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Approaches to influencing leisure participation following stroke: A scoping review

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Data sources: Embase, Medline, PsycINFO, CINAHL, AMED and Cochrane Library were searched between 1989 and June 2026 for studies (quantitative, qualitative and mixed methods) reporting an intervention that addressed leisure and measured the impact on post-stroke leisure participation.

Review methods: Established scoping review methods guided data extraction with a piloted data charting tool, appraisal utilising Quality Assessment for Diverse Studies (QuADS), and meta-narrative (quantitative findings) and meta-aggregation (qualitative findings) synthesised using a Convergent Segregated Approach.

Results: We included 28 studies (2588 participants). Most interventions to address leisure participation were face-to-face (93%) and delivered in the community (82%). Interventions were diverse and heterogeneous; however, 8/28 incorporated leisure education/counselling. Quantitative studies reported 12 distinct measures of leisure participation. A positive impact on leisure participation was reported in 13/22 studies

reporting quantitative findings and 8/8 studies reporting qualitative findings. Studies were limited by poor reporting of delivery, 'dose' and methodological quality.

Conclusion: Future research needs to explore the role of leisure education/counselling, recognise the importance of motivation, social connectedness and hope, and address barriers to leisure participation. Leisure interventions should be co-created with people that have lived experience of stroke. Programme theory, core components of the intervention and delivery methods must be clearly articulated to enable replication. Future studies should capture psychosocial outcomes alongside leisure participation and satisfaction, and assess long-term impact of interventions.

Key words: stroke, leisure, life after stroke, social participation, community participation.

Clinical messages:

- Practitioners working in health and social care should talk about leisure as part of 'life after stroke' discussions.
- Exploring motivation, social connectedness and hope for leisure participation may provide valuable insights and inform rehabilitation approach.
- Interventions to facilitate leisure participation should be co-created and the core components articulated.

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Introduction

Leisure activities, defined as 'non-obligatory activities that are self-selected, intrinsically motivated and engaged in during discretionary time' (p.250)[1] include cultural, physical, social, and solitary activities and have been shown to positively influence emotional well-being,[2] sense of self and quality of life[3] as well as increasing life expectancy.[4] Leisure participation is important both as a 'means' to gain health or psychological benefits, but also as an 'end' where the goal is the enjoyment of engaging in a valued, pleasurable activity.[5]

There are 1.3 million people living with stroke in the United Kingdom (UK), with approximately 100,000 people having a new stroke each year.[6] Two thirds of people living with stroke experience a reduction in valued leisure and social activities following a stroke[7-9] with a gap in valued activities still evident 5 years post-stroke.[10] Physical limitations, cognitive impairment, and depression have been found to negatively impact on leisure participation in older adults [11] and people living with stroke.[3, 10, 12] Further it has been identified that people living with stroke who are female, older, and live in an area of greater socio-economic deprivation experience a greater decline in leisure participation.[13]

Leisure has the potential to bring important benefits after stroke. Current guidance[14] identifies that stroke rehabilitation services should build links with leisure providers, support people living with stroke to identify social and leisure activities in which they wish to participate, and provide support to overcome barriers to enable people living

with stroke to access suitable social and leisure activities . However, there are no recommendations to guide how this should be achieved. Systematic review evidence from eight studies (n=615)[15] found leisure therapy contributed to short-term improvements in quality of life and mood, as well as leisure participation and satisfaction. However, this review was completed over 10 years ago, and at this time the authors found no studies of high methodological rigour, nor could they draw conclusions about long-term impact. More recently, a systematic review of three papers focused on leisure education and counselling (n=103),[16] indicated that these interventions improved quality of life, leisure satisfaction and engagement, and reduced depression. However, this narrow perspective may omit other potentially beneficial leisure interventions.

A further challenge is the measurement of leisure, with primary studies measuring constructs such as leisure participation, satisfaction, and competence. Additionally, social participation, the undertaking of activities that involve interactions with others in society and community,[17] is often used as a proxy for leisure participation, yet social participation is broader than leisure, encompassing participation in activities such as work and education.[18] If we are to explore and understand the impact of leisure after stroke, focus on the construct, and the accurate measurement, of leisure participation is essential.

To be able to develop high quality primary studies that further our knowledge of leisure participation after stroke, we need a comprehensive understanding of the current evidence. Previous systematic reviews[15, 16] are limited by date or scope and include only experimental studies, yet key evidence about leisure interventions (for example, perceptions of intervention acceptability) may arise from non-experimental studies. A scoping review provides a structure that enables conclusions to be drawn on topics where the context is broad, and the inclusion of diverse study designs is important.[19] We, therefore, undertook a scoping review to address the current knowledge gap. The study aim was to review the extent of the available evidence, and to identify and describe the approaches that have been used to facilitate leisure participation following stroke. It sought to address the following questions: (1) What approaches to increase leisure participation following stroke have been examined? (2) What leisure participation outcomes are reported? (3) What was the impact of these approaches on leisure participation? (4) What were the barriers to, and facilitators of, the approaches (interventions) to increase leisure participation?

Methods

A scoping review is a secondary research design that explores the extent (scope) of the evidence where this is not known. Scoping reviews identify the types of evidence available and enable mapping to identify current knowledge and gaps.[20]

A scoping review was undertaken following established guidance[19] and has been reported in accordance with the Preferred Reporting of Systematic Reviews and Meta-analyses Extension for Scoping Reviews (PRISMA-ScR).[21] The review protocol was registered with Open Science Framework[22] on 29th April 2023 (https://osf.io/pft4s/).

A Population, Exposure, Outcomes (PEO) framework (Table 1), was used to plan the search. The final search strategy included only search terms for the population and outcome due to the heterogenous nature of interventions within the exposure section. The search strategy was initially developed for Medline using a combination of Medical Subject Headings (MeSH) and key words; these were subsequently adapted for use in other databases. The full search strategies for each database are listed in supplementary material A.

Table 1: PEO Concepts

PEO	**Study Characteristics**
Population	Adult participants with a diagnosis of stroke
Exposure	Interventions that aim to influence engagement in leisure participation
Outcomes of interest	• Leisure participation • Social participation where leisure participation is separated from other components of social participation • Barriers to, and facilitators of, the approaches (interventions) to increase leisure participation
Study Design	All types of primary study (qualitative, quantitative, mixed methods) and levels of evidence including secondary evidence that have been undertaken using a systematic and

	established methodology (systematic and scoping reviews)

Six databases were last searched on 11 June 2026: 1) Embase (Ovid), 2) Medline (Ovid), 3) PsycINFO (EBSCOhost), 4) CINAHL (EBSCOhost), 5) AMED (EBSCOhost), and 6) Cochrane Library all databases (via Wiley). A previous systematic review of leisure therapy[15] yielded no relevant papers before 1989; therefore, the searches were limited by date from 1989 to 2026. The search was limited to the English Language as resources were not available for translation of papers. To identify any additional, relevant studies, the reference lists of all included studies were manually checked, and forward citation searching was conducted using the Scopus database, with Google Scholar used for any included papers not indexed on Scopus.

Primary studies (qualitative, quantitative or mixed methods) were included where participants had experienced a stroke and were aged 18+, the study reported at least one intervention that addressed leisure participation through the impact (qualitative studies) or outcome (quantitative studies), either with or without the reporting of barriers and enablers to participation in the intervention. To ensure that the scoping review focused on interventions for people living with stroke, studies with heterogenous participant samples were excluded where people living with stroke made up <90% of the sample and the data for this sub-group could not be separated.

The search results were uploaded into EndNote Version 21 (Philadelphia, USA) and duplicates removed. The deduplicated list was uploaded into Rayyan online systematic review platform (www.rayyan.ai) for title and abstract screening. Five researchers (ZP, MJR, KJ, KC, JH) were involved in the screening and full-text review processes. To ensure consistency of use and robustness of the criteria[23], researchers received training, independently screened 50 titles and abstracts against the selection criteria, then compared, discussed and agreed decisions. All remaining sources were screened independently by at least two researchers from the team. Conflicts were resolved through discussion until consensus was achieved.

Full texts of all included sources were sought, retrieved and reviewed independently by two researchers. Disagreements about inclusion were discussed to reach a consensus and where this was not possible, a third researcher mediated and supported achievement of a final decision. Using an exclusion code table (supplementary material B), decisions were reported against each excluded paper.

Protocols or trial registry entries were checked for a full study paper. Where a full paper had been published this was reviewed and included if it met the selection criteria. If no study had been published, any protocols and trial registrations were discarded. If several sources referred to the same study (e.g., a protocol and full trial paper for a single study), then these sources were grouped together for the data extraction process. If a study directed the reader to additional sources for further detail of the study intervention (e.g., supplementary materials, protocol paper or

study paper) then these additional sources were linked to the study and utilised to inform data extraction. Where a systematic review was retained for full-text screening, the contributing individual papers were scrutinised for inclusion.[24]

A study specific data charting tool was developed in Microsoft excel to support data extraction (supplementary material C). Reference was made to The Template for Intervention Description and Replication (TIDieR) Checklist [25] to ensure the intervention was comprehensively documented in the data charting tool. The tool was piloted with five studies by two members of the research team who independently scrutinised the tools utility and then discussed findings. Adjustments to the tool were made following collaborative discussion and extraction details were updated accordingly for the five studies piloted. Data within the remaining studies were charted by one research team member (ZP or KJ) and reviewed for verification by a second member (KJ, MJR, JH, CEL).

Whilst quality assessment is not considered essential in a scoping review,[26] the included papers were independently appraised for quality to enable evaluation of the current evidence-base. Two members the research team independently undertook a Quality Assessment for Diverse Studies (QuADS) for each included study. For consistency one researcher (KJ) quality assessed all papers, the second review was completed by one of four team members (ZP, KC, JH, MJR). The QuADS tool was adopted due to its inter-rater reliability and content validity when appraising

heterogenous research designs.[27] Scores were compared, discussed, and a final score agreed.

Included papers were summarised and tabulated in relation to the research questions. A meta-narrative of the quantitative findings and a meta-aggregation of qualitative findings were synthesised using a Convergent Segregated Approach.[28] This approach enabled an exploration of the outcomes (quantitative data) and impact (qualitative data). Where barriers and enablers were reported, these were extracted and categorised to summarise the factors impacting stroke survivor participation in the leisure interventions.

Results

Figure 1 presents the study flowchart and a summary of reasons for exclusion at the full-text stage. From 18,175 unique references, less than 4% of sources screened resulted in reviewer disagreement. All disagreements were resolved through discussion. Screening resulted in 330 papers for full text review and 28 papers were retained for data extraction. A further 2 papers were identified through citation searching making a total of 30 papers included in the review.

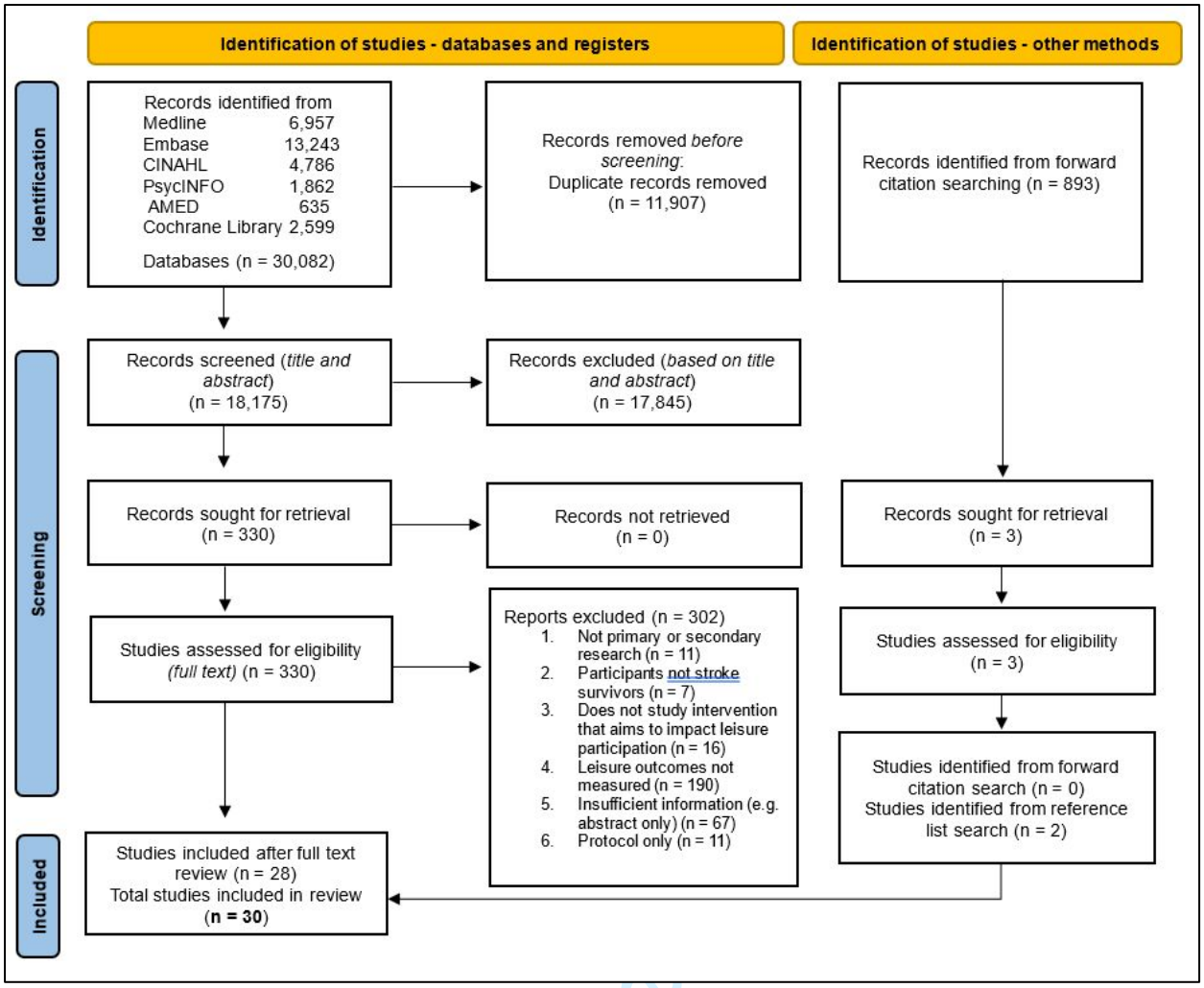

Figure 1 PRISMA flowchart of the scoping review

The 30 included papers reported 28 primary studies involving 2588 participants. The studies were undertaken in seven countries, UK (n=11)[29-39], Canada (n=10)[40-49], USA (n=2)[50, 51], Netherlands (n=2)[52, 53], Belgium (n=1)[54], Israel (n=1)[55] and Australia (n=1)[56]. We report findings based on the 28 studies, unless otherwise stated. Study characteristics are described in Table 2.

There were 21 quantitative studies, comprising 16 Randomised Controlled Trials (RCTs) (including one feasibility and two pilot RCTs),[29, 31-37, 42, 44, 46, 47, 52-54, 56] a randomised crossover trial, [30] three pre-/post-measures studies,[48, 49, 55] and one non-

randomised pilot study.[40] One of the RCTs included an embedded qualitative study.[34] There were also five qualitative studies[39, 41, 43, 45, 51] and two mixed methods studies.[38, 50] The study sample sizes ranged from 5 to 466. Most studies (n=22) had fewer than 100 participants; eleven studies had fewer than 30 participants.

QUaDS scores (Table 3) ranged from 16 to 37 (maximum possible score: 39). 11 papers gained a score of <25 (poor quality), 7 scored 25≤29 (moderate quality), and 10 scored ≥30 (high quality).

Approaches to increase leisure participation

Eighteen studies provided, or implied, a theoretical basis for their intervention. This included behaviour change theory (n=5), self-determination theory (n=2), and social cognitive theory (n=2). Ten studies did not provide a theoretical basis for their intervention.

Ten studies explored an intervention that aimed to increase engagement in a participant-selected leisure activity.[31, 32, 38, 40, 42-44, 46-48] We refer to these as *leisure-facilitation interventions*. Eight of these studies incorporated leisure education or counselling (for example, a home leisure education programme or peer-led leisure coaching).[38, 40, 42-44, 46-48] In the other 18 studies, leisure was a component of a intervention (for example, an outdoor mobility programme or extended rehabilitation provision),[30, 33, 45, 53, 55] the intervention was based on one leisure activity (for example, music-listening or cycling),[29, 41, 49-51, 54] or leisure participation

was measured in the outcomes (for example, in studies exploring the impact of behavioural activation therapy or a communication and mood intervention for people with aphasia).[34-37, 39, 52, 56] We have referred to these as *leisure-component interventions*.

In all but two studies (n=26; 93%) the intervention included face-to-face interaction. Cadilhac et al.[56] utilised telephone and SMS/email messages and Shaw et al[33] undertook interviews that were predominantly telephone-based. In most studies (n=21, 75%) the intervention was fully supervised; with a further five supervised for a proportion of the intervention;[29, 33, 38, 47, 52] one study only provided supervision during goal setting;[56] and one study offered only peer-support.[45] Twelve interventions took place with others that had experienced stroke, in a group format.[30, 39-41, 43, 45, 46, 48-51, 53]

Most interventions (n=23, 82%) took place in the community (i.e., participant's home n=14[31-37, 42-44, 46, 47, 53, 56]; another indoor setting such as a community or leisure centre n=5[30, 38-40, 48]; park or outdoor space n=2[49, 50]; undefined/mix of community setting n=2)[45, 55]. Only three interventions (11%) were delivered in a healthcare setting (i.e., hospital or rehabilitation centre)[29, 41, 54]. The location was not clearly established in two studies (7%)[51, 53].

Intervention 'dose' was inconsistently reported across the TiDieR checklist. Where data were reported there was variation in overall duration (3 weeks-12 months), number of sessions (6-104), and session length (30 mins-4hrs). It was possible to

estimate an overall number of minutes for the intervention in 21 studies (300 mins-216 hrs). Further detail is provided in Table 3.

Measuring leisure participation

Twenty-two studies reported quantitative outcomes.[29-37, 40, 42, 44, 46-50, 52-56] Two of these 22 studies reported leisure participation using non-validated measures.[29, 40] The other 20 studies utilised at least one validated measure, although eight studies measured leisure participation using only a component of a validated tool without clarifying whether this could be considered as a valid means of measurement.[33, 36, 44, 50, 52-54, 56] Twelve distinct quantitative measures of leisure participation were identified in the studies. The most commonly adopted validated measures were the Nottingham Leisure Questionnaire (n=7), and the Leisure component of the Nottingham Extended Activities of Daily Living scale (n=4), both measures of leisure participation, and the Leisure Satisfaction Scale (n=3). The outcomes are summarised in Table 3.

Eight studies reported qualitative outcomes.[34, 38, 39, 41, 43, 45, 50, 51] Data about leisure participation were collected through interviews,[34, 38, 41, 43, 45, 50] photographs[43] and focus groups[39, 50, 51].

Impact on leisure participation

Figure 2 is an overview illustration of leisure participation benefit across leisure-facilitation and leisure-component interventions.

Thirteen of the twenty-two studies that measured leisure participation quantitatively indicated a beneficial impact at post-intervention in favour of the intervention.[29-31, 40, 42, 46-48, 50, 52-55] However, in two of these studies the findings are mixed. For example, Corr, Phillips & Walker[30] found a statistically significant increase in leisure participation following a leisure-component intervention for one intervention group, but not a second. Similarly, Drummond & Walker[31] found a statistically significant difference in favour of the leisure-facilitation intervention; yet a larger study,[32] utilising the same intervention, did not support these findings. Of the remaining eleven studies that indicated a beneficial effect in favour of the leisure intervention,[29, 40, 42, 46-48, 50, 52-55] five[40, 48, 53-55] were judged to be of poor quality (QUaDS scores: 20, 21, 21), two[29, 42] were rated as moderate quality (QUaDS scores: 26, 28), and only four as good quality[46, 47, 50, 52] (QUaDS scores: 31, 32, 32, 33) indicating a limited confidence in the findings and, subsequently, the impact of these interventions on leisure participation. Nine studies established no benefit from their intervention on leisure participation,[32-37, 44, 49, 56] including four studies[33-35, 56] rated as good quality (QUaDS scores: 33, 33, 36, 37), two moderate quality[32] (QUaDS score: 29, 29) and three poor quality[36, 37, 44] (QUaDS scores: 21, 23, 24).

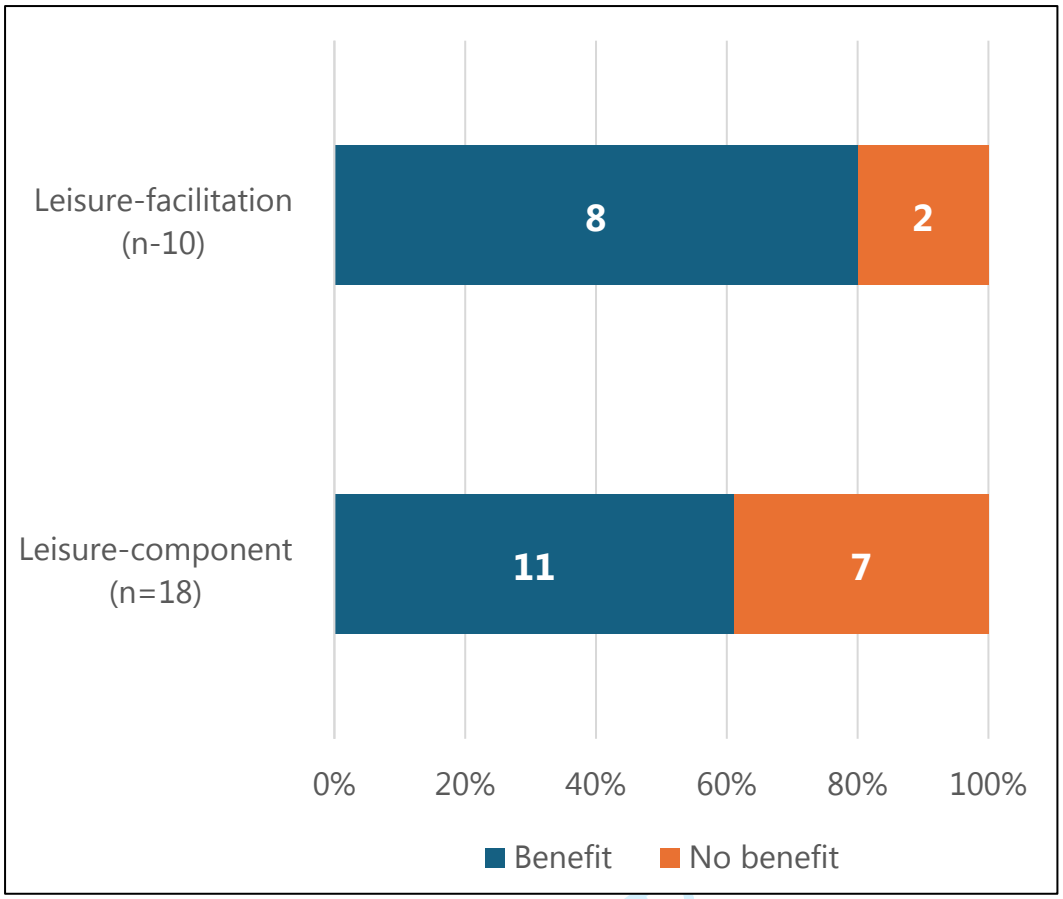

Figure 2 Comparison of studies reporting benefit to leisure participation separated for leisure-facilitation and leisure-component interventions

Of the 16 Randomised Controlled Trials where the study design afforded use of inferential statistics, seven were deemed good quality.[33-35, 46, 47, 52, 56] Five of these studies found no significant benefit of the intervention over the control at post-intervention,[33-35, 52, 56] one study indicated benefit at 12 months (post-intervention)[46], and in one study[47] a comparison was not possible with the control group as leisure outcomes were only measured in the intervention group.

Fourteen studies measured leisure participation at follow-up (range: 9 weeks-24 months).[33-37, 40, 44, 46, 48, 49, 52-54, 57] For eight of the nine studies that found no benefit in

favour of the intervention at post-intervention,[32-36, 44, 49, 54] this finding was replicated at follow-up. One study[52] found no benefit in leisure participation at post-intervention but found a benefit at follow-up. The five studies that reported a benefit at post-intervention[40, 46, 48, 53, 54] continued to find a benefit at follow-up.

The eight studies reporting qualitative findings,[34, 38, 39, 41, 43, 45, 50, 51] all reported benefits from the intervention. Six studies explored leisure-component interventions,[34, 39, 41, 45, 50, 51] and two studies[38, 43] explored leisure-facilitation interventions. One study[41] was rated as poor quality (QUaDS score: 20), three studies[38, 45, 51] were moderate quality (QUaDS score: 29, 29, 27), and four[34, 39, 43, 50] high quality (QUaDS score: 31, 30, 32, 36). Benefits attributed to the intervention, included: an increase in confidence and mood,[34, 38, 39, 51] an increase in social participation and friendship,[41, 43, 45, 51] and an increase in activities such as driving,[51] going to the pub,[39] cycling,[50] and dancing.[41] One study[43] additionally identified the importance of collective support and regaining hope. These studies did not report any long-term impact.

Barriers and enablers to participating in the leisure intervention

All 30 papers were reviewed for barriers and enablers that might influence the ease in which people living with stroke could participate in the interventions. In line with our aim to scope the current evidence we included barriers and enablers proposed by people living with stroke, their informal carers and the intervention providers. One

paper reported only barriers, eight papers only enablers, and nine papers reported both (see Table 4). The barriers and enablers were summarised as ten categories: 1) Transport, 2) Support (family/friends), 3) Access to leisure activities, 4) Content of sessions, 5) Functional activity, 6) Balance and mobility, 7) Mood and motivation, 8) Speech and understanding, 9) Confidence, and 10) Social aspects. Further detail is reported in Table 4.

Table 4: A summary of barriers and enablers that might influence participation in the intervention.

Category	Barriers	Enablers
Transport	Transport challenges to intervention/activities. [30, 40, 44, 46, 47]	Costs provided for transportation/taxi service. [40, 41]
Support from family/friends	Lack of support from family/friend-physical or attitudinal. [38, 44]	Family/friends supportive/have positive attitude. [40, 44, 47]
Access to leisure activities	Access to leisure/recreation activities and facilities. Cost of leisure activities. Time commitment too much. Accessing information/technology. [39, 44, 46, 56]	Held in a place that has good transport, car parking and coffee facilities. Sits outside traditional medicine, therapy and hospital setting - de-medicalisation. Participation in activities that hold meaning and value. Continuation possible outside formal sessions.

		Exercise, education and for some coaching to support access to activities. [39, 43, 54, 58]
Content of sessions	Lack of specificity in sessions. [39]	1-to-1 time with instructor to address personal goals. Personalised intervention/programme. Professionals familiar with intervention. Goal setting tools. Targeted activities depending on need (e.g., adaptions, strength training). [37, 39, 47, 49, 56]
Functional ability	Reduced functional ability. Fatigue. Impaired cognition. Differences in abilities. [29, 45, 47]	Access to aids, equipment. Approaches to overcome fear of outdoor mobility. Knowledge of facilitator/s to adapt to disabilities and foster abilities. [37, 43]
Balance and mobility	Reduced balance and mobility. [40]	Assistance for mobility/balance-1-to-1 interventions. [40]
Mood and motivation	Reduced mood/motivation. [29, 47]	Text message reminders/prompts. Pedometer to measure increased activity. [54, 56]
Communication	Changes in comprehension/ language ability. [29]	Ways to address communication needs. Support from Speech and Language Therapist. [39, 48]

Confidence	Lack of confidence. 38	Confidence building. 38, 45, 49
Social context (friendships and acceptance)	Social anxiety Concern about perceptions of others. 38, 47	Peers and buddies important for motivation/camaraderie. Seeing others progress. Contact by phone may be helpful. Group facilitator being a stroke survivor. Trust within group. Building friendships and camaraderie. Playfulness and fun. Relaxed and welcoming atmosphere. Acceptance. Shared experiences. 38, 39, 43, 45, 46, 48-50, 53

Discussion

This scoping review aimed to identify and describe the approaches that have been used to facilitate leisure participation following stroke and to review the extent of the available evidence. Papers reported *leisure-facilitation* and *leisure-component* interventions. There was heterogeneity of study design, context, delivery and outcomes used to measure leisure participation across both types of intervention. Intervention descriptions were frequently incomplete; ten studies offered no explicit theoretical rationale, and details about delivery, dose, tailoring, and materials were

variably reported. Our data extraction was informed by TIDieR and underscored its practical value. Systematic use of the TIDieR checklist in future protocols and publications would enhance fidelity, replication, and scale-up by clarifying "what," "how," "by whom," "where," and "how much," and by specifying planned adaptations.

Figure 2 indicates a greater proportion of the leisure-facilitation interventions found benefit (quantitatively or qualitatively). This suggests that leisure-facilitation approaches should be the focus of further investigation; however, the diversity in study designs, methodological rigour, interventions and outcomes limits the conclusion that can be drawn. Although 16 studies were RCTs, many had small samples (i.e., <100). The RCTs had a wide range of quality scores (QUaDS 16-37), with only 7 papers rated as high-quality, limiting confidence in effect estimates. Larger, higher-quality, predominantly leisure-component intervention RCTs frequently indicated no difference in leisure participation as a result of the intervention.[33-35, 46, 56] Whilst this evidences a pressing need for adequately-powered, methodologically rigorous trials, it also indicates that the core components of a successful intervention may be more evident in previously studied leisure-facilitation interventions, but that these core components have yet to be established.

Previous systematic reviews[16, 59] indicate that leisure education or counselling may be beneficial. This is supported in our review where studies incorporating leisure education or counselling components (n=8) seemed to perform well with the majority (n=6) indicating a positive impact on leisure participation. Further work is

required to establish the context in which these leisure-facilitation interventions are effective, a programme theory and the core components that contribute to the effect. Literature recognises the importance of co-creating (collaboratively designing, developing and implementing) interventions[60] to ensure that they are appropriate, relevant and meet the needs of those who will access them. Only a minority of interventions in this review were co-created or peer-led,[38, 45, 46] yet if interventions are to effectively utilise the enablers and address the barriers to leisure participation, we need to involve those who understand them best.

We synthesised the influencers (barriers/enablers) of the approaches to leisure participation across 10 categories (i.e., transport, social support, access, session content, functional ability, balance and mobility, mood and motivation, communication, confidence, and social context). Whilst our focus was on barriers and enablers in relation to the interventions, these map closely to prior work documenting post-stroke reductions in valued activities and the influence of physical, cognitive, mood, and socioeconomic factors,[61-63] supporting ecological validity of our categories and offering a practical framework to target in future interventions. It is likely that future interventions will need to access enablers (e.g. address motivation and social relatedness), address capability (e.g. adaptations/equipment, physical/communication support), overcome barriers (e.g. transport solutions, cost offsets, information brokerage) and consider the impact of culture on leisure activity choice and participation. Future work should co-create interventions with people after stroke and their family, friends and carers to increase acceptability, relevance

and contextual fit, and with professionals (e.g. leisure providers, clinicians and activity specialists) to ensure feasible community-based interventions that deliver beyond medical settings.

Twelve distinct leisure measures were identified in this review; some studies used non-validated tools or isolated leisure subscales without demonstrating validity for that use. Follow-up assessments were inconsistently applied; where present, post-intervention gains were not always maintained,[48] while one study showed delayed benefit emerging only at follow-up.[52] Future work should prioritise validated, stroke-appropriate leisure measures (i.e., participation and satisfaction/meaning), pre-registration of primary outcomes, and standardised, clinically meaningful follow-up windows (e.g., ≥3-6 months). The most frequently used measures of leisure participation, the Nottingham Leisure Questionnaire, and the Nottingham Extended Activities of Daily Living Scale, were developed before the advent of social media and readily available digital technology. They do not reflect digital leisure, or the range of nature-based pursuits that now contribute to valued recreation. Whilst the measures of leisure participation are dated, the Leisure Satisfaction Scale, continues to be relevant, but it has not been validated with people living with stroke.

Qualitative studies consistently reported perceived gains in confidence,[34, 38, 39, 51] social participation and friendships,[41, 43, 45] and a sense of hope and collective support.[43] Developers of future interventions should explicitly consider the importance of these social outcomes and the interplay with leisure participation.

Future trials should capture "leisure participation" (i.e., frequency/variety) using valid tools and also confidence/self-efficacy, social connectedness, role resumption/identity, and meaningfulness/satisfaction with leisure. Incorporating these domains will inform more sensitive assessment strategies and mixed-methods endpoints.

We acknowledge that our search strategy may have excluded potentially relevant interventions (e.g., self-management) that measured psychosocial constructs (e.g. self-efficacy, community participation) but did not measure leisure participation. This highlights a measurement gap rather than irrelevance. Future trials of self-management or mood/communication rehabilitation should include valid leisure outcomes where increasing meaningful activity is an intended consequence.

Restricting to English-language publications may have omitted pertinent intervention studies and community models from non-English contexts, potentially biasing conclusions and limiting generalisability. Future updates should plan translation resources or at minimum dual-screen titles/abstracts in additional languages common to stroke rehabilitation research.

This scoping review found that interventions to address leisure participation are diverse and heterogeneous in study design, interventions and method of leisure participation measurement. Indication that future interventions should recognise the importance of motivation, social connectedness and hope, and must address means to overcome barriers to leisure participation. Co-creating interventions to increase

leisure participation with people after stroke and their family, friends and carers should ensure these interventions are appropriate and relevant. All future interventions should be reported using the TIDieR checklist, incorporating a proposed programme theory.

Declaration of interest

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Data availability statement

Data is available through the University data sharing repository (DOI: 10.17030/uclan.data.00000696)

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Table 2: Study characteristics

Author(s)	Study Design	Participant numbers	Gender	Mean (SD) age (yrs)*	Mean (SD)* time since stroke
Bastien et al. 1998	Pilot	24 participants	F=7 (29%) M=17 (71%)	Female: 67.4(7.6) Male: 64.2(9)	Not stated
Baylan et al. 2020	Pilot RCT	72 participants	F=27 (37.5%) M=45 (52.5%)	64.0 (11.60)	19 days (range: 5-28)
Beaudry et al. 2020	Qualitative	22 participants [6 stroke patients, 4 relatives, 12 rehabilitation therapists]	Patients F= 3 (50%) M=3 (50%) Relatives F=3 (75%) M=1 (25%) Professionals-not stated	Patients: 71.0 (9.9)	Patients: 17.8 days (6.5)
Cadilhac et al. 2020	Pilot RCT	54 participants	F=21 (39%) M=33 (61%)	Intervention: 69 (10) Control: 68 (11)	Patients discharged from the hospital within previous 6–12 months
Corr et al. 2004	Randomised cross-over study	26 participants	F=11 (42%) M=15 (58%)	48 (7)	21 months (33)
Desrosiers et al. 2007	RCT	62 participants (56 analysed)	F=28 (50%) M=28 (50%)	Experimental: 70.0 (10.2) Control: 70.0 (12.0)	Experimental: 24.5 months (25.7) Control: 32.7 months (37.8)
Drummond & Walker 1995	RCT	65 participants	F= 28 (43%) M=37 (57%)	Group 1: 59 (13) Group 2: 70 (7) Group 3: 69 (10)	Group 1: 30 days (22) Group 2: 28 days (11) Group 3: 25 days (18)
Gladman et al. 1993	RCT	327 participants	F=154 (47%) M=173 (53%)	70 (no SD stated)	Days in hospital: Domiciliary Service 21 (11-54) Hospital Rehabilitation 18 (10-51)
Gladman & Lincoln 1994	RCT	327 participants	F=154 (47%) M=173 (53%)	70 (no SD stated)	As above
Hartman-Maeira et al. 2007	Pre/post measures study	27 Intervention 56 Non-intervention	F=26 (31%) M= 57 (69%)	Intervention: 61.59 (7.38) Non-intervention: 57.7 (11.6)	Intervention: 35.20 months (40.30) Non-intervention: 11.67 months (2.58)
Hebblethwaite & Curley 2015	Qualitative-Participatory Action Research	14 participants	F= 6 (43%) M= 8 (57%)	66 [Range: 52-76]	Mean (range): 3.8 years (6 months–7 years)
Jongbloed & Morgan 1991	RCT	40 participants	F=13 (32.5%) M=27 (67.5%)	Experimental: 68.2 (SD not reported) Control: 69.6 (SD not reported)	Within 15 months since stroke.
Logan et al. 2004	RCT	168 participants	F=77 (46%) M=91 (54%)	Experimental: 74 (8.4) Control: 74 (8.6)	Experimental: 11 months (8.4) Control: 10 months (9.0)
Logan et al. 2003	RCT	309 participants	F=124 (40%) M=185 (60%)	Median (interquartile range) Leisure: 72 (65-9) ADL: 71 (66-78)	Length of stay - Median (interquartile range) Leisure: 23 days (11-62) ADL: 26 days (12-263)
Parker et al. 2001	RCT	466 participants	F=197 (42%) M= 269 (58%)	Median (interquartile range) Leisure: 72 (65-9) ADL: 71 (66-78) Control: 72 (65-78)	Length of stay - Median (interquartile range) Leisure: 23 days (11-62) ADL: 26 days (12-263) Control: 30 (15-58)
Masterson-Algar et al. 2020	Mixed methods	28 participants: 18 stroke survivors, 10 carers	F=12 (43%) M=16 (57%)	Median (range) Participants testing intervention: 55 years (40-83)	Not stated, but patients recruited at approximately 6 months post-stroke

Table 2: Study characteristics

May et al. 2023	Qualitative	11 participants interviewed	F=6 (55%) M=5 (45%)	Average age: 65-69 [Range 41-83]	Between 15 and 19 years (range 3-31 years)
Mayo et al. 2015	RCT	186 participants	F=73 (39%) M=113 (61%)	Immediate entry: 61(12) Delayed entry: 65(11)	Immediate entry: 2.2 years (2.2) Delayed entry: 3.1 years (3.1)
Mulder et al. 2024	Multicentre RCT	41 patient-carer dyads	F=38 (46%) M=44 (54%)	Patients: 62 (10.2) Caregivers: 59 (11.5)	56 days (SD: 16.6)
Mulders et al. 1989	RCT	56 participants	F=26 (46%) M=30 (54%)	57 (8.6) [Range: 31-71]	Mean [Range]: 2 years 6 months [8 months - 7 years]
Norris et al. 2013	Qualitative	22 participants	F=8 (36%) M=14 (64%)	Mean (range): 61 [19-84]	Mean [Range]: 3.18 years [0.5-13]
Nour et al. 2002	RCT	14 participants randomised	F=4 (29%) M=10 (71%)	Experimental: 71.1 (9.5) Placebo: 71.7 (8.7)	Not stated, all had completed active rehabilitation
Ryan et al. 2008	Pre/post measures study	18 couples (17 couples completed programme)	Detail not provided	Stroke survivors: 65.88 (6.73) Spouses: 64.41 (7.5)	10 months - 18 years post stroke
Shaw et al. 2020	Multicentre RCT	573 patients	F=231 (40%) M=342 (60%)	Median (Interquartile range) EXTRAS: 71 (60–77) Usual care: 71 (62–79)	Median (interquartile range) EXTRAS: 73 days (48–111.5) Usual care: 70 days (48–106.5)
Terrill et al. 2025	Mixed methods - longitudinal	Part 1 – 30 (quantitative) Part 2 – 9 (qualitative)	F=12 (31%) M=22 (56%) No data – 5 (13%)	Part 1 (quantitative): 58.0 years (10.8) Part 2 (qualitative): 55.5 years (6.9)	Part 1 (quantitative): 3.3 years (3.0) Part 2 (qualitative): 1.6 years (0.5)
Thomas et al. 2013	RCT	105 participants	F=39 (37%) M=66 (63%)	Behavioural therapy: 65.5 (13.9) Usual care: 68.5 (13.9)	Median (interquartile range) Behavioural therapy: 8.7 months (4.1-26.1) Usual care: 9.0 months (4.9-39.0)
Thomas et al. 2019	RCT	48 participants	F=19 (40%) M=29 (60%)	65.6 (13.6) [Range: 31-97]	62.5% of participants between 3 months and 1 year post-stroke 25% 1-2 years post-stroke 12.5% 2-4 years post stroke
Vanroy et al. 2019	RCT	59 participants	Not stated	65.4 (10.3)	3–10 weeks post stroke
Van Puymbroeck et al. 2014	Qualitative	26 participants participated in focus groups	F=1 (4%) M=25 (96%)	65 (9.38)	47 months (40.17) [Range: 6-153]
Villeneuve et al. 2026	Pre/post measures feasibility study	5 participants	F=1 (20%) M=4 (80%)	63 (no SD stated)	15.3 months [Range: 4-43]

*Unless otherwise stated

Table 3: Interventions and findings

Author/s	Intervention description/ format/provider/ environment	Dose -Duration -Session number -Session length	Overall time	Brief description of control if appropriate	How and when was leisure measured?	Findings	Quality rating
Bastien et al., 1998	Programme to promote social, leisure and physical activities. **Leisure-facilitation** Group format (4-7 participants) Physiotherapists, OTs and exercise specialists Hospital	**Duration:** Site 1: 8 weeks; Site 2: 6 weeks **Sessions:** Site 1: 8; Site 2: 12 **Session length:** Site 1: 90 mins; Site 2: 60 mins	720 mins	Not applicable	Interest Check List Pre-, post-intervention & 3 month follow-up	Descriptive statistics indicated no change to the percentage of participants participating in shopping, and watching television (pre-, post- and 3 month follow-up). Swimming, dancing and home exercises were higher at post-intervention compared to pre-intervention. Going to shows and home exercises were higher at 3 month follow-up compared to pre-intervention.	Poor
Baylan et al., 2020	Music listening (MELLO). music listening with brief mindfulness training (referred to as mindful-music listening) **Leisure-component** Individual format Assistant psychologist Home/hospital/work/telephone/email	**Duration:** 8 weeks **Sessions:** 8 sessions plus daily activities of at least an hour a day **Session length:** Not stated	Not stated	Audiobook listening	Non-validated scale frequency of activities Pre- & post-intervention	The majority of treatment sessions were rated as "fully feasible" Music and audiobook groups more likely to engage in daily music listening post-intervention compared to the mindful-music group ($p = 0.012$). Audiobook group more likely to continue audiobook listening post-intervention compared to the other two groups ($p = 0.0052$). No significant group differences ($p = 0.31$) found in engagement in relaxation, mindfulness or meditation-based leisure activities.	Moderate
Beaudry et al., 2020	Adapted dance group intervention **Leisure-component** Group format Researcher-dance educator and rehabilitation assistant Hospital (once dischsarged participants travelled to location to participate)	**Duration:** 10 weeks maximum **Sessions:** Up to 20 **Session length:** 55 minutes	1100 mins	Not applicable	Qualitative findings Post-intervention & 3 month follow-up	5 out of 6 patients reported positive impacts of the intervention. 'Interpersonal Interactions and Social Life' theme indicated: some patients had no inclination to interact socially or socialise before the study, but the adapted-dance sessions contributed to foster desire to socialise. Patients, relatives and rehabilitation therapists indicated that “it broke the isolation.” 4 out of 6 patients had desire to continue dancing; 3 of the 4 continued dancing as recreational activity. The benefits of leisure participation at 3-months unclear.	Poor

Cadilhac et al., 2020	Telephone interview conducted by a clinician-researcher (set 2–3 stroke recovery/ prevention goals. Plus, a system to provide motivational messages (iVERVE) **Leisure-component** Individual format Home	**Duration:** 4 weeks **Sessions:** One message per week plus one or two admin/general motivation messages **Session length:** Not applicable	Not applicable	Participants in the control group received usual care (community), goal-setting assistance for 2–3 goals and 2–3 administrative messages over a 4-week period.	-Goal attainment scale (GAS) -Leisure component of Nottingham Extended ADL (NEADL) assessment Post-intervention	Among the intervention group, goal attainment was achieved in three out of the four goal categories: health/body function, activities and participation, and environment, whereas goal attainment in the control group was only achieved for goals relating to environment tasks. Leisure participation measured by NEADL (leisure component). Median difference (95% CI) between intervention and control group at post-intervention (week 5): 0.00 (-2.20, 2.20)	Good
Corr et al., 2004	Day service to identify and pursue meaningful/ realistic community opportunities **Leisure-component** Paid employee, an organiser and volunteers. Group format Large multipurpose room with range of facilities (kitchen, practical activity, social, computer areas)	**Duration:** 6 months, 24 weeks **Sessions:** 24 (max) Group A range 2–23 Group B-detail not given **Session length:** Not stated	Not stated	Cross over design, control was no intervention	Nottingham Leisure Questionnaire Pre- & post-intervention	First phase - Pre-post intervention (assessment 1 to assessment 2) - Group A (intervention), Group B (control): No significant change in the total number of leisure activities carried out (Nottingham Leisure Questionnaire) in either group Second phase (after crossover)- assessment 2 to assessment 3 - Group B (intervention): Statistically significant increase in the number of leisure activities carried out (NLQ, z =–2.194, p = 0.028); Group A (control): No significant changes.	Poor
Desrosiers et al., 2007	Leisure education programme to enhance personal empowerment and optimizing leisure experiences. Consisted: three components: leisure awareness, self-awareness, and competency development **Leisure-facilitation** Individual format Recreational therapist and an occupational therapist Home/Community	**Duration:** 8 to 12 weeks **Sessions:** Maximum 12 sessions **Session length:** approximately 60 minutes	720 mins	Visits at home - unrelated to leisure-related outcomes. Topics discussed during visits include family, cooking, politics, news, and everyday life. Similar frequency to those in the experimental group.	-Duration per day of leisure activity. -Activities classified as passive or active. -The Leisure Satisfaction of Individualized Leisure Profile Pre- & post-intervention	Daily duration of active/passive leisure activities similar between groups at pre-intervention. Post-intervention, between group difference significant for the active leisure activity duration [14 (3.2-24.9) p=0.01] and the number of activities [mean difference 2.9 (1.1-4.8) p=0.002]. No difference between groups in duration of passive leisure activities. Statistical differences in change scores between the groups were seen for Leisure Satisfaction Scale [11.9 (4.2-19.5) p=0.003] and satisfaction of leisure needs and expectations [6.9 (1.3-12.6) p=0.02], but not for satisfaction with use of spare time.	Moderate

Drummond & Walker, 1995	Leisure rehabilitation programme-hobbies and interests and importance of maintaining a leisure programme discussed. Each treatment programme different, included treatment needed for leisure pursuits; positioning; provision of equipment; adaptations; advice on obtaining financial assistance and transport ; liaison with specialist organizations, and providing physical assistance (e.g. referral to voluntary agencies) **Leisure-facilitation** Individual format Occupational therapist Home	**Duration:** 6 months **Sessions:** Approximately 18 **Session length:** 30 minutes per week for 1-3 months, 30 minutes every fortnight for months 3-6	540 mins	Two comparison groups: (1) Conventional occupational therapy group. OT for similar time. (2) Usual hospital and social services	Nottingham Leisure Questionnaire. Pre-intervention, 3 month & 6 month post discharge (post-intervention)	At three and six months after discharge, significant differences between the groups in total leisure scores and total leisure activity scores. The leisure rehabilitation group (GI) had significantly higher scores compared to the other groups (G2 and G3) at 3 and 6 months ($p<0.01$). Remained significant after considering the influence of age.	Poor
Gladman et al., 1993 Gladman et al., 1994	Domiciliary (physiotherapy and occupational therapy) rehabilitation (DOMINO) **Leisure-component** Individual format Physiotherapists and occupational therapist Home	**Duration:** until 6 months after discharge, up to 24 weeks **Sessions:** Domiciliary sessions: median 8 **Session length:** Not stated	Not stated	Routine service.	Leisure component of Extended ADL (NEADL) assessment 3 months, 6 months and 12 months follow-up	No between group differences in leisure activity overall at 3 months, or 6 months. In the Stroke Unit Stratum only there was a significant difference in favour of the domiciliary rehabilitation service for leisure activity median difference 0.5 ($p=0.4$) The overall outcomes at 12 months did not show a significant difference between the groups. No changes in leisure activity 6-12 months in any group.	Poor

Hartman-Maeira et al., 2007	Long-term Community Rehabilitation programme-range of group treatments provided by rehabilitation professionals (physical, occupational and speech therapists, art therapists, social workers and nurses) **Leisure-facilitation** Format not stated Rehabilitation professionals (physical, occupational and speech therapists, art therapists, social workers and nurses) and volunteers Community	**Duration:** Not stated **Sessions:** Not stated **Session length:** Not stated	Not stated	Not applicable	Activity Card Sort Assessment schedule unclear-states before and after entering the programme	Activity Card Sort - pre- post- intervention differences mean (SD) Instrumental ADL: Pre- 20.01 (15.60); Post- 25.23 (15.70) (p<0.0001) Leisure social cultural: Pre- 37.47 (24.41); Post 46.39 (19.66) (p<0.0001) Leisure low physical: Pre- 44.47 (22.72); Post- 58.06 (22.87) (p<0.0001) Leisure high physical: Pre- 8.26 (11.51); Post- 15.39 (16.33) (p=0.001) Total activity level: Pre- 29.72 (14.99); Post- 38.51 (14.91) (p<0.0001)	Poor
Hebblethwaite & Curley, 2015	Therapeutic Recreation-individualized leisure assessment, collaboratively developed individual recreation plan, and assistance to engage in recreation **Leisure-facilitation** Individual and group format Recreational therapist Home and community	**Duration:** Not stated **Sessions:** Not stated **Session length:** Not stated	Not stated	Not applicable	Qualitative findings (themes)	Three key themes: 1. Collective Support: support and encouragement from the recreation therapist and other participants. Led to a sense of belonging and camaraderie, which helped navigate challenges and recovery. 2. Regaining Hope: Participants found inspiration and motivation to improve their own skills and abilities, boosted confidence and belief in ability. 3. Enhancing Community Engagement: Participation in community-based recreation helped the stroke survivors re-engage with their communities and experienced a sense of enjoyment and fulfilment.	Good

Jongbloed & Morgan, 1991	Occupational therapy intervention focused on regaining leisure activities **Leisure-facilitation** Individual format Occupational therapist Home and community	**Duration:** 5 weeks **Sessions:** 5 **Session length:** 1 hour	300 mins	Occupational therapist visits included questions about leisure activity involvement throughout their lifespan and effects of the stroke. Equivalent time to experimental group.	2 subscales-Katz Adjustment Index: 1) Free-Time Activities; 2) Satisfaction with Free-Time Activities Pre-, post-intervention and 18 months follow-up	There were no statistically significant differences between the experimental group (occupational therapy leisure intervention) and the control group in activity involvement or satisfaction with activity involvement.	**Poor**
Logan et al., 2004	Outdoor mobility intervention-OT made a assessment of barriers, negotiated mobility goals, and delivered interventions to achieve goals. **Leisure-component** Individual format Occupational therapist Home	**Duration:** up to 3 months **Sessions:** up to 7 **Session length:** Not stated	Not stated	One occupational therapy session (single visit) included advice, encouragement, and the provision of informational leaflets about local mobility services.	-Nottingham Leisure Questionnaire Leisure component of -Nottingham Extended ADL (NEADL) assessment at 4 and 12 months post-randomisation	There were no significant differences between the intervention and control group total scores or subscales scores of the Nottingham extended activities of daily living scale, or Nottingham leisure questionnaire at both four and ten months.	Poor
Masterson-Algar et al., 2020	Peer-led coaching intervention to support stroke survivors in rebuilding their social and leisure participation **Leisure-facilitation** Individual format Peer-coach Community - e.g. cafe/library	**Duration:** Not stated **Sessions:** Maximum 6 **Session length:** 1 hour maximum	360 mins	Not applicable	Qualitative findings	One participant completed all six sessions, while two completed two sessions before withdrawing from the study. Participants (1 stroke survivor and 3 peer-coaches) emphasised the importance of shared purpose, goal setting, and structured progress and expressed increase in confidence through involvement. Stroke survivor able to complete selected leisure activity	Moderate
May et al., 2015	Community-based, peer-led, peer-support group (BLAST) **Leisure-component** Group format Stroke survivors who are part of the group (founded by a stroke survivor)	**Duration:** Not stated **Sessions:** Not applicable **Session length:** Not stated	Not stated	Not applicable	Qualitative findings (themes)	Three themes: 1. Creating authentic friendships: BLAST provided a safe opportunity for social engagement 2. Buddies helping buddies: the group was more than a peer-support group for people who have had a stroke. Evidence of group members becoming friends and connecting through social media, email, or phone. 3. Meeting unmet needs after stroke: Laughing and being silly together-emphasising the social benefits of meeting with one another.	Moderate

	Non-profit-housing common area. Weekend camp at an 'accessible location'						
Mayo et al., 2023	Programme provided opportunity for exercise, leisure enhancement, life-long learning, and social interaction (Mission Possible©) **Leisure-facilitation** Group and individual format Recreation therapists, educators/exercise therapists Community	**Duration:** 12 months **Sessions:** 2 weekly sessions, delivered in blocks of 3 months (maximum 72 sessions) **Session length:** 3 hours per session	max 12,960 mins (216 hours)	The control group was a "delayed entry group." Participants in this group received intervention 3 to 4 months after entering the programme. During the waiting period, they received usual care	Activity (hours) outside house via Community Healthy Activities Model Program for Seniors (CHAMPS) questionnaire 3 months (after 1st 'semester' - 6 sessions), 12 months and 15 months	No significant between group differences at three-months (immediate entry group completed the first semester of intervention (6 sessions), delayed group had not received intervention At 12 months, both groups increased activities by approximately 2 hours (both groups had receiving intervention). Maintained until the 15-month follow-up. 45% of the study participants increased number of hours spent in meaningful activity outside the home by three hours per week (study target).	Good
Mulder et al. 2024	Tailor-made exercise programme (dyads) with face-to-face sessions and telerehabilitation resources (Armed4Stroke). Plus usual mobility exercise therapy **Leisure-component** Individual dyad format Physiotherapist Home	**Duration:** 8 weeks **Sessions:** Minimum 4 x F2F sessions plus encourage to do 5 x 30 mins per week in dyad. **Session length:** Planned minutes per F2F session/using web-based system (telerehabilitation) not stated	Target not stated Total time median mins (IQR): Intervention 5010 (4060–6120) Usual care 3875 (2185–6605)	Usual mobility exercise therapy following guidelines from the Royal Dutch Society for Physical Therapy	Nottingham Extended ADL leisure scale Pre-intervention (≤3 months poststroke), 8 weeks (post-intervention) and 6 months follow-up.	Treatment effects were compared between groups at different time points Between group treatment effects at 8 weeks (postintervention) not significant (p=0.052) At 6 months follow-up leisure sub-scale significant in favour of intervention group (p=0.024)	Good

Mulders et al., 1989	Rehabilitation after-care programme-group exercises/games and recreational activities/ information/education **Leisure-component** Group format Physiotherapist and occupational therapist Setting not stated	**Duration:** 12 months **Sessions:** 22 **Session length:** 2.5 hours	780 mins	Not stated	Sickness Impact Profile-Recreation & Pastimes Pre-, post-intervention, 6 month post-intervention	Sickness Impact Profile - Recreation & Pastimes. There was a significant within-group change from pre-intervention to 6 months post-intervention for intervention group ($p<0.001$) but not control group.	Poor
Norris et al., 2013	A structured/ supportive environment to enhance rehabilitation and improve physical and functional abilities (ARNI) **Leisure-component** Group format Two trained instructors Leisure centre	**Duration:** 12 weeks **Sessions:** 12 **Session length:** 1.5 hours	1,080 mins	Not applicable	Qualitative findings (themes)	Three main themes: 1. "I never thought I'd be able to do that again," Improvements in everyday activities reported, including activities with personal or spiritual significance. Enhanced confidence/resumption of activities/roles. 2. "it challenges you," physically demanding and created a challenging work environment. The mix of group activities and one-to-one attention instrumental in fostering challenge. Many participants set new goals that involved returning to previously ceased activities/ roles. 3. "whatever you do don't medicalize it," Important that programme located outside of medical or therapeutic environments. Participants appreciated the community-based leisure centre setting, openness/ friendliness compared to perceived overprotection and medicalisation of hospitals.	Good
Nour et al., 2002	Home leisure educational programme-self-management of leisure, including leisure profile and 12 steps to focus on changing perceptions of themselves, leisure activities, and environment **Leisure-facilitation** Individual format A leisure practitioner Home	**Duration:** 10 weeks **Sessions:** 10 **Session length:** 1 hour	600 mins	Social programme including friendly home visits and conversations on various topics. Comparable time to intervention group.	-Leisure Satisfaction Scale -Leisure autonomous practice (from Leisure Diagnostic Battery) Only measured at post-intervention	Post-Test (Time 2)-intervention group only: Leisure Satisfaction of experimental group was Mean (SD) 88.7 (17.9) (out of a possible 120) Leisure autonomous practice (measured using Leisure Diagnostic Battery) 45.0 (12.0) out of a possible 68 Authors report that this indicates experimental group were satisfied and felt autonomous in their leisure activities-no comparison possible with placebo group	Good

Parker et al., 2001 Logan et al., 2003	Leisure therapy (TOTAL)- leisure goals set, interventions included practising the leisure tasks as well as ADL tasks necessary **Leisure-facilitation** Individual format Occupational therapist Home	**Duration:** up to 6 months **Sessions:** minimum 10 (mean = 8.5) **Session length:** at least 30 minutes (mean = 59 minutes for the leisure group and 52 minutes for the ADL per session)	Minimum 590 leisure group; 520 ADL group	Two comparison groups (1) ADL Group: up to 6 months, minimum 10 sessions of minimum 30 minutes. Goals set to improve self-care tasks and practised tasks such as preparing meal/ outdoor walking (2) Control group – no intervention.	Nottingham Leisure Questionnaire 6 and 12 months after discharge	No significant differences were found between groups on NLQ at 6 or 12 months Compared 34 activities undertaken by Leisure and ADL groups. 13 activities were more commonly undertaken in one group that the other: More frequently addressed in Leisure Group: shopping, entertainment, gardening, hobbies, games, creative, sport More frequently addressed in ADL Group: cleaning, dressing, cooking, bathing, transfers, mobility	Moderate
Ryan et al., 2008	Family Centered Community Stroke Programme-including physiotherapy, couple and recreation therapy **Leisure-facilitation** Group format Core team: speech therapist, family therapist, physiotherapist, recreation therapist, exercise therapists. Aphasia centre	**Duration:** 8 weeks **Sessions:** 16 **Session length:** 4 hours	3,840 mins	Not applicable	-Leisure Diagnostic Battery -A Community Participation Confirmation Interview (CPCI), developed for project. Pre- and post-intervention and 8-month follow-up	No within-subjects difference at post-intervention or 8-month follow-up on Leisure Diagnostic Battery. Caregiver perceptions of partner leisure competence (adapted Leisure Diagnostic Battery) improved significantly pre- to post-intervention [$F(2, 30) = 14.73$, $p < 0.001$]. No significant difference pre-intervention to 8 month follow-up. Significant difference ($p < 0.05$) in perceived opportunity for leisure (sub-section) pre-intervention to post-intervention and pre-intervention to follow-up but not post-intervention to follow-up. 53% stroke survivor participants reported having tried new community based leisure activities, 24% reported having made a new social contact to do 'things' with, and 47% reported resuming or continuing past interests, 29% reported being unable to take part in any leisure activities.	Poor
Shaw et al., 2020	Extended stroke rehabilitation (EXTRAS)- telephone/face-to-face interview and goal setting/review **Leisure-component** Individual format Individual reviews completed by staff member at discretion of site	**Duration:** Five reviews were conducted over 18 months (78 weeks) **Sessions:** Five sessions at 1, 3, 6, 12 and 18 months post discharge **Session length:** Review duration individualised	Not stated	Usual care post ESD. Varied according to local service provision.	Nottingham Extended ADL leisure scale Pre-intervention, 12 months (during intervention), 24 months (follow-up)	No significant between group differences from baseline to other time points, or from 12 month to 18 months. Baseline Leisure activities (NEADL) - mean (SD): EXTRAS: 9.3 (4.2) Usual care: 9.3 (4.1) 12 month Leisure activities (NEADL) - mean (SD): EXTRAS: 10.0 (4.8) Usual care: 9.5 (4.5) 24 month Leisure activities (NEADL) - mean (SD): EXTRAS: 10.2 (5.0) Usual care: 9.6 (4.9)	Good

	Home	(length of time to complete)					
Terrill et al., 2025	Community adaptive cycling programme **Leisure-component** Group format Adaptive Recreation Organisation staff Park	**Duration:** 16 weeks **Sessions:** Minimum 1 session per week **Session length:** Sessions 2-3 hours long	Min. 1920	Not applicable	NeuroQOL Satisfaction with, and Participation in Social Roles and Activities Pre-intervention, 8 weeks (during intervention) and 16 weeks (post-intervention)	Satisfaction with Social Roles and Activities differed statistically significantly between timepoints ($F(2, 30) = 5.64$, $p = 0.008$). Post-hoc analysis with a Bonferroni adjustment showed satisfaction with social roles trended toward significantly improving from baseline to 8-weeks (MD = 2.86 (95 % CI, 0.24 to 5.95), $p = 0.08$), and significantly improved from baseline to 16-weeks (MD = 3.71 (95 % CI, 0.48 to 6.93), $p = 0.02$). Qualitative findings indicated an increase in cycling and other leisure activities	Good
Thomas et al., 2013	Behavioural Activation Therapy (CALM)- identifying enjoyable activities increasing activity levels/ introducing new activities), setting goals to increase enjoyable activities, education, activity monitoring, activity scheduling, task assignments **Leisure-component** Individual format Assistant psychologist supervised weekly by a clinical psychologist Home	**Duration:** 3 months **Sessions:** Maximum sessions: 20 Mean = 9.07 sessions **Session length:** 1 hour (mean: 58 minutes, range: 30-89 minutes)	Max 1,200 mins	Usual care	Nottingham Leisure Questionnaire 3 and 6 months after randomisation	No significant group effect was found at 3 or 6 months on the Nottingham Leisure Questionnaire	Good

Thomas et al., 2019	Behavioural Activation Therapy (BEADS)- identifying enjoyable activities increasing activity levels/ introducing new activities), setting goals to increase enjoyable activities, education, activity monitoring, activity scheduling, task assignments **Leisure-component** Individual format Assistant psychologist or psychological well-being practitioner Home	**Duration:** Maximum 4 months **Sessions:** Maximum 15. Mean (SD) 8.5 (4.4) therapy sessions **Session length:** 1 hour	Max 900 mins	Usual care	Nottingham Leisure Questionnaire Pre-intervention and 6 months	Pre-intervention: Intervention group Mean (SD) 16.2 (6.0) N=24 Usual care group 13.1 (5.4) N=23 Pre-intervention (those completing 6 month follow-up): Intervention group Median (interquartile range) 17.5 (10-20) N=18 Usual care group 14.0 (10-17) N=21 Post-intervention (6 month follow-up): Intervention group: Median (interquartile range) 17.5 (14-26); Mean (SD) 20.5(9.1); N=18 Usual care group: Median (interquartile range) 15.0 (12-20); Mean (SD) 15.6(5.5) N=21 Unadjusted mean difference 4.9 (0.087 to 9.7); adjusted (for baseline and centre) mean difference 3.2 (-0.96 to 7.3). Suggests positive effect, but confidence limits cross 0.	**Good**
Vanroy et al., 2019	Cycling programme using the MOTOmed viva2 leg trainer with education and coaching **Leisure-component** Not established group intervention, but activity may have been with others Not stated who provided the intervention, physiotherapist provided the coaching Rehabilitation centre	**Duration:** 3 months. Plus half of active cycling group received coaching for 9 months. **Sessions:** 3 sessions a week, total 36 sessions. Half active cycling group received 9 monthly visits from a coach. **Session length:** 30 minutes sessions for the main 3-month intervention.	1,080 mins	Control group received a passive approach: three sessions per week for three months (in addition to regular therapy). Passive mobilisation: Kinetec device targeting the paretic hip and knee while in a supine position.	The Baecke Questionnaire of Habitual Physical Activity measures work, sport, and leisure activities (work data not analysed). Pre-intervention (baseline) and 12 months.	There was no significant difference group x time difference (baseline to 12 months) in Baecke sport or leisure scores (although control group significantly decreased at 12 months compared with baseline) In a sub-group analysis of participants who could not walk 10m independently at baseline, there was a significant group x time difference (p=0.039) in sport but not leisure score. Participants in the control group performed significant less sports at 12 months - mean (SD) Baecke/sport baseline 3.07 (1.21), Baecke/sport 12 months 1.43 (0.98), p = 0.01.	Moderate

Van Puymbroeck et al., 2014	Yoga intervention-chair and standing yoga **Leisure-component** Group format Registered yoga therapist Setting not stated	**Duration:** 8 weeks **Sessions:** 16 **Session length:** 1 hour	960 mins	Not applicable	Qualitative findings	Participants indicated an increase in confidence, social participation and ability to participate in social situations. One person reported regaining drivers licence and undertaking a 1500 mile road trip and being able to climb 50 feet of steps.	Poor
Villeneuve et al. 2026	Outdoor bicycle training-group-based **Leisure-component** Group format Healthcare student instructors supervised by therapists Outdoor space	**Duration:** 3 weeks **Sessions:** 9 **Session length:** 1.5-2 hours	Max 1080 mins	Not applicable	Nottingham Leisure Questionnaire	No significant difference across time points. Three participants reported that their degree of participation in sport activities changed from never to occasionally after the intervention. Two participants' level of participation were unchanged	Moderate

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	Page 1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	Page 1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	Page 2
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	Page 2 lines 27-33
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	Page 3 lines 9-10
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	Page 4 lines 9-17, Supplementary Material B
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	Page 3 line 20-Page 4 line 7
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	Supplementary Material A
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	Page 4 line19 -page 5 line 5
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	Page 5 lines 6-14

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	Supplementary Material C
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	Page 15-23
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	Page 5 lines 24-30
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	Page 5 line 34 – Page 6 line 4, Fig 1
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	Table 3
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	Table 3, page 7 lines 4-6, page 8 lines 26-34, page 10 lines 3 - 5
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Table 3, page 7 lines10-35, page 8 lines 3-13, page 8 line 17-page 10 line 10, page 10 lines 13-18 and Table 4
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	Page 7 lines10-35, page 8 lines 3-13, page 8 line 17-page 10 line 10, page 10 lines 13-18
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	Page 12 line 4-page 13 line 37
Limitations	20	Discuss the limitations of the scoping review process.	Page 14 lines 1-19
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	Page 14 lines 12-19
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	Title page

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.
* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).
‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.
§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMAScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–473. doi: 10.7326/M18-0850.

Supplementary material A – search strategies

Database: Ovid MEDLINE(R) ALL <1946 to March 24, 2025>

Date searched: 11 June 2026

1 exp Stroke/

2 Stroke Rehabilitation/

3 (stroke or poststroke or post-stroke or cerebrovasc*).ti,ab,kw,kf.

4 or/1-3

5 Leisure Activities/

6 Recreation Therapy/ or Recreation/

7 Hobbies/

8 exp "Play and Playthings"/

9 Sports/

10 Relaxation/

11 Social Participation/

12 Community Participation/

13 Patient Participation/

14 (leisure or recreation* or hobby or hobbies or sport* or valued activit* or meaningful activit* or non-vocational activit*).ti,ab,kw,kf.

15 ((community or social) adj3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or re-integrat* or activit*)).ti,ab,kw,kf.

16 ((exercise or physical activit*) adj3 (participat* or engag* or involv* or increas*)).ti,ab,kw,kf.

17 or/5-16

18 4 and 17

19 exp animals/ not humans.sh.

20 18 not 19

21 limit 20 to (english language and yr="1989 -Current")

Database: Embase (Ovid)<1974 to 2025 March 24>

Date searched: 11 June 2026

1 exp cerebrovascular accident/

2 stroke rehabilitation/

3 (stroke or poststroke or post-stroke or cerebrovasc*).ti,ab,kw,kf.

4 or/1-3

5 leisure/

6 recreation/

7 recreational therapy/

8 sport/

9 social participation/

10 community participation/

11 patient participation/

12 (leisure or recreation* or hobby or hobbies or sport* or valued activit* or meaningful activit* or non-vocational activit*).ti,ab,kw,kf.

13 ((community or social) adj3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or re-integrat* or activit*)).ti,ab,kw,kf.

14 ((exercise or physical activit*) adj3 (participat* or engag* or involv* or increas*)).ti,ab,kw,kf.

15 or/5-14

16 4 and 15

17 (exp animal/ or animal.hw. or nonhuman/) not (exp human/ or human cell/ or (human or humans).ti.)

18 16 not 17

19 limit 18 to (english language and yr="1989 -Current")

Database: CINAHL Ultimate (EBSCOhost)

Date searched: 11 June 2026

S1 (MH "Stroke+")

S2 TI (stroke or poststroke or "post-stroke" or cerebrovasc*) OR AB (stroke or poststroke or "post-stroke" or cerebrovasc*) OR SU (stroke or poststroke or "post-stroke" or cerebrovasc*)

S3 S1 OR S2

S4 (MH "Leisure Activities")

S5 (MH "Recreational Therapy")

S6 (MH "Recreation")

S7 (MH "Hobbies")

S8 (MH "Play and Playthings")

S9 (MH "Sports")

S10 (MH "Relaxation")

S11 (MH "Social Participation")

S12 (MH "Leisure Participation (Iowa NOC)") OR (MH "Sports Participation")

S13 TI (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*") OR AB (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*") OR SU (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*")

S14 TI ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*)) OR AB ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*)) OR SU ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*))

S15 TI ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*)) OR AB ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*)) OR SU ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*))

S16 S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15

S17 S3 AND S16 Limiters - Published Date: 19890101-20231231; English Language

Database: PsycINFO (EBSCOhost)

Date searched: 11 June 2026

S1 DE "Cerebrovascular Disorders" OR DE "Cerebral Arteriosclerosis" OR DE "Cerebral Hemorrhage" OR DE "Cerebral Ischemia" OR DE "Cerebral Small Vessel Disease" OR DE "Cerebrovascular Accidents" OR DE "Subarachnoid Hemorrhage"

S2 TI (stroke or poststroke or "post-stroke" or cerebrovasc*) OR AB (stroke or poststroke or "post-stroke" or cerebrovasc*) OR KW (stroke or poststroke or "post-stroke" or cerebrovasc*)

S3 S1 OR S2

S4 DE "Leisure Time"

S5 DE "Recreation" OR DE "Recreation Therapy"

S6 DE "Hobbies"

S7 DE "Sports"

S8 DE "Relaxation"

S9 DE "Participation"

S10 TI (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*") OR AB (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*") OR KW (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*")

S11 TI ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*)) OR AB ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*)) OR KW ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*))

S12 TI ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*)) OR AB ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*)) OR KW ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*))

S13 S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12

S14 S3 AND S13 Limiters - Publication Year: 1989-; English

Database: AMED (EBSCOhost)

Date searched: 11 June 2026

S1 (ZU "stroke") or (ZU "stroke rehabilitation")

S2 TI (stroke or poststroke or "post-stroke" or cerebrovasc*) OR AB (stroke or poststroke or "post-stroke" or cerebrovasc*) OR KW (stroke or poststroke or "post-stroke" or cerebrovasc*)

S3 S1 OR S2

S4 (ZU "leisure activities")

S5 (ZU "recreation") or (ZU "recreation therapy")

S6 ((ZU "hobbies")) or ((ZU "play and playthings"))

S7 (ZU "sports")

S8 (ZU "relaxation")

S9 (ZU "social participation")

S10 (ZU "community participation")

S11 (ZU "patient participation")

S12 TI (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*") OR AB (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*") OR KW (leisure or recreation* or hobby or hobbies or sport* or "valued activit*" or "meaningful activit*" or "non-vocational activit*")

S13 TI ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*)) OR AB ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*)) OR KW ((community or social) N3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or "re-integrat*" or activit*))

S14 TI ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*)) OR AB ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*)) OR KW ((exercise or "physical activit*") N3 (participat* or engag* or involv* or increas*))

S15 S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14

S16 S3 AND S15

S17 S3 AND S15 Limiters - Publication Date: 19890101-; Language: English

Database: Cochrane Library all databases (via Wiley)

Date searched: 11 June 2026

#1 MeSH descriptor: [Stroke] explode all trees

#2 MeSH descriptor: [Stroke Rehabilitation] this term only

#3 (stroke or poststroke or (post NEXT stroke) or cerebrovasc*):ti,ab,kw

#4 #1 OR #2 OR #3

#5 MeSH descriptor: [Leisure Activities] this term only

#6 MeSH descriptor: [Recreation Therapy] this term only

#7 MeSH descriptor: [Recreation] this term only

#8 MeSH descriptor: [Hobbies] this term only

#9 MeSH descriptor: [Play and Playthings] explode all trees

#10 MeSH descriptor: [Sports] this term only

#11 MeSH descriptor: [Relaxation] this term only

#12 MeSH descriptor: [Social Participation] this term only

#13 MeSH descriptor: [Community Participation] this term only

#14 MeSH descriptor: [Patient Participation] this term only

#15 (leisure or recreation* or hobby or hobbies or sport* or (valued NEXT activit*) or (meaningful NEXT activit*) or (non NEXT vocational NEXT activit*)):ti,ab,kw

#16 ((community or social) NEAR/3 (participat* or engag* or connect* or involv* or integrat* or reintegrat* or re-integrat* or activit*)):ti,ab,kw

#17 ((exercise or "physical activity" or "physical activities") NEAR/3 (participat* or engag* or involv* or increas*)):ti,ab,kw

#18 {OR #5-#17}

#19 #4 AND #18

PARticipation And engagement in self-seLected LEisure activities foLlowing stroke (PARALLEL)

Supplementary Material B

Full text screening – reasons for exclusion

Exclude based on highest category

Exclusion Category	Exclusion Reason	Exclusion Code
Language	Not accessible in English language	1
Date	Not published within 1988-2025 timeframe	2
Study type	Not a primary or secondary research	3
	If secondary research, does not follow systematic methodology	4
Participants	Non-human	5
	Sample under 18, or mixed sample where 18 years and older cannot be separated	6
	No diagnosis of stroke, or participants with conditions other than stroke where data for stroke participants cannot be extracted, or stroke survivors make up less than 90% of the sample	7
Exposure	Does not study an intervention that aims to impact leisure participation If intervention is exercise/physical activity the outcomes should indicate that the intervention is for leisure (e.g. not just measure exercise capacity/physiological measures/accelerometer) If intervention focuses for example on an intervention to increase walking (e.g. cane use)/ cognition (e.g. a cognitive strategy) etc. exclude as not a leisure intervention. However, if intervention is a leisure intervention in itself e.g. cycling, driving, computer games, look for leisure outcomes (or social/community participation/occupational performance/occupational participation)-if these outcomes are not measured, exclude	8
	Study only describes development of intervention	9
Outcomes	Paper does not provide qualitative and/or quantitative data about amount of self-selected leisure participation post-intervention [At screening include if measures social or community participation, or occupational performance or participation e.g. Canadian Occupational Performance Measure (full text-check if leisure participation is extracted)]	10

	Exclude if the only leisure participation reported is that required to undertake the study intervention (e.g. no follow-up beyond the study intervention to establish if leisure participation is continued) Exclude if only using global health assessments/scales	
Peer reviewed	Paper not peer-reviewed prior to publication	11
Insufficient information e.g. abstracts	[At screening include those meeting criteria and seek full paper] Exclude if insufficient information about study e.g. abstracts without availability of full text paper. If full text paper identified, keep full text paper and exclude abstract	12
Protocols	If full study has been published, keep full text paper and exclude protocol (Keep other protocols meeting above criteria)	13
Duplicate	Paper is a duplicate	20

Data extraction Tool Headings

Heading	Data extracted
Author(s)	
Title	
Journal of publication	
Year of Publication	
DOI / ISSN	
Country of origin	
Study Design	
Participant numbers	
Participant's characteristics gender - % female	
Participant's characteristics gender - % male	
Participants characteristics mean/median age (years)	
Participants characteristics- mean/median time since stroke	
Participant characteristics-functional level	
Name, acronym, or short phrase describing the intervention	
What is the intervention? Provide a brief description	
Leisure education/coaching component?	
What is the focus / goal of the intervention	
Is there a rationale or theory for the intervention?	
If yes, what is the rationale/theory?	
Who is provider?	
Mode of delivery (f2f, internet, telephone)	
Is intervention supervised?	
Individual or group intervention	
Location of the intervention	
Duration weeks	
Total sessions	
Session length mins	
Estimated overall intervention time	
Was intervention tailored/modified?	
If tailored or modified, add any further information about this	
Was fidelity of intervention assessed?	
If fidelity was assessed, please state how	
Recruitment/completion detail	

Adverse events reported	
Was there a control intervention?	
Brief description of control if appropriate	
How was leisure measured? When measured	
Findings	
Followed up?	
Benefit/no benefit (leisure)	
Leisure focused/Leisure an aspect	
Facilitators and barriers to leisure participation identified	
Additional comments	
Data extractor	
Data validator	