Exploring the facilitators and barriers to physical activity in older people with sight loss

Amy E Burton, Louise Clancy & Lisa Cowap

School of Psychology, Sport and Exercise, Staffordshire University, Stoke on Trent, ST4 2DF.

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*Requests for reprints should be addressed to Amy Burton, Faculty of Health Sciences, School of Psychology Sport and Exercise, Staffordshire University, Stoke on Trent, ST4 2DF, UK (e-mail: amy.burton@staffs.ac.uk).
ABSTRACT

This study aimed to explore facilitators and barriers to physical activity in older people with sight loss. Focus groups were conducted with 13 community dwelling older adults with sight loss ranging from poor to completely blind. Transcripts were analysed using an inductive thematic analysis. Facilitators and barriers are experienced in three ways: psychologically; through opportunity and access; and at a societal and policy level. Campaigns are needed to challenge unhelpful age-related stereotypes at both psychological and societal levels. Additionally, interventions grounded in evidence and theory should be trialled and evaluated for increasing physical activity in this population.

Keywords: physical activity; ageing; older people; vision loss
Main Text

Physical health status plays a critical role in ability to fulfil daily living activities, therefore physical health rehabilitation is recommended for older adults to enhance muscle strength, cardiovascular fitness and reduce levels of functional limitation (Lamoureux, Hassell, & Keeffe, 2004). However, physical inactivity is common in older adults (Shankar, McMunn, & Steptoe, 2010) particularly those with sight loss (Alma et al., 2011; Willis, Jefferys, Vitale, & Ramulu, 2012). Increases in sight loss severity lead to decreases in activity levels even when other health-related factors are controlled (Swanson, Bodner, Sawyer, & Allman, 2012), illustrating a need to explore the specific contributions of sight loss to physical activity reduction. Recently, Phoenix, Griffin, and Smith (2015) proposed that barriers are located within the social worlds of older adults with sight loss and include: the environment; organisational opportunities; transport; information; confidence; fear and personal safety; and perceptions of exercise as medicine. The authors outline recommendations for changes to health policy including: increased accessibility of social spaces and improved transport options; promotion of compliance with anti-discrimination laws; increased opportunities and improved information regarding participation; and collaboration between service providers and charity organisations. However, psychological factors important to behaviour change are not discussed in-depth by Phoenix et al., and concrete recommendations for how behavioural science might be used to design interventions to overcome psychological barriers within this population are needed. For example, psychological barriers such as self-efficacy; the belief in the capacity to engage in a behaviour (Bandura, 1997); is an important factor in the uptake and maintenance of physical activity (Ashford, Edmunds, & French, 2010). For older adults with sight loss, fear of mobilising outdoors and
reduced confidence in walking abilities may reduce self-efficacy beliefs (Rudman & Durdle, 2009), resulting in additional barriers to engaging in physical activity interventions which could be perceived by older adults to increase fall risk (Campbell et al., 2005).

These psychological support needs are frequently overlooked within United Kingdom (UK) based sight loss services, which include: high street opticians, National Health Service (NHS) ophthalmology clinics and third sector organisations (Burton, Shaw, & Gibson, 2013). The Adult UK Eye Health and Sight Loss Pathway (Vision 2020, 2015) clarifies best practice principles for health and social care service collaboration to achieve independent living outcomes (including mobility and physical activity) and promote autonomy, independence, health and wellbeing in people with sight loss. The main focus of this pathway is medical and functional assessment and intervention, with little reference to psychological needs. While emotional support is highlighted as the role of Eye Clinic Liaison Officers (ECLOs), Hospital Information Officers and Vision Support Services or similar qualified to the level of Certificate in Eye Clinic Support Studies (the ambiguity here reflecting the variation in rehabilitation models used across the UK), these services simply provide signposting to and guidance on psychological services rather than intervention. This approach fails to consider early assessment of psychological barriers to physical activity requiring intervention before decreases in engagement occur. These psychological barriers must be explored and understood to enhance the psychological support offered within the pathway and devise appropriate interventions.

Interventions to increase physical activity in this group are sparse. According to a recent Cochrane Review, no randomised controlled trials or quasi-randomised controlled trials of interventions with outcome measures gauging effectiveness on
physical activity or quality of life for older people with sight loss have been conducted (Skelton et al., 2013). However, the limited evidence available suggests that opportunity to be involved in organised, supportive community walking activities may help to increase physical activity and social engagement (Green & Miyahara, 2008). Additionally, group led exercise classes relying on verbal and tactical cues for movement (e.g. Tai Chi) (Chen, Fu, Chan, & Tsang, 2012; Miszko, Ramsey, & Blasch, 2004), and dance and balance programmes (Hackney, Hall, Echt, & Wolf, 2015) have also been reported as both safe and beneficial. Yet reasons for these successes, the impacts of these interventions on psychological factors, and how participants overcome barriers to engaging in physical activity is currently unknown.

Rather than withdrawing, older people with sight loss express a desire and motivation for continued engagement in personally meaningful activities (Stevens-Ratchford & Krause, 2004) yet minimal research has reported on the nature of such activities or the barriers and facilitators towards participation. We aimed to further explore this gap in the literature and to expand on the findings of Phoenix et al. (2015) by exploring psychological factors, in addition to social and environmental factors, relevant for interventions to increase physical activity levels in older people with sight loss. To achieve this aim three main research questions were set: (1) What forms of physical activity are older people with sight loss currently engaged in? (2) What are the barriers to engaging in physical activity for this group? (3) What are the facilitators to engagement?

Method

Ethics and consent

University ethical approval was granted for this research. Written consent was obtained
Participant selection

English speaking older adults (65+) were recruited from West Midlands-based community groups for older people with sight loss. Group leaders were identified through internet searches and emailed project information. If group leaders agreed, a first meeting was arranged to introduce the research and distribute information sheets. These were read aloud to participants if requested. A second meeting was arranged for data collection with consenting participants. Non-consenting group members were made aware (via the group leader) when data collection would take place and on those days completed usual group activities in another room.

Participants provided data relating to their age, gender, then cause and diagnosis of vision impairment (if known). Self-reported level of impairment severity was recorded using a single item taken from the National Eye Institute Visual Functioning Questionnaire (Mangione et al., 2001): “At the present time, would you say your eyesight using both eyes with glasses or contact lenses, if you wear them, is: excellent, good, fair, poor, very poor or are you completely blind?”.

The sample included 13 older adults (seven male, six female) aged 73-94 years (Mean: 83, SD: 6.72). A range of sight loss causes were reported with nine participants having some form of macular degeneration and 10 participants with both eyes affected. Self-reported severity of sight loss ranged from good to completely blind with the majority reporting poor or very poor sight. Characteristics for each participant can be seen in table 1.

INSERT TABLE 1 HERE
Data collection

Focus groups were employed to explore participant experiences in a more naturalistic setting than individual interviews (Wilkinson, 1998). Focus groups provide opportunity for participants to generate their own questions and pursue their own priorities through interaction with others; this is useful as often ideas are communicated through day-to-day interactions, such as jokes and anecdotes, rather than in response to direct questioning (Kitzinger, 2005).

Three focus groups facilitated by the first and third authors were conducted; two at groups for Macular conditions and one at a group open to older adults with any form of sight loss. Facilitators were both experienced in the collection of qualitative research data; the first author is a senior lecturer with expertise in qualitative research with older adults with sight loss and the third author is a research officer and professional doctorate student who has conducted focus groups for several health research projects. Neither researcher had any prior relationship with the research participants.

The focus group guide was developed in line with the research aims and consideration of past literature and participants were encouraged to talk around a range of topics relating to physical activity. Initial questions were broad and open-ended to facilitate discussion (e.g. ‘describe a typical week – the sorts of physical activity do you do day to day.’). Where participants offered little discussion, or answers were short, additional prompt questions were used to encourage further detail (e.g. ‘Are you a member of any clubs?’; ‘can you tell me more about that?’). A full interview guide is available in Table 2. These questions were used flexibly to aid discussions and ensure data reflected participant’s priorities and experiences rather than as a prescriptive list.

INSERT TABLE 2 HERE
Analysis process

The focus groups were audio-recorded, transcribed by the third author and then checked for accuracy by the first author. All identifying information was removed from the transcripts and participants chose their own pseudonyms.

Data were subjected to a descriptive inductive thematic analysis (Braun & Clarke, 2013). Thematic analysis is a flexible technique that aims to identify patterns of meaning within data (Braun & Clarke, 2006). The aim of inductive thematic analysis is to stay close to the data and derive and develop themes grounded in participant experience rather than existing theory (Clarke, Braun, & Hayfield, 2015). Braun and Clarke (2013) propose six stages of thematic analysis: familiarisation, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report.

Familiarisation, initial coding and searching for themes were conducted independently by the first two authors. This involved in-depth reading and re-reading of the transcripts followed by paying close attention to small sections or ‘meaning units’ (Langdridge, 2007) in turn. Open coding was employed to give each meaning unit an analytical code. Initial codes were then reviewed alongside the full text and grouped into border theme titles that theorised the facilitators and barriers to physical activity.

Further theme definition and development was achieved through a cyclical process (Shin, Kim, & Chung, 2009) with constant comparison between the data and developing theme titles. This process took place through regular team analysis meetings in which the first and second author compared individually-derived themes and subthemes. Where differences were evident the team returned to the full text and discussed the differences with the third author. Differences tended to be in relation to nomenclature
rather than meaning and content and therefore the final stage of defining and naming the
themes was agreed by all three authors.

**Results**

Participants were engaged in a range of physical activities with three key forms
reported: scheduled clubs or classes including group dance, walking, bowls and golf
(e.g. “We have dancing. Well a form of dancing like Zorba the Greek y’know?”, Bet,
age 80); opportunistic walking with friends and family or to local shops (e.g. “if my
buses haven’t come I walk into [town], that’s about a mile”, Reg, age 94); and activities
of daily living such as shopping, dog walking, gardening and housework (e.g. “[we]
look after our houses, I mean that’s a physical activity”, Star, age 83). The facilitators
and barriers to these activities were grouped under three main themes: psychological
factors, opportunity and access, and societal and environmental factors. Theme
definitions and a summary of the key facilitators and barriers highlighted by the
participants within each theme can be found in Figure 1.

**Psychological factors**

A desire to remain independent was central to the lives of many participants. Personal
attitude and drive to be physically active helped participants overcome some challenges
and helped them to achieve independence. For example, Alex held strong perceptions of
his capability:

*If you have a positive attitude and you think, right I’m gonna do that, that
drives me forward more than anything. I don’t depend on other people. I’m quite
independent so I think you have to have quite a positive attitude to do it by
yourself. (Alex, age 77)*
For Alex, and other participants, a positive attitude made it possible to be an independent older person regardless of physical and visual limitations and facilitated engagement in physical activities. Positive attitude and drive for independence were also presented through examples of stoicism which facilitated engagement in physical activity.

“My exercise is climbing the stairs about 40 times a day which I do because I keep forgetting things so. [...] Sometimes I don’t even hold the rail because I know them so well. I’ll fall one day I know I will [laughs], but I won’t give in. (Cecilia, age 81)

However, these activities were not without risks and, one accident or fall could be enough to eradicate this psychological facilitator and result in a perception of fear and incapability:

“If I thought that a car was coming towards me, I wouldn’t know how far away it was, and curbs, I’m frightened of tripping up a curb [...] When we had that windy weather, I got my foot out of the car and the door blew on my leg and cut my leg on my bone. So now [my son will] say “don’t get out of that car, until I’m round to get you out”. (Melissa, age 88)

Incidents involving falls or injuries resulted in increased awareness of environmental barriers to physical activity such as the inability to see hazards or obstacles, which could lead to increased dependence, illustrated in this case by Melissa’s son taking responsibility for assisting Melissa out of the car.

Negative experiences were not only physical incidents. These experiences could also create psychological barriers such as embarrassment and frustration:

“My wife will] say “try and do some” [gardening] and then she’ll start telling me off because I’ll pick the plants out and not the weeds [laughs]... so you’re trying to do it and then she pushes you on one side, “it’s quicker if I do it on my
own [...] you laugh at it but it, it’s not nice y’know, to be pushed on one side so they can do it. (John, age 73)

John’s experience highlights the impact of the perceptions of others on feelings of capability and motivation to be physically active. John illustrated frustration, embarrassment and a feeling of belittlement resulting from his wife’s reactions and, understandably, fear of similar future incidents influenced John’s reduced engagement with gardening. Like Melissa, John’s account suggests how family members can, perhaps unwittingly, create environments that facilitate reduced engagement and legitimise reductions in physical activity.

Once barriers were experienced and salient, participants could struggle to regain a feeling of capability. This in turn reduces motivation to be physically active (“I think the problem is as well, once you stop, it’s getting motivated again”: Eduardo). Additionally, several participants described lost motivation for physical activity as an expected part of old age:

Whether you would get people motivated again I don’t know. I mean when you’re in your 80s it’s a bit difficult to start, you can’t, as I say you can’t teach an old dog new tricks. (Torino, age 94)

For many participants physical activity was perceived as something for younger generations (‘Young adults, rather than 70 or 80 year olds [...] they are the ones that really need all of the exercise and can actually do it’, William, age 89) indicating a lack of awareness of both the benefits of physical activity and recommended physical activity levels for their age group.

Opportunity and access

Barriers were more commonly reported than facilitators when considering opportunities
for and access to physical activity environments. There was a perception that locations to engage in desired activities were limited, for example several participants commented on the closure of local community swimming pools:

I would like to [swim] but I, from what I can gather, they don’t run the classes, the over 50s things any more, they’ve scrapped them. And they’ve closed the pools (Bet, age 80)

The closure of local services resulted in the need to travel further to access such resources, an issue made more problematic by challenges in navigating outdoor environments. For example, sight loss resulted in many being unable to drive and reliance on public transport or lifts from family members:

I’ve had to stop driving because I can’t see number plates, things like that. I can’t recognise cars, everything is blurred [...] I find that it’s frustrating because you used to get in the car, now you’ve got to rely on somebody else. (Joe, age 73)

Participants also highlighted that opportunities for physical activity for older adults with sight loss were limited and a feeling that services were provided for other people and not for them:

“Nothing ever for the blind. Is it because they think we’re just stupid? I mean there isn’t anything is there? You never see any activity published for the blind ever.” (Cecelia, age 81) “No that’s true” (John, age 75)

Some participants were given opportunities to help navigate the outside world, through access to support and equipment. However, use of these resources could be challenging:

I use two sticks when I go walking and I feel it, in front of me all the time. Y’know for when I’m on steps, I feel the steps. As I say, normally I have two if I
go out walking, I have two sticks like this and I’m constantly feeling steps or obstacles as I go along. (Eduardo, age 86)

Many participants had strong desires for independence in spite of obstacles, but accounts of the tools provided to increase opportunities and access also illustrated associated challenges. One participant described an intervention which could potentially overcome these barriers. Claire, who had previously been restricting her activities, described an opportunity which led to increased confidence:

I did have cane training ...I used to have a little thin white stick that just said that I was blind but [the trainer] came along and she made me feel a lot different about using the white stick, she made me go into a shopping centre and smell things so that I could recognise where I was and things like that... she gave me training with this cane that’s got a ball on the end so I swoop it in the middle of me, just the width of my body so that if anything comes up, that stick will find it [...] She trained me to go up steps, she trained me to go on an escalator, she gave me a bit more life than I did have. (Claire, age 79)

Claire had become aware of this service through a support group; however, this opportunity was not without its problems: ‘I was on the waiting list for two years and nobody got in touch with me’ (Claire). Claire was the only participant to have experienced cane training; group discussion suggested that long waiting lists and cuts to service provision meant that others were unlikely to benefit from this opportunity to have in Claire’s words: “a bit more life”. For Claire, this intervention helped bolster psychological facilitators to physical activity such as perceptions of capability and confidence (“I think [the cane trainer] was good because she made me realise y’know that, don’t be stupid staying in the house, get out there”, Claire).

Society and environment

While some positive environmental changes were highlighted, such as yellow/white
stripes painted on stairs and the availability of handrails, the majority of the examples provided illustrated how unfamiliar environments could perpetuate barriers to physical activity engagement.

Along my avenue [...] cars block the pavement completely and I have to walk in the road. I daren’t do it anymore on my own. Trees overhanging, and they aren’t all to do with private houses, they’re council, and they could blind you if you weren’t already blind they’re hanging that low, but nobody will do anything. (Claire, age 79)

Even newly built environments designed with consideration for equality and diversity requirements presented challenges:

The new bus station [...] that’s supposed to be for the blind [...] they’re supposed to have somebody there to tell them [how to design it]. But I can’t go [to town] now because where the letters are; A, B, C, D or whatever, they aren’t at eye level or even where you could go and feel the letter. They’re way up in the air. (Claire, age 79)

Additionally, accounts highlighted several daily experiences which illustrated a lack of awareness of the needs of people with sight loss:

‘When you go up town and all the shops have got their boards out on the pavements... and tables and chairs out at coffee shops on the pavement [...] there’s a few times when I’ve actually walked into a table or a board and they fall over and you don’t know [they are there]. (John, age 75)

In addition, assumptions about old age also created barriers. The idea of slowing down and restriction as an inevitable feature of old age was embedded within participants’ accounts and these were unchallenged in the discourse of some participants:

I mean you do less when you get to our age. (April, age 82)
Well we just have to think that we get tired more easily. (Star, age 83)

This exchange between April and Star is typical of participants’ reactions when encountering a challenge; many justified a restriction in physical activity by reiterating stereotypes about old age.

Discussion

The results of this study contribute to a better understanding of the meaning of physical activity, current activity levels, and facilitators and barriers to physical activity in older people with sight loss. The participants reported engagement in three main types of physical activity: scheduled clubs or classes, opportunistic walking, and activities of daily living. The reported facilitators and barriers included issues relating to psychological factors, opportunity and access, and society and environment. These factors must be considered in relation to two key population groups: (1) factors affecting all older people and, (2) factors specific to people with sight loss.

The three forms of facilitators and barriers to physical activity reported by the participants can be considered in relation to Crawford and Godbey’s hierarchical model of leisure constraints (1987; 1991; 2010). This model proposes that constraints to leisure activities are found in three levels: intrapersonal (inner mental states); interpersonal (influences of others on leisure choice) and structural (opportunities, environments, and resources). Crawford and Godbey conceptualise these factors within a hierarchical structure with intrapersonal constraints needing to be overcome before interpersonal and finally structural. This broad model can help theorise constraints, but detail on specific facilitators and barriers is needed in order to tailor support and intervention for particular population groups such as older adults generally or older adults with sight loss.
The World Health Organisation (WHO) recommends that adults over the age of 65 engage in at least 150 minutes of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity aerobic physical activity or equivalent each week (World Health Organization, 2010). In our sample, perceptions of the meaning of ‘physical activity’ were most commonly associated with mobility and function (e.g. Cecilia described climbing the stairs as physical activity while Star listed housework) rather than traditional leisure activities (e.g. sport). There was little evidence to indicate any of our participants were meeting WHO recommendations or held intentions to achieve this target. This further supports claims regarding a prevalent lack of awareness of recommended physical activity requirements (Knox, Esliger, Biddle, & Sherar, 2013). However, evidence suggests that awareness alone is not enough to increase physical activity and approaches that target subjective norms may be more effective (Knox, Taylor, Biddle, & Sherar, 2015). Our participants appeared to perceive themselves as active, through reporting activities of daily living, but would not be deemed physically active when WHO guidelines are considered. One of the reasons for this related to the perception that physical activity was not appropriate for older adults, illustrating negative self-directed stereotypes which can be considered a specific type of social norm.

Self-directed ageing stereotype is not unique to older people with sight loss. Stereotype Embodiment Theory proposes that age stereotypes, prevalent in western cultures, can be internalised by individuals across the lifespan operating unconsciously on behaviour (Levy, 2009) and impacting on cognitive functioning and physical health (Levy, 2003). This constraint therefore impacts on all elements of Crawford and Godbey’s model (1987; 1991; 2010). On an intrapersonal level participants used stereotypes as causal attributions (Weiner, 1985) to legitimise choices to refrain from
physical activity. Evidence suggests that attributing illness and functional decline to old
age and holding the belief that ‘to be old is to be ill’ is associated with negative health
outcomes and reduction in health maintenance behaviours (Stewart, Chipperfield, Perry,
& Weiner, 2012) including physical activity (Beyer, Wolff, Warner, Schüz, & Wurm,
2015).

On an interpersonal and structural level, societal stereotypes are evident through
policy decisions regarding the structure of built environments and the provision of
services. To improve physical activity levels in older people more generally, this issue
requires interventions to challenge societal stereotypes in line with Stereotype
Embodiment Theory (Levy, 2009). Consequently, if not addressed both at individual
and societal level, the internalisation of these stereotypes may undermine the effects of
individual interventions to modify health behaviours (Stewart et al., 2012) and widen
health inequalities. Therefore rather than a hierarchical approach as proposed by
Crawford and Godbey (1987; 1991; 2010), for this group it appears necessary to address
interpersonal influences (social norms and negative ageing stereotypes) in order to in
turn change intrapersonal constraints (personal relevance and self-efficacy beliefs).

In support of this claim, interventions that aim to foster positive age-related
beliefs can result in improved physical functioning over time (Levy, Pilver, Chung, &
Slade, 2014) and promote recovery from disability (Levy, Slade, Murphy, & Gill,
2012). Levy et al (2014) have illustrated that these interventions are most effective
when delivered implicitly in order to prevent activation of cognitive strategies that
preserve existing beliefs and therefore contradict positive images of ageing from being
internalised. This illustrates the need for public health interventions that subtly
challenge assumptions about old age as a time of physical restriction and reduced
participation. Social marketing strategies that role-model physical activity in older
adults and promote social norms that support WHO activity guidelines would help to challenge negative ageing stereotypes and could follow the approach of other successful campaigns targeting inactive population groups. For example, Sport England’s national ‘This Girl Can’ campaign has increased participation in physical activity 14-40 year old women by publishing and sharing stories of ordinary women participating in sport (Sport England, 2016).

Sight loss represented an additional constraint for participants, leading to further decline in physical activity and mobility. For most, sight loss had developed later in life and prior to this many had engaged in leisure activities such as walking and gardening. Accounts of falls, accidents and embarrassment created new intrapersonal constraints including fear, frustration, reduced perception of capability and loss of autonomy as family members took over daily-activities. These in-turn led to reduced participation and strengthened self-directed negative ageing stereotypes. This interaction helps to explain the decreases in physical activity associated with increasing sight loss severity, independent of health status, reported in past research (Swanson et al., 2012) and illustrates a clear need for early psychological intervention with older people diagnosed with sight threatening conditions to prevent activity decline.

Interventions that promote perceptions of capability and self-efficacy, like Claire’s cane training experience, illustrate how attending to structural constraints, functional barriers and intrapersonal psychological factors hold promise for successfully promoting physical activity and enhancing mobility in older adults with sight loss. One avenue could be to enhance the use of behavioural science within the sight loss support pathway as a source of specific psychological techniques to address these intrapersonal barriers. Implementation could be achieved through psychologist involvement in the training of service professionals working with older adults with sight loss (e.g.
occupational therapists, physiotherapists, and low vision support workers) to recognise
and address these psychological constraints.

For example, motivational interviewing (MI) is a psychological counselling
strategy that aims to facilitate intrinsic motivation for behaviour change through
supporting patient-centred goal setting and resolving ambivalence (Rollnick, Miller, &
Butler, 2008). Evidence shows that incorporating MI techniques within physiotherapist
and nurse delivered exercise programmes for older adults with chronic pain can
significantly improve mobility and self-efficacy (Tse, Vong, & Tang, 2013). Therefore,
educating healthcare staff and low vision support workers in psychological techniques
such as MI could help to promote physical activity and mobility in older adults with
sight loss.

Interpersonal constraints reported by participants included frustration,
embarrassment, imposed dependence and lack of understanding from social networks
and these led to decreases in physical activity and reduced mobility (e.g. John’s
reduction in gardening and Melissa’s imposed assistance in the car). Research in long
term care institutions has indicated that dependency can result from social interaction
rather than from physical or functional decline (Baltes, Neumann, & Zank, 1994; Baltes
& Wahl, 1996). In this study participant accounts indicated that, for community
dwelling older adults with sights loss, this dependency through social interaction can
occur within familial relationships. Baltes and Wahl (1992) propose two systematic
patterns of interaction between older people and social counterparts: the dependence
support script (where dependent behaviours are attended to and treated as expected) and
the independence ignore script (where independent activities are ignored or
discouraged). These scripts can work to foster decline by acting as barriers to the
practice of existing skills, in turn reducing perceptions of self-efficacy. It may be that
the co-existence of older age and visual decline exacerbates the use of these scripts within social encounters. This possibility highlights the need to include social network interventions for older adults with sight loss in order to challenge these scripts and promote autonomy rather than dependence.

The participants’ accounts also supported the recommendations made by Phoenix et al. (2015), which represent intervention at the structural level within the hierarchical model of leisure constraints (Crawford & Godbey, 1987; Crawford et al., 1991; Godbey et al., 2010), including: improved social spaces and transport options, greater compliance with anti-discrimination laws, and the development and marketing of opportunities for physical activity within local communities. Many of these changes would benefit both older people more generally and those with sight loss. Specific structural barriers for people with sight loss were highlighted by our participants particularly in relation to transport when driving is no longer possible (e.g. reading bus numbers). Campaigns like Guide Dogs ‘Talking Buses’, which is lobbying the five main bus companies in the UK to install audio-visual next stop and final destination announcements in order to enable blind and partially-sighted people to use buses with confidence, is one way to enhance public awareness of these issues and improve opportunities for this group.

**Limitations**

Most of the participants (9 out of 13) reported macular conditions specifically and while this may be a result of recruitment from two macular specific groups the sample is not unusual when compared to the broader populations of older adults with sight loss. For example, it was estimated that macular degeneration caused 50.5% of cases of blindness in 2008 (Access Economics, 2009). Given that macular degeneration
is steadily increasing in prevalence, the spread of sight loss conditions in this sample seemed representative of the broader UK population.

The sample for this study was recruited from support and activity groups for individuals with sight loss and therefore may represent a limitation as those already engaged in these groups may already be more physically active than non-engaged older people. Additional barriers may exist for those who are currently less active, however the themes presented illustrate facilitators in addition to barriers. It is likely that enhancing these facilitators and addressing barriers in less active individuals would lead to increased physical activity in this group. In addition, our findings link well with past research conducted in different samples (e.g. Phoenix et al., 2015) suggesting that they are a good starting point for the development of interventions for this population.

Conclusions

Older people with sight loss experience a number of barriers and facilitators to their mobility and participation in physical activity. Campaigns are needed to challenge unhelpful stereotypes at both psychological and societal levels, and interventions grounded in evidence and theory which incorporate engagement with social networks should be trialled and evaluated for increasing physical activity participation both at the individual and public health level. A spectrum of interventions targeted to address facilitators and barriers at psychological, opportunity and access, and society levels are needed in order to achieve sustainable improvements in physical activity and mobility.
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<tr>
<td>Cecilia</td>
<td>81</td>
<td>F</td>
<td>Dry Macular Degeneration</td>
<td>Both</td>
<td>Very Poor</td>
<td>3</td>
</tr>
<tr>
<td>William</td>
<td>89</td>
<td>M</td>
<td>No Eyes</td>
<td>N/A</td>
<td>Completely Blind</td>
<td>3</td>
</tr>
<tr>
<td>Claire</td>
<td>79</td>
<td>F</td>
<td>Macular Degeneration</td>
<td>Both</td>
<td>Very Poor</td>
<td>3</td>
</tr>
<tr>
<td>John</td>
<td>75</td>
<td>M</td>
<td>Glaucoma, Cataract</td>
<td>One (other eye is false)</td>
<td>Very Poor</td>
<td>3</td>
</tr>
</tbody>
</table>
Table 2. Focus group schedule

<table>
<thead>
<tr>
<th>Main question</th>
<th>Rationale for question</th>
<th>Prompt (only used to encourage further discussion when necessary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can you describe a typical week – the sorts of physical activity do you do day to day.</td>
<td>To gauge the participant’s levels of physical activity</td>
<td>Are you a member of any clubs?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Do you exercise with your friends?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How often do you get out of the house?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What do you do when you are out?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What about housework?</td>
</tr>
<tr>
<td>What things make it difficult for you to be physically active?</td>
<td>To determine the barriers to physical activity experienced by the participant</td>
<td>In what ways does vision loss affect your ability to be physically active?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In what ways does vision loss make physical activity more difficult?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What about when it’s dark?</td>
</tr>
<tr>
<td>Are there things which make physical activity easier for you?</td>
<td>To ascertain what facilitators to physical activity are experienced by the participants</td>
<td>Do family help you be more active?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Do you use any physical aids?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Have you been involved with any clubs/societies/classes?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What facilities are there to help you be physically active?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Planning activities in advance?</td>
</tr>
<tr>
<td>What types of physical activity would you like to be more involved in?</td>
<td>To determine the types of activity which appeal to the participants</td>
<td>Group classes?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Individual activities?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>With friends?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DVD/Audio activities?</td>
</tr>
</tbody>
</table>
Figure 1. Theme diagram illustrating the relationship between facilitators and barriers

Facilitator beliefs:
- I can be physically active if I put my mind to it
- Physical activity is essential for independence
- Older people should be physically active

Barrier beliefs:
- I am incapable of being physically active
- I am afraid of physical activity (injury/embarrassment)
- Physical activity is only for young people

Psychological factors:
An individual’s thoughts, attitudes and beliefs

Opportunity and access:
Availability of services and resources within communities

Society and environment:
Social and cultural contributors to physical and social environments

Facilitators discussed by participants:
- Access to physiotherapy/occupational health/low vision services that foster facilitator beliefs.
- Availability and awareness of activity groups/classes for older adults with sight loss.
- Friends/family members who provide transport.

Barriers discussed by participants:
- Closure and inaccessibility of physical activity services and environments.
- Inaccessible public transport.
- Long waiting lists for physiotherapy/occupational health/low vision services.
- Family member who (unintentionally) restrict opportunities for physical activity.

Facilitators discussed by participants:
- Town and environment planning that considers the needs of those with sight loss.

Barriers discussed by participants:
- Limited public awareness or consideration of the mobility needs of those with sight loss.
- Negative cultural attitudes/beliefs/social norms about the need for physical activity in old age.
- Lack of prioritisation of physical activity services and resources for older adults with sight loss.

Key:
Direction of the relationship between themes. Factors in one theme impact on factors in another theme.