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REVIEW



Physical activity experiences of community-dwelling older adults with physical disabilities: a scoping review of qualitative research

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ABSTRACT

Purpose: The aim of this review was to synthesise qualitative literature on physical activity experiences of community-dwelling older adults with physical disabilities.

Methods: We conducted a scoping review of peer-reviewed, qualitative studies on physical activity with community-dwelling older adults with physical disabilities. We analysed eligible studies identified through electronic database searches (CINAHL Complete, MEDLINE, SPORTDiscus) and manual searches undertaken up to June 2023.

Results: Twenty-eight articles with 306 participants were included. As regard the *experience of physical activity*, although physical activity could elicit pleasure and enjoyment, many reported that physical activity sometimes produced pain. Various *outcomes of physical activity* were reported, with several physical, psychological, social, and lifestyle benefits prominent. Analyses of *barriers* and *facilitators* demonstrated how intrapersonal, interpersonal, environmental, and systems and programme factors influenced physical activity participation among older adults with physical disabilities.

Discussion: Our findings contribute to literature on physical activity in older adults with physical disabilities by synthesising qualitative research on physical activity experiences, outcomes, barriers, and facilitators in this population. Findings demonstrate the need for knowledgeable and supportive healthcare and exercise professionals, environments that support physical activity, and activities that promote pleasure and social connections.

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KEYWORDS

Disability; ageing; mobility limitation; enjoyment

► IMPLICATIONS FOR REHABILITATION

- Physical activity is perceived to have wide-ranging benefits for community-dwelling older adults with physical disabilities.
- Various intrapersonal, interpersonal, environmental, and systems and programme barriers constrain physical activity in physically disabled people.
- Knowledgeable and supportive healthcare and exercise professionals, accessible environments, and activities that promote pleasure and social connections could enhance engagement in physical activity.


Introduction

Engagement in physical activity can be beneficial for physical health and psychosocial wellbeing for disabled people [1,2]. Furthermore, physical activity can improve disabled peoples' quality of life and functional independence [3], expand social networks [4], and promote positive affective states [5]. Despite the well-documented benefits of physical activity, disabled people are less physically active than non-disabled people [1,6,7]. Reasons for lower levels of physical activity among disabled people are complex, but barriers to physical activity can include intrapersonal (e.g., psychological factors), interpersonal (e.g., social support), environmental (e.g., facilities), and policy-level (e.g., health policies) factors [8,9]. Consequently, there is a need to address inequalities and inequities, and possible barriers, to increase physical activity and quality of life among disabled people.

The quantity of people with disabilities increases with age, and older people are represented disproportionately in disabled

populations [10]. In the United Kingdom, for example, the most recently reported assessment of household circumstances (2020/2021) indicated that at least one-third of older adults (≥ 65 years old) in various age groups (65–69 years old = 35%; 70–74 years old = 39%; 75–79 years old = 43%; 80+ years old = 59%) reported a disability, a figure that was considerably higher than younger adults (21%) and children (8%) [11]. Furthermore, the United Nations [12] estimate that more than 46% of older adults globally have a disability. Although a significant proportion of disabled people are insufficiently active across all age groups, the prevalence of those not meeting physical activity guidelines is greatest among older adults [7]. With rapid growth expected in the numbers of disabled people [13] and older adults [14] in the global population in the coming decades, there is an urgent need for effective policies and practices that support engagement in physical activity. Ultimately, more effective strategies will increase the number of disabled older adults that can accrue the many physical and psychosocial benefits physical activity can offer.

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Although significant attention has been directed towards quantifying physical activity in disabled people, in recent years there has been increased recognition of the need to consider the *quality* of disabled peoples' participation experiences in physical activity [15]. Within the context of physical disability, full participation in physical activity does not solely concern having access to relevant opportunities and programmes, it also entails having quality experiences [16]. Following a systematic, configurative review of experiential characteristics of 'participation' (i.e., involvement in life situations) [17], Martin Ginis et al. [16] proposed six characteristics of quality participation experiences in disabled people: autonomy; belongingness; challenge; engagement; mastery; and meaning. Programme conditions that can facilitate such quality participation experiences include group-based programmes for people with similar disabilities, which can bring a sense of belonging and foster mastery, as well as exercise leaders that have strong physical activity and disability-specific knowledge [18].

With increased attention being directed towards the quality of disabled peoples' experiences in physical activity, further exploration of the experiences of disabled older adults in physical activity is warranted. To date, existing reviews of literature on aspects of disabled adults' experiences in physical activity (e.g., barriers, facilitators, experiences) have combined middle-aged and older adult samples [2,18,19]. Questions remain, however, about physical activity experiences specifically among older adults. Given that a broad range of factors influence physical activity engagement [9] and differences exist in physical activity levels between middle-aged and older disabled adults [7], it is important to direct further attention towards the participation experiences of older adults, as well as barriers and facilitators, which may vary across the lifespan.

The most prevalent disability reported among older adults is physical disability [11]. Thus, interventions designed to promote physical activity among this group could have the potential for wide reach. To develop alternative and improved interventions to promote physical activity for older adults with physical disabilities, it would be valuable to explore current understanding of their lived experiences of engaging in physical activity and factors that influence participation. One way to achieve this is to systematically map and summarise the available qualitative literature on this topic through a scoping review [20]. A scoping review of qualitative literature on the physical activity experiences of older adults with physical disabilities could make a valuable contribution to the literature as previous reviews of qualitative research have combined older adults with adults in early and middle adulthood [2,21]. Although such reviews can be valuable, by focusing specifically on qualitative research pertaining to older adults with physical disabilities, this could provide more granular insights into experiences of physical activity among this population and specific factors that influence engagement. In turn, this could provide a more robust platform to improve policy, practice, and interventions designed to promote physical activity among older adults with physical disabilities in future.

Purpose of the review

In this scoping review, we aimed to systematically map and summarise the available qualitative literature on physical activity experiences of community-dwelling older adults with physical disabilities. The overarching review question was: *What is known from qualitative evidence about physical activity experiences in older adults with physical disabilities?* In addressing our overarching research question, our specific objectives were to: (1) describe

experiences in physical activity of community-dwelling older adults with physical disabilities; and (2) identify factors that influence participation in this population.

Method

Review protocol

We used the 5-step framework for scoping reviews [22] and suggestions for enhancing this framework [23,24] to address our objectives. Our review was reported in accordance with the PRISMA Extension for Scoping Reviews [25] (PRISMA-ScR; see [Supplementary File 1](#)). The review protocol was deposited on the Open Science Framework website (<https://osf.io/bdegr/>) before the first database searches in June 2022. We updated the protocol in June 2023 to accommodate additional search terms.

Identifying relevant studies

To be included in the review, studies needed to be: (a) original, empirical studies containing qualitative data; and (b) present data on physical activity in community-dwelling older adults (defined as 65 years or over) with a physical disability or physical/mobility impairment. For studies that combined older adults with younger people, we included a study if the mean age for participants was ≥ 65 years old, or specific data pertaining to older adults could be identified and extracted (e.g., quotations). Physical activity was defined as any bodily movement produced by skeletal muscles that requires energy expenditure [26]. Thus, studies focused on sports participation, physical activity, exercise, or any equivalent were included. Studies were excluded if: (a) they were not written in the English language; (b) recruited participants living in an acute or long-term care setting or a population with a specific condition (e.g., stroke, Parkinson's disease) in which there was no explicit evidence of a physical/mobility impairment or disability; or (c) if they focused on rehabilitation (e.g., from a hip fracture) and did not make explicit reference to long-term physical/mobility impairment or disability. In studies with older adults with Parkinson's disease, if the authors reported data classifying the symptoms of the disease based on Hoehn and Yahr's [27] scale, we included participants that were classified as being at stage 3 of the disease or higher, as this is indicative of at least "mild-to-moderate" (p. 433) impairment.

Study selection

The search strategy was developed by the first author, who had extensive experience of conducting database searching, in consultation with the other authors. The search terms were shaped by previous reviews of research with disabled people [21] and pilot searches. The first author conducted systematic searches of three electronic databases (CINAHL Complete; MEDLINE; and SPORTDiscus) on three occasions (June 2022-June 2023), with the final search conducted on June 30th, 2023. Adopting principles from the SPIDER heuristic [28], the search string included five blocks of Boolean search terms (see [Supplementary File 2](#)) related to the: Sample (physical disability and older adults); Phenomenon of Interest (physical activity); Research Design and Type (qualitative and mixed methods studies including qualitative research); and Evaluation (experience and other relevant terms). Where possible, additional subject terms (e.g., Medical Subject Headings [MeSh] in MEDLINE, Descriptors in PsycINFO) were also used (see

Supplementary File 2 for full electronic database searches for each database). All searches were limited to records published in the English language. Additional records were identified through manual screening of the reference list of more than 10 past reviews focused on disability and physical activity (see **Supplementary File 2**), as well as screening titles of backward and forward citations (Google Scholar) for studies included in the review. All records identified through these search processes were exported to EndNote X9. We removed duplicates through the automatic de-duplication feature and manual screening. All members of the research team engaged in some stage of the screening process. Each record was screened independently by two of these authors at the title and abstract stage. Once the decisions reached by each author were compared, a meeting took place to resolve any discrepancies. The remaining records were checked for eligibility at full text by two authors independently. After completing this process, both authors met to discuss their decisions, resolve any discrepancies, and agree reasons for excluding articles at the full-text stage. In the event of any uncertainties, a third author was consulted and contributed to the decision making.

Data charting

We developed a data charting table collating information relevant to the review. The data charting table included information on the: authors; publication year; study objectives; study design; study characteristics; sample characteristics; physical activity protocol (e.g., type, dose, intensity, duration, setting, supervision); and theoretical framework/topic of interest. Data were extracted and cross-checked by two authors (PJ and GM).

Collating, summarising, and reporting results

We followed the 3-step process recommended by Levac et al. [24] for collating, summarising, and reporting results of scoping reviews. First, the lead author led a content analysis [29] to summarise all qualitative data (i.e., author interpretations, participant quotes, tables, figures) in the results or findings of included studies pertaining to experiences of older adults with physical disabilities in physical activity. The remaining authors, all of whom had different disciplinary expertise (e.g., public health, sociology, health and social care) and/or practical experience (e.g., as physical activity professionals), acted as 'critical friends' [30] and provided additional and alternative perspectives on the first author's interpretations through regular meetings of the research team. Second, findings generated from the included studies were organised and reported in accordance with our research questions. Finally, we considered the overall meaning of the results in relation to our research question and the implications of this for research and practice. This process was enhanced by discussing our findings with individuals with relevant lived experiences (e.g., older citizens, healthcare professionals) prior to submitting for peer review.

Results

In total, 5951 records were retrieved through our database and manual searches, with 28 articles meeting our eligibility criteria being included in the review (see **Supplementary File 3** for full screening process outcomes). In the following sections, we first describe the included studies, before summarising the key findings. The synthesised charting form detailing contextual information for all studies is presented in **Table 1**.

Description of included studies

Study design characteristics

The primary objective in most studies could be broadly classified as seeking to understand perceptions and experiences of physical activity ($k=19$) or factors influencing participation in physical activity (e.g., barriers, enablers/facilitators/motivators) ($k=9$). Seven studies reported a theoretical framework. Data were collected across the included studies via interviews ($k=21$), focus groups ($k=5$), or a combination of the two ($k=2$). Data were most commonly analysed using thematic analysis ($k=11$) and content analysis ($k=5$).

Participant characteristics

Of the 306 eligible participants in the included studies, their gender or sex was reported as female ($n=160$), woman ($n=41$), male ($n=75$), or man ($n=17$). Only 13 of the 15 participants in the study by McKeivitt et al. [52] were eligible and while specific information on gender for these participants were not reported, 80% of the overall sample were female. The studies took place in 11 developed countries, with the highest number taking part in the United Kingdom ($k=8$), New Zealand ($k=4$), and Canada ($k=3$). Most studies recruited participants with some form of arthritis ($k=17$). Other participants were reported to have physical impairments due to Parkinson's disease ($k=3$) or had lower-limb amputations ($k=2$).

Physical activity characteristics

Most studies explored participants' experiences of physical activity *in general* ($k=12$) or in a specific exercise programme that involved strength, functional movement, or balance training ($k=12$). Other studies included water-based programmes ($k=3$) or dance ($k=1$).

Narrative summary of findings

Based on our analysis of content reported within studies included in our review, we structured the main findings into four domains: *experience of physical activity*, which captured content interpreted as representing the experiences of participants *during* physical activity; *outcomes of physical activity*, which focused on perceived consequences of engaging in physical activity (i.e., after the activity); *barriers to physical activity*; and *facilitators of physical activity*. Drawing on social-ecological perspectives of health promotion [56], we organised our analyses of barriers and facilitators to physical activity into four categories: intrapersonal factors; interpersonal factors; environmental factors; and system and programme factors. **Figure 1** provides a visual representation of findings for which there was cross-study evidence (i.e., \geq two studies). Sources for findings presented in the following sections are detailed in **Supplementary File 4**.

Experience of physical activity

Content concerning the experience of physical activity was divided into negative and positive aspects of the physical activity experience. For each of these, we present evidence in relation to three categories (italicised in the text): (a) affective and sensory dimensions, (b) cognitive dimensions (i.e., how people think, including social cognition), and (c) social dimensions (i.e., interactions between individuals and groups) of the physical activity experience.

Positive aspects of the physical activity experience. Regarding the positive *affective and sensory dimensions of the physical activity*

Table 1. Extracted information on the included studies.

Authors (year)	Study objective(s)	Theoretical framework	Location	Physical/mobility impairment	Participant characteristics <i>M</i> age, <i>SD</i> (range reported)	PA protocol (e.g., type, dosage, intensity, duration, setting, supervision)	Data collection	Data analysis
Bearne et al. [31]	To explore participants' experiences of Education, self-management and upper extremity exercise Training for people with Rheumatoid Arthritis (EXTRA)	Social-cognitive theory	United Kingdom	Rheumatoid arthritis	5 ^a (4 female, 1 male) 73.40	Personalised home exercise regimen supplemented with four supervised, group education, self-management and upper extremity exercise sessions, a patient handbook and exercise diary	Interview	Thematic analysis
Bennett et al. [32]	To explore participants' perceptions of in-person and virtual The Parkinson's Wellness Recovery program (PWRIMoves) and capture barriers to participating in a PDEx program	Not reported	USA	Parkinson's disease	9 (5 female, 4 male) 74.7	Twice-weekly, supervised classes that incorporated high-amplitude movements in multiple functional positions repetitively and independently in a group setting	Focus group	Thematic analysis
Bergland et al. [33]	To explore why older home dwelling women over the age of 70 years or more spend time on group exercise and their experiences of the importance of group exercise for their daily life	Cultural capital	Norway	Osteoarthritis	5 ^a (4 female, 1 male) 75.80	Supervised, twice weekly, 60-minute group exercise classes that provide functional training (weight bearing resistance, balance and stretching exercises, incorporating dancing steps and movements)	Interview	Inductive content analysis
Crowley and Kennedy [34]	To identify barriers to exercise in rheumatoid arthritis; to identify facilitators to exercise and methods to increase compliance in this population	Not reported	Ireland	Rheumatoid arthritis	12 (12 female) 70.83	Sample recruited from an open invite through regional branches of an arthritis organisation. Participants cited exercise experiences.	Focus group	Thematic content analysis
de Groot and Fagerström [35]	To describe the motivating factors and barriers for older adults on adherence to group exercise in the local community.	Not reported	Norway	Two or more chronic diseases, with reduced physical functioning	10 (5 female, 5 male) 5/10 had continued exercise in the community after hospital. 83 (71 – 91) years	Exercises were designed to target strength and balance to prevent falls. Participants exercised in groups twice a week in the hospital (first 3 months) and then were invited to community venues (next 3 months); classes were led by physiotherapists (for 6 months)	Interview	Descriptive analysis
Dohrn et al. [36]	To describe perceptions and experiences of PA and the factors that influence habitual PA among older women with osteoporosis, impaired balance, and fear of falling	Not reported	Sweden	Osteoporosis and impaired balance	18 community-dwelling women; classified themselves as active and healthy despite diagnosis 76.5 (66–86)	12-week balance training programme (<i>n</i> = 15) or control (<i>n</i> = 3); describe walking, yoga, sitting gymnastics, walking	Interview	Thematic content analysis
Evans et al. [37]	To explore the process of how community-dwelling survivors of stroke commit to exercise participation following discharge from formal rehabilitation	Not reported	Canada	Balance and mobility impairments following stroke	3 ^a (2 female, 1 male) 82.33 (69–89)	Sample recruited from an open invite to community-dwelling survivors of stroke engaged in exercise outside rehabilitation	Interview	Grounded theory
Fisken et al. [38]	To provide insight into the factors contributing to older adults with osteoarthritis ceasing participation in an aqua-based exercise program.	Not reported	New Zealand	Osteoarthritis	11 (11 female) 69.3 ± 4.0	Aqua-based exercise; participants did not maintain participation in this form of activity	Focus group	Inductive thematic analysis
Gay et al. [39]	To investigate the practice of general PA to gain insight into all the possible forms of PA practiced by osteoarthritis participants	Not reported	France	Osteoarthritis	27 (17 women, 10 men) 67.52	Sample recruited from spa therapy resorts. Participant's self-reported metabolic task equivalent estimation	Interview and focus group	Thematic analysis

Hammer et al. [40]	To examine the contribution of self-efficacy in the understanding of the post-intervention experiences of PA maintenance	Self-efficacy theory	Denmark	Osteoarthritis	15 (8 female, 7 male) (65–74)	12 months after supervised, group-based strength training, or supervised, supervised group-based Nordic Walking or unsupervised home-based exercise programme as part of a randomised controlled trial	Interview	Content analysis
Hendry et al. [41]	To examine the views of primary care patients with osteoarthritis of the knee towards exercise, to explore factors that determine the acceptability and motivation to exercise and to identify barriers that limit its use in primary care consultations	Not reported	United Kingdom	Osteoarthritis	12 ^a (7 female, 5 male) 72.5	Part of the sample was recruited from community exercise schemes. Participants cited exercise experiences.	Interview	Not stated: refers to coding, themes and categories
Hunt and Papatthomas [42]	To explore participants' broad experiences of exercise and arthritis	Not reported	United Kingdom	Arthritis	8 ^a (7 female, 1 male) (65–79)	Sample recruited from an open invite to individuals with arthritis. Participants cited exercise experiences.	Life-story interview	Thematic analysis
Jayakaran et al. [43]	To explore the attitudes of individuals with a below-knee amputation towards PA	Not reported	New Zealand	Below-knee amputation	7 (7 male) 65.15 (58–79)	Sample recruited from an open survey invite to amputees	Interview	General inductive approach
Kanavaki et al. [44]	To understand how PA and sedentary behaviour are actualised and experienced in the daily lives of people living with knee and hip rheumatoid arthritis and how these link to people's sense of well-being	Social-cognitive theory	United Kingdom	Osteoarthritis	3 ^a (2 women, 1 man)	Sample recruited from an outpatient clinic	Interview	Inductive thematic analysis
Kunkel et al. [45]	To explore the views and experiences of people with Parkinson's and their dance partners to identify factors that may influence the benefits and enjoyment whilst participating in partnered ballroom and Latin American dance classes	Not reported	United Kingdom	Parkinson's disease (Hoehn & Yahr stage 3+)	8 ^a (4 female, 4 male) 74.25	10-week programme consisting of twice-weekly ballroom and Latin American dance classes taught by professional instructors	Interview	Framework analysis
Lange et al. [46]	To explore aspects of participation in moderate- to high-intensity exercise with person-centered guidance influencing the transition to independent exercise for older adults with rheumatoid arthritis	Not reported	Sweden	Rheumatoid arthritis	16 (11 female, 5 male) 70.6 (67–76)	Moderate-to-high-intensity exercise intervention with person-centred guidance in gym settings	Interview	Content analysis
Larmer et al. [47]	To explore the perceived benefits of hydrotherapy from a patient's perspective	Not reported	New Zealand	Osteoarthritis	13 ^{a,b} (56–80+)	Hydrotherapy programme in the local area.	Focus group	General inductive approach
Law et al. [48]	To describe the perceptions of the effects of exercise on joint health among rheumatoid arthritis patients	Not reported	United Kingdom	Rheumatoid arthritis	9 ^a (4 female, 5 male) 67.89 (65–76)	Circuit-based exercise programme at a local hospital	Focus group	Content analysis
Lee et al. [49]	To explore older adults with knee osteoarthritis' perceptions and experience of an exercise programme	Not reported	Hong Kong	Osteoarthritis	51 (4 female, 1 male) 75.20	Low-to-moderate intensity, home exercise regimen consisting of range of motion, stretching, and strengthening exercises, to be performed daily, with four 1-h weekly supervised group sessions	Interview	Content analysis
Lee et al. [50]	To explore the barriers and facilitators to PA in individuals living with LLA	Theoretical domains framework	Canada	Lower limb amputations	3 ^a (3 men) 68.33	Participant's self-reported metabolic task equivalent estimation.	Interview	Thematic analysis

(Continued)

Table 1. Continued.

Authors (year)	Study objective(s)	Theoretical framework	Location	Physical/mobility impairment	Participant characteristics M age, SD (range reported)	PA protocol (e.g., type, dosage, intensity, duration, setting, supervision)	Data collection	Data analysis
Maier and Salsbury [51]	To understand older adults' perceptions toward the worthwhileness of treatment for chronic spinal disability in general and how study treatments were viewed as beneficial or not for these conditions	Not reported	USA	Spine-related conditions	50 (34 female, 16 male) 68	Supervised exercise sessions (in combination with chiropractic spinal manipulations)	Interview	Template analysis
McKevitt et al. [52]	To investigate how people with osteoarthritis experience PA in the context of comorbidity, and how best to support people with osteoarthritis and comorbidity to be more active	Not reported	United Kingdom	Osteoarthritis	13 (11 female, 2 male) 74.9	Sample recruited from community groups	Interview	Thematic analysis
Moody et al. [53]	To explore the benefits and gain insight into motivating older adults in the delivery of the group water-based exercise classes	Not reported	New Zealand	Osteoarthritis	17 (13 female, 4 male) (68–89 years)	Water-based exercise programme as part of a randomised controlled trial	Focus group and interview	General inductive approach
O'Brien et al. [54]	To explore the positive and negative aspects and outcomes of a progressive resistance strength training programme for adults with Parkinson's disease	Phenomenological theoretical framework	Australia	Parkinson's disease (Hoehn & Yahr stage 3+)	3 ^a 71.33	Participants who completed a 10-week progressive resistance strength training programme, which involved two supervised group sessions weekly and one individual session at home (sessions < 60 min)	Interview	Grounded theory
Petursdottir et al. [55]	To increase knowledge and understanding of the experience of exercising among individuals with osteoarthritis and to determine what they perceive as facilitators and barriers to exercising	Not reported	Iceland	Osteoarthritis	12 (9 female, 3 male) (50–81)	Sample recruitment and inclusion criteria involved ascertaining previous exercise experiences from participants.	Interview	Phenomenological analysis
Stødle et al. [56]	To highlight what motivates older people to participate and adhere to group exercise programmes in local community settings	Salutogenic framework	Norway	Various disease states and physical functional issues	7 (3 men, 4 women) 81–92 years	Supervised strength and balance retraining programme in the community	Interview	Phenomenological analysis
Stone and Baker [57]	To explore facilitators and barriers toward regular PA participation	Not reported	Canada	Osteoarthritis	3 ^a (2 female, 1 male) 74	Sample recruited from an open invite to people with arthritis	Interview	Thematic analysis
Thomas et al. [58]	To explore the experiences, perspectives and strategies employed by people with rheumatoid arthritis who are successfully engaging with regular PA	Not reported	United Kingdom	Rheumatoid arthritis	5 ^a (3 female, 2 male) 65–84	Open invite to individuals with rheumatoid arthritis diagnosis and who undertook PA for ≥ 30 min on ≥ 3 days weekly	Interview	Inductive thematic analysis

^aOnly data for eligible participants presented in the research article were included.

^bGender breakdown for the overall sample (n = 15) was 12 females and three males. Although the older adults in the sample could not be identified, the average age would have exceeded 64; PA: physical activity.

<i>Experience of physical activity</i>		
<i>Negative aspects of experience</i>		<i>Positive aspects of experience</i>
<ul style="list-style-type: none"> • Pain and discomfort (7) • Boredom (4) • Lack of fun (2) • Lack of enjoyment (2) 	Affective and sensory dimensions of physical activity experience	<ul style="list-style-type: none"> • Enjoyment (6) • Respite from pain (4) • Pleasure (3)
<ul style="list-style-type: none"> • Feel a lack of capability in exercise classes (3) 	Cognitive dimensions of physical activity experience	<ul style="list-style-type: none"> • Feel capable of being physically active (2)
	Social dimensions of physical activity experience	<ul style="list-style-type: none"> • Feel a sense of community / belonging / relatedness (3) • A positive social experience (2)
<i>Outcomes of physical activity</i>		
<i>Negative outcomes of physical activity</i>		<i>Positive outcomes of physical activity</i>
<ul style="list-style-type: none"> • Adverse physical consequences (3) • Adverse psychological outcomes of physical activity (3) 		<ul style="list-style-type: none"> • Perceived physical benefits (18) • Perceived psychological benefits (14) • Social benefits (9) • Lifestyle benefits (8)
<i>Factors influencing physical activity</i>		
<i>Barriers to physical activity</i>		<i>Facilitators of physical activity</i>
<ul style="list-style-type: none"> • Psychological factors (16) • Physical health / functioning issues (14) • Lack of knowledge on physical activity (3) • Scheduling difficulties (3) 	Intrapersonal level	<ul style="list-style-type: none"> • Psychological factors (18) • Physical improvements (5) • Self-management strategies (10)
<ul style="list-style-type: none"> • Lack of support (4) 	Interpersonal level	<ul style="list-style-type: none"> • Feeling socially supported (10) • Sense of belonging / community with group (8) • Observing others' success (3) • Having a spouse that can be active with you (2)
<ul style="list-style-type: none"> • Financial cost (6) • Transportation issues (6) • Issues with facilities (4) • Weather conditions / season (4) • Concerns for safety in environment for/near physical activity (2) 	Environmental level	<ul style="list-style-type: none"> • Access to transport (4) • Access to environment to support physical activity (3) • Weather conditions that enable outdoor physical activity (2)
<ul style="list-style-type: none"> • Perceived lack of support for physical activity from healthcare / exercise professionals (8) • Lack of appropriate physical activity programmes (5) • Lack of knowledge among exercise professionals (2) 	System and programmes level	<ul style="list-style-type: none"> • Knowledgeable and supportive healthcare / exercise professionals (16) • Adaptable / tailored physical activity programmes (8) • Accessible and convenient physical activity opportunities (3) • Group physical activity programme (2)

Figure 1. Summary of findings for each category in the scoping review. Note: The numbers indicate the total amount of sources for each finding.

experience, four studies described how the experience of physical activity evoked pleasure. For some, this feeling of pleasure was attributed to exercising in a group [35] or relaxation of the mind [59], while aqua-based movement was also described as a pleasant form of physical activity for those with arthritis [38,42]. Participants across several studies reported that physical activity was enjoyable ($k=6$) and that being physically active provided respite from pain ($k=4$). For *cognitive dimensions of the physical activity experience*, two studies reported that participants felt capable of being physically active. Finally, positive *social dimensions of the physical*

activity experience included that group physical activity was a positive social experience ($k=2$) and that this type of physical activity fostered a sense of belonging and relatedness ($k=3$).

Negative aspects of physical activity experience. Pain and discomfort were widely reported ($k=7$) as unpleasant *affective and sensory dimensions* of the physical activity experience. Within this category, there was also cross-study evidence that physical activity could be boring/tedious ($k=4$) or lacking in fun ($k=2$) or enjoyment ($k=2$). The most commonly-reported negative *cognitive*

dimension of the physical activity experience was feeling a lack of capability in exercise classes ($k=3$). This represented how participants felt less capable of performing certain exercises or how they struggled to “keep up” with the remainder of a group. Only one study reported negative *social dimensions of the physical activity experience*. Lange et al. [46] reported that participants felt some individuals might not feel connected to others in a physical activity programme, but also outlined that some preferred exercising individually.

Outcomes of physical activity

Positive outcomes of physical activity. A range of positive outcomes of physical activity were reported across the included studies. *Perceived physical benefits* of physical activity were reported in 18 studies. Such physical benefits included perceived improvements in physical function/fitness ($k=11$) and physical health ($k=5$), as well as the soothing of pain, which was reported specifically in older adults with arthritis ($k=5$). *Psychological benefits* of physical activity included that it contributed to improved perceptions of mental health and wellbeing ($k=10$) and increased/maintained confidence ($k=6$), primarily to be more active ($k=5$). Other less-frequently identified psychological benefits were that physical activity can be a distraction from one's condition ($k=2$) and can elicit positive changes in attitude ($k=2$). *Social benefits* of physical activity participation, reported across nine studies, included that group physical activity could be an opportunity for social interactions ($k=7$) and could reduce feelings of isolation ($k=4$). Eight studies also reported *lifestyle benefits* because of physical activity, with cross-study evidence that engaging in physical activity could make activities of daily living easier ($k=3$).

Negative outcomes of physical activity. Although outcomes of physical activity were overwhelmingly positive, some negative consequences were reported. In terms of *adverse psychological outcomes*, for some, physical activity evoked unpleasant emotions ($k=3$), such as feelings of guilt, due to not being active enough, and frustration, due to being given sub-optimal physical activity information and feeling physical activity was a chore. Some participants explained that a by-product of the process of partaking in physical activity was the stress of organising and waiting for transport [35]. The most common *adverse physical consequence* was pain following physical activity ($k=2$).

Barriers to physical activity

Intrapersonal factors. *Psychological barriers* to physical activity were reported across 16 studies. Widely-cited psychological barriers included lack of motivation ($k=7$), fear of falling or concerns about safety ($k=6$), and a perceived lack of capability/confidence ($k=5$). In addition, there was evidence across multiple studies that poor mental health ($k=3$), unpleasant past experiences in physical activity ($k=3$), mental fatigue ($k=2$), and fear of pain during/after physical activity ($k=2$) represented barriers to physical activity. *Physical health/functioning barriers*, reported across 14 studies, most commonly encompassed reduced/ill health ($k=9$), physical function limitations due to condition ($k=8$), pain and injury ($k=7$), and limited energy and fatigue ($k=4$). Two studies also reported evidence that risk of medical complications/side effects of medication were barriers. Other intrapersonal issues of note included *scheduling difficulties* ($k=3$) and *lack of knowledge about physical activity* (e.g., whether it is appropriate or not) ($k=3$).

Interpersonal factors. Four studies reported factors classified as interpersonal barriers to physical activity. The only interpersonal barrier for which there was cross-study evidence was a perceived lack of support ($k=4$), which could be due to inadequate personal support networks or due to not having an exercise partner.

Environmental factors. Twelve studies reported environmental barriers to physical activity. *Financial cost* ($k=6$) and *transportation issues* ($k=6$) were the most widely-reported barriers. Environmental barriers also pertained to *issues with facilities* (e.g., lack of accessible, user-friendly facilities - $k=4$) and *weather conditions/season* ($k=4$), such that cold temperatures, poor weather, and darkness in winter constrained physical activity. *Concerns for safety* in the environment for physical activity or near a physical activity facility were also reported ($k=2$).

System and programme-level factors. Eleven studies reported barriers to physical activity that could be classified as pertaining to systems and programmes (e.g., programme content and personnel). A consistent issue identified was a *perceived lack of support for physical activity from healthcare/exercise professionals* ($k=8$). This sub-category was epitomised by a lack of advice/guidance, and sometimes conflicting messaging, from healthcare professionals about physical activity. Other barriers at the system and programme levels included a lack of appropriate physical activity programmes ($k=5$) and limited disability-specific knowledge among exercise professionals ($k=2$).

Facilitators to physical activity

Intrapersonal factors. A total of 21 studies reported intrapersonal facilitators for physical activity. *Psychological factors* were most commonly cited ($k=18$), with prominent facilitators reported including a motive to preserve health and functional independence ($k=10$), pleasure and enjoyment of physical activity ($k=6$), and developing knowledge-capability and self-efficacy ($k=3$). Participants also reported the benefits of *self-management strategies* ($k=10$), with physical activity facilitated by being careful and taking precautions, and making physical activity part of one's day and/or routine. Perceiving *physical improvements* (e.g., improved functioning, reduced pain) also supported physical activity ($k=5$), with such improvements holding the potential to motivate participants.

Interpersonal factors. Eighteen studies reported interpersonal facilitators of physical activity. Feeling *socially supported* was a widely reported facilitator ($k=10$), with such support stemming from friends, family, and peers (i.e., as part of a physical activity group). Similarly, the positive impact of *feeling a sense of belonging/community* within a physical activity group was reported across eight studies. A common thread within this sub-category was the perception among participants that being part of a homogenous group of people (e.g., people with similar impairments or conditions) enabled participants to feel as though they had similar capabilities to other participants and that this also provided an opportunity for them to benefit from mutual support due to their shared experiences. Participants also spoke of the benefits of *observing others' success* ($k=3$) and *having a spouse that can be active with you* ($k=2$).

Environmental factors. Environmental facilitators to physical activity were reported in 11 studies. Four studies also reported that having *access to transport* was a facilitator of physical activity.

There was cross-study evidence of the benefits of *access to environments structured to support physical activity* ($k=3$) and *weather conditions that enable outdoor physical activity* ($k=2$).

System and programme-level factors. A total of 20 studies reported factors that could facilitate physical activity and were categorised as being at system and programme levels. The importance of *knowledgeable and supportive healthcare and exercise professionals* to facilitate physical activity was widely reported ($k=16$). Participants consistently acknowledged the importance of working with knowledgeable and trained professionals, who provided individualised support that accounted for the specific needs of participants, including through adapting activities. Moreover, a further facilitator of physical activity cited was *adaptable/tailored physical activity programmes* ($k=8$). Multiple studies highlighted the importance of tailoring physical activity to the individual and implementing safe and effective guidelines specific to the person (i.e., age, condition). Other facilitators of physical activity included having *accessible* (e.g., indoors in winter) and *convenient* (i.e., time) *physical activity options* ($k=3$) and/or those that involved *group physical activity* ($k=2$).

Discussion

The aim of this review was to systematically map and summarise the available literature on physical activity experiences of community-dwelling older adults with physical disabilities. Our findings make a contribution to the corpus of literature on physical activity in older adults with physical disabilities by synthesising qualitative research on the experiences, outcomes, barriers, and facilitators to physical activity in this population. On the encouraging side, our review demonstrates a wide range of positive outcomes and experiential dimensions across the included studies, as well as a range of facilitators for physical activity. Less encouragingly, however, a range of barriers to physical activity were also reported, as well as negative outcomes and experiences of physical activity. Taken together, we identified intrapersonal-, interpersonal-, environmental-, and systems and programme-level factors that influence physical activity in community-dwelling older adults with physical disabilities. Similar to previous research [60], it is important to note, however, that barriers and facilitators to physical activity were not homogenous to all participants, nor fixed; rather, these were individualized (e.g., transport was a facilitator for some, but a barrier for others) and context-dependent (e.g., weather could be a facilitator at certain times of year, but a barrier at others). Based on our findings, we suggest several potential implications for policy and practice related to promoting physical activity in this population.

First, findings across the included studies demonstrate the need for knowledgeable and supportive healthcare and exercise professionals to facilitate physical activity among older adults with physical disabilities. Healthcare professionals are considered important and credible sources of information about physical activity for disabled people [61,62]. Nevertheless, several studies included in our review highlighted a lack of support for engagement in physical activity among some healthcare professionals as a barrier to physical activity. This reinforces the importance of suitable education and training for healthcare professionals to encourage physical activity in older adults with physical disabilities. As social workers can also act as a key messenger group for physical activity in disabled people [63], educating and training social workers who support older adults with physical disabilities could help to achieve greater impact [64]. In addition, the review emphasises the need for tailored physical activity support for older adults with physical

disabilities [18], which can help participants to feel more competent and ameliorate potential negative consequences of physical activity when it is not individually tailored (e.g., lack of pleasure). Furthermore, exercise professionals should be equipped with the appropriate knowledge to ensure they can optimally support physical activity in this population.

Second, our review demonstrates the need to assess and address environmental barriers to physical activity among older adults with physical disabilities. To open up opportunities for older adults with physical disabilities to be more physically active, cross-sectoral collaboration is needed to ensure that environmental planning (e.g., construction of facilities), transport (e.g., access to transport), and fiscal support (e.g., funding for physical activity programmes) is in place. There is a need, therefore, to ensure that agencies, organizations, groups, and individuals responsible for environmental planning and the construction of built environments are educated on how to create inclusive, accessible, and safe environments for physical activity and implement environmental and policy interventions to enable this. One of the most common concerns among older adults was fear of falling, of which physical impairments are a known risk-factor [65]. Built environments should be constructed to reduce fearfulness and increase perceptions of safety among older adults with physical disabilities. Furthermore, the provision of accessible and convenient indoor physical activity opportunities could be valuable during winter, as cold temperatures, poor weather, and darkness were identified as barriers to physical activity. In addition, healthcare professionals and exercise professionals should strive to ensure that participants can feel safe when being physically active, for example, through the provision of appropriate advice on physical activity and ensuring that activities are suitable to each individual's physical function capabilities. Close monitoring and adaptations to the participants' needs could also help to build confidence.

Third, our findings underscore the importance of pleasant experiences for promoting physical activity engagement in older adults with physical disabilities. In recent years, there have been calls to embrace approaches that emphasise hedonic dimensions (e.g., pleasure, enjoyment) of physical activity [66–68]. Furthermore, the importance of including hedonic dimensions in physical activity messaging is illustrated in co-produced infographics designed to communicate evidence-based guidelines for physical activity in disabled people in the United Kingdom [69,70] and South Africa [71]. Despite the importance of pleasure and enjoyment, there was consistent cross-study evidence in our review of unpleasant experiential aspects of physical activity, including boredom, lack of fun and enjoyment, and pain and discomfort, with overly-strenuous activities being problematic for some. Pleasure during physical activity (rather than after) is related to long-term engagement in physical activity [72] and pleasure and enjoyment were reported as facilitators of physical activity across multiple studies in our review. Therefore, physical activity programmes should be designed in a way that helps older adults with physical disabilities to maximise pleasure and minimise displeasure during physical activity, as such endeavours are more likely to elicit affective responses that forge associations that encourage future physical activity engagement [66]. Furthermore, efforts to promote physical activity in this population should also embrace hedonic rather than purely biomedical perspectives, ensuring that the pleasures of physical activity are emphasised.

Finally, our review demonstrates the importance of considering how social connections can be harnessed to promote physical activity, as well as other health-related outcomes, in older adults with physical disabilities. Aligned with the “social cure” strand of research on social determinants of health [73], our findings

demonstrate that social relationships, social interactions, social support, and feeling a sense of belonging within a group were generally reported as benefits and facilitators of physical activity. Furthermore, the findings demonstrated that strongly identifying with a group (e.g., a physical activity group with people that have similar disabilities) appeared to hold multiple benefits, including that it provided an outlet for social interactions and an opportunity for peer support. In recent years, there is growing interest in the social identity approach to promoting physical activity in groups [74], on the basis that identifying strongly with a group can influence one's thoughts, feelings, and behaviours (e.g., physical activity), and provide scaffolding to access social-psychological resources from within groups (e.g., social support, sense of belonging) [75]. Group membership in older adulthood is associated with better quality of life [76] and greater physical activity [77]. Furthermore, interventions that build social identities can reduce loneliness [78], a problem that is more common among disabled people [79] and thus more likely to lead to the negative physical and mental health consequences associated with loneliness in older adults [80]. Based on our findings, group-based physical activity programmes should be designed to strengthen positive social identities among older adults with physical disabilities, with the identity leadership approach [55] representing a promising strategy that could be utilised with this population in future. Nevertheless, it should be noted that some participants expressed a preference for engaging in physical activity on their own [46,55]. This emphasises the importance of considering barriers, facilitators, and experiences of physical activity as individualized and contextualized rather than as static and homogenous [see also 60].

Future research directions

Based on findings of our scoping review, we highlight several avenues for future research. First, our review demonstrated a general lack of methodological diversity, with studies generally using interviews or focus groups and forms of thematic or content analysis. Although such methods can, and have, been useful in contributing valuable understanding to date, expanding methodological horizons in this area could help to generate more diverse and innovative insights. For instance, researchers could consider the use of drawings [81], go-along interviews [82], photovoice [83], or ethnographic approaches [84]. Second, it was notable that none of the sampled populations were from developing countries. Physical inactivity levels are more prevalent in middle- and low-income countries [85] and estimated levels of physical disability are high (>50%) in low- and middle-income countries [86]. Further research is needed to better understand the physical activity experiences of older adults with physical disabilities in these regions. Third, studies in the review focus mainly on community-based physical activity (e.g., leisure centres, natural environments), but further research is also warranted to examine the feasibility, acceptability, efficacy, and safety of home-based physical activity interventions for older adults with physical disabilities. Furthermore, consideration should also be given to geographical factors (e.g., rural-urban, inland-coastal). Finally, we suggest that new opportunities to advance knowledge will also be opened up by working with older adults with physical disabilities to co-produce research [87].

Review strengths and limitations

The review's rigour was enhanced by: using established guidance for conducting and reporting scoping reviews; involving two

authors in the screening and selection of articles; and sharing our research with individuals with relevant lived experiences prior to submitting for peer review. Despite our efforts to improve rigour, several limitations should be noted. Studies published in the English language were only included. Thus, the review could be susceptible to language bias. Our review only included participants with physical impairments and, therefore, excluded participants with only sensory impairments or intellectual disabilities, for example. Finally, we acknowledge that some relevant participants were excluded due to being in mixed samples with adults aged 18–64, but as data attributable to older adults were not identifiable in those studies, it was not possible to include them.

Conclusions

By systematically mapping and summarising the available qualitative literature on physical activity in community-dwelling older adults with physical disabilities, our scoping review offers an overview of what is known about physical activity in this population based on qualitative evidence. Our findings illustrate that while physical activity is perceived to have wide-ranging benefits for older adults with physical disabilities, a range of barriers to physical activity and negative experiential dimensions and outcomes were reported. Findings demonstrate the need for knowledgeable and supportive healthcare and exercise professionals, environments that support physical activity, and activities that promote pleasure and social connections to enhance the physical activity experiences of older adults with physical disabilities.

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