Title

Similarities and differences in the determinants of trips outdoors performed by UK urban- and rural-living older adults.
Abstract

The frequency of trips outdoors is a strong indicator of older adults’ physical activity levels. This qualitative study compared and contrasted determinants of trips outdoors between rural- (n=13) and urban-living (n=15) people aged 65 and older living in England. Interview transcripts were analysed through directed and summative content analysis employing the Ecological Model framework. Some personal-level determinants (age-related barriers) and environment-level factors (car dependence, bus services) were shared across samples. The main differences were seen in how a community-based social network instigated trips outdoors for rural participants while family ties mostly led to trips outdoors for urban-living participants. Urban participants used and valued recreational facilities, but rural participants did not report them as important in determining trips outdoors. Strategies to improve public transport and minimize age-related barriers may translate from urban to rural contexts. However, social and/or physical environment interventions could be more effective if they were rural-grounded, not urban-translated.
Background

Physical activity has multidimensional health, well-being and economic benefits for older adults (Department of Health, 2011a; Balboa-Castillo et al., 2011, Simmonds et al., 2014). The focus on leisure time activities such as dancing, gardening, walking and facility-based exercise in previous studies presents a limited view of physical activity for older adults in the United Kingdom (UK), whose activity arises predominantly from daily tasks such as shopping and visiting friends (Davis et al., 2011). A trip outdoors each day by foot or bicycle is associated with an extra 20 minutes of daily walking and 13 minutes of moderate to vigorous physical activity, even after adjustment for potential confounders (Davis et al., 2011). Frequent trips outdoors by older people are also related to better physical function and independence (Jacobs et al., 2008). The determinants of leisure-time activities may be very different from those underpinning activities that contribute to everyday trips outdoors (Stathi et al., 2012). With a growing and largely inactive older UK population (Department of Health, 2011a), promoting frequent trips outdoors could be an effective strategy for framing and supporting activity for older people.

Rural populations in the UK have almost double the proportion of older adults (27%) compared with urban populations (16%) (Department of Environment, Food and Rural Affairs [DEFRA], 2011). Yet, evidence on the determinants of physical activity of older adults living in rural areas is scarce (Burholt and Dobbs, 2012), compared with that for urban areas (Fox et al., 2011; Stathi et al., 2013). The implementation of the ‘rural-proofing’ policy in UK requires the evaluation of how well existing urban policies apply to rural environments (DEFRA, 2013a). It is important to appraise the fit of evidence-based strategies for promoting active aging in urban areas to rural contexts as done by the authors of a guide to age-friendly rural and remote communities in Canada (Federal, Provincial and Territorial Ministers Responsible for Seniors [PTMRS], 2009).

Physical activity literature regarding rural populations and urban-rural comparisons mainly features North American or Australian populations (Burholt and Dobbs, 2012). These studies
indicate lower levels of activity in older adults living in rural compared with urban areas and also identify some different physical activity predictors (Martin et al., 2005; Shores et al., 2009; Wilcox et al., 2000). In a nationally representative sample of 2,388 American older women, those living rurally cited more personal and interpersonal barriers (fear of injuries, discouragement by others and caregiving duties) and fewer environmental facilitators (functional pavements and street lights) for leisure-time activities (Wilcox et al., 2000). In the same study, not frequently seeing others exercising and lack of enjoyable scenery determined sedentary behavior only in rural-, not urban-living, older women. In a survey of 3,888 Australian adults aged between 55-65 years, the perceived safety and aesthetics of the environment was only a predictor for total and transport physical activity for rural, not urban adults (Cleland et al., 2014). In this same study the perceived supportiveness of the environment for physical activity (facilities, infrastructure and social stimulus) only predicted leisure activity for urban, not rural adults. In the UK, a telephone survey of 363,724 adults between ages 16-85+ found rural-living people to be more recreationally active than their urban-living counterparts (Rind and Jones, 2011). While not specific to older adults, this contrasting result to the American and Australian study findings stresses the need for research focusing specifically on rural areas in the UK, as findings may not be transferrable between geographies and cultures.

Most urban-rural comparison studies have used self-report questionnaires developed from studies with urban samples to measure levels of physical activity and physical activity determinants. Although some of these measures have been used worldwide (i.e. the International Physical Activity Questionnaire), most physical activity determinants questionnaires have not been validated in rural contexts. Therefore, the forms of activity or the activity determinants important only in rural, not urban, contexts might not be captured appropriately. In the absence of questionnaire items validated for rural-dwelling older populations, an inductive, qualitative methodology is preferable as it allows the emergence of unexpected and rural specific themes (Holloway and Biley, 2011).
In a systematic review, Van Cauwenberg et al. (2011) concluded that the relationship between the physical environment and older adult physical activity was inconsistent and overall, not significant. Such examination of the influence of physical environment alone on physical activity does not take into account the personal, social/cultural, organizational/policy and physical environmental factors that interact and influence active aging in complex ways (Giles-Corti et al., 2005). This may explain equivocal results of physical activity determinants in previous studies (Blacksher and Lovasi, 2012). Research taking an Ecological Model perspective may be more fruitful (McGannon et al., 2013) as it is based on the assumption that behavior is affected by an interaction of personal, social (inter-personal), community, cultural, environmental factors (Giles-Corti et al., 2005; Sallis et al., 2006). Few studies have adopted this framework when using a qualitative methodology, and those that have are based on populations from the United States of America (US) (McGannon et al., 2013). The qualitative study presented here takes an ecological perspective in comparing and contrasting the multi-dimensional and interacting determinants of frequent trips outdoors taken by older adults living in urban and rural UK settings.

Methods

Setting

A city (population > 400,000) and a fringe village (population of 530) in South West England were chosen for this study. Both fulfilled the rural/urban definition of geographical hectare squares with a population <10,000 as rural (Office for National Statistics [ONS], 2004). The urban site was chosen for the purposes of the observational study Older People and Active Ageing (Project OPAL; for details: Fox et al., 2011; Stathi et al., 2012) which explored determinants of active living in urban-living older people. The rural comparison site was chosen for its geographical proximity to the urban site (to ensure similar climate and daylight) and typical village demographic make-up (high percentage of older people). The first author’s familiarity with the rural site facilitated trust through
personal referral (Penrod et al., 2003) and access to a wide range of older people, including those
normally hard-to-reach.

4 Participants and recruitment

Two separate samples were involved in which all participants were over the age of 70 and of white
English origin (Table 1). First, snowball sampling to recruit rural participants started with an older
individual known to the researcher (N=13, seven women). This allowed access to the hard-to-reach
people who would not allow a stranger into their home without trusted referral, for example a
widowed woman who was visually impaired (Penrod et al., 2003). The first two participants were
recruited through personal contacts of the first author with older people living locally. These
participants, and each participant thereafter, were asked to identify other older adults in the village
with a range of physical abilities, conditions and activity levels who were then approached and
invited to take part in this study. Secondly, 15 qualitative transcripts from interviews with urban-
living older adults which had not been previously analyzed or presented in any form were used
(Project OPAL; Fox et al., 2011). In this study 240 participants aged 70 and over had been randomly
recruited through 12 GP practices representing low, medium and high levels of deprivation and low
or high access to shops (index of multiple deprivation [IMD]). From the main sample, 46 interviews
had been arranged with participants purposely selected to provide maximum sample variation
including a range of IMD of their area of residence and low, medium or high level of accelerometer-
derived daily physical activity (Fox et al., 2011). The fifteen interview transcripts selected for this
study were chosen based on the similarity of the demographic profiles of these interviewees to those
of the rural participants. Ethical approval for the new rural sample was granted by Research Ethics
committees at the Universities of Bath and Bristol Southmead NHS (Ethics reference
06/Q2002/127) for the urban sample.
Table 1. Sample characteristics.

<table>
<thead>
<tr>
<th>Sample demographics</th>
<th>Rural (n=13)</th>
<th>Urban (n=15)</th>
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</thead>
<tbody>
<tr>
<td>Population size</td>
<td>530</td>
<td>&gt;400,000</td>
</tr>
<tr>
<td>Age (median, years)</td>
<td>77</td>
<td>77</td>
</tr>
<tr>
<td>Age (range, years)</td>
<td>67-85</td>
<td>73-85</td>
</tr>
<tr>
<td>Female (vs. male)</td>
<td>7/13</td>
<td>8/15</td>
</tr>
<tr>
<td>Married (vs. single/widowed)</td>
<td>10/13</td>
<td>10/15</td>
</tr>
<tr>
<td>Average household income</td>
<td>£15,000</td>
<td>£15,000</td>
</tr>
<tr>
<td>Average household income</td>
<td>£7500 - &gt;30,000</td>
<td>£7500 - &gt;30,000</td>
</tr>
<tr>
<td>Years lived in the area</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>Years lived in the area</td>
<td>11-53</td>
<td>3-52</td>
</tr>
</tbody>
</table>

Data collection

Un-analyzed interviews from project OPAL were used as secondary-data. During the first of two house visits in project OPAL, participants were administered a survey including demographic information, neighborhood determinants of trips and distances to local amenities (Davis et al., 2011). This was used to refine interview guides for the semi-structured interviews lasting from 40 to 80 minutes conducted during the second visit (Table 2). New interviews were conducted with the rural participants by a different researcher, using a similar protocol. A shortened version of the OPAL questionnaire, including only the sections about demographics, neighborhood determinants of trips and distances to local amenities was administered in the first of two visits. Questionnaire responses also guided the semi-structured interview guides for the second visit. All interviews were transcribed verbatim and coded ensuring anonymity and confidentiality.
Table 2. Interview guide questions and personalisation.

<table>
<thead>
<tr>
<th>Interview guide questions</th>
<th>Personalisation</th>
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<tbody>
<tr>
<td>1. Could you describe the purpose of your</td>
<td>Probes in relation to self-reported activities.</td>
</tr>
<tr>
<td>• Trips outdoors in a typical week?</td>
<td></td>
</tr>
<tr>
<td>• Trips by car on a typical week?</td>
<td></td>
</tr>
<tr>
<td>2. Could you give us some example of what makes a trip outdoors in your local</td>
<td>Probes from NQLS answers (See Fox et al., 2011).</td>
</tr>
<tr>
<td>community/neighbourhood a:</td>
<td>i.e. If neighbourhood was reported as ‘pleasant’</td>
</tr>
<tr>
<td>• Positive and nice experience?</td>
<td>or ‘unpleasant’ to walk around or traffic indicated</td>
</tr>
<tr>
<td>• Negative experience? Could you describe some trips outdoors that were not enjoyable?</td>
<td>as ‘unsafe’, participants asked to expand on what</td>
</tr>
<tr>
<td>3. Could you tell us more about the hobbies/pastimes that you mostly like doing?</td>
<td>made it so, and how this impacted decisions to</td>
</tr>
<tr>
<td>4. What does influence your decision to go out or stay in?</td>
<td>leave the house.</td>
</tr>
<tr>
<td>5. How important is having a car for helping you carry out your weekly trips outdoors?</td>
<td>Probes in relation to self-reported activities and</td>
</tr>
<tr>
<td></td>
<td>their determinants.</td>
</tr>
<tr>
<td></td>
<td>Probes in relation to self-reported activities.</td>
</tr>
<tr>
<td></td>
<td>Probes in relation to self-reported activities and</td>
</tr>
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<td></td>
<td>car use.</td>
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</tbody>
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Data analysis: Directed content analysis

Directed content analysis was used to elicit themes regarding types of trips outdoors and their
determinants (Hsieh and Shannon, 2005). Determinants were recognized as factors perceived as
either direct facilitators of, or direct barriers to, trips outdoors. Inductively generated themes were
fitted under the ‘personal’, ‘social’ and ‘environmental’ ecological domains as initial coding
categories. Combined coding categories where themes indicated domain interactions (i.e. personal-
environmental) were also developed to fit the data (Hsieh and Shannon, 2005). Then, performing
summative analysis (Hsieh and Shannon, 2005), frequencies of determinants were counted, and
words and phrases systematically judged for their impact on trips outdoors (for examples see Stathi
et al., 2012). Each determinant’s impact was defined as the summative impact for the majority of
participants. Similarities and differences in the highest impact barriers and facilitators between rural
and urban settings were identified using cross-tabulation.

Confirmability was assured by the iterative development and testing of themes during data
collection in the rural area (Morse et al., 2002); the urban data, having been already collected, were
analyzed retrospectively. Dependability and trustworthiness were addressed through the development of a detailed coding scheme and coding checking protocol. The identified themes and sub-themes were reviewed by the second author, an experienced qualitative researcher, and regular discussions on the interpretation and thematic analysis were organized by all three authors.

While the themes are presented under ecological domain headings, any interactions between domains are elaborated within the text. Quotes to illustrate the themes are presented under each sub-category.

Findings

Urban and rural-dwelling participants shared some personal- and environmental-domain determinants, as demonstrated by the triangular wedge intersecting the Ecological Model's three domains in Figure 1. The inner, middle and outer circles represent the personal, social and environmental ecological domains, respectively. However, there were also several important differences, mostly in the social and environmental-domains. This is demonstrated by the different determinants shown in the 'rural specific' and 'urban specific' sides of the Ecological Model in Figure 1. There were shared and urban/rural-specific interactions between ecological domains, as demonstrated by the dotted arrows, and some subtle urban/rural differences even where determinants were common between both groups, as demonstrated by the continuous arrows in Figure 1. The following paragraphs describe each of the similarities and differences in more detail.
Figure 1. Shared and different determinants of trips outdoors between urban and rural contexts shown within the Ecological Model.

4 Personal domain

Similarities in facilitators

All participants tended to be motivated to make trips outdoors by the need to run errands, such as grocery shopping: “certainly walking to the (local) shop is a frequent one (trip)” (rural, M, 77), “...we usually do the rounders thing, where we pop into places like (three popular supermarket chains)” (urban, M, 74). For a minority, markedly women, in both contexts there was also a desire to engage in dedicated exercise activities stimulated by the enjoyment of the activity itself: “I enjoy (badminton). I manage to still do it although I tend to rest rather than play these days (chuckles)” (rural, F, 77), “Oh, I love it, I love it (swimming). ...to the gym, that is lovely, I love it!” (urban, F, 81).
Car use contributed to performing errands by helping participants to cope with bad weather, traveling distances, and physical function limitations and enabled day-long leisure and social trips outdoors in both rural and urban settings. Car use was viewed as vital for keeping up their current levels of activities, by the majority of participants, regardless of residential context: “(A car) is necessary, well if we are to sustain our activities at the current level” (rural, M, 84), “Quite frankly I don’t know how we’d manage if we didn’t have the car.” (urban, F, 88). This personal-level facilitator interacted with the personal-level domain as it was especially crucial for participants who had mobility limitations in walking and catching a bus.

**Similarities in barriers**

Physical limitations decreased participation in gardening, recreational walking, sports activities and social visits for many participants, regardless of context. Most participants avoided sports activities: “tended to play tennis and squash, but found that as you get older you end up with muscle and joint problems with those games” (rural, M, 76), “we were getting pains in the knees so we sort of gradually dropped (tennis) I’m afraid” (urban, M, 78). Some participants avoided recreational walking on slippery or steep surfaces due to fear of falling and injury. Some rural- and urban-living participants also preferred to slow down physically as they aged, especially if their working life had been regimented and busy: “you just want a bit of quality time just sort of sit back reading a newspaper and catching up on that” (urban, M, 74), “You get your days completely full of commitments and we’ve done that during our working life ...it’s nice to not be so regimented” (rural, F, 76).

Lack of time was perceived as a barrier that reduced frequency of trips outdoors for leisure pursuits by some participants from both rural and urban contexts. Housework was prioritized by some participants over outdoor trips: “We tend to do what we have to do, in and around the house, and if
there’s any free time we go out. Um but we don’t let going out take over what needs to be done in the house” (rural, M, 76), “It’s all according to how much I’ve got to do in the house, and how quickly I do it” (urban, F, 75). While this presented a reason not to get out and about, such house and garden work will have contributed to daily amounts of physical activity.

Social domain

Similarities in facilitators

Most participants' trips involved social activities: “Most of my activities involve other people” (rural, M, 82), “…obviously you meet up with friends, and it’s nice to see people that you only see at meetings” (rural, F, 69), “We seem to do most of our social things during the week” (urban, F, 76). Some of the rural and urban participants were motivated to engage in more structured physical activity due to a social aspect: “Walking can be quite a social thing... I don’t particularly like walking on my own” (rural, F, 69), “they really do stroll (walking group). But I think it’s, it’s more for the company” (urban, F, 76).

Differences in facilitators

The majority of rural participants reported a sense of community, describing instances where collective efforts had helped maintain a safe physical environment (e.g. salting roads in the winter): “they really help each other (salting the road) because it’s a very, very steep slope.” (rural, F, 67). Rural residents had more confidence outdoors in bad weather and darkness as a result of a high level of faith in neighborhood help if anything dangerous were to happen to them: “if, for instance, I went out and had a stroke or something, I’m sure there will be help somehow or another” (rural, M, 82). In contrast, the urban participants did not mention any such helpful community actions. Rather, the majority of the urban participants seemed to feel unsafe at night due to anti-social behavior; fearing crime, drug-use issues and youth gangs and therefore they avoided trips in the evening: “I wouldn’t walk down there at night. ...No way. Well I wouldn’t even get out the car,
’cause the pub on the corner it’s always got plenty of people round it you know’ (urban, F, 75),

“This neighborhood… the bunches of kids that gets round there they… it’s the drugs more than
 anything else…And uh… but they muck everything up don’t they” (urban, M, 76).

The volunteer-run village shop, a feature of the rural community, was a local social hub from which
 local social connections flourished: “Well (the village shop) seems to be (a hub), everyone seems to be going there these days” (rural, F, 85), “(The shop is) a main center of activity in the village” (rural, M, 76). The shop further strengthened the social relationships by providing a social meeting place for the older villagers: “it’s a lovely social event to go over (to the village shop) and have coffee with the other people. …it (drinking coffee) was a reason to stop and talk. In many ways that’s what makes the shop” (rural, F, 79).

The strong social fabric of the village also contributed to increased number of trips for many participants' trips through the availability of many local volunteering opportunities (i.e. at the village shop, library, parish council or church). This reinforced the social connections and a sense of belonging in the village: “it’s the feeling of belonging, and all the friends I’ve made through it (volunteering for the church) you know?” (rural, F, 85). Such a community feeling was missing from the accounts of the urban participants who seemed to have more regular contact with their younger families than their rural counterparts. For almost all urban-living older adults, the most frequent social activities were visits from children or grandchildren living close or further away.

“It’s just with the family I don’t see anybody apart from that really” (urban, F, 83), “Our son lives in (place), so we’ll see the family at the weekend usually” (urban, F, 76). In comparison, most of the rural-dwelling older people lived far away from relatives and they did not meet them frequently or receive support from them: “We don’t get support from them (family) at all, they’re too far away” (rural, F, 76). Nevertheless, on the infrequent occasions when family did visit the rural
participants, this was a motive for making active trips outdoors: “we make sure we take them (visiting family) out and show them something in the area” (rural, M, 80), “if my family are here, they don’t know the village and they like to go for a walk” (rural, F, 77).

Environmental domain

Similarities in facilitators

For participants in both contexts living closer to amenities such as a shop, doctor’s surgery or post office was a facilitator to get out of the house frequently and make active journeys. Those closest to local services most frequently visited these, often on foot, despite weather barriers: “yes of course, for the proximity” (reason for twice daily trips to the village shop) (rural, M, 77), “…even though it’s been raining I’ve walked down, ‘cause I walk down the end of the road to the doctor’s” (urban, F, 75).

Having a good bus service was very important for facilitating trips outdoors in both contexts, but especially so for the rural-dwelling, non-driving participants who would otherwise have just a few services around them, making them feel geographically isolated: “In rural communities, we are stuck… (if the bus service was cut) then it would be difficult.” (rural, F, 76). Good bus services facilitated trips outdoors to natural scenery and other cities or towns and errand trips in both contexts. The free bus pass was praised by many in both contexts: “That is one good thing about living here, an excellent bus service… and, costs me nothing. I would say probably four times, four days a week.” (urban, M, 84). A difference between the rural and urban contexts was the unique interaction between this environmental facilitator and the social domain (Figure 1.) As part of the rural participants' enjoyment of taking the bus was the incidental social occasions with fellow villagers also on route to the nearby city: “Having the village bus is great… On the bus of course it’s fun, because you always meet people you know doing the same thing” (rural, M, 82), “It’s a
very social bus... he only run the one bus, so we all know each other on the bus so it’s quite a social occasion.” (rural, F, 76).

Differences in facilitators

Local recreation facilities were only available in the urban context, as almost all of the urban dwelling participants talked about using facilities such as swimming pools, gyms, bowling clubs and shopping malls, especially on hot weather days: “When it’s really hot we stay in, or we’ll go shopping but we’ll stay in” (urban, M, 76). The environment of shopping malls (flat surfaces, protected from rainy and hot weather, provision of electronic walking aids) strongly facilitated trips outdoors especially for the urban-living older adults reporting having physical limitations. This indicated an important personal-environmental domain interaction: “That’s why I like going over to the mall or somewhere you know, you can get in there and it’s nice and flat when you’re over there” (urban, F, 83). Despite many urban-living participants reporting frequent use of leisure facilities, over half of the urban group desired more accessible local inexpensive shops, leisure facilities, green spaces and clean-up services in order to increase their trips outdoors. Several such facilities had closed down in recent years: “There’s no cinema... the swimming pool was knocked down about six months ago... There are no public houses in this area ...so I don’t know where anybody could go” (urban, M, 76). For the urban participants the personal domain factor, their past experiences of and expectations for local facilities and services, interacted with the environmental domain, the availability of services, in determining the impact on trips outdoors.

None of the rural-living participants mentioned shopping malls and recreation facilities as reasons for weekly outdoor trips. Although some village services had closed down (e.g. post office), the village volunteer-managed shop seemed to fulfill most rural participants’ expectations for local facilities. “The number of people that say ‘oh this (the village shop) is the best thing that happened in (village name), it’s amazing” (rural, F, 79), “I can’t think of a single thing that I feel the lack of
One exception was the desire expressed by two older rural women for access to local organized exercise classes: “I would like a Tai Chi class but… I think it only runs in (town 10 miles away)” (rural, F, 85), “I used to go to yoga and I enjoyed it, but then it wasn’t in the village hall anymore, and I couldn’t get there under my own steam” (rural, F, 76).

**Similarities in barriers**

Slippery conditions in wet or icy weather discouraged trips outdoors in both contexts: “That’s (slippery surfaces) the only thing that would stop me. I mean if it’s raining I still go out if I’ve got to...if I slipped and fall I’d be a nuisance to anybody else” (rural, F, 85), “…in autumn when it’s wet and, of course, it’s alright on the slope, but on the hills, I’m not very happy, that’s the only thing that, erm, discourages me” (urban, F, 76). Nevertheless, there was a subtle difference in how the personal and environmental domains interacted between the urban and rural participants. Over half of the rural participants were more preoccupied with slippery surfaces, due to their fear of falling, than getting wet in the rain, while over half of the urban participants seemed discouraged by the prospect of getting wet: “We wouldn’t go if it was raining!” (urban, F, 88), “Well mainly the weather! ...if it’s bad weather what’s the good of getting wet” (urban, F, 75).

**Differences in barriers**

Another urban-rural difference was seen in how the personal, social and environmental domains interacted in determining the effect of the lack of street lighting. Rural participants showed a unique preference for no extensive street lighting and felt confident enough to go out at night. Darkness was a part of the quiet rural atmosphere which they valued (personal domain): “more street lights would detract from the nature of the village” (rural, M, 76), “in fact I quite like the fact that we don’t have lamps everywhere” (rural, F, 65), the perceived absence of crime and familiarity with the community allowed the vast majority of rural participants to feel safe outside at night (social domain): “it seems to be a very safe area ...you meet only local people...” (rural, M, 82). Their
familiarity with the environment made them confident to walk in the dark using a torch (flashlight):

“(darkness) wouldn’t stop me from going anywhere, because I would just take a torch” (rural, F, 65). The urban-living participants did not express any particular thoughts about street lighting.

Discussion

This study compared and contrasted the determinants of trips outdoors, a valid proxy for the amount of moderate-intensity physical activity accumulated by older adults (Davis et al., 2011), made by older adults living in urban and rural UK settings. Given the currently low levels of moderate-intensity physical activity in older age (Department of Health, 2011b), getting out and about could be targeted as an effective physical activity promotion strategy (Stathi et al., 2014). Adopting qualitative methods within the Ecological Model, we observed several commonalities within the personal and environment domains between an urban and rural sample of older adults. However, differences were found in the social domain and the unique interactions among domains and how these influenced the decision to get out and about.

Across contexts, errands and social activities were the most frequently reported reasons for making trips outdoors. The contribution of errands as a main reason for frequent trips outdoors for urban contexts supports previously published studies (Davis et al., 2011; Thompson et al., 2011). While a local, volunteer-led shop and an adequate bus service served as key facilitators for errands in this particular rural setting, these are not available in all rural communities, especially those more geographically isolated (Department for Transport, 2012). Such facilitators therefore point to possible ways to increase the ease of completing errands and therefore making frequent trips in other, less well-served, rural communities.

The importance of participation in social groups such as committees (e.g. Women’s Institute), special interests (e.g. historical society), sports (e.g. skittles) and faith groups reported as motives for regular trips outdoors for both groups is consistent with findings from several other
studies of rural and urban populations (Leavy and Aberg, 2010; McGannon et al., 2013; Perry et al., 2008). Although the types of activities identified in this study were typical of white, English older adults, social contact has been identified as an important motive to get out and about by several ethnically diverse groups (Aranda, 2008). In this study, local volunteering provided rural-living older adults with a meaningful reason to get out and about. Longitudinal and experimental studies also demonstrate how volunteering contributes to older adults' physical activity, including those from deprived neighborhoods (Morrow-Howell, 2010).

Family contact is related to a lower incidence of loneliness in English older people (Demakakos et al., 2006) and greater chances of receiving informal help with activities of daily living (Grundy and Read, 2012). Nevertheless, while urban-living participants reported regular contact with their families, this was paired with less local social interaction. In contrast, the rural participants reported low levels of family contact but enjoyed more community-based social interaction. Having social contacts in the community may lead to a larger overall social network than if an older person relies only on family contact alone. The supportive nature of friendships in the community for frequent trips outdoors, despite isolation from family, identified in our study supports a recently published three-wave study of 4,014 older Americans, which identified that having more than five close contacts increased the odds of attaining at least moderate physical activity in the last 30 days (OR=1.17, 95% CI 1.06 to 1.28) (Watt et al., 2014).

The rural-living older adults may have a stronger need to engage more with their neighbors and community as a consequence of younger family members migrating to urban areas in the UK for better education and/or employment (Wenger and Burholt, 2001). This may be a UK-specific aspect of rural living as McGannon et al. (2013) pointed that the family did have an important positive influence on physical activity levels for older men and women living in rural South West America. Older Canadians living in rural areas reported both a higher number of close relatives and
friends in their local community and a greater sense of community-belonging compared with their urban counterparts (Carpiano and Hystad, 2011).

In older age, a lower level of loneliness is more strongly correlated with increased social support from friends than from family (Utz et al., 2014). A peer and neighborhood based social network has been associated with better health and well-being, less depressive symptoms, higher morale and positive health behaviors (e.g. less drinking and visiting the dentist) in a wide range of older adults (Gardner, 2011; Manthorpe et al., 2008; Watt et al., 2014; Widener et al., 2012). Thus, having social contacts in the community may not only have facilitated trips outdoors but may have also stimulated other health behaviors and helped to prevent/alleviate loneliness for the rural participants in this study.

The strong social cohesion experienced in the rural community might explain why fear of crime was not a barrier to the older residents’ trips outdoors. Although crime rates are indeed higher in urban settings (DEFRA, 2013b) the sense of collective confidence held by the rural participants might have contributed to their subjective evaluation of neighborhood safety. This highlights an interaction between the social and environmental ecological domains in their influence on individuals’ perceptions and behavior (Giles-Corti et al., 2005). While the urban interviewees did not discuss the street lighting, their fear of anti-social behavior outside pubs and by youth-gangs in their neighborhoods at night, could have decreased their confidence in getting out after dark. This is supported by objective physical activity data indicating that very few trips occur in the evenings (Davis et al., 2011).

The most pertinent personal (physical limitations, lack of time, car use) and environmental (proximity to local services, good bus services slippery conditions) determinants to trips outdoors were common in both contexts. This is consistent with other literature where physical limitations, facility proximity, weather/seasonal factors and available private and public transport have been highlighted as important physical activity determinants for older people in both urban (Dogra et al.,
2011; Mathews et al., 2010; Plouffe and Alezandre, 2010) and rural locations (FPTMRS, 2009; Manthorpe et al., 2008; McGannon et al., 2013; Shergold et al., 2012; Shores et al., 2009). Lack of time due to house and garden work commitments was a common barrier against getting out and about for some urban and rural participants, however, these activities could contribute to an increase in total volume of daily physical activity (van de Berg et al., 2010).

While car use was a strong facilitator for trips outdoors in both contexts, promoting it has been criticized for decreasing the likelihood of alternative transport uptake and even contributing to public transport services becoming unsustainable and being withdrawn (Shergold et al., 2012). The current findings show that car use provides older individuals with opportunities to get to places and stay active for as long as they can drive. However, this facilitator could become a barrier to trips once older people lose the physical ability to drive (Stathi et al., 2012). The importance of access to bus services for getting out has been consistently highlighted in studies in both urban (Stathi et al., 2012) and rural settings (Shergold et al., 2012). The regular bus service reported by this study’s rural-living participants is not present in other, more isolated rural dwellings in the UK (Department for Transport, 2012; Shergold et al., 2012), and this would limit many rural-dwelling, non-driving older adults' in their ability to get out and about.

Recognizing the impact of regular trips outdoors on health and wellbeing, regardless of type of activity, is a relatively new approach to promoting physical activity (Davis et al., 2011). Much research has addressed the benefits of walking (Scherder et al., 2013) and facility-based exercise programs (Birdle et al., 2012; Snowdon et al., 2011). Taking a continuity perspective of aging (Atchley, 1989), promoting everyday activities which older adults have performed throughout their lives might have a greater potential to be adhered to than leisure or structured exercise programs introduced later in life. Nevertheless, in the present study a minority of older women in both rural and urban samples did enjoy regularly playing a sport or exercise (Figure 1), so the potential of these activities should not be discounted. Well-planned, structured group exercise classes, tailored
to an older clientele and integrating social elements have previously been well attended and shown
to increase objectively-measured physical activity and quality of life in urban-living older adults
(Fox et al., 2007, Stathi et al., 2011). Promoting trips outdoors and providing opportunities for
structured exercise are complementary approaches, both deserving attention from community
service providers.

Strengths and limitations
The adoption of the Ecological model allowed the identification of complex determinants of trips
outdoors born out of ecological domain interactions (Giles-Corti et al., 2005). Sampling through GP
patient lists provided an urban sample with diverse demographic and socio-economic
characteristics. Using personal referral through snowball sampling to recruit the rural participants
helped in attaining a diverse sample of rural participants, including those with lower incomes,
functional limitations and people who were widowed. However, using two different sampling
techniques may have influenced the findings. For instance, the snowball sampling method may have
led to the selection of the most socially-connected individuals from the same network of friends for
the rural group. The sample in this study consisted of all white, English older adults, which limits its
generalizability to other older, ethnically diverse adults living in urban and rural areas. Future
studies could examine the practices and determinants of other ethnic groups which keep closely to
particular social traditions and may be less socially integrated.

While generalizing findings across other rural contexts and projecting these into future older
cohorts was not the purpose of this study, the rural setting in this study does present a positive case
for high community cohesion and adequate public transport access which may inform further
research into rural-grounded interventions and identify the creation of stronger community ties as a
promising strategy for promotion of active aging in urban contexts.

Implications for practice

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The findings of this study show that physical activity promotion initiatives which focus on assuring the availability of close-by facilities for errand activities, facilitating social activities and increasing access to public transport could transfer from urban to rural contexts. Policies and strategies to increase public transport provision and use may be especially important to rural settings, given the high car-reliance and the current governmental policy of decreasing rural public transport provisions (Department for Transport, 2012). However, initiatives relating to the social context and physical environment in rural contexts should be grounded on rural-based research. The rural participants’ lack of desire for built recreational facilities, lack of fear of going out after dark and the greater distance from family means that environmental interventions looking to facilitate active aging in rural contexts should differ from those based on the desires and preferences held by urban older people (i.e. fear of crime, desire for street lights, desire for leisure facilities).

This study's rural case provides ideas for facilitating physical activity in other, less well-served rural areas. A resident-run local shop with café facilities is a strategy which could increase errand-related and social trips in other rural areas, especially as rural neighborhoods in England are experiencing a decline in local economic outlets such as shops and post offices (Age UK, 2013; Shergold et al., 2012). Setting up a resident-run local shop would require a participative approach using the knowledge and views of older residents, existing shop owners and local council members.

**Research recommendations**

Large-scale observational studies of determinants of physical activity and trips outdoors in a range of rural settings will provide important information about aging in the English countryside. Secondary analysis of existing longitudinal datasets, e.g. the Health Survey for England (Department of Health, 2011b) and English Longitudinal Study of Ageing (ELSA) (Banks et al., 2011) would allow a greater understanding of how diverse ecological determinants change over time and influence rural-living older people’s behaviors, health and well-being. Finally, participative projects involving older residents and community stakeholders in the research process
will be important in developing contextually-tailored community programs (Burholt and Dobbs, 2012).

Conclusions

It is important that older adults continue to make frequent trips outdoors in order to attain enough moderate-intensity physical activity to maintain physical health and function (Davis et al., 2011; Department of Health, 2011a; Simmonds et al, 2014). The few important commonalities between the urban and rural contexts, such as the high car-dependence, the importance of public transport and age-related barriers demonstrate that policies and actions aimed at these factors are transferrable from the urban to rural context. However, the way of life for rural adults regarding their social environment and its interaction with the physical environment is not comparable to that of older people living in a city, and therefore any actions which aim to influence these determinants need to be rural-grounded.

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