* by deductively coding data with the developed code system of *PAIAN* (cf. Table 1). Based on the findings of deductive coding, we rated the different areas of the tool as "established PA promoting structures", "partly established PA promoting structures", and "without PA promoting structures". Two researchers independently rated the areas and discussed the results afterward [47,48].

Analysis of organizational and individual learning processes

Given the limited use of an application science framework to investigate organizational readiness for PA promotion, we used Kim's OADI-SMM model [35] as it offers a set of learning processes on an individual and organizational level that may enhance organizational readiness. Using such a framework can provide comprehensive, supportive, and scientific guidance, and furthermore, insights are generated that will benefit future activities to increase organizational readiness. Data from *PAIAN* were linked to Kim's model to record and analyze the changes in organizational readiness [35]. Thereby, we identified which learning processes were initiated by implementing PA promoting actions [41], which in turn positively affected organizational readiness for PA promotion.

To maintain reflexivity throughout the research process, two authors analyzed data and discussed the results afterward [47,48]. These discussions helped ensure that diverse perspectives were considered, and that the analysis remained grounded in the data. By combining systematic observations, interviews, surveys, and document analysis, we aimed to minimize the risk of researcher bias influencing the outcomes. Collaborating with external stakeholders provided additional layers of scrutiny and helped validate the findings. This external input ensured that the interpretations aligned with the participant experiences and perspectives.

Ethical considerations

We received ethical approval for the study from the Ethics Committee of the Faculty of Economics and Social Sciences at the University of Tübingen (no. AZ A2.5.4–096_aa). We collected and stored personal data under the European Data

Table 1. Main codes and sub-codes of qualitative content analysis.

Main Codes	Sub-Codes
Opportunities	• **Communication** structure (between staff, relatives, etc.) • **Cooperations** (with significant others, volunteers, animals, project team, external activity promoters)
Obligations	• **External** (Covid-19 restrictions, physical activity (PA) promotion incorporated in the head organization concept and care concept, laws (§53b SGB XI) • **Personal** (self-initiative, attitude to PA promotion at the management-, staff-, and resident level) • **Informal** (routines and rituals, activities of daily living) • **Organizational** ○ Including residents with physical and cognitive impairments ○ Responsibilities for PA promotion ○ Formal incorporation of PA promotion in the home concept and weekly/annual schedules ○ Individual and group programs ○ Supporting mobility ○ Job descriptions
Resources	• **Barriers** (dependence on external service providers, environment, finances, infrastructure, lack of time) • **Financial** (intern/extern) • **Infrastructure** neighborhood (walkability, public transport, etc.) • **Staff** (staff composition, -turnover, -training, support staff, external PA promoters, competencies) • **Infrastructure** ○ Renovation ○ Dealing with the urge to move (dementia) ○ Furniture outside (e.g., garden) ○ Outside areas (e.g., terrace) ○ Weather protection
Goals	• Reaching the **national recommendations** for PA and PA promotion through structured PA programs (strength/balance/fall prevention) and low-threshold daily activity

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Protection Basic Regulation (DSGVO), coordinated by data protection officers of participating institutions. Data was treated confidentially and recorded pseudonymously. The study presented in the paper was designed as a participatory counseling approach to develop and evaluate PA-promoting actions. Prior to commencing the study, heads of NHs signed a participation agreement and provided informed written consent. Once we reached a participation agreement, NH administration informed staff, residents, and significant others through newsletters or assembly meetings about the purpose and content of the overall study. Posters informed about data collection in the NHs during observation days. Informed written consent was obtained from all interviewees and photovoice participants. We also informed all participants about the study processes and contents prior to workshops and the symposium. Participation was voluntary and participants could drop out of the study at any time.

Results

Our results are divided into three parts: (1) an analysis of organizational readiness for PA promotion pre- and post-intervention, followed by (2) a description of learning processes based on Kim [35] to explain changes in organizational readiness, and (3) an overview of the implementation and learning processes to increase PA promoting structures. Findings on the concrete PA promoting actions implemented, comprising daily activities and structured activities, as well as PA-friendly built and social environments, are reported in detail elsewhere [26].

(1) Changes in organizational readiness after implementing PA promoting actions

Table 2 compares all PA-promoting areas—according to *PAIAN*—between 2020 and 2023. In 2020, there were insufficient structures in nearly all areas. In 2023, except for the area of external obligations, all areas contained PA promoting

structures. All NHs reached sufficient PA promoting structures in personal obligations and materials. Most NHs also reached positive outcomes in organizational and informal obligations, infrastructure, and finances.

In 2020, organizational readiness of seven NHs was investigated in three dimensions (Table 3). Concerning *individual and organizational motivation*, staff in 5 out of 7 NHs already had a positive attitude towards PA promotion (personal obligations). In all NHs, insufficient organizational readiness was found in organizational, informal, and external obligations. Organizational obligations were strongly represented in care and hygiene but not in PA promotion. Lack of informal obligations mainly included low-threshold opportunities for PA in everyday life (informal obligations). On the part of the care organization (external obligations), PA promotion was not sufficiently incorporated and often did not extend beyond the law requirements. Looking at *general organizational capacities*, more than half of the participating NHs already had PA-friendly infrastructure (e.g., gardens) and sufficient financial opportunities to promote PA. However, these capacities were hardly used due to the high staff shortage and fluctuation. In addition, lack of knowledge and communication/ cooperation in terms of PA hindered successful PA promotion. Concerning *intervention-specific capacities*, 5 out of 7 NHs had sufficient material for PA promoting offers, but recommendations for PA were not met in all seven NHs.

In 2023, PA promoting actions were implemented for at least six months in all seven NHs, focusing on organizational readiness (Table 4). Improvements took place in all three dimensions – especially in *individual and organizational motivation*. In all seven NHs, staff became aware of the relevance of PA promotion (personal obligations), and in 6 out of 7 NHs, PA promoting structures were successfully incorporated (organizational obligations). In 4 out of 7 NHs, PA promotion was integrated into daily life. PA-friendly infrastructure and finances were further improved in most of the NHs. Lastly, in 5 out of 7 NHs, communication/ cooperation within the team and between staff and relatives improved greatly. Moreover, PA-related staff were present in 5 out of 7 NHs (*general organizational capacities*). Concerning *intervention specific capacities*, all NHs had sufficient material for PA promotion and partly met recommendations for PA and PA promotion. The only area without any improvement in all NHs was the incorporation of PA promotion in external structures, such as care organizations' strategic concepts.

Table 2. Changes in organizational readiness for physical activity (PA) promotion between 2020 (pre) and 2023 (post) in n = 7 nursing homes.

Dimensions of organizational readiness	PA promoting areas	pre (2020) n = 7			post (2023) n = 7		
		established PA promoting structures	partly established PA promoting structures	without pa promoting structures	established PA promoting structures	partly established PA promoting structures	without PA promoting structures
Individual and organizational motivation	Personal obligations	5	2	–	all NHs	–	–
	Organizational obligations	–	2	5	6	1	–
	Informal obligations	–	5	2	4	3	–
	External obligations	–	–	all NHs	–	–	all NHs
General organizational capacities	Infrastructure	4	2	1	5	2	–
	Finances	5	1	1	6	1	–
	Communication/ Cooperation	2	2	3	1	6	–
	Staff	1	4	2	2	5	–
Intervention specific capacities	Material	5	2	–	all NHs	–	–
	Reaching PA recommendations	–	–	all NHs	–	all NHs	–

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(2) Single loop learning as a base for changes in individual mindsets and organizational structures

Different learning processes were initiated at individual and organizational levels [35], positively impacting organizational readiness in three dimensions [27,28].

Individual single loop learning

Staff courses were offered to increase PA-related competencies and considered as "*the best action of all*" (NH Management 8, Evaluation Workshop). As a result, "drum sessions with PA elements took place 1 to 3 times a week" in one of the participating NHs (NH Management 7, Evaluation Workshop).

Individual double loop learning

Staff commitment proved pivotal to achieve success. Implementation was complex in instances where the staff failed to perceive the actions as beneficial. Notably, within one NH, the implementation of the actions was criticized by staff and required intervention from the NH manager to increase awareness. Subsequently, towards the end of the project, it was

Table 3. Organizational readiness for PA promotion in different dimensions before implementing PA promoting actions (2020) in n = 7 NHs.

Dimension of organizational readiness	Areas with already established PA promoting structures (n = 7)	Areas with partly or without established PA promoting structures (n = 7)
Individual and organizational motivation	Personal obligations (5 NHs)	Organizational obligations (all NHs) Informal obligations (all NHs) External obligations (all NHs)
General organizational capacities	Infrastructure (4 NHs) Finances (5 NHs)	Communication/ Cooperation (5 NHs) Staff (6 NHs)
Intervention specific capacities	Material (5 NHs)	Reaching PA recommendations (all NHs)

PA = Physical Activity; NHs = Nursing Home.

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Table 4. Organizational readiness for PA promotion in different dimensions after implementing PA promoting actions (2023).

Dimension of organizational readiness	Areas with already established PA promoting structures (n = 7)	Areas with partly or established PA promoting structures (n = 7)	Areas without established PA promoting structures (n = 7)
Individual and organizational motivation	Personal obligations* (all NHs) Organizational obligations* (6 NHs) Informal obligations* (4 NHs)		External obligations (all NHs)
General organizational capacities	Infrastructure* (5 NHs) Finances* (6 NHs)	Communication/ Cooperation* (5 NHs) Staff* (5 NHs)	
Intervention specific capacities	Material* (all NHs)	Reaching PA recommendations* (all NHs)	

*Improvements in organizational readiness.

PA = Physical Activity; NHs = Nursing Home.

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confirmed for all seven NHs that the more staff and residents became familiarized with PA promotion, the more they acknowledged the manifold of benefits associated with adequate PA in advancing age and daily life:

> "Many additional activities were created through staff creativity; residents are much more involved in everyday activities and are not only active during structured weekly programs" (NH Management 5, Evaluation Workshop).

Organizational single loop learning. Not only were novel actions introduced, but pre-existing ones were modified to align with the specific needs and context of the respective NH. Staff frequently modified the actions to fit the current situation by "replacing strolls with a bowling group to activate more residents with fewer staff" (NH Management 2, Evaluation Workshop). An illustrative example of revitalizing activities in innovative functionality was the renewed engagement with a therapy dog. Formerly perceived solely as a social companion, the dog is now recognized as a *PA promoter on four paws*.

Organizational double loop learning. By prioritizing the budget, activity planning, and organizing work schedules, sufficient PA promotion was delivered, even during crises. By modifying the weekly activity schedule, residents did not "just have strolls or the ergometer bike; they also had seated dancing and a gymnastics group" (Staff 2, Follow Up). Five out of seven NHs created PA-friendly infrastructure, such as raised beds in the garden, to positively influence resident PA. One NH linked the developed actions to the resident's daily schedules, which "guarantees implementation and everyone knows what needs to be done" (NH Management 7, Evaluation Workshop).

(3) Double loop learning processes foster PA promoting structures and increase general and specific capacities for organizational readiness

Organizational and individual learning processes can increase organizational readiness for PA promotion in three dimensions (*motivation, general organizational capacities, intervention specific capacities*) [27,28,35]. In our study, especially organizational double loop learning processes for *general organizational capacities,* as well as individual double loop learning processes for *individual and organizational motivation* were identified. Table 5 shows the link between the most prominent learning processes, according to the Kim model, and the dimensions of organizational readiness.

One central finding when looking at *motivational* aspects and individual double loop learning is that staff, volunteers, and residents shared the opinion that "PA is a core element of physical and mental health" (NH Management 1, Evaluation Workshop) and "that it needs to be integrated into everyday life to guarantee sustainability" (NH Management 3, Follow Up). Actions were newly created, such as strolls inside the building to maintain PA even in winter. Some actions were further developed beyond the aspect of PA, such as using instruments to say goodbye to deceased residents. On the resident side, there was an increased motivation for being physically active by independent strolling or requesting music programs. "Musical events are seen positively in terms of PA promotion" (NH Management 5, Evaluation Workshop), and "residents recognize their abilities" (NH Management 8, Evaluation Workshop). Looking at *motivational* aspects and organizational double loop learning, NH management prioritized social interaction and PA over Covid-19 restrictions by offering group activities for infected residents. Moreover, the independent thinking of staff was promoted by not giving too many guidelines. Planning future collaborations with animals and kindergartens to increase resident PA underlines organizational double loop learning.

Looking at *general organizational capacities* and individual double loop learning, staff motivation and awareness are high, but often "the problem is not the will, but the ability to do so" (NH Management 1, Evaluation Workshop). Based on this, problem-solving capacities and a desire for sustainable incorporation of actions in the NH's structure occurred. The benefits of social offers were quoted by staff as follows: "After all, it's not always about the pressure to perform within the group, but also about strengthening social skills" (Staff 2, Follow Up). Looking at *general organizational capacities* and organizational double loop learning, capacities were increased by changing structures and schedules. This means that the vision and mission of the NH were targeted toward PA promotion.

Table 5. Individual and organizational double loop learning processes differentiated by dimensions of organizational readiness.

	Double Loop Learning	
	Individual	***Organizational***
Motivation	*Staff-related* • Additional actions created by creative and awarded volunteers as well as further development of actions beyond the PA aspect (e.g., farewell with drums) • Motivation to integrate low threshold activity opportunities in everyday life • Resident awareness created by staff	*Management staff-related* • Social interaction and PA prioritized over Covid-19 restrictions • Planning future cooperations • Promote independent thinking by reducing specifications • Nudging to increase resident PA (e.g., seasonal decoration in the common rooms/corridors)
	Resident-related • Increased resident motivation to participate in PA-related offers • Requesting offers (e.g., strolls or green care)	
General organizational capacities	*Management staff-related* • Management wants to solve the lack of personnel • Recognizing the need for volunteers, animals, and the benefits of social offers Staff-related • Staff got familiar with PA promotion • A desire for sustainable incorporation of actions in the NH structures	*Resident-related* • Connecting actions with resident individual schedules • Offering activities for both immobile and cognitively impaired residents • Resident overview of completed activities (individual/group) *Staff-related* • Additional activities on weekly schedules due to staff training • Nursing students being integrated into PA promotion • Aim to integrate more PA-related training • Detachment from voluntary work *Structures* • Sustainability and previous formal incorporation of various activities in the NH's vision and mission • More time and personnel invested in PA promotion • Monthly team meetings Restructuring of daily routines (e.g., food buffet instead of table service)
Intervention specific capacities	*Resident-related* • Staff offer household activities	*Structures* • Formal incorporation of actions in the NH's structures • Regular communication of PA promotion *Staff-related* • Cooperations with external activity promoters • Possibility for staff training • Distribute responsibilities • Recruiting PA-related staff

PA = Physical Activity; NH = Nursing Home.

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"We have monthly team meetings where we also get innovative ideas […], and I have restructured the meals. Breakfast and dinner are now buffet-style, meaning that residents can choose what they want to eat and then must go and get it. The process took three to four months, but we have optimized and incorporated it. Now, my focus is on activation. For example, I have been missing the smell of biscuits over the last few weeks. So, I told the care team to bake with the residents." (NH Management 7, Follow Up)

Overall, by increasing *general capacities*, both staff and resident PA increased. Regarding staff, supplementary activities were implemented as a result of staff training. At the same time, nursing trainees were incorporated to alleviate the workload of staff and mitigate reliance on external service providers. With respect to residents, organizational double loop learning was manifested through incorporating activities into individual resident schedules and providing tailored actions catering to immobile and cognitively impaired residents. However, lack of personnel, bureaucratic hurdles, and time constraints are still conditions that are difficult to change and make it challenging to promote PA in the NH setting. Some actions have not yet been successfully implemented and incorporated, mainly due to staff fluctuation and unclear responsibilities.

Looking at *intervention specific capacities* and individual double loop learning, staff integrated residents in household activities: "They help with setting the table and folding towels. Those activities are even possible when there is a lack of time or personnel" (Staff 2, Follow Up). However, ensuring adherence to the daily routine has room for improvement, as under stress, this is often forgotten or postponed due to time or personnel constraints. It is always a "balancing act between group support – which means being able to activate many residents – and individual support – which means being able to cater to individual wishes" (NH Management 3, Final Symposium). Looking at *intervention specific capacities* and organizational double loop learning, the formal incorporation of specific actions, regular communication of PA promotion, cooperation with external activity promoters – especially for musical offers – and distributing responsibilities for PA promotion led to increased *intervention specific capacities*.

Discussion

The main aim of our study was to analyze changes in organizational readiness for PA promotion in NHs and how individual and organizational learning processes facilitated those changes. Our results have narrowed the research gap by showing that PA promoting actions can initiate learning processes at both the individual and organizational levels, especially for *general organizational capacities* and *motivation*.

Our pre-assessment confirmed existing findings of others [14,15,49,50]. PA promotion had neither been prioritized in NH's daily lives nor had been part of decision programs. Structured PA programs mainly had inconsistent results in the health and mental outcomes of the residents and were not the product of organizational planning. Overall, the organization climate prioritized standard practices dedicated to mobilization [51] and social integration, not PA promotion [14,15,49,50]. Therefore, there was a need for both individual and organizational learning processes to set the preconditions for changes towards a PA promoting organization.

Following the existing concept of organizational readiness [29], our findings from the post-assessment showed that a wide range of PA promoting actions were incorporated both formally and informally into the daily lives of the NHs.

Developing an understanding of the usefulness of change

Our longitudinal analysis revealed that most actions were successfully integrated into the organizational structures of the NHs, becoming systematic rather than incidental products of other decision-making processes. *Intervention specific* and *general capacities* were increased, and, in agreement with Abbott et al. and Hawkins et al. [52,53], we found that enhancing decision-making processes, workflow, and communication was crucial to fostering organizational readiness. New PA-friendly infrastructures such as raised flower beds fought sedentariness and maintained or improved resident physical capabilities. Further, regular discussions on PA promotion facilitated adaptations to accommodate periodic changes, such as holidays, which were often associated with staff and visitor shortages. The wide spread interest in PA promotion highlighted both organizational and individual double loop learning processes. Increased collaborating with stakeholders, volunteers and neighborhood institutions; improving individual skills; and developing a positive evaluation culture were examples for these learning processes [49].

Irregular implementation due to a lack of personnel

Implementation was still lacking in three NHs, as some actions were only decidable premises in informal organizational structures. If organizational statutes did not include PA promotion as a goal, it was ultimately left to the commitment and competencies of individuals whether PA was successfully carried out. The higher the degree of informal incorporation, the more staff needed to be familiarized with PA promotion to succeed [15,33,41]. For example, light activity before lunch regularly took place every day in one of the participating NHs because of highly motivated staff. Irregular implementation was often due to the staff shortage and high levels of fluctuation, which required a focus on human resources and formal incorporation. PA promoting actions were then usually led by volunteers [14]. Nevertheless, 5 out of 7 NH managers confirmed previous findings that staff training was highly needed and an excellent method to communicate organizational values and reflect or develop PA promoting actions [49,53]. Further, staff training reduces the dependence on external providers or volunteers, which has been proven to negatively impact PA in times of crisis, such as the COVID-19 pandemic. In 4 out of 7 NHs, we paved the way for either intervention-specific capacities (e.g., drum workshop) or general organizational capacities (e.g., efficient documenting).

Health promoting leadership and a shared sense of readiness

Concerning the NH management, we found that health promoting leadership was often crucial for success as the management oversaw the overall goal and distributed tasks and responsibilities. However, to ensure success in total, the entire team needed to develop a positive awareness of the importance of everyday activities from which the residents benefited [54]. The more NH management and NH staff were familiarized with PA promotion, the more they realized that activities must be integrated into everyday life. Staff and management developed a shared sense of readiness due to consistent leadership messages, information sharing, and shared experiences [39]. In contrast, no changes were made to the care organization's concepts due to the close cooperation with the NHs and not with the care organization. During the project, potential opportunities for PA promotion in everyday life were identified and combined with active care. Through actions such as providing favored household activities, staff learned preference information for the residents, and the residents were offered suitable activities [52]. In everyday life, not only staff promote PA, but physically active residents also function as a subgroup that motivates others. PA-friendly infrastructure, such as furnished terraces, supported this [26].

Applying Kim's model of organizational learning helped to better understand how staff's prevailing mental models impacted PA promotion at the time of pre-assessment and how mental models that focused on resident fragility and need of care changed through the course of the *BaSAlt* project. The model also helped to identify the deeper assumptions that needed to be changed to make PA a priority, embedded into organizational policies, infrastructures and daily routines. Our findings, though, hint at some factors Kim's model does not consider explicitly but that can shape learning processes: the NH context is shaped by external environmental factors at social and political levels, such as staff shortage in the field of nursing but also precarious working conditions that are linked to hierarchies and power dynamics in NH. Other factors that play an important role in PA promotion in NHs appear to be informal learning, tacit knowledge, and social interactions among staff but also between staff and residents, but also staff, residents and significant others – which is less emphasized in the Kim model.

Strengths and limitations

The study has clear methodological strengths and limitations worth discussing. Our study strengths include the vast amount of data collected over four years using various methods that allowed us to analyze organizational change processes over time. To the best of our knowledge, individual and organizational learning processes in NHs that improve PA promoting structures have not yet been investigated using a model such as Kim's. Study limitations include the limited number of NHs that cannot represent all types of NHs in all regions of Germany. There might be a bias to motivated NHs,

as the study enrolment was voluntary. However, by selecting NHs in peripheral and urban areas and identifying differences in the number of residents and care organizations, an attempt was made to counteract this limitation and generate a sample that was as heterogeneous as possible. Another study limitation was the Covid-19 pandemic, which led to several challenges with the study, such as access restrictions. The Covid-19 pandemic also highlighted an influence on the integrated counseling approach, as hygiene regulations often led to delays in the PA promoting actions. Furthermore, using 24-hour cameras could have yielded even more precise results in the NH's daily lives, but this was not allowed for ethical and data protection reasons. Alternatively, project staff conducted systematic on-site observation, taking handwritten fieldnotes.

Conclusion

The NH setting is characterized by high levels of resident inactivity and PA promotion is often not prioritized within daily routines or organizational structures. This study examined changes in organizational readiness for PA promotion across three dimensions and analyzed the learning processes driving these changes. At the project start, organizational readiness for PA promotion was generally low. While staff demonstrated positive attitudes towards PA promotion (personal obligations), key structural elements — including organizational, informal, and external obligations — were insufficient for effective implementation.

Over time, increased *general and intervention specific capacities,* along with increased *individual and organizational motivation,* contributed to a sustainable PA culture within participating NHs. Both individual and organizational learning played a crucial role in enhancing organizational readiness for PA promotion. Individual learning fostered PA-related competencies and encouraged staff to integrate PA into daily activities. Simultaneously, organizational learning facilitated the adaptation of existing programs and the establishment of new structures. As a result, PA promotion became embedded into the organization's structures and culture, moving beyond reliance on individual staff members or informal agreements.

NHs that adopt a collective identity as being a healthy, PA-promoting organization are more likely to achieve sustainable PA promotion. Despite institutional constraints and policy restrictions, meaningful actions can still be implemented to improve resident health and wellbeing. A shift in awareness has emerged, emphasizing the value of active participation in daily life over passive care.

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7. Final Discussion

The dissertation presents a holistic approach to integrating and structurally embedding PA promotion in the nursing home setting, building upon seminal research in this field. Previous chapters have summarised the existing literature and described the complex composition of factors that influence PA promotion in the nursing home setting. Research on a planned process of changing organisational structures dates back to the first half of the 20th century, with Kurt Lewin being a pioneer, whose work is still applied in various fields. In this dissertation, Kurt Lewin's *Model of Change* has been applied to the nursing home context, drawing upon an organisational sociological perspective on PA promotion. To contribute to the advancement of knowledge in the field of pseudo-total organisations, a total of eleven research questions have been formulated (Chapter 5.3), underpinned by the overarching question of how a planned change process of PA-promoting structures in nursing homes can be facilitated through a participatory integrated counselling approach.

7.1. Overall Discussion of Key Findings

The answers to the eleven research questions are provided in the five articles that comprise this dissertation. As discussed in Chapter 4.2, a planned change process is not linear but iterative. It is a perpetual cycle of fact-finding, resulting actions and repeated fact-finding (Burnes, 2019; Lewin, 1947a, 1947d). Based on the *Model of Change* (Lewin, 1963), the questions were divided into three categories. Firstly, analysing the status quo to identify the need for action and examining the special characteristics of the nursing home setting based on existing theory (Chapter 7.1.1). Secondly, initiating change by involving relevant stakeholders and joint decision-making (Chapter 7.1.2). Thirdly, institutionalising PA promotion within the organisational structures to ensure the sustainability of the change (Chapter 7.1.3). In the following subchapters, the planned change process is discussed, with a particular emphasis on the golden thread that runs through the five research articles.

The dissertation's unique approach is the application of Lewin's model to a new organisational context in which this perspective is hitherto non-existent. The dissertation addresses the research gap by considering the structures holistically and examining all groups of people in the setting simultaneously over a more extended period. The pseudo-total character of the nursing home setting, which prioritises basic care over PA, leads to challenges in integrating and embedding PA promotion. It is therefore all the more important to focus on a planned change process to design individual, infrastructural, and organisational factors that promote PA.

7.1.1. Identification Through Theory

From a sociological point of view, community-oriented nonprofit organisations, such as nursing homes, are considered as "agents of social action, providers of services, and contributors to social health" (Medley and Akan, 2008, p. 488). However, everyday survival is the reality for many of these organisations and remains a constant challenge (Medley and Akan, 2008). Articles 1, 2 and 5 addressed the prevailing barriers of the nursing home setting that challenge PA promotion in everyday life and set the basis for the process of change by analysing the status quo and identifying the need for action.

In article 1, several approaches to promote PA in nursing homes were presented. In the *BaSAlt* study, the approaches were combined within the participatory integrated counselling approach, focusing on active care and everyday life activities to achieve the best possible success (Blüher and Kuhlmey, 2019).

The *BaSAlt* study utilised the three-step *Model of Change* by Kurt Lewin to plan the change process systematically. This approach ensured that the permanence of the new state was considered from the project's early stages. The first step of the *Model of Change* is linked to the field theory in order to understand behaviour by identifying and understanding the interdependent forces that influence group and individual behaviour (Lewin, 1947c). In pseudo-total institutions with no spatial distinction between sleep, play, and relaxation, connections inevitably arise that influence PA-related aspects. According to this state of research, articles 2 and 5 not only identified isolated elements but also considered various factors in combination to understand the situation as a whole. The activity-related environment in nursing homes was initially stable and rigid, prioritising basic care. Therefore, embedding PA-promoting structures in everyday life was all the more complicated and conditions for change had to be created in the first place.

Article 1 emphasised the pivotal role of structures in nursing homes for ensuring optimal care. Although care in a private arrangement is provided on a one-to-one basis, there is often a shortage of staff in full inpatient care, which makes regulated structures essential. This was further elaborated in articles 2 and 5, which addressed the following issues in accordance with Lewin's field theory and the assumption of interdependent forces. Observing interconnection, group behaviour, and group patterns was imperative for generating profound insights (Burnes, 2019, 2004a; Lewin, 1946a, 1943a, 1942a). While article 5 examined the macro-level of PA

promotion, for instance, through document analysis, article 2 concentrated on analysing PA promotion in everyday life, such as in routines or behaviour.

For a solid pre-post analysis, article 5 defined success for the entire change process: an organisation demonstrates high readiness for PA promotion when it is integrated into everyday life, connected to knowledge, cognition, and action, does not occur arbitrarily, and takes place within established structures and fixed schedules (Lyman et al., 2018). As demonstrated in Figure 3 (Chapter 5.4), articles 1 and 2, in conjunction with certain elements of article 5, can be allocated to the first step of Lewin's three-step *Model of Chang*e: Identifying the need for action. In article 5, areas were identified that required actions to promote PA (need for action), but also areas in which PA promotion is already established. Data analysis indicated that in 2020, there was a notable absence of PA structures within almost all areas of the nursing home organisation, particularly in organisational, informal, and external obligations, as well as in communication, cooperation, and staff. The results of article 5 were consistent with the findings reported in article 2, which also revealed deficiencies in informal and organisational structures, as well as in the areas of cooperation and staff. While staff generally exhibited a positive attitude towards PA promotion, even if complicated by lack of time (Hoppe, 2018) and lack of competencies (Frahsa et al., 2020), the organisational readiness level was found to be inadequate. Furthermore, article 2 revealed the correlating factors that particularly favour PA promotion before and during a pandemic. Before the rigid structures of the nursing homes were broken up during the Covid-19 pandemic, *daytime*, *gender*, and *food intake* in combination significantly determined the amount of residents' PA. During the pandemic, when the usual structures could not be maintained, the correlating factors changed to *outside mealtime*, *low-threshold activity* and *daytime*. These factors were analysed on a purely quantitative basis; however, the embedding of qualitative field notes revealed that daytime was not a decisive factor in the end. This finding emphasises the importance of a multifaceted approach to comprehensively capture and understand the topic of PA promotion in nursing homes.

Previous research (Burnes, 2004a) has demonstrated that a change process can be expedited in exceptional situations. The onset of the Covid-19 pandemic led to the disruption of established structures within nursing homes, a phenomenon that is particularly characteristic of pseudo-total institutions (Frahsa et al., 2020). The original need for action, and thus the status quo of 2020, changed rapidly in 2021 due to the effects of the pandemic. This resulted in the establishment of a new status quo under specific conditions within a relatively brief period. This unplanned change in the study design subsequently enabled the analysis of structural changes in

crises in nursing homes, particularly highlighting the fragility of PA-promoting structures. As outlined in article 2, these particular circumstances were subjected to rigorous and detailed analysis. It was evident that pseudo-total institutions were disproportionately impacted by restrictions in crises compared to conventional households. By prioritising safety and care, the amount of PA significantly decreased (Frahsa et al., 2020).

The need for action, as identified in the first step of Lewin's three-step *Model of Change*, was clearly outlined in articles 2 and 5. Moreover, the findings demonstrated that PA promotion needs to be applicable to all residents, and not exclusively to those who already lead an active everyday life (Harris-Kojetin et al., 2005). To achieve this, PA promotion must supposedly be initiated spontaneously and combined with aspects of social participation (Ruuskanen and Parkatti, 1994). In pseudo-total institutions, everyday life is often structured around fixed points, such as mealtime, when all residents gather. These fixed points must be addressed in order to integrate PA promotion into daily routines (Jansen, 2017) (articles 3 and 4). Articles 2 and 5 indicated that PA promotion has not been adequately embedded within organisational structures and individual mental models. Consequently, PA promotion had neither been prioritised in nursing homes' daily lives nor had it been part of decision-making programmes. The organisational climate was oriented towards mobilisation and social integration rather than PA promotion. Consequently, it is logical to initiate a change process in these areas. The need for action can be distilled into the significance of low-threshold activities in everyday life, enabling all residents to be reached with minimal effort. PA can be combined with socialising at fixed points during the day. According to Jansen (2017), residents' PA is mainly limited to the nursing home building. This is also confirmed by article 2. It is therefore imperative to provide a sufficient number of PA opportunities on-site. Consequently, structured activities in the weekly schedule are indispensable for a regular basis of PA-promoting offers. Competent personnel must be ensured for these activities. All activities must be embedded within the organisational structures to achieve sustainability.

The initial situation (step 1) was comprehensively analysed from articles 2 and 5, with theoretical input from article 1 and existing literature (Bischoff et al., 2021; Bundesvereinigung Prävention und Gesundheitsförderung, 2022; Cordes et al., 2021; Gassert and Weiß, 2021; Krupp et al., 2021; Otto and Wollesen, 2022). This resulted in the initialisation of the planned structural change process. The research gap was addressed by identifying the characteristics of the nursing home setting, exploring current structures, analysing barriers and investigating opportunities – all under the major goal of structural change. By unfreezing the existing situation in

step 1, certain events were ‘possible’ which had been previously ‘impossible’ (Lewin, 1936). The process of change, due to the destabilised structures and routines, was extremely challenging.

7.1.2. Initiation of Change

BaSAlt is an archetypal example of a pilot study. A key benefit of these studies is testing approaches within a real-life setting, which leads to the development of comprehensive recommendations and guidelines. Utilising a holistic approach, the study considered all factors and interdependent forces that influence PA-promoting structures and behaviour. As previously outlined in Chapter 4.1, nursing homes are characterised by specific conditions that impede the modification of existing structures and routines, as PA promotion is marginalised within pseudo-total institutions. However, a structured and controlled form of PA promotion would be much less susceptible to external disruptions, such as crises (article 2).

The second step of Lewin’s three-step *Model of Change* was characterised by an iterative process that facilitated the transition from the initial to the final state (Burnes, 2019, 2004a; Lewin, 1947d, 1936). Nursing homes are complex institutions with a heterogeneous group of residents. Many relevant stakeholders come together, each with a responsibility for the smooth running of everyday life. The objective of the second step of Lewin’s *Model of Chang*e was to effect change within these conditions, without neglecting the primary task of care.

As identified in the state of research, a holistic gap existed in previous research. Few studies have considered all factors and forces influencing PA promotion simultaneously (e.g., perceived environment, policy, cultural-, natural-, and intrapersonal conditions, or interpersonal relationships) (Jeon et al., 2019). Further knowledge was needed on how to successfully integrate PA promotion into the nursing home setting through a change process in collaboration with relevant stakeholders. To address this research gap, articles 3 and 4 presented a 10-step programme for developing, embedding, and evaluating PA-promoting actions in nursing homes. According to Lewin's research, both articles focused on action research and joint decision-making. The programme enabled the participation of all stakeholders in the change process, and the low-threshold design allows for applications without scientific support in the future.

In Lewin's opinion, action research is the only effective method of altering both the forces and, by extension, the organisational habitat (Burnes, 2019, 2004a). Therefore, all actions were collected in a participatory process to select the most fitting ones in a joint decision-making process (Burnes, 2004a). The actions were based on the identified need for action (step 1; article 2),

which primarily covered the area of activities of daily living. Such activities were most effective in activating residents, without requiring a large investment of staff or time. Furthermore, following the findings of the first step of Lewin's *Model of Change*, a series of actions was formulated in the domains of staff competencies, social participation, and PA around designated points, such as mealtimes. In order to consider the sustainable character of the actions, responsible staff, education and finance were given due consideration. The holistic perspective on the change process allowed the equal consideration of all individuals, groups, the organisation itself, and the society (Bauman et al., 2012; Burnes, 2004b; Sallis et al., 2006).

All individuals involved in the change process had to experience the 'felt need' because no group or individual exerted a primary influence over the change process. Instead, all participants contributed in a comprehensive and equal manner (Burnes, 2004a; Lewin, 1947b). In line with Lewin's assumption, nursing and management staff, residents, volunteers, external PA providers and relatives were involved in the change process as part of the participatory integrated counselling approach (Chapter 5.2). Involving all those people was also pivotal in ensuring that the nursing home did not become an isolated community within the neighbourhood, despite its pseudo-totalitarian character. In this regard, Hämel (2016) differentiated between three different forms of involvement (Chapter 3.2.1). This dissertation is considered to represent the third and strongest form of involvement, which led to various actions in different areas. Collaborative efforts among volunteers, partners, and responsible nursing and management staff have been essential in developing novel approaches and tasks. Especially, health-promoting leadership was a fundamental aspect of the change process. Research has demonstrated that a strong lead of the home management fosters an activity culture that values and promotes PA (Baert et al., 2015; Benjamin et al., 2011; Guerin et al., 2008; Peryer et al., 2022). Based on these findings, there has been close collaboration with the home management to enhance commitment from all parties.

For the second step of the change process, initial research indicated a gap in knowledge regarding approaches to developing PA-promoting structures. There was also a lack of a well-developed guide for use in nursing homes. The primary advantage of articles 3 and 4 is the establishment of a scientific instrument that can be utilised without scientific assistance. Despite the acknowledged primacy of care as a core principle in nursing homes, the influence of PA is evident in numerous domains, particularly when PA is functional and meaningful (Heinzelmann, 2004; Kuratorium Deutsche Altershilfe, 1996). The adoption of a holistic and participatory approach contributed to reducing the black box of the change process. During the change

process, there was a constant need to maintain an equilibrium between protecting resources and fulfilling individual needs. By concluding the second step, an awareness has emerged that valued active participation in daily life and prioritised it over passive care. This was the prerequisite for the last step of the change process, which focused on the organisational embedding of the new state and the new interdependence of forces. Routines, structures, and actions cannot rely on individuals, especially during periods of high staff turnover and shortage. Instead, they needed to be linked to a specific position within the organisation to ensure their sustainability (Burnes, 2004a).

7.1.3. Institutionalisation of Physical Activity Promotion

In the third and final step of Lewin's *Model of Change*, the newly achieved state was stabilised and consolidated to protect it from regression (Burnes, 2019; Lewin, 1943d, 1936). As indicated in the preceding research, a lack of funding, well-trained staff, and effective material and support management has been identified as concerning PA promotion in nursing homes. In addition, a prevalence of rigid daily routines and inadequate infrastructure existed (Baert et al., 2015; Benjamin et al., 2011; Frahsa et al., 2020; Guerin et al., 2008; Parker et al., 2004; Peryer et al., 2022; Sallis et al., 2006). The analysis of the initial situation in article 5 clearly showed a lack of organisational obligations, which had consequences for many other areas of the nursing home. The absence of organisational obligations for PA promotion resulted in a scarcity of PA-related staff, a neglect of necessary infrastructure, and a reduction in effort towards PA-related communication (both internal and external) and cooperation. Both organisational obligations and general organisational capacities are fundamental to establishing a thriving PA-promoting culture in nursing homes. Furthermore, the third step was found to be significantly influenced by the home's mission and vision, leading to a variety of integration methods. In the context of residential care, several homes have incorporated a range of new activities into their weekly schedules. Some homes developed several directly structured activities for their weekly schedules. In contrast, others focused on social events to activate residents by encouraging them to leave their rooms and meet one another (indirectly structured activities). It is evident that both variants ultimately resulted in a structural change, as activities were regularly offered and assigned to a responsible position – not to a single person. A fixed structure with clearly delineated responsibilities also eased the cooperation between external and internal staff, which increased the offers' consistency.

The new state was clearly independent of individuals and instead reliant upon organisational structures (Burnes, 2004a). As demonstrated in article 5, the term *freezing* in the final step

signified that PA promotion was embedded within decision-making programmes. It also emphasised the presence of an organisational climate that was conducive to PA, and the existence of plans to address crises, thereby ensuring the preservation of residents' PA (Bürkland, 2021; Frahsa et al., 2020; Hodges and Gill, 2015). Despite the rigidity of structures and processes that characterise nursing homes, they are capable of reacting to external influences (Burnes, 2019). It is important to note that *frozen* should not be equated with *unchangeable*. Instead, it signifies a flexibility in decision-making, which means changes to organisational culture, norms, policies and practices (Burnes, 2004a). Article 5 clearly emphasised that the organisation creates a framework, but that nursing staff can respond flexibly to changes in circumstances and residents' interests. The ability to loosen rigid structures has been shown to increase both quality of life and work (Cohen-Mansfield and Bester, 2006; Maurer et al., 2018). The whole process was driven by a supportive home management atmosphere (Bowes et al., 2021; Hämel, 2016).

According to Lewin, the forces were reorganised following the change process. It was imperative to define and solidify the new state through a re-analysis of the forces (Burnes, 2019, 2004a; Lewin, 1947b). Understanding the change was decisive in achieving sustainable embedding. Article 5 contributed precisely to this by analysing the organisational and individual learning processes that led to these changes in concepts, goals, routines, norms and policies (Argyris and Schön, 1978; Frahsa et al., 2020; Kim, 1993; Li et al., 2021; Thiel et al., 2021a; Thiel and Meier, 2004; Wilke, 2005).

At the beginning of the change process, the characteristics of an organisation that is ready for PA promotion were identified: PA promotion is, firstly, integrated into everyday life; secondly, associated with knowledge and cognition; and thirdly, does not occur arbitrarily, but is present in structures and schedules (Lyman et al., 2018). If these criteria are met, the change process outlined in this dissertation can be considered successful. In the following section, the parts of the definition are linked to the dissertation's results to assess the process and success.

The wide range of areas in which PA promotion is now employed evidently shows that it is an integral part of everyday life. As outlined in articles 3 and 5, there are low-threshold activities in everyday life as well as structured programmes in the weekly schedule. Responsibilities are divided between professionals (e.g., nursing staff and external service providers) and private individuals (e.g., volunteers). The connection between PA promotion and knowledge and cognition is demonstrated primarily through individual learning processes, such as staff awareness of the benefits of PA promotion at advanced ages and in everyday life. Staff express that there

is a necessity for PA to be integrated into daily life to ensure sustainability. To support these goals, additional PA-related staff is now employed. The aim of this expansion is twofold: firstly, to relieve existing staff, and secondly, to provide the team with specialised knowledge and expertise. Overall, the presence of well-trained and skilled nursing staff serves to reduce reliance on external resources, particularly in crises, thereby minimising negative impact on PA (article 2). Additionally, PA promotion does not occur arbitrarily, but rather within the structures and schedules of the respective homes. The change primarily focuses on embedding organisational double-loop learning processes, which are essential for organisational embedding. The home's vision and mission are tailored to align with PA promotion's objectives through modifications in structures and schedules. Such changes can take up to three to four months in total per individual action until the new processes are optimised, embedded and functioning smoothly. In summary, the three central aspects of the definition are fulfilled. The change process can therefore be assessed as successful, and the cooperating nursing homes are ready for PA promotion. PA promotion has evolved into a distinct product resulting from a decision-making process (Frahsa et al., 2020). The dissertation has demonstrated that the informal embedding of PA promotion can be successful, provided that the staff is motivated. However, the most effective approach for ensuring long-term sustainability of PA promotion in nursing homes is organisational embedding. Despite the numerous changes and efforts made, it is essential to continually evaluate routines, structures, and actions to adapt them to the evolving environment and available resources.

7.2. Implications for Research

The original *Model of Change* by Kurt Lewin contained the steps (1) unfreezing, (2) moving, and (3) freezing. Lewin's model provides insights into the change process, and research is encouraged to extend it to various organisational contexts to generate more knowledge in this area (Medley and Akan, 2008). In this dissertation, the model was applied for the first time to investigate and accompany a planned change process aimed at increasing PA-promoting structures in the nursing home setting (Figure 4). The specific challenge in this setting was the pseudo-total characteristic, prioritising basic care and mobilisation, rather than PA promotion. This made it all the more important to rely on a well-founded model to initiate change.

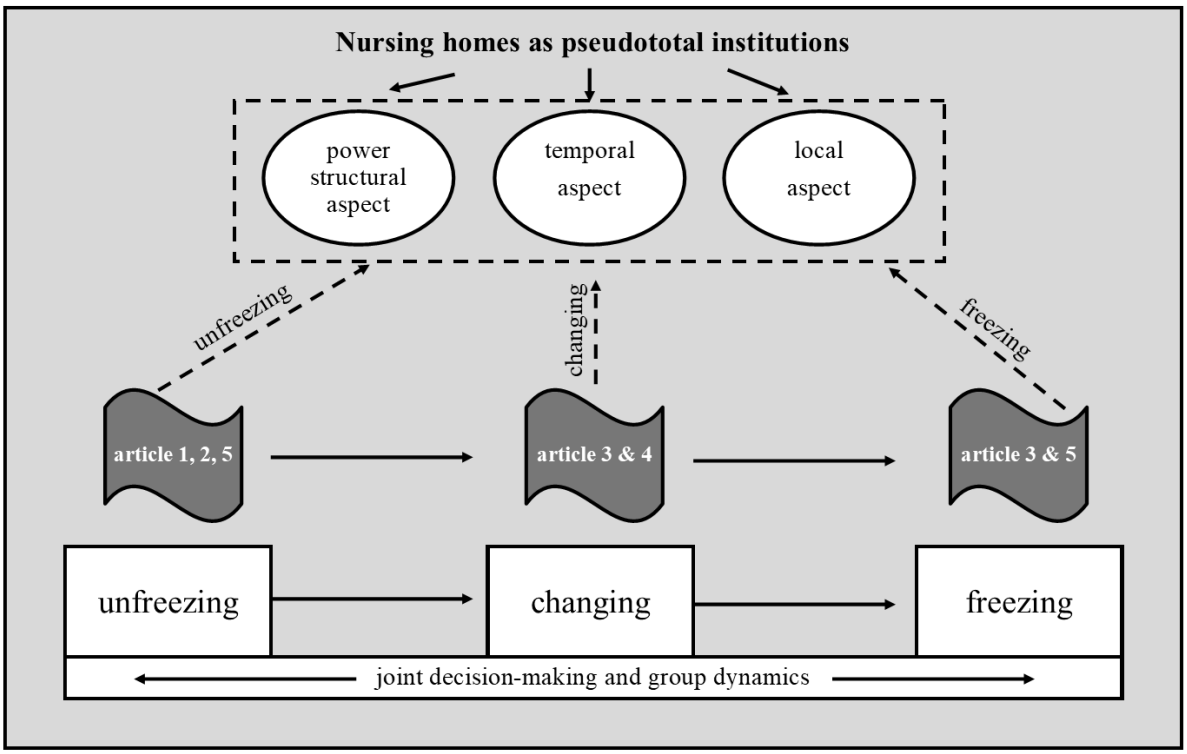

Figure 4: The extension of Lewin's Model of Change to the nursing home as a pseudo-total institution

Initially, the need for action was identified in the first step (unfreezing) by articles 1, 2 and 5. Different well-known approaches for health and PA promotion were combined into a participatory counselling approach, leading the change process. In today's society, social and organisational processes are interrelated, which makes a holistic approach necessary. Such an approach considers culture, power, and politics, as well as the individual prerequisites of residents on a physiological, psychological, and social level (Burnes, 2004a; Frahsa et al., 2020). Several quantitative and qualitative data analyses identified the interdependent forces and consequently the need for action in different areas of the nursing home. In this dissertation, the second step was modified from *moving* to *changing,* as this term has already been integrated into this model in the context of action research (Burnes, 2019; Lewin, 1936) and was more appropriate for analysing the processual changes in PA-promoting structures. The second step was characterised by joint decision-making and action research in order to develop, integrate, and embed PA-promoting actions with relevant stakeholders (articles 3 and 4). These PA-promoting actions led to learning processes on both an individual and organisational level, resulting in changes in PA-related norms, values, schedules, and structures in the third step. In this step, the new state of PA promotion was institutionalised, and the new arrangement of interdependent forces influencing PA promotion was re-analysed (articles 3 and 5). The dissertation makes abundantly clear that PA promotion can also be effective in pseudo-total institutions. The promotion of PA

needs to be prioritised, with actions to be embedded in both weekly and annual plans. In this manner, residents can also be activated within rigid organisational structures (Benjamin et al., 2011; Guerin et al., 2008; Kalinowski et al., 2012; Peryer et al., 2022; Phillips and Flesner, 2013). Moreover, the presence of rigid structures can facilitate residents' engagement in PA. Designated fixed points, such as mealtimes, ensure that all residents come together multiple times a day. It has been determined that these fixed points can be optimally connected with PA promotion.

A changing process is always an iterative one, where research leads to action, and action leads to evaluation and further research (Bürkland, 2021; Burnes, 2019, 2004a; Hodges and Gill, 2015; Lewin, 1947d, 1946a, 1936). Once the new state has been achieved, it is crucial to undertake continuous evaluation. The configuration of forces and the integration of PA promotion in everyday life must align with external influences, including policy and demographic changes. The prevailing challenges in research persist in the absence of a comprehensive, long-term evaluation of pilot studies. The project's limited duration contrasts with the sustainable implementation and stabilisation of actions to promote PA. The *BaSAlt* study enabled the conduct of follow-up interviews six months after the termination of funding, which revealed both long-term successes and barriers. However, it is not possible to investigate whether the change process remains successful after several years. Especially in pseudo-total institutions, structural inertia makes it difficult to embed new structures sustainably, and it is unclear to what extent this can be maintained without scientific monitoring and support. Furthermore, for future research, it would be beneficial to assess the practical suitability of the developed practical guide (articles 3 and 4) and its alignment with the scientific criteria of validity, reliability and objectivity. However, the transferability of the results to other institutions is only possible to a limited extent, as organisational cultures, personnel resources and infrastructural conditions vary greatly. These limitations emphasise the need to link research and implementation projects more closely with sustainable, structurally embedded strategies.

7.3. Implications for Practice

The involvement of relevant stakeholders characterised the change process. In the first step, the stakeholders experienced a *felt need*, the desire to prioritise PA promotion in everyday life and within nursing home structures. In the second step, the process of change was managed through joint decision-making to reach the desired state. In the third step, the newly achieved state was consolidated in group decision-making processes (Burnes, 2019). The change process was an iterative one, led by fact-finding, resulting action, and repeated fact-finding (Burnes, 2019;

Lewin, 1947a, 1947d). By applying a holistic approach, multiple factors and areas of PA promotion were investigated and changed. The most prominent ones were staff training, activities for weekly and individual schedules, regular communication and cooperation, the distribution of responsibilities and the inclusion of activities of daily living into daily routines. Nevertheless, there is still room for improvement. Especially, the concepts of care organisation, personnel shortages, bureaucratic hurdles, and time constraints are conditions that are difficult to change and make it challenging to promote PA in the nursing home setting. But such changes must be tackled at the political level. The dissertation also contributed to the improved preparation of the participating homes for crises in terms of PA promotion. The researchers initiated the change process immediately following the easing of the Covid-19 restrictions, thereby contributing to enhanced crisis management. This was achieved through the distribution and prioritisation of staff, as well as the embedding of PA promotion in the organisational structures. Even though the dissertation's focus was on the organisational structures, the change process not only indicated organisational changes but also changes in the residents' real lives. A newly furnished terrace is not only an organisational decision for better infrastructure but a new meeting point for social interaction and both low-threshold and structured activities.

The dissertation's most notable implication for practice is the practical guide, which empowers nursing home management staff to initiate change processes independently. The development of structures that promote PA has far-reaching positive effects on several levels. Research has demonstrated that targeted activity programmes and a PA-friendly environment can help individuals maintain their everyday skills over time. This contributes significantly to the quality of life and supports the greatest possible degree of independence. At the same time, the risk of falls and associated hospitalisation is reduced. By raising staff awareness, the promotion of PA is increasingly recognised as an integral component of a contemporary, comprehensive care approach. However, one limitation of the practical guide is the lack of a dissemination strategy in German-speaking countries. As part of the pilot study, the dissemination of the guide was not possible in the long term due to the termination of funding. In addition, during periods of significant staff shortages in full inpatient care, implementing changes to systems that promote PA can be challenging. Furthermore, the average age of residents when they move into the nursing home is increasing, as are cases of multimorbidity. To meet the needs of residents, it is necessary to make specific adaptations to the PA programmes and routines. However, despite the challenges, it is abundantly clear that the promotion of PA is not an optional addition, but rather a fundamental right and necessity for nursing home residents. This must be prioritised through

structural, organisational and cultural change. In order to create resilient structures that embed PA promotion as an integral part of everyday life in nursing homes, further research and practice must go hand in hand. Nursing homes that establish such structures in the long term will strengthen their profile and increase their attractiveness to potential residents and professionals in the field. Structures that promote PA make a significant contribution to quality assurance in care and to overcoming the challenges posed by demographic change.

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Affidavit

I hereby declare that the here presented dissertation thesis was written by me. I indicated all sources and aids. I indicated all texts which I quoted directly or paraphrased with regard to content by in-text citations. Full bibliographic information about all citations is provided in the Reference chapter.

I hereby affirm in lieu of oath that this is true and I have not withheld or omitted anything. I am aware that making false declarations in an affidavit is punishable with a prison term of up to three years or a fine.

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Lea-Sofie Hahn, Tübingen, 10 October 2025