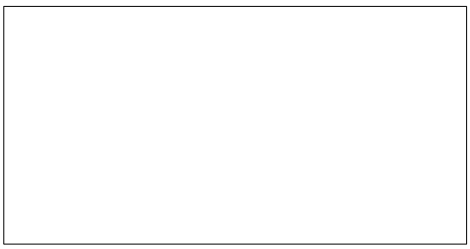

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REVIEW

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Understanding capabilities, opportunities and motivations to engage in physical activity for adults with intellectual disabilities: A qualitative evidence synthesis

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Abstract

Background: There is a paucity of theory-informed physical activity research with adults with intellectual disabilities. This study aimed to address this by synthesising existing literature and applying the COM-B model to understand **c**apabilities, **o**pportunities and **m**otivations.

Methods: A qualitative evidence synthesis was conducted and reported in accordance with PRISMA guidelines and the ENTREQ. Three databases were systematically searched up to and including February 2022. Qualitative research relating to the physical activity of adults with intellectual disabilities were included. Thematic synthesis was conducted with themes mapped onto the COM-B model.

Results: Twenty-five studies were included. Influences of physical activity were identified and mapped onto the COM-B model, which also included COM-B influences of social support provided by caregivers.

Conclusions: There are many complex influences of physical activity for adults with intellectual disabilities. Researchers should consider the influences contributing to caregivers' capacity to support physical activity.

KEYWORDS

COM-B model, intellectual disabilities, physical activity, qualitative evidence synthesis, systematic review

1 | INTRODUCTION

Adults with intellectual disabilities experience significant limitations in intellectual functioning, and in adaptive behaviours needed for living independently, which occur during the developmental period or before the age of 22 (American Association of Intellectual and Developmental Disabilities, 2021; Schalock et al., 2021). Limitations in adaptive skills and intellectual functioning are identified and defined to help determine individual support needs (Schalock et al., 2021). Level of intellectual disabilities ranges from mild to profound, with this related to the severity of limitations in intellectual and adaptive functioning, and the level of support required (World Health Organisation, 2019). Adults with intellectual disabilities are also at risk of poor general health, reduced life expectancy and non-communicable diseases, such as cardiovascular disease and diabetes (Emerson et al., 2016; Hughes-McCormack et al., 2018; McMahon & Hatton, 2020; O'Leary, Cooper, & Hughes-McCormack, 2018; O'Leary, Taggart, & Cousins, 2018; Van Timmeren et al., 2017).

Therefore, it is essential to identify modifiable behavioural factors that can help reduce the risk of experiencing health inequalities.

Low levels of physical activity contributes to a wide range of negative health outcomes, such as poor physical fitness, increased risk of coronary heart disease, type 2 diabetes and all-cause mortality (Lee et al., 2012; Warburton, 2006). Physical activity refers to all bodily movements, increasing energy expenditure, produced by skeletal muscles, with exercise being a structured and planned form of physical activity (Caspersen et al., 1985; World Health Organisation, 2020). For adults with intellectual disabilities, levels of participation in physical activity are very low making it an essential behaviour to focus on (Dairo et al., 2016).

The physical activity levels of people with intellectual disabilities are influenced by many factors, including wider environmental contexts (e.g., financial resources and the weather), caregiver support, motivation, physical health, level of intellectual disabilities and demographic factors, such as age (Bossink et al., 2017). As a result, behaviour change interventions with adults with intellectual disabilities are complex, and have thus far had limited effectiveness in increasing physical activity (Hassan et al., 2018; Rana et al., 2024). Developing complex interventions should be informed by theoretical frameworks which highlight the processes leading to behaviour change (Craig et al., 2008; Skivington et al., 2021). There is limited use of theoretical frameworks in behaviour change interventions for adults with intellectual disabilities (Rana et al., 2024). Theory informed interventions have utilised models such as social cognitive theory or theory of planned behaviour (Pitchford et al., 2018; Rana et al., 2024). However, these theories were developed for the general population without intellectual disabilities and have a strong focus on intention. Subsequently, there is questionable relevance when applied the unique influences of physical activity experienced by adults with intellectual disabilities.

The COM-B model is a theoretical framework that can be applied to specific contexts, behaviours and populations, such as the physical activity of adults with intellectual disabilities (Michie et al., 2014). In recent years, this model has been used to understand caregiver's ability to support physical activity and healthy lifestyles of adults with intellectual disabilities (Bossink et al., 2019, 2020; Overwijk et al., 2021), the barriers and facilitators experienced in adolescents with intellectual disabilities (McDermott et al., 2022), and in the context of a fitness intervention for adults with intellectual disabilities (Savage et al., 2023).

Based on the synthesis of multiple existing theoretical frameworks, the COM-B argues that the interacting constructs of **c**apability, **o**pportunity and **m**otivation influence a person's behaviour (Michie et al., 2014). This model is at the centre of the 'Behaviour Change Wheel' to facilitate the development of interventions (Michie et al., 2014). Within this model, capability encapsulates physical capability (e.g., physical skills), and psychological capability (e.g., including knowledge and cognitive skills). Opportunity includes social and physical opportunities, such as environmental resources. Motivation is described as being automatic (e.g., emotion), and reflective (e.g., goals, intentions and beliefs about capabilities). The flexible nature of the COM-B model means it can be applied to the unique influences of physical activity experienced by adults with intellectual disabilities.

Numerous studies have explored barriers, facilitators and influences on physical activity of adults with intellectual disabilities, from the perspective of both adults with intellectual disabilities and the people who support them. Qualitative research provides a more in-depth understanding of experiences, perspectives, priorities, contexts and beliefs that will in turn provide a greater understanding of the important capabilities, opportunities and motivations. Qualitative evidence syntheses, also referred to as qualitative systematic reviews, provide the opportunity to synthesise the extant qualitative literature and develop a new understanding (Flemming & Noyes, 2021). Although there is a strong qualitative evidence base relating to physical activity for adults with intellectual disabilities, no research has used these known influences to understand the capabilities, opportunities and motivations of adults with intellectual disabilities. Doing so will help to establish a more comprehensive theoretical understanding of this behaviour and inform the first stage of intervention development of 'understanding the behaviour' (Michie et al., 2014). This study aims to synthesise the extant qualitative literature on physical activity of adults with intellectual disabilities and comprehensively map the data onto the COM-B model. In doing so, this will provide an initial COM-B framework of physical activity for adults with intellectual disabilities.

1.1 | Review question

What are the capabilities, opportunities and motivations of adults with intellectual disabilities to engage in physical activity?

2 | METHODS

The qualitative evidence synthesis was reported in accordance with PRISMA guidelines (Page et al., 2021), and the enhancing transparency in reporting the synthesis of qualitative research was referred to (ENTREQ; Tong et al., 2012). The protocol was registered on PROSPERO 2022 CRD42022310359 (https://www.crd.york.ac.uk/prospero/display_record.php?ID=CRD42022310359).

2.1 | Search strategy

Three databases were systematically searched (Embase via Ovid, PsycINFO and CINAHL via EBSCO host) from database inception, up to and including, 24th February 2022. The search strategies included terms for intellectual disabilities, qualitative research and physical activity. Searches were limited to adults and human focused studies. The terms used were based on past literature and MeSH terms (Appendix). To ensure no relevant literature were omitted, additional searching methods were used, which included hand searching through reference lists of included studies and systematic reviews identified by the database searches.

2.2 | Eligibility criteria

Eligible studies needed conceptually rich qualitative data relating to the physical activity of adults with intellectual disabilities. All studies were appraised for inclusion using the following criteria:

2.2.1 | Inclusion criteria

- Adults (>18 years) with intellectual disabilities
- Research including family or paid caregivers for people with intellectual disabilities.
- All primary qualitative or mixed methods research reporting qualitative data.
- Qualitative research exploring physical activity of adults with intellectual disabilities (e.g., experiences, perceptions, barriers, facilitators, influences, opportunities and attitudes).

2.2.2 | Exclusion criteria

- Studies where <70% of participants were aged >18 years or the mean age was <18 years old.
- Studies where <70% of participants had intellectual disabilities.
- Studies where <70% of people supported by caregivers/sources of support had intellectual disabilities.
- Quantitative research or mixed methods research with only descriptive and minimal reporting of qualitative data relating to physical activity of adults with intellectual disabilities.

2.3 | Study selection

The full database search results were exported to Covidence—an online screening software (https://www.covidence.org/). Using the eligibility criteria, two researchers independently screened the title and abstracts, followed by full-text articles. If there were any discrepancies in the decisions, the two reviewers met to discuss the papers to resolve any conflicts. If agreement could not be reached, a third reviewer independently appraised the article using the eligibility criteria and determined if the papers were included or excluded.

2.4 | Data extraction

An Excel spreadsheet was used to record extracted contextual data, including information on study (e.g., study design) and participant characteristics (e.g., level of intellectual disabilities). This was conducted by one researcher, with a second researcher independently extracting data for a random sub-sample of approximately 25%. The data extracted for these papers were then compared to ensure there were no discrepancies in what was extracted.

Data relating to the qualitative findings were extracted into a qualitative data management software (NVivo Version 12, QSR International Ltd.). The data included participant quotes, researcher generated themes and subthemes, observations, theories developed and the interpretations made by the study authors in the discussion.

2.5 | Quality appraisal

The CASP Qualitative Checklist appraised the quality of the literature (Critical Appraisal Skills Programme, CASP, 2023). This consisted of 10 questions related to the study validity, the study results, and whether the study results were valuable. The questions were answered as 'Yes', 'Cannot tell' or 'No', with a 'Yes' response indicating potentially better quality. For mixed methods studies, the CASP checklist was applied to the qualitative aspects of the studies. One researcher appraised the quality of all included studies. However, a second researcher appraised a random sub-sample of approximately 25%. The scoring for these papers were then compared with any discrepancies discussed to ensure there was consistency in the scoring.

2.6 | Data synthesis

Data were synthesised using an approach reflecting thematic synthesis, which is based on thematic analysis of qualitative data (Thomas & Harden, 2008). The process was conducted by one reviewer; however, to improve credibility, the hierarchical coding framework and illustrative quotes were reviewed by a second researcher. This ensured the findings best reflected the data and the COM-B model. The synthesis method involved an initial inductive process using the methods of thematic synthesis to generate themes relating to influences of physical activity. After this, a deductive approach mapped the themes onto the capabilities, opportunities and motivations for physical activity. The flexible approach was utilised as this was the first evidence synthesis appraising qualitative research for adults with intellectual disabilities under the context of the COM-B model.

The analysis method first involved uploading the full texts of the included articles to NVivo. Full texts were read multiple times to allow familiarisation with the data. Next, there was the development of initial descriptive themes, which were not related to the COM-B model, and instead derived directly from the data. At this stage, there was initial descriptive coding of the results and discussions of the included studies. Once each paper had been coded, the codes and associated excerpts of texts were re-read. This resulted in the coding framework being appraised, with similar codes grouped together resulting in initial descriptive themes which were further reviewed and refined.

The themes developed were then categorised in relation to the COM-B model. At this stage, the initial themes developed were considered in relation to the capabilities, opportunities and motivations for physical activity. The themes were grouped and refined to be under specific components of the COM-B model for example, automatic motivation. At this stage, the coding framework and illustrative

quotes were shared and discussed with the second researcher to ensure the themes reflected the associated data and were appropriately mapped onto the COM-B model.

To facilitate the synthesis, the theoretical domains framework (TDF) was also referred to. The TDF is a theoretical framework that compliments the COM-B and provides greater detail on the individual components within the COM-B, for example, reinforcement and emotion linked to automatic motivation within the COM-B (Atkins et al., 2017; Cane et al., 2012; Michie et al., 2014). The TDF guided how the emerging descriptive themes related to the components of the COM-B. However, as the TDF was not developed based on data including people with intellectual disabilities, the final decisions of where the influences should be categorised was based on the research team's own knowledge and experience of physical activity for people with intellectual disabilities.

During the synthesis, influences were identified for social support for physical activity provided by caregivers. The data were synthesised and categorised to reflect capabilities, opportunities and motivations for social support.

3 | RESULTS

3.1 | Search results

From the main database searches, a total of $n = 420$ titles and abstracts were screened, following duplicate removal. This resulted in $n = 51$ full texts screened, and $n = 22$ studies included in the evidence synthesis. Most of the studies were excluded at full text because they did not relate to physical activity, or were the wrong study design (e.g., grey literature). Additional searches were conducted, which identified $n = 33$ potentially relevant studies based on titles. However, when compared to the full main database search results, it was identified that $n = 27$ of these were duplicates. This resulted in $n = 6$ studies being retrieved and appraised for eligibility, which resulted in $n = 3$ additional studies being included. This resulted in $n = 25$ studies included in the final synthesis (Figure 1).

3.2 | Study characteristics

Included studies were based in the United Kingdom ($n = 8$), the United States of America ($n = 7$), Europe ($n = 5$) and Australia ($n = 4$), with one study described as being set in Hong Kong and Taiwan (see Table 1). All studies collected primary qualitative data, with $n = 5$ conducted as part of a lifestyle programme (Aherne & Coughlan, 2017; Brooker et al., 2015; Dixon-Ibarra et al., 2017, 2018; Mitchell et al., 2018). Most of the studies were focused on barriers and facilitators, or perceptions of physical activity, from the perspective of adults with intellectual disabilities or their sources of support (see Table 1). The qualitative data were collected through semi-structured interviews or focus groups, with the primary form of analysis being Thematic Analysis (see Table 1).

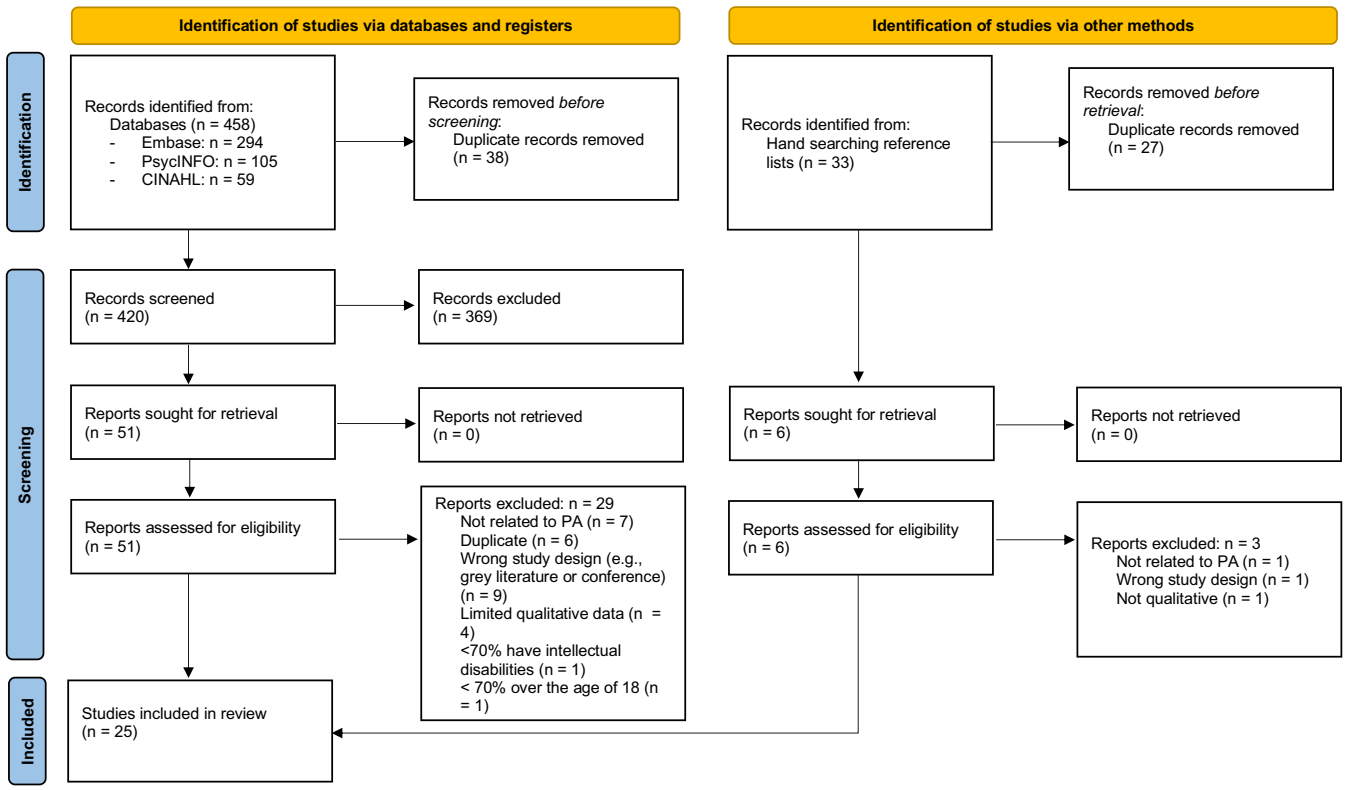

FIGURE 1 PRISMA flow chart. PA, physical activity.

TABLE 1 Study characteristics.

Author (year)	Country	Setting	Study design	Target population	Sample size	Data collection method	Qualitative analysis
Aherne and Coughlan (2017)	Ireland	Users of an aquatics programme in Munster, Ireland	Qualitative evaluation of pilot programme	Support staff for people with severe and profound intellectual disabilities	$n = 6$	Semi-structured interviews lasting between 30 and 45 min	Thematic analysis
Bains and Turnbull (2020)	UK	Social care settings and organisations providing services for people with intellectual disabilities	Theory based qualitative exploration of perspectives of adults with mild-to-moderate intellectual disabilities and caregivers	Adults with intellectual disabilities and carers who directly support people with mild-to-moderate intellectual disabilities	$n = 24$ ($n = 12$ adults with intellectual disabilities/$n = 12$ carers)	Interviews	Thematic analysis
Bossink et al. (2020)	Netherlands	Five residential facilities providing support to people with intellectual disabilities	Theory based qualitative exploration of caregiver perspectives	Direct support professionals	$n = 25$	Semi-structured interview	'Qualitative synthesis, including both inductive and deductive coding strategies'
Brooker et al. (2015)	Australia	A business unit that supported employees with mild learning disabilities to work with food packaging	Qualitative evaluation of programme	Adults with intellectual disabilities and community-based volunteers who support walking	$n = 5$ people with intellectual disabilities; $n = 6$ volunteers	Semi-structured interviews	Thematic analysis
Burk and Sharaievska (2017)	USA	Leisure agencies for people with learning disabilities	Theory based qualitative exploration of perceptions of adults with learning disabilities	Adults with intellectual disabilities at leisure-based agencies	n = 18	Semi-structured interviews	Thematic analysis
Cartwright et al. (2017)	Scotland	State funded day centres	Qualitative exploration of barriers and facilitators	Adults with intellectual disabilities and caregivers	$n = 42$ ($n = 12$ project leaders; $n = 10$ family carers; $n = 10$ paid carers; $n = 10$ service users with intellectual disabilities)	Semi-structured interviews with interview schedule for each participant group	Grounded theory
Caton et al., 2012	UK	A local self-advocacy group and quality assurance group	Qualitative exploration of barriers and facilitators	Adults with intellectual disabilities	$n = 13$	Semi-structured interviews	Thematic analysis
Chow et al. (2020)	Hong Kong and Taiwan	Group home setting	Qualitative exploration of barriers and facilitators	Staff members from group homes for people with intellectual disabilities	n = 19	Focus groups	Content analysis
Dixon-Ibarra et al. (2017)	USA	Group home setting	Qualitative exploration of barriers and facilitators	Adults with mild-to-moderate intellectual disabilities and support workers	$n = 6$ adults with intellectual disabilities; $n = 8$ support staff; $n = 6$ programme co-ordinators	Focus groups	Thematic analysis

(Continues)

TABLE 1 (Continued)

Author (year)	Country	Setting	Study design	Target population	Sample size	Data collection method	Qualitative analysis
Dixon-Ibarra et al. (2018)	USA	Group-home agency that too part in the Menu-Choice pilot intervention	Qualitative evaluation of programme	Adults with intellectual disabilities and support staff	$n = 12$ ($n = 5$ adults with intellectual disabilities; $n = 7$ support staff)	Semi structured interviews	Thematic analysis
Frey et al. (2005)	USA	Recruited from a larger physical activity assessment study	Qualitative exploration of barriers and facilitators	Adults with mild intellectual disabilities	$n = 12$	In-depth interviews; diaries; accelerometer; informal observations	Interpretative ethnography
Love and Agiovlasitis (2016)	USA	Residential facilities that provide housing for people with developmental disabilities and support groups for people with Down syndrome	Qualitative exploration of perceptions of adults with intellectual disabilities	Adults with Down syndrome	$n = 30$	'in-depth interviews'	Grounded theory
Mahy et al. (2010)	Australia	Two metropolitan agencies that provide support for people with Down syndrome	Qualitative exploration of barriers and facilitators	Adults with Down syndrome and caregivers	$n = 18$ ($n = 6$ adults with Down syndrome; $n = 12$ support people)	Semi-structured interviews	Phenomenological theoretical framework and grounded theory
Mauro et al., 2021	Germany	'An integration assistance institution, including in- and outpatient housing'	Qualitative exploration of barriers and facilitators	Adults with intellectual disabilities	$n = 24$	Interviews; semi-structured based on description	Content analysis
Messent et al. (2000)	UK	Group residential homes and a day centre involved in a community-based exercise programme	Qualitative exploration of barriers and facilitators	Adults with mild-to-moderate intellectual disabilities	n = 24	Interviews; semi-structured based on description	Content analysis
Messent et al. (1999)	UK	Group residential homes and a day centre involved in a community-based exercise programme	Qualitative exploration of barriers and facilitators	Adults with mild-to-moderate learning disabilities	$n = 24$	Interviews	Content analysis
Michalsen et al. (2020)	Norway	Recruited from specialised and community-based intellectual disability services, as well as day centres	Qualitative exploration of caregiver perspectives	Health care works and family members of people with intellectual disabilities	$n = 5$ health care workers/$n = 8$ family members	Focus group interviews and individual interviews	Thematic analysis
Mitchell et al. (2018)	Scotland	Participants in the Greater Glasgow based physical activity intervention	Qualitative exploration of participant experiences in taking part in a walking programme	Adults with intellectual disabilities	$n = 19$ ($n = 7$ interviews; $n = 12$ focus group)	Semi-structured interviews and a focus group	Thematic analysis

TABLE 1 (Continued)

Author (year)	Country	Setting	Study design	Target population	Sample size	Data collection method	Qualitative analysis
O'Leary, Taggart & Cousins (2018)	UK	Residential services in Northern Ireland	Qualitative exploration of barriers and facilitators	Staff and managers from residential services	$n = 21$ staff and $n = 11$ managers	Focus groups with staff and telephone interviews with managers	Thematic analysis
Powers et al. (2021)	USA	Recruited for a large service organisation providing support for people with disabilities	Qualitative exploration of perceptions of adults with intellectual disabilities	Adults with intellectual disabilities and their formal caregivers	$n = 22$ ($n = 12$ adults with intellectual disabilities and $n = 10$ formal caregivers)	Focus groups	Interpretative phenomenological analysis
Salomon et al. (2019)	Australia	Metropolitan disability support service	Qualitative exploration of barriers and facilitators	Older adults with intellectual disabilities	$n = 8$ adults with intellectual disabilities and $n = 6$ support workers	Semi-structured focus groups	Thematic analysis
Spanos et al. (2013)	Scotland	Participants supported adults with intellectual disabilities that participated in a multi-component weight loss intervention	Qualitative exploration of caregiver perspectives and experiences	Caregivers of participants in a weight loss intervention	$n = 24$ (n 16 paid and $n = 8$ family caregivers	Semi-structured interviews	Thematic analysis
Taliaferro and Hammond (2016)	USA	Community setting	Qualitative exploration of barriers and facilitators	Adults with intellectual disabilities and primary caregivers	$n = 12$ ($n = 6$ adults with intellectual disabilities and $n = 12$ primary caregivers)	Survey and focus group interviews	Content analysis
Temple and Walkley (2007)	Australia	Recruited from a single adult training support training service	Qualitative exploration of barriers and facilitators	Adults with intellectual disabilities; day training centre direct care workers; group home supervisors; managers and parents	$n = 40$ [adults with intellectual disability (1 group, $n = 9$), day training centre direct care workers (1 group, $n = 5$), group home supervisors (2 groups: 1 rural, $n = 9$; 1 metropolitan, $n = 6$), managers (1 group, $n = 4$) and parents (1 group, $n = 7$)]	Focus group interviews	'Editing analysis approach'
van Schijndel-Speet et al. (2014)	Netherlands	Day activity centres that organised activities	Qualitative exploration of barriers and facilitators	Older adults with intellectual disabilities	$n = 40$ [$n = 14$ one-to-one interviews; $n = 4$ focus groups ($n = 26$ participants total)]	Semi structured interviews and focus groups	Thematic analysis

TABLE 2 Participant characteristics.

Author (year)	Target population	Level of intellectual disabilities	Presence of developmental disabilities (specify)	Presence of caregivers or supports (specify)	Age	% female	Co-morbidities
Aherne and Coughlan (2017)	Support staff who work closely with people with severe and profound intellectual disabilities	Severe to profound	Not specified	Caregivers interviewed ($n = 3$ key workers; $n = 1$ household manager; $n = 1$ pool coordinator; $n = 1$ manager in the service)	$M = 49.83$ years (SD = 4.54)	100%	Not specified
Bains and Turnbull (2020)	Adults with intellectual disabilities and carers who directly support people with mild-to-moderate intellectual disabilities	Mild-to-moderate	Not specified	Caregivers included as participants ($n = 12$; $n = 4$ of which were family members)	Adults with intellectual disabilities 20–53 years; carers 31–70 (approx.)	33.3% of adults with intellectual disabilities; 66.7% of carers	Not specified
Bossink et al. (2020)	Paid support staff working with people with intellectual disabilities	Mild to profound supported	Not specified	Target of study	Not specified	Not specified	Not specified
Brooker et al. (2015)	Adults with intellectual disabilities and community-based volunteers	Mild	Not specified	No caregiver involvement; however, volunteers that supported a person with intellectual disabilities to take part in a walk were included	People with intellectual disabilities (age 30–59); volunteers (age 20–39 years)	80% of people with intellectual disabilities; 75% of volunteers	Not specified
Burk and Sharaievska (2017)	Adults with developmental disabilities	Mild-to-moderate	Yes, but not specified. Participants described as having intellectual ad developmental disabilities	Not target of study	19–60 years	61.10%	Overweight and obesity
Cartwright et al. (2017)	Adults with intellectual disabilities and caregivers	Not specified	Not specified	Caregivers interviewed ($n = 10$ family carers; $n = 10$ paid carers)	Not specified	50%	Not specified
Caton et al. (2012)	People with intellectual disabilities	Not specified	Not specified	Not specified	27–72 years ($M = 51.5$; SD = 12.03)	46.20%	Not specified
Chow et al. (2020)	Staff members from group homes for people with intellectual disabilities	Mild-to-moderate	Not specified	Target of the intervention ($n = 4$ managers; $n = 3$ social workers; $n = 3$ caretakers; $n = 4$ programme workers; $n = 2$ dormitory managers; $n = 2$ nurses; $n = 1$ physiotherapist	Not specified	Not specified	Not specified

TABLE 2 (Continued)

Author (year)	Target population	Level of intellectual disabilities	Presence of developmental disabilities (specify)	Presence of caregivers or supports (specify)	Age	% female	Co-morbidities
Dixon-Ibarra et al. (2018)	Adults with intellectual disabilities and support staff	Mild	Not specified	Included in study ($n = 7$ paid support staff)	Adults with intellectual disabilities 45–59 years; support staff 18–65 years	Adults with intellectual disabilities = 80%; Caregivers = 100%	Not specified
Dixon-Ibarra et al. (2017)	Adults with mild-to-moderate intellectual disabilities and support workers	Mild-to-moderate	Not specified	Included in the study ($n = 6$ paid support staff)	Adults with intellectual disabilities 26–65 years; support staff 20–28 years; programme coordinators 20–54 years	16.66% adults with intellectual disabilities; 75% support staff; 66.7% programme coordinators	Not specified
Frey et al. (2005)	Adults with mild intellectual disabilities	Mild	Not specified	$n = 4$ parents and $n = 2$ job supervisors	Adults with intellectual disabilities 23–45 years ($M = 37$; SD = 6)	30%	Overweight and obesity
Love and Agiovlasitis (2016)	Adults with Down syndrome	Not specified	Down syndrome	Caregiver present during the interview and confirmed participant responses	18–71 years ($M = 43.87$; SD = 12.53)	60%	Not specified
Mahy et al. (2010)	Adults with Down syndrome and caregivers	Not specified	Down syndrome	$n = 4$ parents and $n = 8$ day support staff	12–44 (median = 23 years) adults with intellectual disabilities	83% adults with intellectual disabilities; 75% caregivers	Not specified
Mauro et al., 2021	Adults with intellectual disabilities	Not specified	Not specified	Not specified	21–68 years (m = 44) years	62.50%	Not specified
Messent et al. (2000)	Adults with mild-to-moderate intellectual disabilities	Mild-to-moderate intellectual disabilities	Not specified	Not specified	24–48 years	41.67%	Not specified
Messent et al. (1999)	Adults with mild-to-moderate intellectual disabilities	Mild-to-moderate	Not specified	Not specified	24–48 years	41.67%	Not specified
Michalsen et al. (2020)	Health care works are family members of people with intellectual disabilities	Moderate to profound	Not specified	Target of study	Not specified for caregivers; people with intellectual disabilities 13–52 years	Health care workers = 60%; Family caregivers = 50%; people with intellectual disabilities supported by family members = 25%	Not specified

(Continues)

TABLE 2 (Continued)

Author (year)	Target population	Level of intellectual disabilities	Presence of developmental disabilities (specify)	Presence of caregivers or supports (specify)	Age	% female	Co-morbidities
Mitchell et al. (2018)	Adults with intellectual disabilities	Mild to profound in the original intervention. It is not specified for this study.	Not specified	$n = 1$ participant requested a family member to attend the interview	18–80+ years	Not specified	Not specified
O'Leary, Taggart & Cousins (2018)	Staff and managers from residential services	Not specified	Not specified	Focus of study	20–65 years	86%	Not specified
Powers et al. (2021)	Adults with intellectual disabilities and their formal caregivers	Mild-to-moderate	Not specified	Formal caregivers that provided care for one of the participants for at least 15 h per week for at least 3 months	18–50 years ($M = 34.67$; $SD = 7.75$) adults with intellectual disabilities; ($M = 34.67$; $SD = 7.75$) caregivers	58.7% of adults with ID; 90% of caregivers	Seizure disorder or epilepsy (33.33%); arthritis (16.67%); Visual impairment (50%); Asthma (16.67%); OCD (16.67%); Anxiety (41.67%); Depression (41.67%); Other (58.3%)
Salomon et al. (2019)	Older adults with intellectual disabilities	Mild-to-moderate	Not specified	$n = 6$ paid support workers	Participants with intellectual disabilities >60 years; Participants who are paid support workers >21 years	Adults with intellectual disabilities = 12.5%; Caregivers = 100%	Not specified
Spanos et al. (2013)	Caregivers of participants in a weight loss intervention	Not specified	Not specified	Caregivers were the target	Not specified	Not specified	Not specified
Taliaferro and Hammond (2016)	Adults with intellectual disabilities and primary caregivers	Not specified	Not specified	Primary caregivers of participants included in the study	People with intellectual disabilities (age 23–38); primary caregiver (age 40–70)	50% adults with intellectual disabilities; 100% caregivers	Not specified
Temple and Walkley (2007)	Adults with intellectual disabilities; day training centre direct care workers; group home supervisors; managers and parents	Not specified	Not specified	Focus group included care workers, group home supervisors, managers and parents.	18–41 years ($M = 25$; $SD = 7.4$) adults with intellectual disabilities	33.3% of people with intellectual disabilities	Not specified

TABLE 2 (Continued)

Author (year)	Target population	Level of intellectual disabilities	Presence of developmental disabilities (specify)	Presence of caregivers or supports (specify)	Age	% female	Co-morbidities
van Schijndel-Speet et al. (2014)	Older adults with intellectual disabilities	Mild-to-moderate	Not specified	Not a target of the study, but involved in assigning focus groups and assessing accessibility of interview questions	50–80 years	42.50%	Not specified; however, $n = 4$ participants were wheelchair users and $n = 7$ used a walking aid

3.3 | Participant characteristics

The studies included either adults with intellectual disabilities ($n = 9$), caregivers ($n = 6$) or both adults with intellectual disabilities and their caregivers ($n = 10$; see Table 2). In the studies that reported level of intellectual disabilities, data were primarily for adults with mild-to-moderate intellectual disabilities ($n = 13$). Data relating to people with severe or profound intellectual disabilities derived from the perspective of caregivers ($n = 3$; see Table 1). Across the studies that explicitly reported sample size, the total number of adults with intellectual disabilities was $n = 280$, with study sample size ranging from $n = 5$ to $n = 30$ (Brooker et al., 2015; Love & Agiovlasitis, 2016; respectively). For caregivers, study sample size ranged from $n = 6$ to $n = 32$ (Aherne & Coughlan, 2017; O'Leary, Taggart & Cousins, 2018; respectively), with a total number of $n = 238$ included in the evidence synthesis. All participants in the studies were adults, with age ranging from approximately 18–80 years for adults with intellectual disabilities, and 18–65 years for caregivers. The full description of participant characteristics is presented in Table 2.

3.4 | Quality appraisal

Based on the CASP checklist, medium confidence could be deduced from the quality of the findings (Table 3). The main area that was lacking within the qualitative literature was consideration of the relationship between participants and researchers, which may have implications for the data collected and how it was interpreted. Overall, the appraisal indicates that it is necessary to interpret findings with caution.

3.5 | Mapping onto the COM-B

An overview of the synthesis and mapping onto the COM-B model are presented in Figure 2. There were broad range of factors that contributed to the capabilities, opportunities and motivation for adults with intellectual disabilities to engage in physical activity. Although not an intended outcome, the synthesis also identified important influences on social support for physical activity provided by paid and family caregivers. Social support was subsequently a core influence of physical activity through the social opportunities that adults with intellectual disabilities experience.

3.6 | COM-B applied to caregivers

Social support provided by family and paid caregivers played an important role in the opportunities that adults with intellectual disabilities had to engage in physical activity (see section 3.7.3). Across the included studies, there were data relating to the ability of caregivers to provide social support. The synthesis of the data emphasises that the provision of social support is a complex behaviour with its own capabilities, opportunities and motivations (Figure 2).

TABLE 3 Scoring of the CASP qualitative checklist.

Author (year)	Clear statement of aims?	Qualitative methodology appropriate?	Appropriate research design?	Appropriate recruitment strategy?	Appropriate data collection method?	Consideration of relationship between researcher and participant?	Consideration of ethical issues?	Sufficiently rigorous analysis?	Clear statement of findings?	Is the research valuable?	Score	Confidence
Aherne and Coughlan (2017)	Yes	Yes	CT	Yes	CT	No	Yes	CT	CT	Yes	05/10	Medium/ Low
Bains and Turnbull (2020)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Bossink et al. (2020)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Brooker et al. (2015)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10/10	High
Burk and Sharaievska (2017)	Yes	Yes	Yes	Yes	CT	No	CT	Yes	Yes	Yes	07/10	Medium
Cartwright et al. (2017)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Caton et al., 2012	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Chow et al. (2020)	Yes	Yes	Yes	Yes	Yes	Yes	CT	Yes	Yes	Yes	09/10	High
Dixon-Ibarra et al. (2018)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Dixon-Ibarra et al. (2017)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Frey et al. (2005)	Yes	Yes	Yes	CT	Yes	Yes	CT	Yes	Yes	Yes	08/10	High
Love and Agiovlasitis (2016)	Yes	Yes	Yes	Yes	Yes	No	CT	Yes	Yes	Yes	08/10	High
Mahy et al. (2010)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Mauro et al. (2021)	Yes	Yes	Yes	Yes	CT	No	Yes	CT	Yes	Yes	08/10	High
Messent et al. (1999)	Yes	Yes	Yes	Yes	CT	No	CT	No	Yes	Yes	06/10	Medium

TABLE 3 (Continued)

Author (year)	Clear statement of aims?	Qualitative methodology appropriate?	Appropriate research design?	Appropriate recruitment strategy?	Appropriate data collection method?	Consideration of relationship between researcher and participant?	Consideration of ethical issues?	Sufficiently rigorous analysis?	Clear statement of findings?	Is the research valuable?	Score	Confidence
Messent et al. (2000)	Yes	Yes	Yes	CT	CT	No	CT	Yes	Yes	Yes	06/10	Medium
Michalsen et al. (2020)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Mitchell et al. (2018)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
O'Leary, Taggart & Cousins (2018)	Yes	Yes	Yes	CT	CT	No	Yes	Yes	CT	Yes	06/10	Medium
Powers et al. (2021)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
Salomon et al. (2019)	Yes	Yes	Yes	Yes	Yes	No	Yes	CT	Yes	Yes	08/10	High
Spanos et al. (2013)	Yes	Yes	Yes	Yes	CT	No	Yes	Yes	CT	Yes	07/10	Medium
Taliaferro and Hammond (2016)	Yes	Yes	Yes	Yes	Yes	No	CT	Yes	Yes	Yes	09/10	High
Temple and Walkley (2007)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High
van Schijndel-Speet et al. (2014)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	09/10	High

Note: CT, cannot tell; Wording of questions changed to be condensed in this table, the exact wording published by CASP was used when applying the checklist.

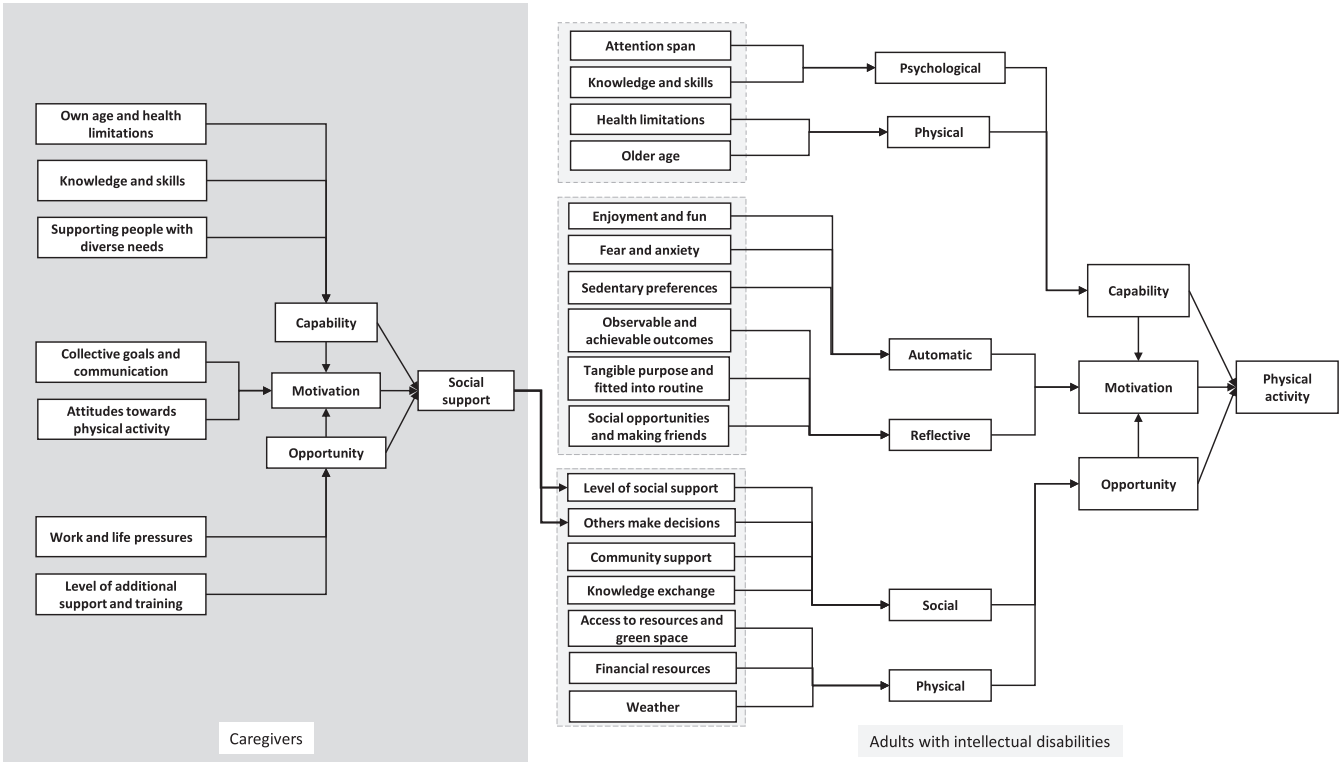

FIGURE 2 COM-B for the physical activity of adults with intellectual disabilities.

3.6.1 | Capability

Caregivers' own health limitations and older age reduced physical capability to provide social support (Cartwright et al., 2017; Chow et al., 2020). Additionally, some caregivers did not have the necessary skills and knowledge relating to physical activity reducing psychological capability to support participation (Bains & Turnbull, 2020; Dixon-Ibarra et al., 2017; Mauro et al., 2021; Messent et al., 2000; Michalsen et al., 2020; O'Leary, Taggart & Cousins 2018; Temple & Walkley, 2007). Capability was also impacted by the diverse support needs of people with intellectual disabilities (Aherne & Coughlan, 2017; Michalsen et al., 2020; Mitchell et al., 2018; Temple & Walkley, 2007), with adults with severe and profound intellectual disabilities requiring greater levels of support to participate in physical activity (Aherne & Coughlan, 2017).

3.6.2 | Motivation

The attitudes of caregivers towards physical activity varied, and directly influenced their reflective motivation to support participation among adults with intellectual disabilities (Aherne & Coughlan, 2017; Bossink et al., 2020; Cartwright et al., 2017; Dixon-Ibarra et al., 2017; Frey et al., 2005; Mahy et al., 2010; Michalsen et al., 2020; Powers et al., 2021; Taliaferro & Hammond, 2016; van Schijndel-Speet et al., 2014). Reflective motivation was also influenced by the number of caregivers an individual had, which impacted on collective goals between caregivers for supporting physical activity (Bossink et al., 2020; Cartwright et al., 2017; Spanos et al., 2013; Temple & Walkley, 2007). A lack of collaboration contributed to caregivers passing responsibility onto each other and not supporting physical activity (Cartwright et al., 2017).

3.6.3 | Opportunity

Reflecting the importance of knowledge and skills in determining capability, having the opportunity to receive training and feeling supported to facilitate physical activity, improved the opportunities caregivers experience to promote physical activity (Bossink et al., 2020; Caton et al., 2012; Chow et al., 2020; Dixon-Ibarra et al., 2017; Mahy et al., 2010; O'Leary, Taggart & Cousins, 2018; Taliaferro & Hammond, 2016). However, the main influence on the opportunities to provide support related to perceived available time of caregivers (Aherne & Coughlan, 2017; Bains & Turnbull, 2020; Bossink et al., 2020; Cartwright et al., 2017; Caton et al., 2012; Chow et al., 2020; Dixon-Ibarra et al., 2017; Dixon-Ibarra et al. 2018; Mahy et al., 2010; Messent et al., 1999; Michalsen et al., 2020; O'Leary, Taggart & Cousins, 2018; Spanos et al., 2013; Temple & Walkley, 2007; van Schijndel-Speet et al., 2014). For example, paid support staff had busy workloads and limited time, with it necessary to prioritise tasks relating to daily living over physical activity (Bossink et al., 2020).

3.7 | COM-B for adults with intellectual disabilities

3.7.1 | Capability

Psychological capability

Across the included literature, two themes were identified that may contribute to psychological capabilities: 'limited attention span reducing activity' and 'knowledge and skills relating to physical activity and health'. A short attention span and losing concentration or interest quickly were attributed to difficulties engaging in physical activity (Dixon-Ibarra et al., 2017; Mahy et al., 2010; Messent et al., 2000). Additionally, a lack of knowledge of the health risks associated with inactivity, and perceived lack of necessary skills deterred some people from participating in activities (Dixon-Ibarra et al., 2017; Michalsen et al., 2020; Taliaferro & Hammond, 2016).

Physical capability

Physical capabilities related to two main themes: 'underlying physical health and capabilities' and 'older age preventing participation'. Underlying physical health capabilities included the presence of health limitations which may act as a barrier to participating in physical activity (Aherne & Coughlan, 2017; Bossink et al., 2020; Frey et al., 2005; Mahy et al., 2010; Salomon et al., 2019; Taliaferro & Hammond, 2016; van Schijndel-Speet et al., 2014). The reported health limitations included heart conditions and asthma, which resulted in concerns over capacity for physical exertion, with participants describing breathing difficulties (van Schijndel-Speet et al., 2014).

Under this theme of physical health limitations, people also described that physical discomfort, for example, feeling tired, discouraged participation (Brooker et al., 2015; Temple & Walkley, 2007; van Schijndel-Speet et al., 2014). Moreover, physical disabilities, such as mobility issues, reduced the perceived physical capability to engage in physical activity (Brooker et al., 2015; Dixon-Ibarra et al., 2017; Michalsen et al., 2020). Older age of participants also lowered physical capability, due to an increased risk of experiencing health conditions which impaired mobility and capacity to participate in physical activity (Caton et al., 2012; Chow et al., 2020; Dixon-Ibarra et al. 2017; Dixon-Ibarra et al., 2018; Salomon et al., 2019; Taliaferro & Hammond, 2016).

3.7.2 | Motivation

Automatic motivation

For automatic motivation, themes of 'enjoyment and fun' and 'fear and anxiety' were identified as influencing behaviour. Emotional responses of enjoyment and fun were key motivators for continuing to participate in physical activity (Aherne & Coughlan, 2017; Chow et al., 2020; Love & Agiovlasitis, 2016; Mahy et al., 2010; Michalsen et al., 2020; van Schijndel-Speet et al., 2014). Strategies to promote fun and enjoyment, for example, through the use of music (Mahy et al., 2010), enahnced physical activty.

Adults with intellectual disabilities were also reported as feeling nervous and having anxiety when participating in certain physical activities. Anxious feelings related to concerns over safety when walking alone, walking in the dark, fear of falling or injury and fear of busy roads (Brooker et al., 2015; Cartwright et al., 2017; Caton et al., 2012; Chow et al., 2020; Frey et al., 2005; Mauro et al., 2021; Michalsen et al., 2020; Mitchell et al., 2018; O'Leary, Taggart & Cousins, 2018; Powers et al., 2021; Salomon et al., 2019; Taliaferro & Hammond, 2016; Temple & Walkley, 2007; van Schijndel-Speet et al., 2014).

Across the included literature, adults with intellectual disabilities were also described as having sedentary preferences and habits (Burk & Sharaievska, 2017; Cartwright et al., 2017; Caton et al., 2012; Chow et al., 2020; Dixon-Ibarra et al., 2017; Dixon-Ibarra et al. 2018; Frey et al., 2005; Mahy et al., 2010; Michalsen et al., 2020; Temple & Walkley, 2007). This implied that overall motivation to engage in physical activity was low.

Reflective motivation

Reflective motivation included perceived observable and concrete benefits to physical activity, having an activity with a tangible purpose that fitted into routine and having opportunities to be social and make friends. The literature emphasised that adults with intellectual disabilities were motivated by perceived observable and concrete outcomes (Bains & Turnbull, 2020; Brooker et al., 2015; Burk & Sharaievska, 2017; Caton et al., 2012; Dixon-Ibarra et al., 2017; Frey et al., 2005; Love & Agiovlasitis, 2016; Messent et al., 1999; Michalsen et al., 2020; Mitchell et al., 2018; O'Leary, Taggart & Cousins, 2018; Salomon et al., 2019; Spanos et al., 2013; van Schijndel-Speet et al., 2014). This included observed physical and mental health benefits, perceived improvements in appearance, feeling a sense of achievement and having the opportunity to go outdoors.

Having physical activity with a clear purpose also motivated adults with intellectual disabilities (Bains & Turnbull, 2020; Chow et al., 2020; Dixon-Ibarra et al., 2017; Mahy et al., 2010; Michalsen et al., 2020; Salomon et al., 2019; van Schijndel-Speet et al., 2014). This included activities with an apparent reason, such as walking to shops, walking the dog or gardening. Additionally, fitting physical activities into a person's routine potentially facilitated participation (Chow et al., 2020; Dixon-Ibarra et al., 2017; Dixon-Ibarra et al. 2018; Mahy et al., 2010; Mauro et al., 2021; Michalsen et al., 2020; Mitchell et al., 2018; Salomon et al., 2019), as it could help with feeling more confident and avoided disruption to daily schedules.

Adults with intellectual disabilities also described being motivated by the opportunity to meet others and make friends (Brooker et al., 2015; Chow et al., 2020; Frey et al., 2005; Love & Agiovlasitis, 2016; Mahy et al., 2010; Mauro et al., 2021; Michalsen et al., 2020; Mitchell et al., 2018; Salomon et al., 2019; Taliaferro & Hammond, 2016; van Schijndel-Speet et al., 2014). Having a social aspect, such as being active with others, increased enjoyment and motivated participants to take part. However, it was important to respect personal preference, as some individuals enjoyed engaging in physical activity on their own and were uncomfortable interacting with new people (Mauro et al., 2021; Mitchell et al., 2018).

3.7.3 | Opportunity

Social opportunity

Social opportunity was attributed to the importance of social support, the level of autonomy an individual has, level of wider community support, and the sharing of information. Having social support was an essential aspect of physical activity for adults with intellectual disabilities (Dixon-Ibarra et al., 2017; Dixon-Ibarra et al. 2018; Frey et al., 2005; Mahy et al., 2010; Mauro et al., 2021; Messent et al., 1999; Michalsen et al., 2020; Mitchell et al., 2018; Powers et al., 2021; Spanos et al., 2013; Taliaferro & Hammond, 2016; Temple & Walkley, 2007; van Schijndel-Speet et al., 2014). This was linked to having motivated caregivers and having someone to plan and encourage activities. However, due to the reliance on social support, it could result in reduced participation if meaningful support is not given.

In this synthesis, autonomy and freedom of choice were defined as a social opportunity for adults with intellectual disabilities as it was directly shaped by caregivers. It was identified that adults with intellectual disabilities may have limited control over their own life with others making decisions on their behalf (Burk & Sharaievska, 2017; Cartwright et al., 2017; Mahy et al., 2010; Messent et al., 1999; Messent et al., 2000; Mitchell et al., 2018; Powers et al., 2021; Taliaferro & Hammond, 2016; van Schijndel-Speet et al., 2014). For adults with intellectual disabilities, caregivers had a level of control over the opportunities to engage in physical activity. It was also identified that caregivers wanted to respect personal choice, but this could conflict with promoting physical activity (Dixon-Ibarra et al., 2017; Messent et al., 2000; O'Leary, Taggart & Cousins, 2018; Salomon et al., 2019).

Social opportunity also tied into the level of community support experienced by adults with intellectual disabilities, with this both enabling and preventing physical activity (Mahy et al., 2010; Messent et al., 1999; Salomon et al., 2019). People within the community potentially had negative attitudes towards people with intellectual disabilities, which reduced engagement in physical activities that required accessing community resources.

People with intellectual disabilities may also lack the social opportunities to learn about options for physical activity. The absence of relevant information being shared reduces awareness of what is available to them, which is a barrier to physical activity (Burk & Sharaievska, 2017; Taliaferro & Hammond, 2016).

Physical opportunity

Physical opportunity related to accessing necessary resources, financial and funding limitations, and the weather. Accessing necessary resources was defined by limited available facilities and closure of programmes, limited accessible opportunities for transportation and limited access to green spaces and opportunities for outdoor physical activity.

It was described that for many participants local physical activity facilities were not suitable, with existing accessible programmes closing or no longer open (Aherne & Coughlan, 2017; Bossink et al., 2020; Cartwright et al., 2017; Frey et al., 2005; Mauro et al., 2021; Messent et al., 1999; Mitchell et al., 2018; Powers et al., 2021; Taliaferro & Hammond, 2016; Temple & Walkley, 2007). The lack of available resources was a major barrier to participation in physical activity. Additionally, when considering accessing necessary resources, being able to engage in physical activity outdoors was reliant on green spaces which were not available for all (Chow et al., 2020; Mitchell et al., 2018; Powers et al., 2021).

A related theme that can impact on the ability to access physical activity resources, was financial and funding limitations experienced by adults with intellectual disabilities, their caregivers, and the programmes available (Cartwright et al., 2017; Dixon-Ibarra et al., 2017; Frey et al., 2005; Mahy et al., 2010; Mauro et al., 2021; Messent et al., 1999; O'Leary, Taggart & Cousins, 2018; Salomon et al., 2019; Taliaferro & Hammond, 2016; Temple & Walkley, 2007; van Schijndel-Speet et al., 2014). The limited financial resources restricted the opportunities of adults with intellectual disabilities to engage in activities available in the community.

In addition to physical and tangible opportunities within the community, the physical environment directly impacted on physical activity through the weather (Frey et al., 2005; Mauro et al., 2021; Mitchell et al., 2018; O'Leary, Taggart & Cousins, 2018; Salomon et al., 2019; Spanos et al., 2013; van Schijndel-Speet et al., 2014). Poor weather, such as rain, snow and ice, could prevent physical activity that was based outdoors, reducing motivation.

3.8 | Discussion

This qualitative evidence synthesis aimed to map the influences of physical activity onto the COM-B model by identifying the capabilities, opportunities and motivations that adults with intellectual disabilities experience to engage in physical activity. It provides an initial comprehensive application of the COM-B model as a population-specific theoretical framework for adults with intellectual disabilities. The findings highlight the importance of considering the specific opportunities, motivations and capabilities adults with intellectual disabilities experience, and the importance of appraising social support from caregivers as a distinct behaviour with its own influences.

During the synthesis, a wide range of complex and interacting influences were identified, such as reflective motivation deriving from the potential opportunities for meeting other people and making friends through physical activity (section 3.7.2). The emphasis on opportunities for friendships and social interaction, has major implications as many adults with intellectual disabilities experience restricted social networks (Harrison et al., 2021). Additionally, the importance of supporting social connectedness has been highlighted as a potential mechanism contributing to engaging in complex lifestyle change interventions for adults with intellectual disabilities (Maenhout et al., 2024; Westrop et al., 2024). Highlighting the wider perceived benefits to wellbeing through engagement in physical activity.

Interpersonal factors also related to social opportunities, such as the level of social support provided by paid and family caregivers

(section 3.7.3). Studies that included caregivers allowed reflection on the specific capabilities, motivations and opportunities for supporting physical activity (section 3.6). These findings corroborate research focused more broadly on lifestyle modification, where there are numerous contexts and mechanisms contributing to the capacity of caregivers to support behaviour change (Westrop et al., 2024). As a result, it is important to view 'social support' as an independent behaviour requiring further attention by researchers.

Research has recently applied the COM-B model to understanding the influences of social support for physical activity from the perspective of paid support staff (Bossink et al., 2019; Overwijk et al., 2021). A thorough exploration of all the COM-B factors associated with social support was not within the scope of this study, as the focus was on synthesising the findings for adults with intellectual disabilities. However, when comparing the findings of this evidence synthesis to the research focused on the caregiver's ability to provide support, there was agreement on the important COM-B influences. For example, knowledge and skills, and looking after adults with diverse support needs were key contributors to capability (Bossink et al., 2019; Overwijk et al., 2021). Furthermore, having training related to supporting physical activity was reported to be associated with improved capabilities and motivation to support physical activity (Bossink et al., 2019).

Overall, this evidence synthesis highlighted the complex nature of physical activity for adults with intellectual disabilities. Targeting each of the identified influences at once would be challenging making it imperative to be specific about the chosen behaviour (Michie et al., 2014). For example, the capabilities, opportunities and motivations associated with running outdoors for physical activity versus exercising in a community-based gym will be different. Therefore, the specific mode and context of physical activity must be considered when applying the COM-B for adults with intellectual disabilities.

It is important to note that the produced applied model cannot be generalised to all adults with intellectual disabilities. There were limited studies included in the synthesis that reflected on the experiences of people with severe or profound intellectual disabilities. This reduces the applicability of the framework but also highlights an important gap in the evidence base to be addressed by future researchers. Additionally, across the studies that reported the Race/Ethnicity of participants, most participants were identified as being White/Caucasian, thus further reducing the generalisability of the findings. The wider influence of individual characteristics can also not be discussed, as it was not possible to reflect on the impact of sex/gender. The limited consideration of gender within the included studies is reflective of quantitative physical activity literature including people with intellectual disabilities where the potential role of gender is often overlooked (Westrop et al., 2019). It is possible that recent research conducted after the searches in February 2022 would have provided more insight into this. Therefore, this study should be used as an initial exploration, and as a starting point, for other researchers interested in applying the COM-B to the physical activity of adults with intellectual disabilities.

Limitations may also arise from the more flexible approach to the synthesis. The research team opted to use both an inductive and deductive approach to coding. The initial inductive approach allowed for the influences of physical activity to be derived directly from the data. Following this, the deductive approach was used with influences categorised under the COM-B framework. This approach was used as there was limited research available relating to the application of the COM-B to the health behaviours of adults with intellectual disabilities, and adaptations were potentially needed.

There were also challenges when defining influences under the constructs of the COM-B model. For example, opportunities to be social and make friends were defined in this synthesis as reflective motivation. This was because the belief that participating in physical activity would provide opportunities for social interaction contributed to motivation. However, it could also be argued that this influence could have been categorised as a social opportunity for the behaviour. It is therefore important for further research into the application of the COM-B model to understand the opportunities, capabilities and motivations of adults with intellectual disabilities to engage in physical activity. This will help to facilitate understanding of how the influences should be categorised. Understanding of how influences relate to the COM-B would benefit greatly from the involvement of people with intellectual disabilities or people providing support. The COM-B components ascribed to these influences should be decided with input from people with lived experiences, which is a limitation of this study. There has been a paucity of inclusive research working with directly with adults with intellectual disabilities during behaviour change research with adults with intellectual disabilities (Rana et al., 2024) and doing so provides meaningful insight to ensure the research best reflects and respects people's lived experiences (Maenhout et al., 2024; Rana et al., 2024; Westrop et al., 2024).

It could also be argued that there were limitations associated with focusing on qualitative research. Inclusion of quantitative studies could have identified correlates of physical activity that may be relevant to the COM-B model. Additionally, qualitative research is bound by context, and the synthesis has a reduced capacity to capture this. Nevertheless, the use of qualitative research allowed for the exploration of direct experiences, perspectives and perceptions of physical activity by adults with intellectual disabilities and caregivers, which would not have been captured through quantitative research alone (Westrop et al., 2024). The synthesis of qualitative research enabled a more in-depth and conceptually rich consideration of the influences of this behaviour and application of the COM-B model.

The flexible approach to qualitative evidence synthesis used may have been a potential limitation of this study. An adapted approach to thematic synthesis was utilised, where thematic synthesis was initially adopted to inductively develop themes relating to influences of physical activity for adults with intellectual disabilities. Following this, a deductive approach was used to map the emergent themes onto the COM-B. Other more structured approaches to qualitative evidence synthesis may have provided more rigorous results (e.g., 'Best Fit' Framework synthesis; Carroll et al., 2013). Decisions around the data synthesis method used in this current study were based on the

exploratory nature, with limited research previously considering the application of COM-B to physical activity of adults with intellectual disabilities.

Nevertheless, the methods used throughout this study were methodologically rigorous, and drew on existing literature to build a comprehensive understanding of the capabilities, opportunities and motivations of physical activity for people with intellectual disabilities. Having this initial synthesis can be used as a starting point for understanding the behaviour and how influences may relate to components of the COM-B. Physical activity in adults with intellectual disabilities has many complex influences, and future researchers using the COM-B model should be more precise in the behaviour they are focusing on. For example, there should be consideration of the different forms of physical activity (e.g., walking, running, structured exercise requiring equipment) having different influences. This is reflective of the recommendations on the use of the COM-B model (Michie et al., 2014). More research should consider the application of this model to the physical activity of adults with intellectual disabilities and their caregivers, to build upon the existing evidence base. Qualitative research can help to facilitate this by providing a conceptually rich understanding of the capabilities, opportunities and motivational influences. Nevertheless, the application of the COM-B model provides the opportunity to build a population-specific theoretical understanding of the physical activity of adults with intellectual disabilities.

3.9 | Conclusion

This study was the first evidence relating to understanding the capabilities, opportunities and motivations of physical activity for adults with intellectual disabilities. The findings highlight the complex nature of this health behaviour. Research would benefit from being more specific in the behaviour targeted, as physical activity is a broad concept with different influences associated with different modes and contexts of the behaviour. More research is required to explicitly explore the capabilities, opportunities and motivations of adults with intellectual disabilities and/or their caregivers.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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REFERENCES

Aherne, C., & Coughlan, B. (2017). A preliminary investigation of the suitability of aquatics for people with severe and profound intellectual disabilities. *Journal of Intellectual Disabilities*, *21*(2), 118–133. https://doi.org/10.1177/1744629516646513

American Association of Intellectual and Developmental Disabilities. (2021). *Intellectual disabilities: Definition, diagnosis, classification and systems of supports* (12th ed.). American Association of Intellectual and Developmental Disabilities.

Atkins, L., Francis, J., Islam, R., O'Connor, D., Patey, A., Ivers, N., Foy, R., Duncan, E., Colquhoun, H., Grimshaw, J., Lawton, R., & Michie, S. (2017). A guide to use the theoretical domains framework of behaviour change to investigate implementation problems. *Methodology*, *12*(77), 1–18. https://doi.org/10.1186/s13012-017-0605-9

Bains, K. K., & Turnbull, T. (2020). Using a theoretically driven approach with adults with mild-moderate intellectual disabilities and carers to understand and improve uptake of healthy eating and physical activity. *Obesity Medicine*, *19*, 100234. https://doi.org/10.1016/j.obmed.2020.100234

Bossink, L. W. M., van der Putten, A. A., & Vlaskamp, C. (2017). Understanding low levels of physical activity in people with intellectual disabilities: A systematic review to identify barriers and facilitators. *Research in Developmental Disabilities*, *68*, 95–110. https://doi.org/10.1016/j.ridd.2017.06.008

Bossink, L. W. M., van der Putten, A. A. J., Paap, M. C. S., & Vlaskamp, C. (2019). Factors associated with direct support professionals' behaviour in the physical activity support provided to people with intellectual disabilities. *Journal of Intellectual Disability Research*, *63*(8), 981–991. https://doi.org/10.1111/jir.12616

Bossink, L. W. M., Van der Putten, A. A. J., & Vlaskamp, C. (2020). Physical-activity support for people with intellectual disabilities: A theory-informed qualitative study exploring the direct support professionals' perspective. *Disability and Rehabilitation*, *42*(25), 3614–3620. https://doi.org/10.1080/09638288.2019.1602851

Brooker, K., Mutch, A., McPherson, L., Ware, R., Lennox, N., & van Dooren, K. (2015). "We can talk while we're walking": Seeking the views of adults with intellectual disability to inform a walking and social-support program. *Adapted Physical Activity Quarterly*, *32*(1), 34–48. https://doi.org/10.1123/apaq.2013-0067

Burk, B. N., & Sharaievska, I. (2017). Health and recreation perceptions of adults with developmental disabilities. *Therapeutic Recreation Journal*, *51*(3), 179–192. https://doi.org/10.18666/trj-2017-v51-i3-7550

Cane, J., O'Connor, D., & Michie, S. (2012). Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science*, *7*, 1–17. https://doi.org/10.1186/1748-5908-7-37

Carroll, C., Booth, A., Leaviss, J., & Rick, J. (2013). "Best fit" framework synthesis: Refining the method. *BMC Medical Research Methodology*, *13*, 1–16. https://doi.org/10.1186/1471-2288-13-37

Cartwright, L., Reid, M., Hammersley, R., & Walley, R. M. (2017). Barriers to increasing the physical activity of people with intellectual disabilities. *British Journal of Learning Disabilities*, *45*(1), 47–55. https://doi.org/10.1111/bld.12175

Caspersen, C., Powell, K., & Christenson, G. (1985). Physical activity, exercise, and physical fitness: Definitions and distinctions for health-related research. *Public Health Reports*, *100*(2), 126–131.

Caton, S., Chadwick, D., Chapman, M., Turnbull, S., Mitchell, D., & Stansfield, J. (2012). Healthy lifestyles for adults with intellectual disability: Knowledge, barriers, and facilitators. *Journal of Intellectual & Developmental Disability*, *37*(3), 248–259. https://doi.org/10.3109/13668250.2012.703645

Chow, B. C., Choi, P. H. N., Huang, W. Y., & Pan, C. Y. (2020). Promoting physical activity in group home settings: Staff perspectives through a SWOT analysis. *International Journal of Environmental Research and Public Health*, *17*(16), 1–15. https://doi.org/10.3390/ijerph17165805

Craig, P., Dieppe, P., Macintyre, S., Michie, S., Nazareth, I., Petticrew, M., & Medical Research Council. (2008). Developing and evaluating complex interventions: The new Medical Research Council guidance. *BMJ*, *337*, a1655. https://doi.org/10.1136/bmj.a1655

Critical Appraisal Skills Programme (2023). CASP qualitative checklist. https://casp-uk.net/casp-tools-checklists/

Dairo, Y. M., Collett, J., Dawes, H., & Oskrochi, G. R. (2016). Physical activity levels in adults with intellectual disabilities: A systematic review. *Preventive Medical Reports*, *4*, 209–219. https://doi.org/10.1016/j.pmedr.2016.06.008

Dixon-Ibarra, A., Driver, S., Nery-Hurwit, M., & VanVolkenburg, H. (2018). Qualitative evaluation of a physical activity health promotion programme for people with intellectual disabilities in a group home setting. *Journal of Applied Research in Intellectual Disabilities*, *31*(Suppl. 1), 97–109. https://doi.org/10.1111/jar.12397

Dixon-Ibarra, A., Driver, S., Vanderbom, K., & Humphries, K. (2017). Understanding physical activity in the group home setting: A qualitative inquiry. *Disability and Rehabilitation*, *39*(7), 653–662. https://doi.org/10.3109/09638288.2016.1160294

Emerson, E., Hatton, C., Baines, S., & Robertson, J. (2016). The physical health of British adults with intellectual disability: Cross sectional study. *International Journal for Equity in Health*, *15*, 11. https://doi.org/10.1186/s12939-016-0296-x

Flemming, K., & Noyes, J. (2021). Qualitative evidence synthesis: Where are we at? *International Journal of Qualitative Methods*, *20*, 1–13. https://doi.org/10.1177/1609406921993276

Frey, G., Buchanan, A., & Standt, R. (2005). "I'd rather watch TV": An examination of physical activity in adults with mental retardation. *Mental Retardation*, *43*(4), 241–254.

Harrison, R. A., Bradshaw, J., Forrester-Jones, R., McCarthy, M., & Smith, S. (2021). Social networks and people with intellectual disabilities: A systematic review. *Journal of Applied Research in Intellectual Disabilities*, *34*(4), 973–992. https://doi.org/10.1111/jar.12878

Hassan, N. M., Landorf, K. B., Shields, N., & Munteanu, S. E. (2018). Effectiveness of interventions to increase physical activity in individuals with intellectual disabilities: A systematic review of randomised controlled trials. *Journal of Intellectual Disability Research*, *63*(2), 168–191. Portico. https://doi.org/10.1111/jir.12562

Hughes-McCormack, L. A., Rydzewska, E., Henderson, A., MacIntyre, C., Rintoul, J., & Cooper, S. A. (2018). Prevalence and general health status of people with intellectual disabilities in Scotland: A total population study. *Journal of Epidemiology and Community Health*, *72*(1), 78–85. https://doi.org/10.1136/jech-2017-209748

Lee, I.-M., Shiroma, E. J., Lobelo, F., Puska, P., Blair, S. N., & Katzmarzyk, P. T. (2012). Effect of physical inactivity on major non-communicable diseases worldwide: An analysis of burden of disease and life expectancy. *The Lancet*, *380*(9838), 219–229. https://doi.org/10.1016/s0140-6736(12)61031-9

Love, A., & Agiovlasitis, S. (2016). How do adults with Down syndrome perceive physical activity? *Adapted Physical Activity Quarterly*, *33*(3), 253–270. https://doi.org/10.1123/APAQ.2015-0042

Maenhout, L., Latomme, J., Cardon, G., Crombez, G., Van Hove, G., & Compernolle, S. (2024). Synergizing the behavior change wheel and a cocreative approach to design a physical activity intervention for adolescents and young adults with intellectual disabilities: Development study. *JMIR Formative Research*, *8*, e51693. https://doi.org/10.2196/51693

Mahy, J., Shields, N., Taylor, N. F., & Dodd, K. J. (2010). Identifying facilitators and barriers to physical activity for adults with Down syndrome. *Journal of Intellectual Disability Research*, *54*(9), 795–805. https://doi.org/10.1111/j.1365-2788.2010.01308.x

Mauro, A., Bruland, D., & Latteck, A. D. (2021). "With enthusiasm and energy throughout the day": Promoting a physically active lifestyle in people with intellectual disability by using a participatory approach. *International Journal of Environmental Research and Public Health*, *18*(23), 1–15. https://doi.org/10.3390/ijerph182312329

McDermott, G., Brick, N., Shannon, S., Fitzpatrick, B., & Taggart, L. (2022). Barriers and facilitators of physical activity in adolescents with intellectual disabilities: An analysis informed by the COM-B model. *Journal of Applied Research Intellectual Disabilities*, *35*(3), 800–825. https://doi.org/10.1111/jar.12985

McMahon, M., & Hatton, C. (2020). A comparison of the prevalence of health problems among adults with and without intellectual disability: A total administrative population study. *Journal of Applied Research in Intellectual Disabilities*, *34*(1), 316–325. https://doi.org/10.1111/jar.12785

Messent, P. R., Cooke, C., & Long, J. (2000). Secondary barriers to physical activity for adults with mild and moderate learning disabilities. *Journal of Learning Disabilities*, *4*(3), 247–263.

Messent, P. R., Cooke, C. B., & Long, J. (1999). Primary and secondary barriers to physically active healthy lifestyles for adults with learning disabilities. *Disability and Rehabilitation*, *21*(9), 409–419. https://doi.org/10.1080/096382899297396

Michalsen, H., Wangberg, S. C., Anke, A., Hartvigsen, G., Jaccheri, L., & Arntzen, C. (2020). Family members and health care workers' perspectives on motivational factors of participation in physical activity for people with intellectual disability: A qualitative study. *Journal of Intellectual Disability Research*, *64*(4), 259–270. https://doi.org/10.1111/jir.12716

Michie, S., Atkin, L., & West, R. (2014). *The behaviour change wheel: A guide to designing interventions* (1st ed.). Silverback Publishing.

Mitchell, F., Stalker, K., Matthews, L., Mutrie, N., Melling, C., McConnachie, A., Murray, H., & Melville, C. A. (2018). A qualitative exploration of participants' experiences of taking part in a walking programme: Perceived benefits, barriers, choices and use of intervention resources. *Journal of Applied Research in Intellectual Disabilities*, *31*-(Suppl 1), 110–121. https://doi.org/10.1111/jar.12326

O'Leary, L., Cooper, S. A., & Hughes-McCormack, L. (2018). Early death and causes of death of people with intellectual disabilities: A systematic review. *Journal of Applied Research in Intellectual Disabilities*, *31*(3), 325–342. https://doi.org/10.1111/jar.12417

O'Leary, L., Taggart, L., & Cousins, W. (2018). Healthy lifestyle behaviours for people with intellectual disabilities: An exploration of organizational barriers and enablers. *Journal of Applied Research in Intellectual Disabilities*, *31*(Suppl. 1), 122–135. https://doi.org/10.1111/jar.12396

Overwijk, A., Hilgenkamp, T. I. M., Schans, C. P., Putten, A. A. J., & Waninge, A. (2021). Needs of direct support professionals to support people with intellectual disabilities in leading a healthy lifestyle. *Journal of Policy and Practice in Intellectual Disabilities*, *18*(4), 263–272. https://doi.org/10.1111/jppi.12383

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, (n71). https://doi.org/10.1136/bmj.n71

Pitchford, E. A., Dixon-Ibarra, A., & Hauck, J. L. (2018). Physical activity research in intellectual disability: A scoping review using the behavioral epidemiological framework. *American Journal on Intellectual and Developmental Disabilities*, *123*(2), 140–163. https://doi.org/10.1352/1944-7558-123.2.140

Powers, B., Patterson, F., Palmiere, K., & Healy, S. (2021). "I sit all of the time": Health-related time-use among adults with intellectual disabilities. *Research in Developmental Disabilities*, *108*, 103817. https://doi.org/10.1016/j.ridd.2020.103817

Rana, D., Westrop, S., Jaiswal, N., Germeni, E., McGarty, A., Ells, L., Lally, P., McEwan, M., Melville, C., Harris, L., & Wu, O. (2024). Lifestyle modification interventions for adults with intellectual disabilities: Systematic review and meta-analysis at intervention and component levels. *Journal of Intellectual Disability Research*, *68*, 387–445. https://doi.org/10.1111/jir.13098

Salomon, C., Whittle, E., Bellamy, J., Evans, E., Teasdale, S., Samaras, K., Hsu, M., & Trollor, J. (2019). A qualitative exploration of barriers and enablers of healthy lifestyle engagement for older Australians with intellectual disabilities. *Research and Practice in Intellectual and Developmental Disabilities*, *6*(2), 182–191. https://doi.org/10.1080/23297018.2018.1550727

Savage, M. N., & Colombo-Dougovito, A. M. (2023). Capabilities, opportunities, and motivation: Exploring fitness program experiences of adults with intellectual and developmental disabilities. *International Journal of Environmental Research and Public Health*, *20*(10), 5771. https://doi.org/10.3390/ijerph20105771

Schalock, R., Luckasson, R., & Tassè, M. (2021). An overview of *intellectual disability: Definition, diagnosis, classification, and systems of support*. *American journal on intellectual and developmental disabilities*, *126*(6), 439–442. https://doi.org/10.1352/1944-7558-126.6.439

Skivington, K., Matthews, L., Simpson, S. A., Craig, P., Baird, J., Blazeby, J. M., Boyd, K. A., Craig, N., French, D. P., McIntosh, E., Petticrew, M., Rycroft-Malone, J., White, M., & Moore, L. (2021). A new framework for developing and evaluating complex interventions: Update of Medical Research Council guidance. *BMJ*, *374*, n2061. https://doi.org/10.1136/bmj.n2061

Spanos, D., Hankey, C. R., Boyle, S., Koshy, P., Macmillan, S., Matthews, L., Miller, S., Penpraze, V., Pert, C., Robinson, N., & Melville, C. A. (2013). Carers' perspectives of a weight loss intervention for adults with intellectual disabilities and obesity: A qualitative study. *Journal of Intellectual Disability Research*, *57*(1), 90–102. https://doi.org/10.1111/j.1365-2788.2011.01530.x

Taliaferro, A. R., & Hammond, L. (2016). "I don't have time": Barriers and facilitators to physical activity for adults with intellectual disabilities. *Adapted Physical Activity Quarterly*, *33*(2), 113–133. https://doi.org/10.1123/apaq.2015-0050

Temple, V. A., & Walkley, J. W. (2007). Perspectives of constraining and enabling factors for health-promoting physical activity by adults with intellectual disability. *Journal of Intellectual & Developmental Disability*, *32*(1), 28–38. https://doi.org/10.1080/13668250701194034

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, *8*, 45. https://doi.org/10.1186/1471-2288-8-45

Tong, A., Flemming, K., McInnes, E., Oliver, S., & Craig, J. (2012). Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. *BMC Medical Research Methodology*, *12*(181), 1–8.

van Schijndel-Speet, M., Evenhuis, H. M., van Wijck, R., van Empelen, P., & Echteld, M. A. (2014). Facilitators and barriers to physical activity as perceived by older adults with intellectual disability. *Intellectual and Developmental Disabilities*, *52*(3), 175–186. https://doi.org/10.1352/1934-9556-52.3.175

Van Timmeren, E. A., Van der Schans, C. P., Van der Putten, A. A. J., Krijnen, W. P., Steenbergen, H. A., Van Schrojenstein Lantman-de Valk, H. M. J., & Waninge, A. (2017). Physical health issues in adults with severe or profound intellectual and motor disabilities: A systematic review of cross-sectional studies. *Journal of Intellectual Disability Research*, *61*(1), 30–49. https://doi.org/10.1111/jir.12296

Warburton, D. E. R. (2006). Health benefits of physical activity: The evidence. *Canadian Medical Association Journal*, *174*(6), 801–809. https://doi.org/10.1503/cmaj.051351

Westrop, S. C., Melville, C. A., Muirhead, F., & McGarty, A. M. (2019). Gender differences in physical activity and sedentary behaviour in adults with intellectual disabilities: A systematic review and meta-analysis. *Journal of Applied Research in Intellectual Disabilities*, *32*(6), 1359–1374. Portico. https://doi.org/10.1111/jar.12648

Westrop, S. C., Rana, D., Jaiswal, N., Wu, O., McGarty, A. M., Melville, C., Ells, L., Lally, P., McEwan, M., Harris, L., & Germeni, E. (2024). Supporting active engagement of adults with intellectual disabilities in lifestyle modification interventions: A realist evidence synthesis of what works, for whom, in what context and why. *Journal of Intellectual Disability Research*, *68*(4), 293–316. https://doi.org/10.1111/jir.13120

World Health Organisation. (2019). *International statistical classification of diseases and related health problems* (11th ed.). World Health Organisation. https://icd.who.int/

World Health Organisation. (2020). *WHO guidelines on physical activity and sedentary behaviour*. World Health Organisation. https://www.who.int/publications/i/item/97892400151

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APPENDIX

EXAMPLE SEARCH STRATEGY

A fully formatted search strategy is presented on the following page for Embase via Ovid (1947–Present, updated daily). This is presented in a way that reflects the database. The table below summarises the structure of the search strategy across the databases. The search was structured as:

(Terms for intellectual disabilities) AND (Terms for physical activity) AND (Terms for qualitative research)

Terms for intellectual disabilities	Intellectual disabilities OR intellectual disorder OR intellectual difficulty OR learning disability OR learning disorder OR learning difficulty; OR development disorder OR developmental difficulty OR developmental disability OR mental retardation OR mental deficiency
AND	
Terms for physical activity	Physical activity OR active lifestyle OR physical inactivity OR inactive lifestyle OR sedentary behaviour OR sedentary lifestyle OR walking
AND	
Terms for qualitative research	Qualitative research OR qualitative analysis OR thematic analysis OR interpretative phenomenological analysis OR IPA OR grounded theory OR ethnography OR perception OR experience OR attitudes OR perspective OR barrier OR facilitator

In each database, there were database-specific terms that were also included, for example in Embase via Ovid, some of these terms were intellectual impairment and developmental disorder. Database-specific terms were included to ensure all relevant papers were captured by the search. Additionally, terms were truncated for example, 'learning disab*' which would allow for terms to be identified for 'learning disability' or 'learning disabilities' or 'learning disabled'. Qualifiers were also used to restrict the search terms to titles, abstract and key words. Limiters were also used to restrict the searches to human articles and adults.

Embase via Ovid (1947–present, updated daily). Limiters used to restrict search to adults and human studies.

1	exp *intellectual impairment/
2	exp *developmental disorder/
3	(intellectual* adj2 (disab* or disorder* or difficult*)).tw.
4	(learning adj2 (disab* or disorder* or difficult*)).tw.
5	(developmental* adj2 (disorder* or disab* or difficult*)).tw.
6	(mental* adj2 (retard* or deficien*)).tw.
7	exp *physical activity/
8	exp *sedentary lifestyle/
9	(activ* adj1 (physical* or lifestyle*)).tw.
10	(inactiv* adj1 (physical* or lifestyle*)).tw.
11	(sedentar* adj1 (behavio?r or lifestyle*)).tw.
12	walking.tw.
13	exp *qualitative research/
14	exp *qualitative analysis/
15	'thematic analysis'.tw.
16	'interpretative phenomenological analysis'.tw.
17	IPA.tw.
18	'grounded theory'.tw.
19	ethnograph*.tw.
20	perception*.tw.
21	experience*.tw.
22	attitude*.tw.
23	perspective*.tw.
24	barrier*.tw.
25	facilitator*.tw.
26	1 or 2 or 3 or 4 or 5 or 6
27	7 or 8 or 9 or 10 or 11 or 12
28	13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 or 25
29	26 and 27 and 28
30	limit 29 to (human and adult <18 to 64 years>)