

Understanding the experience of initiating community-based group physical activity by people with serious mental illness: a systematic review using a meta-ethnographic approach

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1 **Understanding the experience of initiating community-based group physical activity**
2 **by people with serious mental illness: a systematic review using a meta-ethnographic**
3 **approach**

4

5 Short title: Initiating community-based group physical activity for people with serious mental
6 illness

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42

43 **Abstract**

44 Background

45 People living with serious mental illness (SMI) experience debilitating symptoms that worsen
46 their physical health and quality of life. Regular physical activity (PA) may bring symptomatic
47 improvements and enhance wellbeing. When undertaken in community-based group
48 settings, PA may yield additional benefits such as reduced isolation. Initiating PA can be
49 difficult for people with SMI and so PA engagement is commonly low. Designing acceptable
50 and effective PA programmes requires a better understanding of the lived experiences of PA
51 initiation among people with SMI.

52 Methods

53 This systematic review of qualitative studies used the meta-ethnography approach by Noblit
54 and Hare (1988). Electronic databases were searched from inception to November 2017.
55 Eligible studies used qualitative methodology; involved adults (≥ 18 years) with
56 schizophrenia, bipolar affective disorder, major depressive disorder or psychosis; reported
57 community-based group PA; and captured the experience of PA initiation, including key
58 features of social support. Study selection and quality assessment was performed by four
59 reviewers.

60 Results

61 Sixteen studies were included in the review. We identified a 'journey' that depicted a long
62 sequence of phases involved in initiating PA. The journey demonstrated the thought
63 processes, expectations, barriers and support needs of people with SMI. In particular, social
64 support from a trusted source played an important role in getting people to the activity, both
65 physically and emotionally.

66 Discussion

67 The journey illustrated that initiation of PA for people with SMI is a long complex transition.
68 This complex process needs to be understood before ongoing participation in PA can be
69 addressed.

70 Registration - The review was registered on the International Prospective Register of
71 Systematic Reviews (PROSPERO) on 22/03/2017 (registration number CRD42017059948).

72 Key words: serious mental illness; physical activity; initiation; adults; meta-ethnography

73 **Introduction**

74 Individuals living with serious mental illness (SMI), inclusive of major depressive disorder,
75 schizophrenia and bipolar disorder, experience premature mortality [1], increased morbidity
76 (e.g., type 2 diabetes; [2], metabolic syndrome and cardiovascular disease [3]), and higher
77 rates of obesity [4, 5] compared with the general population.

78 Reducing the premature death rate by targeting the physical health conditions experienced
79 by people living with SMI is complex and multifactorial. One way to address this mortality
80 gap is by modifying behavioural risk factors [6-8], including physical inactivity (or sedentary
81 behaviour). Physical activity (PA), encompassing the wider domains of exercise and sport,
82 may have a crucial role in addressing the health inequalities experienced by people living
83 with SMI; addressing premature mortality, preventing the onset of comorbidities and
84 improving the overall health and wellbeing of this population [9].

85 The benefits of PA for people living with SMI include improvements in psychiatric symptoms,
86 quality of life, physical fitness, cardiometabolic risk factors, body mass index and weight [10].
87 There is also promising evidence that community-based PA (in a group situation) can reduce
88 social isolation, stigmatisation and enhance social identity in people living with SMI [11-14].
89 Indeed, the World Health Organization's (WHO) *Mental Health Action Plan 2013-2020* called
90 for the provision of mental health services integrated in communities for service users and
91 families [15]. People living with SMI, however, engage in significantly less PA and greater
92 amounts of sedentary behaviour compared with the general population [6-8, 16, 17]. For
93 example, half of the people living with SMI do not meet the guidelines of 150 minutes per
94 week of moderate intensity PA [17]. This is despite research showing that people living with
95 SMI want to undertake PA [18, 19].

96 A better understanding of how to promote PA in a way that is engaging, appealing and
97 socially supportive for people living with SMI is much needed. With this in mind, the purpose
98 of this review is to explore the *initiation* of community-based, group PA in people with SMI.
99 We define initiation as; 'the period in which people start being more physically active (also
100 referred to as 'adoption' and 'uptake')' (p.3)[20] . Given the range of barriers faced by people
101 living with SMI when trying to engage in PA (e.g., low mood, stress, lack of support) [19], a
102 thorough exploration of the lived experience of initiation, rather than maintenance of PA,
103 appears important. To achieve this, we undertook a meta-synthesis [21] of qualitative studies
104 adopting a meta-ethnographic approach [22]. Meta-ethnography seeks to uncover new
105 understanding of a phenomenon that is greater than that contained within individual studies.
106 Its strength lies in its attempt to preserve the interpretive properties of the original qualitative
107 data. Specifically, the meta-ethnography aimed to:

- 108 • Systematically search and appraise qualitative research on the experience of initiating
109 community-based group PA for adults living with SMI.
- 110 • Synthesise findings from existing research regarding the experience of initiating
111 community-based group PA and key features of social support within these contexts
112 for people living with SMI.
- 113 • Identify from participants' experiences the active ingredients that could inform future
114 interventions to improve uptake of community-based group PA among people living
115 with SMI.

116 **Methods**

117 Detailed information on the methods undertaken in this review are published in the protocol
118 [20]. The review was registered in the International Prospective Register of Systematic
119 Reviews (PROSPERO): CRD42017059948. Noblit and Hare's (1988) meta-ethnography
120 approach comprises seven stages, with the review authors moving back and forth between
121 stages four to six as ideas for translation and synthesis are explored. The review is reported
122 in accordance with eMERGe meta-ethnography reporting guidance [23]. The findings of the
123 review were discussed with two individuals living with SMI with the purpose of sense
124 checking themes and findings. One reviewer (HQ) had an informal conversation with each
125 individual in which the initiation journey was discussed. Individuals were asked to comment
126 on whether the review team's interpretation of the data was clear and easy to understand.

127 *Search strategy*

128 The bibliographic databases searched were ASSIA (ProQuest), CINAHL (EBSCO),
129 Cochrane Central Register of Controlled Trials (Wiley), Health Technology Assessment
130 Database (Wiley), MEDLINE (EBSCO), PsycINFO (ProQuest), Sociological Abstracts
131 (ProQuest), SportDiscus (EBSCO), Web of Science (Thomson Reuters, now Clarivate).
132 Reviewers searched the author list and reference lists of all papers included in the review for
133 other potentially eligible papers. No date limits were applied. Only papers published in the
134 English language were included. The search strategy is identical to that published in the
135 protocol [20], with the addition of two new terms 'autobiographical' and 'mental health' that
136 the team recognised as necessary after initial searches.

137 *Search processes*

138 Literature searches were undertaken in November 2017 by an experienced Information
139 Scientist (DH). All results from the literature searches were exported to the bibliographic
140 software, RefWorks. This tool, instead of EndNote as indicated in the protocol, was selected
141 as a majority of the review team were familiar with this resource. RefWorks was also used to
142 remove duplicate papers.

143 *Selecting primary studies*

144 The selection process was divided equally amongst four reviewers (DH, EH, HC and HQ)
145 with a fifth reviewer (RC) available to advise on the overall approach. All papers were
146 screened by one of the reviewers and 10 per cent were independently double checked by a
147 second reviewer. Eligibility criteria are described in detail in Quirk et al. (2017)[20]. In brief:

- 148 ● **Population** - adults (≥ 18 years) living with SMI, defined as a primary diagnosis (as
149 described in the studies) of schizophrenia, bipolar affective disorder, major
150 depressive disorder, personality disorder, severe anxiety (including phobia and
151 obsessive-compulsive disorder), schizophreniform disorder or psychosis. If the
152 population was described as those with SMI, but the specific condition was not
153 reported, the paper was considered for review.
- 154 ● **Intervention** - community-based group PA (inclusive of sport and exercise and any
155 frequency, intensity or duration). The PA needed to take place in the community (i.e.,
156 those that take place outside of hospital, clinical, residential or care settings), with a
157 group being defined as a minimum of 3 people. If the intervention was
158 multicomponent, PA needed to be a main component and the findings needed to be
159 attributable to the PA.
- 160 ● **Comparison** - if an intervention was described, no comparator condition was
161 needed. Where a comparison was made, the comparator could be no activity or any
162 other activity.
- 163 ● **Outcomes** - qualitative data from the perspective of the participant living with SMI
164 reporting the experience of initiating community-based group PA. Initiation was
165 defined as the period in which people first start to engage in a PA. The initiation
166 period could represent the first participation occasion or period of PA engagement,
167 as long as findings could be attributable to the early phase of participation.
- 168 ● **Setting** - community-based group setting.

169 *Outcome of study selection*

170 The databases searches yielded 18,727 papers. After the removal of duplicates, there were
171 11,804 unique papers. All were screened using the title and abstract against the eligibility
172 criteria. Following this process, 366 papers were retained for full-text screening. Sixteen
173 papers met the eligibility criteria and were included in this review. A summary of the search
174 and screening process is shown in the PRISMA flow diagram (Figure 1).

175 [Insert Figure 1 about here. Caption: PRISMA flow diagram]

176 *Data extraction and quality appraisal*

177 The data extraction method is outlined in Quirk et al. [20]. The extraction and quality
178 appraisal document was piloted by the four members of the review team using two of the
179 papers included in the review. Verbatim quotes from the findings and primary author
180 statements were extracted and grouped into themes and sub-themes, being careful to keep
181 these distinct from the reviewers' own comments or interpretations. Each reviewer's data
182 extraction tables were cross-checked by a second reviewer and any disagreement or
183 discrepancies were resolved via discussion between the review team. The quality of each of
184 the papers was assessed using the Critical Appraisal Skills Programme (CASP) Qualitative
185 Checklist [24]. Critical appraisals of all papers were cross-checked by a second reviewer and
186 any discrepancies resolved via discussion among the review team.

187 *Translating second-order concepts*

188 The outcomes extracted from primary studies were used to determine how studies were
189 related (as per Noblit and Hare [22]) and identify the 'key concepts'. The 'key concepts' were
190 themes that seemed particularly salient to the initiation of community-based group PA for
191 people living with SMI. Each reviewer identified the key concepts in the studies they
192 extracted and appraised. The key concepts were then copied into a 'key themes and
193 concepts' table, again preserving the meaning and source of the original text by copying
194 quotes and study author comments verbatim and highlighting original participant quotes as
195 first order concepts, study author comments as second order concepts and reviewer
196 interpretations as third order concepts [25]. The 'key themes and concepts' table helped the
197 review team to identify patterns and relationships within and between studies. Translating
198 second-order concepts was entirely grounded in the data. It was not guided by theory nor
199 was the intention to substantiate or compare against previous theories or models of
200 behaviour change. For the same reason, our definition of initiation did not derive from any
201 specific theory of behaviour.

202 *Translating studies into one another*

203 To generate third order concepts, an Excel spreadsheet was created for each paper
204 included in the study. The Excel spreadsheet outlined the first and second order concepts
205 and a third column allowed the reviewer to add their own conceptualisation of the
206 theme/subtheme. Reviewers (HC, DH, EH, HQ) followed step 5 of Noblit and Hare's
207 approach by exploring how the key themes and concepts related to each other. This was an
208 iterative process determined by how much the studies agreed or disagreed with each other..

209 *Synthesising translations*

210 In meta-ethnography, the product of synthesis is the translation of study findings into one
211 another to reach a new interpretation of the phenomenon being studied[23]. A series of

212 review team meetings were held to synthesise the third order concepts for each
213 theme/subtheme. To ensure conceptualisations remained grounded in the original papers,
214 cross checks were continually made to first and second order concepts. According to Noblit
215 and Hare, studies can relate to one another in three ways: they may be directly comparable
216 (reciprocal translations); they may stand in opposition to one another (refutational
217 translations); or taken together they may represent a line of argument. A 'line of argument'
218 synthesis approach was used because the papers focused on different types of PA
219 experiences that could usefully be brought together to construct overarching arguments
220 about phenomena (stage 6; [22]). We did not identify any cases where concepts were
221 strongly contested across papers (i.e., refutational translations [22]). Where findings from
222 studies refuted other studies, these were noted.

223 *Expressing the synthesis*

224 Key concepts identified across the papers, combined with a priority to retain the individual
225 voice of people living with SMI led to presenting this as '*a journey*' to visualise the complexity
226 of the findings and identify potential phases of PA initiation. The phases of a person's
227 journey in the initiation of community-based PA were identified as: thinking about being
228 active, planning and preparing for the activity, getting to the activity, and beginning the
229 activity. In this case, the process of moving through the phases was cyclical, with people
230 moving back and forth between phases as well as being static for extended periods of time.
231 The service users viewed our interpretation as an accurate reflection of their own experience
232 and likened our proposed journey to the 'SMI recovery journey'.

233

234 *Confidence in cumulative evidence*

235 Two reviewers applied the Confidence in the Evidence from Reviews of Qualitative
236 Research (CERQual) tool to the review findings [26]. CERQual assesses confidence in
237 evidence based on four components contributing to each review finding: the methodological
238 limitations, the relevance, the coherence, and the adequacy of the data. The assessment of
239 each component allows for a judgement of confidence; high, moderate, low or very low. High
240 confidence in a finding would suggest that it is highly likely that the review finding is a
241 reasonable representation of the phenomenon of interest [26].

242 **Results**

243 *Description of included studies*

244 Sixteen studies (of 198 participants) were included for review. An overview of the
245 characteristics of the studies is provided in Table 1. The studies were published between

246 2003 and 2017 and were conducted in the UK (n=9), USA (n=3), Canada (n=1) and Sweden
247 (n=1). Two did not report the location. A range of different PA types, interventions and
248 participants were represented. Nine studies included people living with a range of diagnoses
249 [13, 27-33]. Five studies included people living with schizophrenia or schizoaffective disorder
250 [34-38] and four studies did not report the specific diagnosis, but instead reported a
251 diagnosis of SMI [39-41].

252 [Insert Table 1 about here]

253 PA interventions varied across studies and included; walking group [41]; walking and
254 swimming [38]; horse-riding [37]; golf [33]; swimming [35]; low impact walking and yoga [31];
255 and various activities including team sports [27-30, 32, 34, 36, 39, 40]. The majority involved
256 PA facilitated by an instructor or leader (n=9). Five interventions were self-directed activities.
257 In three studies level of facilitation was unclear. See Table 2 for intervention characteristics.
258 Descriptions of the interventions can be found in Supplement 1.

259 [Insert Table 2 about here]

260

261 *Quality of included studies*

262 Using CASP, we judged that qualitative methods were appropriate in all studies and most
263 studies had a clear statement of aims, an appropriate research design, data collection in a
264 way that addressed the research issue, a clear statement of findings, and value in terms of
265 practical application and aiding our understanding of community-based PA for people living
266 with SMI. Study quality varied in terms of having an appropriate recruitment strategy to
267 support the aims, whether ethical issues were taken into consideration, and if data analysis
268 was sufficiently rigorous. Most studies did not adequately consider the relationship between
269 researcher/s and participants. A summary of the methodological quality of studies is
270 provided in Supplement 2.

271 *Synthesising translations/line of argument*

272 Table 3 shows a list of all the second order constructs, using the original authors' own words
273 or a paraphrase to maintain the language used in each study [11, 42]. When grouping
274 second order constructs into broader categories, we noticed a temporal sequence or
275 'journey'. The 'journey' captured a long sequence of phases which, although presented
276 sequentially, is not linear in practice (Figure 2).

277 [Insert Figure 2 about here. Caption: The journey of physical activity initiation for people
278 living with SMI]

279 *The journey of physical activity initiation for people living with SMI*

280 Table 3 gives a narrative 'translation' of each second order construct.

281 [Insert Table 3 about here]

282 **Underlying influences impacting upon the initiation of physical activity**

283 Two sub-themes were identified representing underlying influences that play a part across
284 the initiation journey. Characteristics of SMI that affected people's ability to initiate PA were
285 low self-esteem, feelings of failure and/or powerlessness - especially after a failed attempt at
286 initiating PA [27, 28, 35]. For some people dealing with SMI was all-consuming and left little
287 space in their life for anything else [28, 32].

288 Another challenge was side-effects of medication that caused people to lack motivation, feel
289 drowsy and sluggish or too ill to participate in PA [13, 27, 30, 35, 38]. Getting the medication
290 right to feel 'well enough' to partake in PA was important to reduce any set-backs in PA
291 initiation [13, 36]. Weight gain or being overweight was considered a side-effect of
292 medication and was spoken about in relation to feelings of poor body image and insecurity
293 [32, 35, 38].

294

295 **Thinking about being active**

296 In the first phase of the journey, predisposing perceptions, beliefs and values influence the
297 decision to engage in PA. These relate to perceptions about PA in general, rather than
298 beliefs about a specific type of PA, which come later in the journey. Four sub-themes were
299 identified within this phase of the journey; *thoughts and beliefs about being active in a group*
300 *setting, expected outcomes of being more active, positive encouragement and informational*
301 *support, and past experience of PA. People living with SMI talked about feeling vulnerable in*
302 *unpredictable group settings due to social anxiety, embarrassment and apprehension*
303 *around strangers [28, 30-32, 34, 35].*

304 While the perceived benefits of PA varied across studies (e.g., a worthwhile reason to get
305 out of the house (or other residential setting) [13, 29, 35, 36] and weight control [27, 28, 34,
306 36, 38]), expected outcomes needed to be meaningful and outweigh the perceived negative
307 effects for individuals to move to the next step in the journey. Positive encouragement from
308 trusted sources was important when people were thinking about increasing PA [38, 39]. This

309 included initial awareness-raising via information-giving from health professionals (e.g.,
310 about the benefits of PA) and verbal persuasion [13, 34, 36, 39]. On the whole, people living
311 with SMI understood the benefits of PA [27, 34], so information about what was available in
312 their local community and encouraging people to engage with what was available was most
313 beneficial. Finally, having a previous positive experience of PA was also beneficial when
314 thinking about being active, providing a sense of 'normality' for those who had been active
315 prior to their SMI diagnosis [36].

316 **Planning and preparing for the physical activity**

317 Having thought about being more active, the planning and preparing phase of the journey
318 involves developing an action plan and preparing for the activity. Three themes were
319 identified within this phase; *thoughts about the specific activity and its expected benefits*,
320 *thoughts about cost and location* and *thoughts about who will be there*. In thinking about
321 activities, people living with SMI considered how desirable the specific activity seemed
322 compared to alternative options [33, 35, 38, 41]. Often, the expected benefits of community-
323 based PA related to having something to do and somewhere to go, rather than specific to
324 the activity itself; doing something is better than doing nothing [29, 35, 38, 40, 41].

325 People living with SMI often felt unable to participate due to the activity being financially or
326 physically inaccessible [28, 30, 39]. Activities had to be affordable to be perceived as
327 sustainable [31, 33]. People living with SMI benefitted from feeling familiar with the location
328 and easily being able to travel the distance to get there, as well as feeling they belong at the
329 location [31].

330 Thinking about socialising with others, including staff delivering and facilitating the session,
331 was appealing to some [30, 32, 38], but others felt apprehensive about having to have
332 conversations with other people [28, 29, 35]. The presence of trusted and known health
333 professionals or members of the mental health support team was valued and believed to
334 instil confidence among people living with SMI initiating a new PA [32, 38, 39, 41].

335 **Getting to the activity**

336 The next phase involves putting plans into action. Two themes were identified within this
337 phase of the journey; *physical dependency on others to get there* and *other barriers*
338 *influencing ability to get there*. People living with SMI often depended on intensive support
339 from other people to get out of the house (or other residential setting) and to the activity
340 (e.g., reminders, transportation, travel expenses [34] and accompaniment [29, 33, 36, 39,
341 41]). Personal responsibilities or other commitments such as family life and childcare also
342 made getting to the activity difficult [28, 34, 41].

343 **Beginning the activity**

344 This phase refers to taking part for the first time. Three themes were identified; *socialisation*
345 *and the influence of the group, accessibility and scheduling, and immediate benefits of*
346 *taking part*. The first experience was influenced by the other people present. A supportive
347 atmosphere and feeling safe in the company of others fostered connectedness and mutual
348 understanding [27, 28, 32, 35, 38, 40, 41]. Welcoming and supportive staff instilled
349 confidence [29, 32, 37, 38, 41]. People living with SMI benefitted from knowing what to
350 expect before arriving and from knowing that the schedule was adaptable to their needs
351 (e.g., symptoms, health relapses and ability). They also valued autonomy to decide their
352 level of participation [31, 32, 35, 41]. The immediate perceived benefits of taking part, such
353 as enjoyment or mood enhancement, relaxation and sense of achievement were important
354 contributors to the successful initiation of PA [13, 28, 35, 36, 38, 41].

355 *Confidence in the cumulative evidence*

356 The CERQual assessment of our level of confidence in the findings indicated that more
357 and/or better quality primary research is needed in this area. On the basis of our CERQual
358 assessment of the review findings, we have moderate confidence in 11 findings and low
359 confidence in three findings (see Table 4 for the CERQual assessment).

360 [Insert Table 4 about here]

361 **Discussion**

362 The current review aimed to explore how adults diagnosed with SMI experience the initiation
363 of community-based, group PA and key features of social support within these contexts.
364 Findings illustrate that initiation of PA in community, group-based contexts is not a simple
365 step from intention to participation. The journey is not always linear, but a slow process with
366 challenges or setbacks at every phase. Similar to Soundy et al. [11], our findings
367 demonstrate the challenges, complex processes and facilitators that exist before PA even
368 begins for people with SMI. These are associated with thinking about being active, planning
369 and preparing for PA, getting to the activity and beginning the activity. The journey we
370 present enhances the existing evidence base by providing in-depth exploration of the
371 complexities of the initiation process specific to community-based, group PA.

372 We identified some of the benefits and challenges that characterise group PA in the
373 community setting for people living with SMI. Beneficial qualities include having a reason to
374 get out of the house (or other residential setting), socialising and feeling connected with
375 others. Challenges involve feelings of vulnerability and social anxiety, dependency on others

376 to provide or pay for transport, and the perceived appropriateness of the activity setting.
377 Furthermore, the cost of some activities (e.g. golf) may preclude participation compared to
378 lower cost activities. People also benefitted from knowing what to expect from the activity
379 and facilities prior to attending and we identified a need for a supportive, safe and non-
380 judgemental atmosphere. Flexibility in scheduling of PA was also important, as reflected in
381 UK practitioner guidelines for people working in mental health services [43].

382 The current review highlighted the importance of taking an individualised approach to PA
383 promotion in people with SMI. This could be likened to a person-centred care approach [44];
384 [45] in that it takes into consideration an individuals' values, self-identify, family situation,
385 social circumstances, past experiences, beliefs and preferences as well as medication,
386 motivation, available support and cost of the activity (including transport and other
387 associated costs). Expectations about the outcome of the activity can impact whether or not,
388 how, and when people living with SMI initiate PA. Previous findings from quantitative studies
389 in this population have identified health-related outcomes as important motivators for PA
390 engagement [19]. Our findings support health-related outcomes such as weight control as
391 important motivators, but also suggest that the desired outcome of the PA might be more
392 about having somewhere to go and something to do.

393 The intensive nature of the social support required during the initiation of community-based,
394 group PA for people living with SMI is a key outcome from this study. The need for
395 instrumental and informational support has been demonstrated previously [14], as has
396 emotional support [46]. We identified that sources of support need to come from someone
397 who is valued and respected by the person living with SMI; someone who knows them well
398 and is well known to them; which supports previous findings [46]. Consistent with previous
399 research, this could be provided by mental health professionals such as physiotherapists
400 and occupational therapists [47]. While some people with SMI are comfortable in accepting
401 support from professionals, others do not want this [48] and prefer support from trusted
402 caregivers, friends and family [49].

403 Social support from others living with SMI was also found to be important as it provided a
404 supportive and 'safe' atmosphere. This was particularly important for those with low self-
405 image and confidence, providing a sense of togetherness, and shared identity of doing
406 something 'normal' without feeling judged or stigmatised. This supports previous findings
407 about the importance of shared identities by people attending group-based physical activities
408 [11, 41, 46]. Providing people with SMI with a safe environment within which to make
409 choices and decisions about their participation could translate into benefits in different areas

410 of life [11, 14, 46]. Carless and Douglas [50] likened this to having a door opened that is
411 usually shut for people living with SMI.

412

413 **Implications for future research**

414 This review has demonstrated the importance of intensive social support in the initiation of
415 community-based group PA. It is not clear however, how long this intensive support and
416 close interaction is needed to facilitate successful initiation of the activity. Further research
417 should explore whether the support needs to be consistent for the duration of participation
418 and the implications of a break or change in the level of support provided. Carless [36]
419 suggests that progress from initiation to maintenance of PA among people living with SMI
420 can take years rather than weeks or months (as per a more traditional definition of initiation
421 [51]). Using qualitative research to really understand the unique experience of the journey
422 preceding each PA session is needed to help ensure the sustainability of programmes and
423 related outcomes. Further research exploring the continuation of PA, to establish the extent
424 to which the factors involved are similar to those for initiation appears warranted.

425

426 Many of the findings included in our review were derived from bespoke interventions that
427 involved services that would not normally be available for people living with SMI in the
428 community (e.g., golf lessons and exclusive access to a swimming pool). A recent position
429 statement for PA as treatment for SMI by Stubbs and colleagues [10] has called for
430 *“replicable and scalable methods for delivering PA interventions to people living with SMI, in
431 a format which is accessible, engaging and effective for large numbers of patients”* (p. 140).
432 It is currently unclear whether PA is a cost-effective treatment option for people living with
433 SMI and more work is needed to establish whether the financial implications are offset by the
434 benefits [10]. This raises important questions about the extent to which the findings included
435 in this review can be generalised to the broader community of people living with SMI and
436 suggests that further research is needed to explore the experience of community-based PA
437 initiation in everyday life.

438 **Strengths and limitations**

439 This study benefits from a rigorous application of method, conducted according to the Noblit
440 and Hare meta-ethnography approach. The manuscript also adheres to the reporting
441 guidelines by France et al. [23] and guidance such as [52]. Most notably, service users felt
442 reassured that the way the review captured the initiation of PA (e.g. a slow complex process
443 rife with problems, barriers and setbacks that is heavily reliant on the support of others) was
444 a ‘real life’ representation [53]. This is a particular strength of this study.

445 The findings should be considered in light of some methodological limitations. Our inclusion
446 of manuscripts written in English language may have missed important research reported in
447 other languages. Similarly, all studies were conducted in western, developed countries with
448 no studies conducted in developing countries. The demographic characteristics (e.g.,
449 ethnicity) of participants were reported poorly, in part due to the need to protect
450 confidentiality of participants. This means there has been no exploration of differences in the
451 experience of initiation of PA by demographic variables, which is worthy of further research.

452 This review included papers with combined results and discussion sections, which makes
453 meta-ethnographic analysis difficult due to a lack of clarity about what is a finding (first order
454 concept) and what is the primary authors' interpretation (second order concept), limiting the
455 ability to make third order interpretations. Despite this, as far as possible, we distinguished
456 between first and second order constructs in the data extraction phase and can demonstrate
457 that the papers with mixed results and discussion sections have added value (e.g., Carless
458 [36]; Crone [41]). Crone [41] argued that the integration of findings and discussion allows the
459 development of links between analytic categories and wider issues of theory.

460 **Recommendations for practice**

461 We make the following recommendations for practice based on the findings from the current
462 review. Extra support and resource allocation may be necessary in the 'getting to the activity'
463 phase of the journey, whilst ensuring that there is no disadvantage towards individuals in
464 terms of cost of participating in the activity or ongoing participation. Financial cost has been
465 a strong theme in previous literature [10, 11].

466 Promotion of PA would benefit from taking an individualised approach that is 'pitched'
467 appropriately and takes into consideration the person as a whole and the social support
468 networks they have around them.

469 Providers should be sure that people living with SMI have their preferred level of support
470 throughout the journey, both physically and emotionally and that facilities are welcoming,
471 non-stigmatising and make users feel safe and secure. The people providing support should
472 ideally be known to the individual with SMI, preferably valued and respected by them.

473 Flexibility regarding attendance, scheduling and rate of progression appears central to PA
474 initiation. Priority should also be given to promoting enjoyment, choice, autonomy and
475 decision making in the very early phases of the PA initiation journey. To allow for this
476 flexibility, traditional measures of success for PA programmes may need to be changed. For

477 example, focussing on attendance rates may not be an ideal indicator of success in a
478 programme with flexible scheduling and relaxed attendance expectations.

479 **Conclusion**

480 The outcomes and subsequent 'journey' presented in this review provides an authentic
481 narrative of the lived experience of the initiation of community-based group PA for people
482 living with SMI. It illustrates that initiation of PA is a complex process rife with challenges. It
483 is not a simple step from intention to participation. The process of initiating PA among people
484 with SMI and the facilitating factors demonstrated here should be fully understood before
485 issues of ongoing participation can be addressed. The literature has demonstrated that
486 alongside the complexity of the journey and the need to take an individualised approach to
487 PA initiation, encouraging people living with SMI into community-based, group PA requires
488 high resource, in terms of time, transport, cost and professional supervision. In particular,
489 intensive social support from a trusted source (health professionals, providers, friends and
490 family) has an important role in getting people to the activity both physically and emotionally.
491 This review provides recommendations for practice that could inform future PA programmes
492 and optimise the uptake of community-based group PA among people living with SMI.

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496

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500

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