**What are the barriers and facilitators to participation in active recreation for people with learning disabilities? A scoping review**

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***Summary***

* Active recreation can be a way of improving physical health and mental wellbeing for people with learning disabilities.
* Little is understood about the facilitators and barriers to participation in active recreation in people with learning disabilities.
* Findings from this scoping review indicate that people with learning disabilities can be supported to increase their participation in active recreation through use of person centred activities and recognising the importance of therapeutic relationships.

***Key Words:*** intellectual disability; active recreation; Model of Human Occupation; Social Ecological Model

**Abstract**

**Background:** Active recreation offers a source of meaningful and rewarding activities which are central to the wellbeing of people with learning disabilities; however, there are challenges to participation in active recreation that this population face. **Aim:** To provide a comprehensive overview as to the barriers for and facilitators to participation in active recreation for people with learning disabilities and inform future research priorities. **Method:** A scoping review following Arksey and O’Malley’s (2005) framework, reported using PRISMA-ScR guidelines. MEDLINE 1946 (Ovid), PsycInfo, CINAHL Complete (EBSCO), Scorpus, PubMed and Web of Science were searched. Data was extracted, charted and summarised from eligible studies by 2 reviewers. **Results:** Nineteen studies met inclusion criteria; they were synthesised using the Model of Human Occupation (Kielhofner 2008) and the Socio Ecological Model (Boulton, Horne and Todd 2017). Key barriers included: caregiver/coach knowledge and skill, caregiver resources, relational, environmental and individual barriers. Key facilitators included: positive relationships, cognitive and functional capacity, motivational incentives and policy and organisational factors. **Conclusions:** Participation in active recreation involves a complex interaction between individuals with learning disabilities , their carers, and their wider organisational and community networks. To fully understand these barriers and facilitators, we need to develop a greater understanding of the therapeutic relationship between a person with a learning disability and their carers, as a vehicle to facilitate and benefit from activity participation.

1. **INTRODUCTION**

Approximately 1.5 million people with learning disabilities (LDs) live in the UK (Office of National Statistics 2019). People with learning disabilities have a “significantly reduced ability to understand new or complex information and to learn new skills” and a “reduced ability to cope independently” (Department of Health 2001, page 14). Physical health problems are disproportionately greater for those with learning disabilities compared to the general population (NHS Digital 2019). As a case in point, obesity is twice as common as in the general population (Emerson et al 2016). In addition, 25-40% of people with learning disabilities are also reported to suffer with poor mental wellbeing (The Foundation for People with Learning Disabilities 2016).

Potentially effective approaches established in people without learning disabilities include exercise, diet and psychological supports (David 2016); however, people with learning disabilities do not fully engage in health education/information or health promotion programmes which place emphasis on healthy eating or exercise (Davis, Proulx and Van Schrojenstein Lantman-de Valk 2014). Firstly, many readily available dietary and exercised-based physical activities are commonly designed for the general population without readily available adjustments for those who cannot carry out certain activities independently (Cartwright et al 2016 and Anderson et al 2013). For example, the nature of someone’s disability and associated health conditions may make it difficult for them to communicate, make certain physical movements (Shields and Synnot 2016 and Carter and Swank 2014) or follow complex instructions (Department of Health 2009 and Turnbull et al 2005). In addition, disabled people are often oppressed and discriminated against, being bullied and teased, as well as being subject to negative attitudes in the general public and carers which can discourage people them from engaging in community and social involvement activities (Public Health England 2018; Shields and Synnot 2016 and Heslop et al 2013). Consequently, it is important that we explore alternative ways such as active recreation to supporting people with learning disabilities to increase their physical and mental well-being through participating in meaningful and rewarding activities.

*Active recreation* involves “energy expenditure” through enjoyable, interesting and fun activities, often contributing towards increasing physical activity (World Health Organisation 2018). Active recreation has been noted as a key determinant of wellbeing and as a way to address ongoing health challenges in the UK today (Public Health England 2018), by reducing both physical health disparities (Patience 2018) and mental illness vulnerability (Gravell 2012). Active recreation provides opportunities for social interaction, fulfilment and increased quality of life (Badia et al 2013), as long as it fits with a person’s interests and values, so that it becomes meaningful and rewarding (Shwarzenegger, Chrisman and Coleman 2005).

*Aim and objective*

To meet the physical and mental health needs of people with learning disabilities, we need to better understand what factors may hinder or enable the participation of people with learning disabilities in active recreation. Understanding these can help guide our support and care for this population. We will do this by identifying and summarising published research studies that can inform our understanding of active recreation for people with learning disabilities.

(What types of active recreation have been developed and evaluated for people with learning disabilities)

1. **METHODS**

**2.1****. Design**

We used a scoping review study design to determine the volume of existing literature on active recreation for people with learning disabilities and to understand how researchers have conceptualised, applied and evaluated active recreation for people with learning disabilities. Scoping reviews are used as a way of rapidly capturing the knowledge base in emerging topics, understanding concepts and methods, and identifying knowledge gaps (Munn et al 2018). Unlike a systematic review, a scoping review does not seek to answer questions around the feasibility or effectiveness of a certain treatment or practice (Liberati et al 2009); therefore a methodological cut-off (e.g. including only RCTs) and a quality appraisal of the included studies is not necessary. We used the scoping review framework developed by Arksey and O’Malley (2005), which includes a systematic literature search of multiple bibliographic databases, a set of selection criteria to identify relevant studies and a narrative synthesis of findings (charting).

**2.2. Identifying relevant studies**

We carried out a systematic literature search that included studies from January 2001, the year that ‘Valuing People’ (Department of Health, 2001), a pioneering paper empowering people with learning disabilities, to January 2019, when the search was completed. We searched the following databases: MEDLINE 1946- (Ovid), PsycInfo, CINAHL Complete (EBSCO), Scopus, PubMed and Web of Science databases. These databases represent a broad scope of academic fields where health related research is published. Our search terms included words and synonyms under three domains: 1. learning disability, e.g. developmental disability OR intellectual disability OR learning difficulty OR intellectual impairment OR special needs OR mental retardation; 2. engagement, e.g. participation OR involvement OR motivation; 3. recreation, e.g. leisure OR hobbies OR interests OR free time. Using the Boolean “AND”, we combined the results from the searches to capture studies that related to all three domains.

We included studies whose participants were people with learning disabilities, determined by diagnostic criteria, clinical records or self-reported by individuals and carers. Under the term ‘active recreation’ we included activities that had an element of physical effort (e.g. sports) as long as it was done in the context of leisure and fun. We excluded research that did not implement active recreation (e.g. observing an individual’s daily routine) and papers that did not specify whether people with learning disabilities were included (e.g. studies whose participants were people with autism).

RH and PK screened the retrieved literature records independently, first for their inclusion/exclusion into the review and then for a second time to review and chart included papers in the context of two theoretical models which are discussed below. During the initial screening phase PK queried the inclusion of two papers (Deitz, Swinth and White, 2002; and Price, Marsh and Fisher, 2018). RH’s rational for inclusion was that both studies focused on skill acquisition through active play or movement. A third reviewer (LG) agreed with the rationale for inclusion.

**2.3. Narrative synthesis of findings (charting)**

A formal synthesis of findings is not necessary for a scoping review (Lockwood, Dos Santos and Pap 2019). Two reviewers (RH and PK) mapped the relevant information from the included studies using two theoretical perspectives: the Model of Human Occupation (MOHO) (Kielhofner 2008) and The Socio Ecological Model (SEM) (Boulton, Horne and Todd, 2017).

The MOHO looks at the individual, their meaningful activities or occupations, and relationship with their environment by focusing on four domains: volition (motivation), habituation (habits, patterns, and roles), performance capacity (physical and cognitive capability) and environment (social and physical). The SEM includes five levels of factors that influence people’s behaviour: individual, relational/interpersonal, perceived environment, community/organisational and public policy. The two models have overlapping elements but are complimentary with the MOHO focusing on internal factors and the SEM on external factors that may hinder or enable the participants of people with learning disabilities in active recreation.

We used age parameters set by the World Health Organization (1982) to chart participant age, this included: child (0-9), teen (10-19) young (15-24) and adult (25 to 59) years of age. Level of independence was charted as: independent (participant needed no support to participate in recreational activity), overseen (the recreational activity was set-up and/or monitored by others i.e. family member, coach, teacher) and 1:1 support (participants needed 1:1 physical contact with another to enable participation).

1. **Findings**

**3.1. Included studies**

A total of 1,032 records were identified, 1,003 were excluded due to not meeting inclusion criteria. Out of the 29 remaining papers a full text review identified 19 studies which met inclusion criteria. Reasons for exclusion of full-text papers were: papers not utilising a form of active recreation (n=9) and the full paper not available in English (n=1). The PRISMA diagram (Figure 1) shows the process of identification and selection of relevant research.

***Insert Figure 1 here***

**3.2. Study characteristics**

Study characteristics can be found in Table 1. Six studies reported use of qualitative methods, 9 used quantitative methods and 4 papers used a mix methods approach.

Five studies used data generated directly from participants who had a learning disability, 8 papers generated findings from caregivers or coaches (only) and 6 papers collected data from both people who had a learning disability and their carer or coach.

Active recreation varied across locations, many active recreational pursuits (11) had to be accessed in a community setting i.e. swimming pool, sports ground/field or community hubs. In addition, three active recreational pursuits were offered in a school environment and two were offered through day services, with an additional opportunity to access the community. Two active recreational activities were offered through the participants’ home environment with the additional option to access the community; only one active recreational purist was offered purely in the home environment.

Eleven studies focused on sporting recreation e.g. swimming and ball activities. Activities including active movement to music (2), walking (4) and active play (3), were also identified. Assistive technology (i.e. google maps, computer based programmes and pedometers) to promote active recreation was utilised in 3 studies.

Fourteen studies required participation in active recreation to be overseen and three papers highlighted that participants could either be overseen or may need 1:1 support to participate which was determined by caregivers knowledge around the participant’s level of ability. One paper indicated that participants could either be overseen or carry out the activity independently, dependent on their level of skill and one study required continued 1:1 support to support participation in active recreation.

***Insert table 1 here***

**3.3 Barriers to active recreation**

Reported barriers to participation in active recreation are charted in Figure 2, common themes identified in the context of both theoretical models are outlined below.

***Insert Figure 2 here***

*Volition/individual*

A number of studies reported that some participants presented with their own barriers which limited their opportunity to participate in active recreation. Examples include challenging behaviour (Aherne and Coughlan 2017), fear of a component of the activity i.e. in Mitchell et al (2016) this was a fear of dogs when out walking and in Aherne and Coughlan (2017) this was a fear or dislike of water, whereas, Armila, Rannikko and Tovinen (2018) found participant shyness to be a barrier. Ninot, Bilard and Delignières (2005) reported that there was a decline in the self-reported perceived physical ability and general self-worth of participants with learning disabilities who were integrated into groups containing peers without learning disabilities.

 Five studies reported that participants’ lack of interest in the activity acted as a barrier to participation (Armila, Rannikko and Tovinen 2018; Lin and Chang 2015; Deitz, Swinth and White 2002; Mahoney et al 2016 and Yalon-Chamovitz et al 2005). Matthews et al (2016) reported that participants were less likely to participate if they felt “nagged at” or had to follow recommended activity direction (Price, Marsh and Fisher 2018). However, eight studies did not report on any volition/individual participant barriers to participation in active recreation (Hudson et al 2017; Hutzler, Oz and Barak 2013; Lyons et al 2009; Maïano, Ninot and Erraïs 2001; McConkey et al 2013; Özer et al 2012; Weiss et al 2017 and Yang 2016).

*Habituation*

Only two studies shed light on habitual factors which caused barriers to participation. Deitz, Swinth and White (2002) discussed how participation could be interrupted by participants going on vacation and Mitchell et al (2016) highlighted how participation was often planned around the carers’ plans or the day centre ‘s schedule as opposed to the participant’s preferred time and frequency of activity.

*Performance capacity*

Eight studies reported barriers around performance capacity to participate in active recreation. Barriers included: participants’ physical health, i.e. diarrhoea (Aherne and Coughlan 2017; Deitz, Swinth and White 2002) and physical movement ability (Mahoney et al 2016; Mitchell et al 2016), as well as communication difficulties (Armila, Rannikko and Tovinen 2018; Mahoney et al 2016; Matthews et al 2016; Yalon-Chamovitz et al 2006) and processing difficulties (Deitz, Swinth and White 2002; Mitchell et al 2016; Price, Marsh and Fisher 2018).

*Environment*

Seven papers identified environmental barriers to participation in active recreation, the most prominent being venue inaccessibility, transport, travel time and cost (Aherne and Coughlan 2017; Armila, Rannikko and Tovinen 2018; Hudson et al 2017; Mitchell et al 2016). The environment itself (Ninot, Bilard and Delignières 2005;Yalon-Chamovitz et al 2006) and the weather (Mitchell et al 2016) were also highlighted as barriers to participation.

Deitz, Swinth and White (2002) identified specific environmental concerns that resulted from active recreation, this included the electric car that was used to promote active play being too loud and causing disruption to other children and the impracticalities regarding the size of the car. Deitz, Swinth and White (2002) also noted that the active play car was challenged by rough surfaces, and the children sometimes became stuck in small potholes, on the grass, or up inclines on the playground.

*Relationship/interpersonal factors*

Five studies identified caregiver recourses and time constraints as a barrier to supporting people with learning disabilities to participate in active recreation (Aherne and Coughlan 2017; Armila, Rannikko and Tovinen 2018; Hutzler, Oz and Barak 2013; Matthews et al 2016; Yalon-Chamovitz et al 2006). In addition, Mitchell et al (2016) highlighted that active recreation was often arranged to fit in with carer or day service plans. Extra administrative duties having to be carried out by paid staff was also identified as a barrier to supporting participation in active recreation in three papers (Armila, Rannikko and Tovinen 2018; Matthews et al 2016 and Mitchell et al 2016). Key relational barriers were described by two papers to be around low carer morale, poor communication among paid carers and between paid carers and clients (Armila, Rannikko and Tovinen 2018 and Matthews et al 2016).

Six papers highlighted neglectful attitudes, inconsistent care and prior assumptions about an individual’s level of functional and cognitive ability as a barrier (Armila, Rannikko and Tovinen 2018; Aherne and Coughlan 2017; Hutzler, Oz and Barak 2013; Mahoney et al 2016; Matthews et al 2016; McConkey et al 2013). Armila, Rannikko and Tovinen (2018) reported that untrained carers/coaches were barriers to activity participation, as were caregivers not understanding the communication needs of people with learning disabilities. Finally, Aherne and Coughlan (2017) also noted that next of kin regarding agreement for participation in the activity also resulted in barriers to participation.

*Community and organisational factors*

Only Armila, Rannikko and Tovinen (2018) identified community and organisational factors as barriers, reporting that there was limited equal access to active recreation and that applied sports are sparsely available and differ depending on where the individual lives.

*Policy*

Again, only Armila, Rannikko and Tovinen (2018) identified barriers resulting from policy, reporting that inadequate welfare structures cause barriers to participation i.e. not offering adequate support to enable access to organised leisure activities for people with disabilities.

**3.4 Facilitators to active recreation**

Reported facilitators to participation in active recreation are charted in Figure 3, common themes identified in the context of both theoretical models are outlined below.

***Insert Figure 3 here***

*Volitional and Individual factors*

Nine studies identified person-centred recreational activities as a key facilitator to participation in active recreation. This included promoting choice (Armila, Rannikko and Tovinen 2018; Hartnett et al 2008; Mahoney et al 2016; Matthews et al 2016; Mitchell et al 2016; Weiss et al 2017), aswell as tailoring the active recreation to an individual’s needs (Deitz, Swinth and White 2002; Maïano, Ninot and Erraïs 2001; Mahoney et al 2016; Mitchell et al 2016; Lin and Chang 2015). Motivational facilitators through use of objects were identified in four studies. This included use of favoured objects such as pool floats (Aherne and Coughlan 2017), trophies (Hudson et al 2017; Weiss et al 2017) and certificates (Matthews et al 2016).

How the recreational activity made participants feel was recorded in nine studies as a facilitator to participation. This included feelings of positivity (Hudson et al 2017; Hutzler, Oz and Barak 2013; Mahoney et al 2016; Matthews et al 2016; Mitchell et al 2016; Weiss et al 2017) and enjoyment (Hartnett et al 2008; Lyons et al 2009; Matthews et al 2016). Personal development such as greater physical health and achieving a sense of accomplishment and pride was identified by both Hartnett et al (2008) and Mitchell et al (2016) as facilitators to participation in active recreation.

Five studies did not report on any volition incentives (Ninot, Bilard and Delignières 2005; Özer et al 2012; Price, Marsh and Fisher 2018; Yalon-Chamovitz et al 2006; Yang 2016).

*Habituation*

Ten studies offered recommendations of how the recreational activity could be habitually maintained. Aherne and Coughlan (2017) proposed that groups could be implemented over a shorter time frame so that when participants do have an aquatics programme, they have regular sessions and are given a chance to become familiar with their surroundings and what is required of them. Lyons et al (2009) used research findings to help guide future growth and development of a baseball league and provide valuable information to sponsors and donors. Yalon-Chamovitz et al (2006), Deitz, Swinth and White (2002) and Price, Marsh and Fisher (2018) offered practical recommendations for incorporation of active play into school, and Lin and Chang (2015) developed resources which could be left behind once the research was completed.

Preparation and planning for sessions was considered an important facilitator, this included having strategies in place for alternative activities, i.e. Mitchell et al (2016) emphasised the value in having strategies to use indoors if the weather was bad. Facilitators for habitual participation also included organisational factors such as preparation and organisation of the environment (Maïano, Ninot and Erraïs 2001; Matthews et al 2016; Mitchell et al 2016; Yang 2016). Nine studies did not report on any habitational factors (Armila, Rannikko and Tovinen 2018; Hartnett et al 2008; Hudson et al 2017; Hutzler, Oz and Barak 2013; Mahoney et al 2016; McConkey et al 2012; Ninot, Bilard and Delignières 2005; Özer et al 2012; Weiss et al 2017).

*Performance Capacity*

Seven studies recognised how the physical and learning needs of participants would impact on the active recreation being offered. For example, Aherne and Coughlan (2017) considered participants’ functional ability from the outset, i.e. the ability to weight bear, and they considered equipment which would support participants to overcome this, i.e. use of floatation device and hoist. Lin and Chang (2015) acknowledged that response time for children with developmental delay can be slower and thus adapted their technology to reflect this. Deitz, Swinth and White (2002) considered the postural needs of participants when adapting their recreational activity car. Four studies considered the need to adapt information/resources to meet participants’ cognitive abilities to enable participation (Hudson et al 2017; Hutzler, Oz and Barak 2013; Matthews et al 2016; Weiss et al 2017).

 Finally, eight studies asked participants to consider their own views on performance capacity capabilities in order to establish areas of personal development (Hartnett et al 2008; Hutzler, Oz and Barak 2013; Lyons et al 2009; McConkey et al 2013; Mitchell et al 2016; Ninot, Bilard and Delignières 2005; Özer et al 2012; Price, Marsh and Fisher 2018).

*Environment*

Six studies considered how the environment could be used as a facilitator to participation in active recreation for patricians with a learning disability. Five papers highlighted the importance of how environments need to provide a supportive and organised space to facilitate recreational activity (Aherne and Coughlan 2017; McConkey et al 2013; Mitchell et al 2016; Price, Marsh and Fisher 2018 and Yang 2016). Deitz, Swinth and White (2002) emphasised how their mobility device could be used to enable mobility play for children, who because of their disabilities cannot otherwise independently participate in playground and gym activities.

*Relationship/interpersonal factors*

Active recreation that creates opportunity for peer friendships, social interactions and stronger carer networks was highlighted as a facilitator in 11 papers (Armila, Rannikko and Tovinen 2018; Deitz, Swinth and White 2002; Hartnett et al 2008; Hudson et al 2017; Lyons et al 2009; McConkey et al 2013; Mitchell et al 2016; Ninot, Bilard and Delignières 2005; Özer et al 2012; Price, Marsh and Fisher 2018; Weiss et al 2017).

Caregiver and coach involvement was found to be a fundamental facilitator enabling people with learning disabilities to access and participate in active recreation. Only Mitchell et al (2016) reported that active recreation could be undertaken independently and in? Price, Marsh and Fisher (2018) whose intervention was developed to enable people who have a learning disability to access activities independently.

The therapeutic relationship between carer/coach and participant was reported as an important facilitator in nine studies. In particular the carer/coach’s knowledge and ability to recognise and adapt activities to meet the cognitive and functional needs of participants. Three studies actively emphasised the value and role of direct 1:1 caregiver involvement in facilitating participation in active recreation (Aherne and Coughlan 2017; Mahoney et al 2016; Yang 2016), whilst six others recognised the importance of caregiver/coach knowledge and skill in being able to oversee the active recreation (Armila, Rannikko and Tovinen 2018; Lin and Chang 2015; Matthews et al 2016; McConkey et al 2013; Mitchell et al 2016; Weiss et al 2017). In addition, Maïano, Ninot and Erraïs (2001) highlighted the importance of a consistent coaching team. Neither Hutzler, Oz and Barak (2013) nor Yalon-Chamovitz et al (2006) highlighted any themes relating to relational/interpersonal facilitators.

*Community and organisational factors*

Seven studies highlighted active recreation as an opportunity for facilitating people with learning disabilities to have a greater community presence and challenge stereotypes (Hartnett et al 2008; Hudson et al 2017; McConkey et al 2013; Mitchell et al 2016; Ninot, Bilard and Delignières 2005; Özer et al 2012; Price, Marsh and Fisher 2018); in two circumstances this resulted in job opportunities for some participants (Hartnett et al 2008; McConkey et al 2013). Aherne and Coughlan (2017) recognised that the organisation’s view/position on supporting activities for people who have a learning disability was an important facilitator to participation. In addition both McConkey et al (2013) and Ninot, Bilard and Delignières (2005) reported that when participants with learning disabilities felt included and as equals in the same activities/groups as peers who did not have a learning disability, this acted as a facilitator for greater community involvement. Finally, McConkey et al (2013) suggested that positive perceptions could increase media publicity, shedding greater light on the value of active recreation for people who have a learning disability.

*Policy*

Three papers reported policy facilitators. Aherne and Coughlan (2017) emphasised that public policy and the organisation’s position on activity were important facilitators of active recreation. Lyons et al (2009) discussed how their results would be used to help guide future growth and development of active recreation and provide valuable information to sponsors and donors. Matthews et al (2016) carried out interviews with stakeholders to explore issues of context, fidelity and implementation in supporting participation in a walking programme. This helped to inform their recruitment strategy and consultation sessions.

In regards to sustainability of active recreation four studies identified the use of theory-based models as facilitators of sustained engagement in active recreation. Firstly, Matthews et al (2016) described behaviour change techniques. Secondly, Price, Marsh and Fisher (2018) described goal setting models. Thirdly, Hutzler, Oz and Barak (2013) outlined social learning and self-determination theories as potential facilitators to support participants to adopt and sustain healthier behaviours. Finally, Aherne and Coughlan (2017) based aquatics sessions around the principles of the Halliwick Method, whereby sessions were adapted to allow participation to the level that they felt comfortable with and each participant was supported to move through each session at their individual pace.

1. **Discussion**

Our review explored barriers to and facilitators of participation in active recreation for people who have a learning disability. The active recreational pursuit in all 19 included studies were designed and targeted at participants who have a learning disability; our findings highlight a relevant gap in this population’s involvement in data collection itself. This finding is of relevance if we relate back to the 1960s disability movement and to more recent work by Goodley et al (2019) “nothing about us without us”, which emphasised that researchers should no longer conduct research ‘on’ people with learning disabilities. Instead they should include them in meaningful ways across research practices (Kidney and Mcdonald 2014).

Volition/individual

Activity participation can help people with a learning disability feel happier, included and valued (Wilson et al 2017). Despite this, people who have a learning disability still take part in fewer activities and have fewer friends than their peers without a learning disability (Taheri, Perry and Minnes 2016). Consequently, it is important that we continue to establish regular active recreation as an important mechanism for social inclusion for people who have a learning disability. MOHO theory recognises that volition behind an individual’s participation in activity can be dependent on the importance and the satisfaction that they can gain from it (Akyurek and Bumin 2017). Reported volition themes which enabled participation in active recreation such as peer friendships and social interactions which we found in our included articles are similar to those reported by Wilson et al (2017) who found that active participation in leisure activities is associated with improved quality of life, wellbeing, confidence and friendships.

*Habituation*

Carter and Swank (2014) emphasise the importance of supporting people who have a learning disability to develop a ‘habit’ by encouraging daily activities, but it may be difficult for people who are accustomed to a very sedentary lifestyle to quickly achieve a higher level of daily activity (McKenzie et al 2018). Our review highlighted a number of habitational factors such as planning for sessions and preparation and organisation of the environment, which enabled facilitation of active recreation. This is concurrent with Cole (2010) who reported that the structure of organised activity enabled it to be habituated into a regular routine.

Performance capacity

The quality of the support given in a social, organisational and cultural environment is recognised by both MOHO and SEM theories as a central influence on a person’s functional and cognitive ability to participate. The SEM recognises that people who have a learning disability may experience a mismatch between their personal capabilities and environmental or contextual demands, which often creates a need for additional supports (Shogren 2013). MOHO theory emphasises the dynamic systems which influence physical and mental ability to carry out an activity (Cole 2010). We found that the influential nature of caregiver/coach input to support those who have a learning disability determined the reported participation in active recreation. In particular, prior knowledge of participants’ functional ability, and carer/coach ability to adapt the activity accordingly to enable participation, could either enable or hinder participation.

*Relationship/interpersonal factors*

Our review emphasises that key relational barriers involving social supports such as low carer morale, poor communication among paid carers and between paid carers and clients, neglectful attitudes and inconsistent care were significant barriers to access and participation. These barriers are similar to those reported for physical health interventions for people with learning disabilities. Cartwright et al (2016) identified that physical health activities are not sustainable when caregivers have negative attitudes towards the person with learning disability’s ability, or they dominate activity preference, or have limited resources or poor knowledge. Pitchford, Dixon-Iberra and Hauck (2018) found that staff shortages, lack of time and increased activity burden outside of “normal” routine, and a reluctance to change routine, were common problems faced by people with learning disabilities who depend on caregivers.

We found that many active recreational opportunities available for people with learning disabilities have to be accessed via a proxy (i.e. family member, paid carer) or be overseen by a coach/teacher. The importance of the relationship between an individual with a learning disability and caregivers has been highlighted by Brooker et al (2015) who proposed that the function of companionship (e.g. carer/family member) in recreational activities is not only practical but provides an opportunity for emotional support and encouragement to continue engaging, for both parties (Channon 2014).

*Environment, community and organisational factors*

Historically, community activities have been problematic for people with learning disabilities, resulting in barriers to sustainability (Pitchford, Dixon-Ibarra and Hauck 2018; Cartwright et al 2016). Our review emphasises such environmental and community barriers which continue to hinder access and participation to be around: location accessibility, transport issues and adaptive equipment.

Consistent with Shields and Synnot (2016) our review highlights the important role that community and organismal factors play in fostering positive attitudes amongst the general public in supporting the integration of people who have a learning disability carrying out social activities and developing a social presence in the community. Concurrent with Scior and Werner (2015) we also found that positive direct contact through leisure activities can help to challenge negative attitudes associated with learning disability.

*Policy*

 Our review found four studies which incorporated behavioural theories and models as part of their recreational activity. Behavioural theories and models cannot independently change behaviour, but can highlight issues that need to be considered to determine the likely success of an activity being sustained (NICE, 2014). Interventions incorporating active support approaches have been shown to increase levels of engagement in meaningful activity and adaptive behaviour for adults with learning disabilities (Pitchford, Dixon-Ibarra and Hauck, 2018; Mansall and Beadle-Brown, 2012). Glasgow et al (2012) suggest that retrofitting interventions that are developed in isolation from the population they seek to ‘serve’ are destined to fail. Consequently, as in one of the included papers Schiller et al (2013) report the value in public health research, collaborating with stakeholders to generate knowledge that end-users might apply to interventions related to policy or practice.

**Limitations of the review**

A systematic literature search of several databases identified a broad range of studies to help us understand what hinders people with learning disabilities from participating in active recreation and what enables them to do so effectively and sustainably. As this was a scoping rather than a systematic review, we did not carry out a quality assessment for the included studies and did not use methodological criteria to select the included studies. This enabled us to capture a broader range of studies but of mixed quality. Using two frameworks, the MOHO and theSEM, we charted the findings of the included studies as a way of capturing all the relevant emerging evidence and generating focused research questions to be answered in subsequent systematic reviews (Armstrong et al 2011).

**Recommendations for further research**

Our review highlights that person-centred active recreation activities which offer motivational incentives, enjoyment and consideration of cognitive and functional ability, as well as the opportunity to develop new skills and social interactions, are impactful facilitators for promoting participation. Concurrently, a number of studies identified a lack of interest in the active recreation on offer as a barrier to participation. Engagement in active recreation is more likely if we first understand its subjective nature and the personal and social meanings that a person attaches to it. As such, there is value in more qualitative research, which could seek people’s views on the meaningfulness and viability of an activity. This could help set future health and wellbeing priorities by placing a greater emphasis on approaches which are concurrent with what people with learning disabilities themselves feel are key promotional incentives to making a difference in participation in active recreation.

Our review emphasises the central role that proxies play in both facilitating participation in active recreation and in causing barriers. Meaningful facilitators for aiding participation were found to centre on carers and coaches having the training and knowledge to adapt the environment and tools to participants’ capabilities. Likewise, a lack of skill and knowledge in these areas produced barriers to consistent participation in the recreational activity. In addition, aspects asscoated with the caregiver (their resources, time constraints, low morale, inconsistent care, prior assumptions and neglectful attitudes), were all highlighted as impactful barriers to participation. As such, there is a need for future research efforts to be directed at whether the lived experience of somebody with a learning disability is concurrent with that of their caregivers. who clearly play a significant role in making active recreation accessible. Developing a greater understanding of this could help to guide the ways in which services develop person-centred training and continuous professional development opportunities, which enable caregivers to increase their skill and establish recreational activity as a fundamental part to somebody’s mental and physical wellbeing.

**5. Conclusion**

This scoping review identified the importance of the therapeutic relationship between people with a learning disability and their care providers in facilitating participation in active recreation. There is little qualitative research that examines the true meaning and value of participation in active recreation from the perspective of people with learning disabilities and how their perspective may differ from that of their care providers. Further primary research and qualitative exploration is warranted around the phenomenon of active recreation, from the perspective of people with learning disabilities. There is currently an opportunity to improve the quality of life for people with learning disabilities by understanding how they make sense of active recreation, what makes it meaningful, and their experiences of being able to access and engage with it. More in-depth research in this area could support both clinicians and caregivers to develop ways of delivering person-centred active recreation, and so target prevalent unmet physical and mental health needs.

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