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Evaluation of community readiness for change prior to a participatory physical activity intervention in Germany

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Summary

A lack of communities' readiness for change is reported as a major barrier toward an effective implementation of health promoting interventions in community settings. Adding an alternative readiness assessment approach to existing research practice, this study aimed to investigate how a selected community could be evaluated in-depth regarding its readiness for change based on multiple key informant perspectives, with the intention of using this knowledge for the preparation of improved local physical activity (PA) interventions for men above 50 years of age. We conducted semi-structured face-to-face key informant interviews with stakeholders and relevant persons from a local German community ($N = 15$). The interview guide was based on a comprehensive summary of community readiness dimensions. After verbatim transcription, we conducted thematic analysis to synthesize the complex results regarding community readiness related to PA. The data supported that the community disposed of a variety of resources regarding PA and showed signs of readiness for change. However, a certain degree of saturation regarding PA programs existed. The need for health enhancing PA interventions for men was only partly recognized. The local authority considered PA to be particularly important in the context of mobility and traffic safety. Including multiple stakeholders contributed to a balanced and in-depth assessment of community readiness and was helpful for determining starting points for tailored PA interventions due to the detection of complex relationships and structures. The study delivers preliminary evidence that a qualitative multi-perspective community readiness assessment adds value to quantified single-perspective readiness assessment research practice.

Key words: cooperative planning, men, physical activity, community, readiness for change

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INTRODUCTION

The importance of regular physical activity (PA) to promote and maintain physical and mental health is comprehensively described (World Health Organization, 2010; Heath *et al.*, 2012; Appelqvist-Schmidlechner *et al.*, 2020). However, decreasing PA is a global concern (Kohl *et al.*, 2012), especially in high-income Western countries (Guthold *et al.*, 2018). Physical inactivity contributes, as one major risk factor, to the development of non-communicable diseases (NCDs) (World Health Organization, 2018). In Germany, ~90% of deaths are caused by NCDs (Robert Koch Institut, 2019) and therefore can be considered to be a major public health issue.

Studies show that worldwide one in four men are not physically active to stay healthy (World Health Organization, 2020) and that PA decreases as men age (Thandi *et al.*, 2018). Especially men living in rural communities experience chronic disease at higher rates than the general population (Gavarkovs *et al.*, 2017). Study results suggest that being physically active mid-to-late in life improves physical and mental health (McPhee *et al.*, 2016), contributing to the prevention of poor cognitive function in late-life (Fondell *et al.*, 2018) and to the reversal of some effects of chronic diseases (McPhee *et al.*, 2016).

To address physical inactivity, numerous approaches in different settings aimed at specific target groups exist (Jordan *et al.*, 2012; Forberger *et al.*, 2017; Fischer *et al.*, 2019).

A variety of PA programs have shown the potential to increase PA specifically in men if they are gender-sensitive and address a socio-culturally shaped understanding of masculinity (Thandi *et al.*, 2018; Kelly *et al.*, 2019; Strobl, 2020). Gender-sensitive strategies can overcome barriers toward PA in older men, including time constraints and lack in energy (partly due to job demands), lacking consideration of differences in PA in men and women or socio-cultural constraints (Gavarkovs *et al.*, 2017; Bredland *et al.*, 2018). Older men's PA preferences are influenced by their PA at a younger age, by peers (group activities), and by the physical environment motivating their levels of PA (e.g. convenience) (Thandi *et al.*, 2018). (Gender-sensitive) health interventions are (ideally) embedded in regional structures with their own geographical, cultural and ethnical characteristics (Edwards *et al.*, 2000) and address people (such as older men) in their usual environment (Heath *et al.*, 2012; Loss *et al.*, 2020).

Community-based interventions put emphasis on involving relevant stakeholders in a community (e.g. representatives of target groups, sport clubs or health promotion professionals) and their respective interests into the design and implementation of an intervention. To achieve this, participatory approaches such as Cooperative Planning are used (Rütten *et al.*, 2019).

Yet, despite efforts to involve stakeholders into community intervention design and implementation, studies have shown that participatory approaches will not be successful if the respective community is not ready to accept and implement changes.

Community readiness describes the degree to which a community is prepared for change in order to implement an intervention (Castañeda *et al.*, 2012).

The assessment of a community's readiness for change can be beneficial for PA health intervention planning, as it can help to determine if a community is capable and willing to change (Castañeda *et al.*, 2012; Paltzer *et al.*, 2013; Gansefort *et al.*, 2018), to proactively gauge the strengths and weaknesses of a community, and to help select strategies in order to achieve that PA efforts made in the future do take hold (Edwards *et al.*, 2000; Castañeda *et al.*, 2012).

This study aimed to investigate how one selected German community could be evaluated in-depth regarding its readiness for change based on multiple perspectives by community key informants, with the intention of using this knowledge for the preparation of local PA interventions for older men above 50 years of age. Our study is meant to extend existing evidence on community readiness for change by adding a qualitative in-depth analysis based on multiple perspectives to existing research which focuses on the quantified analysis of community readiness based on readiness scores and single participant perspectives. We aim to show why such an in-depth approach adds significant value to the common quantified practice of readiness research.

Our study also served as an exemplary case to collect information for scaling up PA programs for older men in other German communities.

The study was conducted as part of the project ACTION for men (A4M) which targets PA in men 50+ using a Cooperative Planning approach (Loss *et al.*, 2020; Strobl *et al.*, 2020). A4M is part of the transdisciplinary research network Capital4Health (https://capital4health.de/) which aims at fostering health enhancing PA in various population segments and settings (Rütten *et al.*, 2019).

METHODS

Community readiness assessment

To assess community readiness, numerous approaches have been developed in the past (Edwards *et al.*, 2000;

Weiner *et al.*, 2008; Castañeda *et al.*, 2012). A review undertaken by Weiner *et al.* (Weiner *et al.*, 2008) reveals 43 different instruments to assess community/organizational readiness. Differences occur between components being included and assessed for community/organizational readiness (efficacy, personal and organizational capacities) (Holt *et al.*, 2007; Weiner *et al.*, 2008). A widely used instrument is the community readiness tool (CRT) based on the community readiness model (Edwards *et al.*, 2000). The CRT can help determine a semi-quantified degree of readiness. This usually includes the conduction of a low number of key informant interviews (sometimes just one or two interviews per community) in several communities in order to calculate descriptive community readiness scores for various dimensions and based on standardized questions. This procedure has been applied for diverse health topics (Hahn *et al.*, 2013; Pradeilles *et al.*, 2016; Gansefort *et al.*, 2018; Izguttinov *et al.*, 2020). A systematic review of CRT applications showed that studies reported both overall and specific dimension community readiness scores (Kostadinov *et al.*, 2015). Thus, previous research mainly focused on a quantification of community readiness study data. This approach is useful for screening communities for their community readiness, and for comparing various communities regarding their readiness scores, aiming at a selection of the communities with the highest scores.

However, when aiming at planning a tailored participatory health promotion intervention specifically designed for one community, and to adapt the intervention to the status quo of community readiness in the particular setting, this research approach falls short of illuminating how different aspects that are specific to the community interact to pose opportunities and challenges for public health experts. Community readiness scores deliver general information about readiness dimensions, e.g. the extent of knowledge about local efforts to address a health issue (from no to extensive knowledge), but these data are not able to describe underlying complex relationships for the dimensions. Community readiness can also be very health issue specific.

So far, to our knowledge there is no study looking into community readiness from an in-depth perspective for planning participatory gender-sensitive PA interventions tailored to a community's readiness status-quo. There is a need to add more research in this direction in order to understand a community's readiness in context of PA in detail, considering the community's diversity with regard to contextual factors (Lovasi *et al.*, 2009; Black and Macinko, 2010; Forberger *et al.*, 2017), and acknowledging the community's complexity.

Sample

Semi-structured qualitative interviews were conducted with 15 local residents from a community in Germany, following the key informant method (Edwards *et al.*, 2000).

The community was selected purposefully based on its size (∼14 000 inhabitants) (Bayerisches Landesamt für Statistik, 2020), its proximity to the research group, and its willingness to cooperate with the research team. Initial relationships to this community were available which allowed a quick setup of the study. The community size was relevant; very large or small communities were excluded to select a community that offered basic structures for health promotion but was small enough to easily cooperate with.

The community is characterized by several large enterprises which contribute to a high employment supply exceeding the number of inhabitants (Bayerisches Landesamt für Statistik, 2019). This is the reason for a high number of commuting workers coming in and out of the community on a daily basis. Due to its origin as a place for refugees after the second world war, the community is still characterized of cultural diversity (Bayerisches Staatsministerium für Wissenschaft und Kunst, 2021). In 2018, 41% of inhabitants were above 50 years of age (Bayerisches Landesamt für Statistik, 2019).

The participants were selected purposefully due to their active participation in community activities and/or their knowledge about the community, their extensive voluntary commitment or any official community function that they held. We used snowball sampling to identify key persons that knew the community well (e.g. based on their length of residence in the community) with locals informing us about potential suitable participants. Participants (10 male, 5 female) included active members of the city council, representatives of local clubs (medical and non-medical), social service organizations and an adult education center, and long-term residents with broad social networks in the community. Participants from various age groups (22–66 years) were included.

Interview guide

The in-depth interview guide (Table 2) was developed taking various dimensions of community readiness into consideration. It was mainly based on the dimensions put forward by Castañeda *et al.* (Castañeda *et al.*, 2012) who summarize the dimensions of 13 community and

Table 1: Dimensions of community readiness (based on Castañeda *et al.* , 2012)

Community and organizational climate that facilitates change	The degree 'to which current community conditions promote positive versus negative behaviors' [(Castañeda *et al.*, 2012), p. 4]. Includes assessment and determining prevailing norms/views community member place on a certain (health) issue (e.g. sense of responsibility toward PA-enhancement for older men). Community climate also comprises organizational qualities such as 'removing obstacles and providing incentives for innovative program adoption' [(Castañeda *et al.*, 2012), p. 5].
Attitudes and efforts toward prevention	This dimension covers, 'whether members are aware that the problem exists' [(Castañeda *et al.*, 2012), p. 5] and value it as a problem to be tackled. It also includes to what extent members are aware of the problem, its impact for their community and knowledge regarding the causes of the problem. Additionally, it comprises to what extent existing programs and policies address the problem and the awareness of members of the effectiveness of these efforts.
Commitment to change	Commitment includes the belief that a community can improve, and 'the extent to which members feel that there are legitimate reasons' [(Castañeda *et al.*, 2012), p. 11] for change. This dimension also covers to what extent leadership is committed and supportive for the implementation of efforts to change.
Capacity to implement change	Includes the 'interaction of human, organization, and social capital [. . .] that can be leveraged to solve collective problems' [(Castañeda *et al.*, 2012), p. 6]. This comprises relational capacities (e.g. collaboration of stakeholders), leadership (e.g. willingness of leaders to involve community members in decision-making processes), resources and knowledge (e.g. financial, expertise in project management).

organizational readiness assessment models, and thus deliver an extensive foundation for our research. They summarize the following four broader dimensions: (i) Community and organizational 'climate' (conditions, characteristics) that facilitates change; (ii) current attitudes and efforts toward prevention and/or a specific health problem; (iii) commitment to change and belief that change is possible and (iv) capacity to implement change, i.e. collaboration of stakeholders, presence of social capital and resources within a community (see Table 1).

Interview conduction and informed consent

Face-to-face interviews took place between July and December 2019 in locations preferred by the participants. All interviews were conducted by the same researcher, and lasted between 30 and 70 min. The interviews were audio-recorded using a standard offline voice recorder and fully transcribed by research assistants. Study participation was voluntary. All participants received an information sheet and signed a consent form prior to the interview. Ethical approval was received as part of the overall ACTION for men review in 2018 (University of Bayreuth, O 1305/1-GB).

Data analysis

Data analysis was conducted using the program ATLAS.ti. 8.1, following a qualitative and thematic analysis approach (Braun and Clarke, 2006). The interviews were coded independently by two researchers (M.K., J.L.). Categories were initially developed in line with the main domains covered in the interviews, but this changed following a more detailed reading of information under each category to identify emergent themes and subthemes. Recurring themes and subthemes were clustered and discussed in an iterative process within the research team regarding their relevance to the research questions. Disagreement was resolved through discussion with two additional researchers (H.S., N.B.S.).

We did not aim at using a specific quantitative readiness assessment tool, but developed questions addressing PA in older men along the summarized dimensions instead. These questions enabled us to collect detailed data about the community situation regarding PA in men. The interview guide was pretested with one community member who gave feedback on the interview guide questions and clarity in a first step. The interview guide was then adapted and extended following the information delivered in the first interviews.

Table 2: Interview guide (based on Castañeda *et al.*, 2012)

1. Personal questions
✓ How long have you lived in the community?
✓ Are you a member of any clubs, organizations, the city council, or active in any other way?

2. Local issues in the community
✓ What are the topics that are currently being discussed in your community? (Various topics)
✓ Do you have an insight into which topics are currently of particular concern to the city council?
✓ Do you know how the city council communicates mainly about these topics?

3. Awareness about physical activity and current efforts
✓ To what extent is ‘active living’ a discussed topic in your community? (E.g. active participation in the social community)
✓ To what extent is ‘physical activity’ a discussed topic in your community? (How important is the topic of physical activity in your community?)
✓ To what extent is physical activity specifically for men 50+ a discussed topic in your community?
✓ Which projects promoting physical activity are you aware of in your community?
✓ Do you know of any projects, programs or efforts specifically for men 50+ to encourage more physical activity?

4. Health-promoting conditions
✓ What conditions in the community might be conducive to physical activity projects?
✓ What are the main or fundamental barriers to implementing (physical activity) projects in your community? Are there any conflicts of interest, structural barriers to physical activity, or other potentially disruptive factors?

5. Commitment to change
✓ Do you think there is a need for new physical activity programs for men 50+ in your community?
✓ To what extent do you think changes in physical activity programs are needed in your community?
✓ How easy do you think it is to implement change in your community? (difficult/takes a long time or new ideas are implemented quickly)
✓ To what extent do different groups in your community collaborate? Do different stakeholders work together regarding physical activity efforts?

6. Community capacities
✓ How would you rate the social cohesion in your community?
✓ Have social problems in your community been successfully addressed so far?
✓ Are there key individuals in your community who take on leadership roles and who are important for the successful completion of social projects (e.g. physical activity)?
✓ Do you know of any dedicated individuals who are particularly involved in physical activity programs and projects in your community?
✓ Are there key organizations or companies in your community that are important for the successful outcome of social projects?
✓ Which groups or programs in your community target men or are primarily attended by men?
✓ Which groups might be open-minded in regard to physical activity programs?
✓ Which resources are available in your community that might be helpful for a new physical activity project targeting men 50+? (Infrastructure, funding opportunities)
✓ Do you know if there are any groups or individuals in your community who can provide the necessary knowledge on how to implement or evaluate physical activity projects?
✓ Do you think project planning using Cooperative Planning groups could work in your community? Why? Do you have alternative suggestions or ideas for your community?
✓ Are you interested in participating in planning groups to develop a physical activity program?

The original version used in the study was in German language. The translation summarizes the questions used.

RESULTS

The results are presented along the basic categories of community readiness as described by (Castañeda *et al.*, 2012). In the interviews, the community readiness was discussed with regard to fostering PA in the target audience of older men 50+.

Community climate: the community climate is supportive of PA—to a degree that additional efforts to increase PA may be perceived as unnecessary

According to the interview results, the community climate toward PA was seen as supportive. Many interview partners describe that recreational exercise was of a

significant local value, which could be seen in the design of public spaces as well as the broad variety of sport clubs. Especially the local sports-related infrastructure (such as sport halls, indoor swimming pool) is perceived as extensive and diverse.

> Positive for PA ... is definitely the XY lake ... a local recreational area. Quick to reach, about two kilometers [from the city centre] ... This place always invites you to exercise. [...] The city park is designed in a way that enables space for playing badminton or similar... there is also a playground at the new building site where they set up fitness equipment for adults.... (IP01, member of the city council)

> There are many [sport] clubs, many departments in the clubs ... We have a stick shooting club, handball, judo, soccer ... a dance club, mini golf club, water safety... I couldn't even suggest what is missing here. (IP10, long-term resident)

These community characteristics can be seen as infrastructural assets to be used for novel interventions that promote movement especially among older men. On the other hand, the existing offers for (recreational) PA may also pose a barrier to change, as several interviewees describe a saturation of PA opportunities in the community, which may hamper new approaches aiming to enhance PA in specific target groups.

> Barriers ... simply the oversupply of ... clubs and everything else that exists. (IP15, representative of a social service organization)

Current attitudes and efforts toward change: whereas residents are aware of physical inactivity among older men as a health issue, the local authority considers PA to be an important issue in the context of mobility and traffic safety

When talking about the local authority and their attitude towards PA, the main focus was on traffic security, mobility of the elderly or reduction of emission and noise, and less on health, even though PA could support the latter. Thereby it may fit in with the overarching priorities of mobility, climate protection and demographic change. Initiatives that intend to promote PA in the community may exploit these official priorities in order to put PA on the city council's agenda.

> In the city council, we frequently discuss the immense traffic volume. You need to solve that...so that the kids that need to go along those roads are not in danger...What we're now focusing on, when we are re-constructing or developing the town, is cycling - that we are making [it] safer.... You can reach almost any site in town by foot. And for [people with] a wheeled walker, we see to it that we drop the curbs of newly built side-walks, for them to be able to easily cross the streets. (IP01, member of the city council)

> Main issues [in the city council] are jobs, infrastructure, traffic of course, energy savings, cycling paths... investments into the future. (IP05, member of the target group)

> There are frequent discussions about redesign, cycling tracks, the construction of the new indoor swimming pool, which might be very interesting for movement here. (IP02, long-term resident)

In terms of the target group of older men, the majority of interview partners reported to be well aware of the problem of physical inactivity in this group.

> These are men who have to deal with back pain ... they have been sitting in the office and haven't been moving enough over the years, and then they turn 50 ... it gets worse and worse, and then they receive a medical prescription. (IP07, representative of a local sports club)

The interview partners were also reflecting about causes of the barriers toward PA in this target group, thereby identifying potential starting points for PA interventions. The reasons among physically inactive men not to exercise regularly were identified as specific professional and private obligations in this group, i.e. demanding jobs and family responsibilities. Additionally, a large percentage of jobs in the community include different forms of shiftwork in the various local enterprises, which contributes to physical inactivity as it hampers regular attendance in training sessions with a fixed time.

> ... I hardly manage to do any sport during the week. (...) I don't have time. (...) my age group, I'm 54 now ... if you still have a family and children or maybe a house and garden or parents to take care of. Next, if the children have moved out, you're taking care of your parents. There is not much time left. (IP05, member of the target group)

> For example, people [working] at [company name]. If they work late shifts at the assembly line, they just can't come to soccer training. (IP11, long-term resident)

Yet, actual efforts to reach men 50+ with new strategies had been undertaken only by few providers in the past and present (e.g. yoga specifically tailored for men). Few participants also highlight the need for more knowledge on how to tailor activities for this specific target group.

> If we just knew how we can reach men! ... That is a nationwide problem of adult education centers, that men just stay away... We have been consistently dealing with this topic. (IP09, representative of an adult education center)

Commitment to change: the need to improve the local traffic situation and infrastructure is urgent and recognized by all participants, which can be an opportunity to foster PA

Across the different interview partners, a specific need for improvement was seen in the city structure and the high volume of traffic in the community. There are several large enterprises located in the community, with many staff members commuting to and from them every day. This also relates to PA, primarily due to safety reasons, according to the interview partners. Improving the situation for cyclists was a concern for many of the participants.

Few interview partners, on the other hand, wondered whether physical inactivity could be addressed by community interventions at all. They suggested that it might be caused by an individual's own motivational barrier.

> [PA] doesn't fail because opportunities are lacking... it fails because of the personal motivation. (IP11, long-term resident)

The sample was divided with regard to believing that the local authority could improve local opportunities for PA. Whereas some interview partners felt that PA was being considered in many decisions of the city council to bring about changes for an active lifestyle, others were more skeptical. One interview partner doubted that structural changes fostering PA could be achieved easily, given his long-standing experience in that matter.

> [PA] is a topic that no political fraction or colleague in the city council wouldn't consider worth promoting... (IP01, member of the city council)

> We have a relatively old city council, no one [in it] with kids anymore ... [In terms of the planned public pool], they can't imagine that there might be families who would like to let their kids play in the water. (IP10, long-term resident)

> I miss the cycling paths in the community... And this is something I've kept bringing up for 30 years now, that we need to construct a pathway from the city hall, past the police station and elementary school, to the supermarket...Parts of that have been put into place now, but there's no proper concept. (IP05, member of the target group)

On the level of the residents, some interview partners perceived that a general motivation to change things may be low.

> I think that there is always an inclination towards the existing structure. The preserving [of the presence]... already starts in the groups of children... If you want to change something, you have to expect resistance first. (IP14, representative of a social service organization)

Capacity to implement change: community members have expertise in organizing local cross-cultural events and celebrations, the popularity of which could be exploited for PA interventions; co-operation among (sports) clubs may be a further asset for change

Relational capacity

Different aspects are named with regard to the relational capacity of the community. Social cohesion among residents is described as low by some interview partners, especially because of the town's size, specific characteristics such as it being a commuter town, a multicultural society and with an industrial character. On the other hand, people or clubs could easily rely on each other for help or support, according to interview partners. A variety of cultural and PA events were reported to take place on an annual basis, which mostly reach, and bring together, all age and cultural groups.

> [Cohesion in the community] is rather loose. People have no problems with each other... we know each other, but every group follows their own business somehow. [...] A good coexistence. (IP14, representative of a social service organization)

> When you need each other, people are there for you to support you. For example, when there's an anniversary to be celebrated in a sports club, and they would like to hold a church service for that event, then the priest is ready to assist. (IP14, representative of a social service organization)

> There are a lot of clubs, a cultural scene, and therefore local citizens take part and engage in city events... we always alternate [annually] between youth culture festival, culture festival or citizen festival. The clubs ... all join in. (IP03, member of the city council)

There is also an annual charity run around the lake, organized by a local shopkeeper, which always has a very high turn-out. As these events are very well accepted, they are recommended as an approach to mobilize community members for PA.

> What's always taken up very well in [this town], is any kind of festival... and on the lakeside I can very well imagine that it will be of interest to many if you organize something there, a relay race, boccia, any kind of competition. (IP01, member of the city council)

Despite this encouragement of civic engagement, a decreasing willingness of young people to commit to local volunteering is criticized (challenges in finding young

people to commit to voluntary work, and declining interest in local matters).

> Commitment is decreasing.... Especially among the young people. (IP08, representative of a local association)

Whether or not interventions to promote PA, e.g. among older men, could benefit from collaborations among sports clubs, was assessed differently by different interview partners. Whereas some participants point out competitive behavior between sports clubs, others describe the cooperation between clubs as positive.

> Every club focuses on their own stuff ... There is not a lot of networking. Every group rather pursues their individual interests. (IP14, representative of a social service organization)

> Within the sports clubs [and] various clubs ... cooperation is good, because people know each other. (IP02, long-term resident)

Leadership

Some interview partners—both city council members and other residents—feel that the city council is usually making decisions in a constructive, agreeable and effective manner, balancing economic aspects with well-being of residents. This may render the local authority a valuable partner for changes in the community.

> There are certainly topics in the city council where we have contrary opinions ... controversial discussions are held, but it hasn't happened yet that we couldn't succeed in reaching a consensus. (...) Above all, there is no major controversy in these fundamental matters, that is that we need to bear in mind both our industry and people's quality of life. (IP01, member of the city council)

It is mentioned that citizen movements and voluntary activities are valued and explicitly appreciated by the local authority, encouraging bottom-up activities for change. Interview partners were divided, however, about whether or not the residents' concerns and ideas would finally be taken into consideration in decisions made by the city council. According to the interview partners, platforms for citizens to voice their ideas and interests exist, but those ideas and interests may not necessarily be taken up in the decision-making processes.

> Our city administration is relatively open-minded for most topics. There is a citizen consultation hour .... concerns of local citizen are regularly communicated via individual factions and are thereby brought up in the city council. Sometimes, city council factions say: "We would like to take up this or that cause now [and] we need to get the [public] opinion about that". For example, surveys about the new indoor swimming pool were conducted, asking the citizens what they preferred. (IP01, member of the city council)

> The city administration, including all political parties, are supporting the citizens... they're all open for concerns of the local clubs. (IP13, representative of a local sports club)

Local resources and skills

The good financial situation of the community is pointed out.

> The financial situation of the city is good. Therefore, there are opportunities for investment. (IP04, long-term resident)

Whereas there are many sports facilities available in the community, these are reported to be usually fully booked. Interview partners fear that the shortage of space may be a bottleneck that could severely impede the development of additional PA and exercise offers.

> We have many [sport] halls, but also many clubs using them. We often face capacity problems, as sport halls are basically fully booked. (IP12, member of the target group)

In terms of residents being able to bring about change, many community members as well as community groups are mentioned who provide expertise in project management and (sport) event organization, ranging from the official sports appointee and certain active family clubs to local companies.

> There is a team of six...or ten people who organize the charity run around the lake every year. This is quite an effort, with blocking roads, obtaining permissions etc. For example Mr. M, knows all the big ones and the little ones here, has all the relations... he's a string-puller. (IP05, member of the target group)

> The city councilors usually have good networks...they see: is there a problem? And if yes, how can it be solved? The general practitioners also know the local structures very well, there are some of those around here. (IP10, long-term resident)

Some interview partners highlight an existing town project that intends to make the town center more attractive and lively; it could be used as a resource for local changes that promote PA as well, as suggested by the interviewees.

> There's a project called "Life happens inside!", it's seeking to bring back life to the inner city. I think... the

> project staff members are good contacts to assess the needs of the city . . . (IP01, member of the city council)

The local cooperation between town administration, local enterprises, resident representatives, and local associations and clubs is rated as satisfactory in the community, also facilitating health intervention implementation due to relational capacities.

DISCUSSION

The interviews yielded a comprehensive, multi-faceted picture of readiness for change with which the investigated community can be expected to engage in change for promoting PA. Specific aspects highlighted a certain readiness of the community: according to the interviews, residents and authorities alike are committed to making their town a livable and safe place, with investment in public (green) spaces and approaches to making roads safer for (older) citizens and cyclists. Current priorities of the council, such as traffic safety, city planning and climate protection, were also suggested to be used to leverage PA topics (e.g. active transport). The city council as well as many (sports) clubs and local companies were designated as reliable partners in change processes. The local tradition of arranging well-liked festivals and (sports) events can also be used as a starting point to raise interest in PA.

On the other hand, some aspects may diminish the community readiness, especially with regard to men 50+. Interview partners acknowledged that professional duties and shift work may render it difficult for older men to be physically active on a regular basis. The abundance of different sports clubs may lead to the impression that the need for exercise offers is already saturated, which may decrease the community's motivation to get involved in novel PA interventions. Accordingly, only some interviewees recognized the need for tailored health enhancing PA programs for men 50+. It was also not clear to interview partners whether local groups could be expected to take up the cause of PA, with social cohesion not being too pronounced and commitment of young community members decreasing. Some interview partners also doubted whether the city council would implement infrastructural changes in a way deemed necessary by residents.

Previously, only few studies used community readiness for change assessments for preparing PA interventions for older target groups (Jones *et al.*, 2012; Gansefort *et al.*, 2018; Izguttinov *et al.*, 2020; Liu *et al.*, 2020). Those studies implied that local authorities may not be aware of physical inactivity among older men as a local health issue and consequently do not consider this as a (health) issue with a priority. Similar to our findings, PA was mainly seen as an important issue in the context of mobility and traffic safety (Jones *et al.*, 2012; Gansefort *et al.*, 2018). Moreover, the need for more knowledge on how to tailor PA activities for specific target groups (e.g. men 50+) was also found in two studies (Jones *et al.*, 2012; Izguttinov *et al.*, 2020). In contrast to our study findings, a community readiness assessment in China (Liu *et al.*, 2020) showed that resources were described as insufficient, while our assessed community displayed a variety of available resources (especially good financial means of the community due to their industrial character). Limited outdoor space in the Chinese study stood in contrast to available outdoor space in our study. Due to limitations, the authors concluded that readiness levels in the Chinese community were still relatively low (Liu *et al.*, 2020). Their results confirm our conclusions of some readiness in the assessed community in our study as compared to the Chinese results. In contrast to our study, they used a semi-quantified method based on an existing CRT which is based on dimension scores. This quantification showed that their reported results were less in-depth than our focus on the qualitative analysis. Both research approaches bear advantages and disadvantages.

While the qualitative in-depth approach based on multiple perspectives bears potential for participatory health intervention planning in a specific community as outlined above (especially when a Cooperative Planning approach is used for the intervention planning), this approach might be too costly and time-consuming to perform when the research focus is on community screening to select communities with the highest readiness levels from a community pool.

With our study aim, the interview results helped set the foundation for a following collaborative planning approach to develop specific PA offers for older men in the selected community. The readiness assessment established relationships with key persons of the community which was helpful for the subsequent cooperative PA intervention planning, and delivered information that was crucial for the planning process, such as key facilitators and barriers in the community. The Cooperative Planning sessions were used to address challenges arising from the readiness assessment, and to find appropriate solutions. For example, the shortage of space led the community members participating in the collaborative planning sessions to decide to mainly develop outdoor activities for men 50+, with the community infrastructure providing several opportunities for outdoor

programs. Joint discussions and decision-making processes enhanced participating stakeholders' ownership of the actions taken and thereby increased the likelihood of program sustainability (Brownson *et al.*, 2009). Individual community members suggested various ideas for new PA activities for men 50+. This included mostly low-commitment flexible offers anyone could join (gymnastics at the lake, minigolf events, regular cycling tours, etc). Additionally, knowledge exchange between the community stakeholders and the public health experts/researchers strengthened the evidence base of the measures taken (Rütten *et al.*, 2019). Addressing the barriers toward PA offers for older men mentioned in the readiness assessment, such as doubts that change is needed, or lacking organizational capacities (Hawe, 2000; Collins *et al.*, 2007), enabled the Cooperative Planning group to tailor the PA interventions to the readiness status-quo of the community.

A readiness assessment further helped select participants for the planning groups who had a special interest in PA and believed that change was possible. Additionally, the gathered information helped select priorities to frame the discussion within the planning groups, warranting a greater involvement of the participants (Brownson *et al.*, 2009). Furthermore, the assessment of community readiness provided relevant starting points for improving collaboration and organization among the stakeholders involved [capacity building (Hawe, 2000)], to empower planning group participants to take active and self-responsible control over the addressed health issue—a fundamental prerequisite for health-related changes in communities and for a sustainable impact on public health (Brimblecombe *et al.*, 2014; Bergeron *et al.*, 2017).

Our study emphasized the importance of a purposeful selection of key people from the community. The participants' background (potentially) affects the perception and significance they place on a specific (health) issue. Accordingly, our findings revealed that individual background of the interviewed persons was on the one hand a decisive criterion for the responsiveness to the interview questions. People who lived in the community for a long time and actively participated in community activities (e.g. member of the city council, representatives of local clubs) were able to provide the most detailed answers to the interview questions. On the other hand, their background had an impact about their attitude toward promotion of PA (for men 50+). Participants being familiar with PA-enhancement as part of their regular professional and/or private activities (e.g. sports clubs' members) discussed enhancement of PA from a (public) health perspective and had specific insights in the potential of sports clubs and target group members. This is similar to results obtained in a study by (Islam *et al.*, 2019). An assessment of community readiness benefits from including multiple data sources, rather than single stakeholders as sometimes found in quantitative approaches comparing various communities.

Overall, the extensive summary of readiness for change dimensions by (Castañeda *et al.*, 2012) provided a solid foundation for our interviews. Especially available resources (capacities) and related barriers were at the center of discussions, as well as attitudes held be the key informants. Depending on the selected community the weight of the dimensions might shift.

To summarize, assessing community readiness is of special relevance in participatory intervention approaches that purposefully do not follow any structured intervention program, but instead rely on the intensive collaboration with different local stakeholders to design and implement health promotion measures tailored to the specific needs of the community. The qualitative information gained from the interviews in the present study enhanced the researchers' understanding of the community-specific characteristics and facilitated a Cooperative Planning process. An assessment of community readiness can further help explain differences in effectiveness of similar PA programs in different communities, which may be traced back to the varying preconditions in the communities involved (Forberger *et al.*, 2017).

STUDY LIMITATIONS

Our study has some limitations as outlined in the following. The qualitative assessment of community readiness does not produce representative quantitative data along a stages of community readiness model, nor does it present community readiness scores. This was due to our specific study aim focusing on in-depth knowledge about the readiness of the selected community in regard to PA. A quantitative analysis of community readiness scores could be added in a follow-up study to complement the qualitative data. Community readiness assessments include that stakeholders and key-persons from a local community provide answers from their individual point of view [key informant method (Edwards *et al.*, 2000)]. Although we exceed the number of interviews per community recommended in the literature (Plested *et al.*, 2006), the participants' answers might still not have comprehensively displayed the community's readiness toward health interventions on PA.

Moreover, the key informant method is not representing community minorities or subgroups in the

sample, but focuses on central representatives of the major community groups, and thus does not map local variety in ethnicity in the selection of interview partners. Communities with migrant background were not represented in our study sample, even though the selected community included a variety of subgroups with migrant background. The engaged volunteers for study participation mostly represented the long-established citizens of the community. Yet, we achieved the inclusion of different and numerous interview partners which helped to obtain a multi-faceted picture, and the semi-standardized data collection method could provide rich data material that contributed to a broad understanding of the specific community characteristics.

CONCLUSION

Our study was able to contribute (i) to research assessing community readiness for change with a qualitative in-depth approach; (ii) specifically looking into the health issue of PA in older men and (iii) providing some preliminary evidence how the readiness assessment supported and improved the cooperative intervention planning.

The results displayed that the assessed community showed some extent of readiness for change regarding PA. The data supported that the community disposed of a variety of facilitators and resources regarding PA. However, a certain degree of saturation regarding PA programs existed. The qualitative assessment of community readiness proved useful for evaluating the preconditions for a following Cooperative Planning approach aiming at the development of a participatory and gender-sensitive PA intervention in the selected community, and additionally informed a best practice approach for promoting PA in men aged 50 years and older. This created an opportunity for improved tailoring of a PA intervention to suit the specific community characteristics. Overall, there is potential to enhance the intervention effectiveness when using qualitative instruments to measure community readiness prior to health promoting interventions.

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