VICTORIA UNIVERSITY
MELBOURNE AUSTRALIA

Third places for older adults' social engagement: a scoping review and research agenda

This is the Accepted version of the following publication

Third Places for Older Adults' Social Engagement: A Scoping Review and Research Agenda

Masaaki Sugiyama, PhD, [1*], Hing-Wah Chau, PhD [2], Takumi Abe, PhD [3,4], Yusuke Kato, PhD [5], Elmira Jamei, PhD [2], Piret Veeroja, PhD [4], Kazuhiko Mori, Dr. Eng. [1], Takemi Sugiyama, PhD [4,6]

1. Graduate School of Human Life Science, Osaka Metropolitan University, Osaka, Japan

2. Institute for Sustainable Industries & Liveable Cities, Victoria University, Melbourne, Australia

3. Tokyo Metropolitan Institute of Gerontology, Tokyo, Japan

4. Centre for Urban Transitions, Swinburne University of Technology, Melbourne, Australia

5. College of Human Life and Environment, Kinjo Gakuin University, Nagoya, Japan

6. Baker Heart & Diabetes Institute, Melbourne, Australia

*Address correspondence to: Masaaki Sugiyama, PhD, 3-3-138 Sugimoto Sumiyoshi-ku, Osaka-shi, 558-8585, JAPAN. E-mail: a06hb023@gmail.com

ABSTRACT

Background and Objectives. Neighbourhood places that facilitate older residents to meet and interact (third places) receive an increasing research interest as studies have consistently shown the benefits of social engagement for older adults' health. This scoping review synthesised the findings of studies examining the role of third places in older adults' social engagement.

Research Design and Methods. Searching five databases (CINAHL, Medline, PsycInfo, Scopus and Web of Science) in October 2021, this study identified quantitative and qualitative studies that examined the relationships between third places and social engagement (interaction and network) amongst older adults.

Results. A total of 32 studies (12 quantitative and 20 qualitative studies) met the eligibility criteria. These studies examined four types of third place, namely, community facilities, local businesses, open/green spaces and transition spaces. More than two-thirds of the studies reviewed found that access to community facilities, local businesses and open/green spaces were related to older adults' social interaction. For the relationships between third places and social networks, the importance of accessible local businesses and the quality of open/green spaces was supported by fewer studies.

Discussion and Implications. The findings of quantitative and qualitative studies suggest that local places that are convenient to visit and comfortable to stay in for older adults are likely to enhance their social interaction and network. However, more specific evidence is needed to inform the planning and design of third places. The review discusses future research topics that address the gaps identified in the current literature.

INTRODUCTION

Strong social engagement is well documented to be associated with older adults' health and well-being. For instance, studies found that having social engagement is positively related to psychological well-being and quality of life and is inversely associated with depressive symptoms in late life (Domènech-Abella et al., 2019; Hajek et al., 2017; Luo et al., 2020; Zhang et al., 2020). Social engagement also has an impact on older adults' functional status. Studies show that higher levels of social engagement are likely to be protective against older adults' functional and cognitive decline (Bassuk et al., 1999; Biddle et al., 2019; Thomas, 2011) and to reduce the need for long-term care (Saito et al., 2020). A meta-analysis of social relationships and mortality also found that stronger social relationships are associated with a reduced risk of all-cause mortality (Holt-Lunstad et al., 2010). Older adults typically experience reduced levels of social engagement as they age because of life-course transitions, such as retirement, chronic conditions that limit participation and the loss of meaningful others (Burn et al., 2016). Therefore, initiatives to promote social interaction and maintain/expand social networks can contribute to their well-being, health and functional independence.

Given the strong evidence supporting the health benefits of social engagement for older adults, research has tested interventions to promote social interaction and expand social networks amongst older adults. A study in Japan found that a university-based social program for older adults was successful in expanding participants' social networks (Harada et al., 2018). Moreover, studies in Spain found that group- and community-based interventions increased participants' social participation, social support and sense of belonging to the community (Coll-Planas et al., 2017; Lapena et al., 2020). A review of interventions to facilitate social interaction (e.g. through group-based activity programs) found that the

majority of interventions had some success (Gardiner et al., 2018). However, little is known about the maintenance of such interventions. The intervention effect may fade once the program has ceased. Such interventions evidently work only for program participants who are interested in increasing social engagement and are ready to take action. Thus, an alternative approach that does not rely on individual-based programs is needed to help a wide range of older adults to enhance their level of social engagement.

The context in which older adults live is likely to be relevant to their social engagement (Woolrych et al., 2021). Neighbourhoods would differ in the extent to which they support social interaction amongst neighbours: some have places where residents can gather and socialise, while such opportunities are limited in others. This line of thinking, linking contexts (local environment) and social engagement, aligns well with the concept of 'third place', which was first proposed by an American sociologist (Oldenburg, 1999). A third place can be defined as a social infrastructure in a public setting, which is neither the first place (home) nor the second place (work/school) but can host informal gatherings. Examples include public places (e.g. library, community centre, park) and commercial places (e.g. cafe, bar, market, beauty salon, barbershop, shopping mall). Notably, third places can support 'weak ties' that exist amongst neighbours or acquaintances, as opposed to 'strong ties' amongst family members or close friends (Granovetter, 1973). Previous studies showed the importance of weak ties to people's well-being. For example, those who experienced social interaction with peripheral members of social networks (weak ties) were found to have a stronger sense of subjective well-being in comparison to those without such an experience (Sandstrom & Dunn, 2014). Another study also found that people who have social networks with a larger number of weak ties are likely to report higher self-rated health (Verhaeghe et al., 2012). The protective effect of having weak ties against cognitive decline is also reported

(Pan & Chee, 2020). Given that older adults are likely to experience decreasing social networks (Glass & Balfour, 2003), creating third places in local areas is a potentially effective initiative to enhance older residents' social engagement and subsequently their health and well-being.

An increasing number of empirical studies investigated the associations between specific third places and measures of older adults' social engagement. However, their findings have not been synthesised to date, making it difficult to grasp the status of the current knowledge on this topic. For instance, what types of third places have been studied and whether they have been found related to social engagement are unknown. Hence, we conducted a scoping review to understand the type of places that have been investigated as a third place for older adults and whether they support social engagement. This review also aims to identify what methods were used to measure social engagement and third places, and what aspects of third places are relevant.

METHODS

This review was conducted following the guidelines of scoping studies proposed by Arksey and O'Malley (2005) and updated by Levac et al. (2010).

Identifying the research question

This review examined the following research questions: (1) what types of places have been investigated as a third place for older adults; (2) what types of third places are associated with older adults' social engagement; (3) what methods are used to measure social engagement and third places; and (4) what aspects of third places are relevant to social engagement amongst older adults. As a scoping review, this study also seeks to identify research gaps to inform future research.

Identifying relevant studies

This study searched peer-reviewed journal articles using five databases: CINAHL; Medline; PsycInfo; Scopus; and Web of Science. No timeframe was applied to the search. The database search was carried out in October 2021 by the last author (TS). Four sets of keywords were used for database search: places (e.g. environment, neighbourhood, space, park), 'social', engagement aspects (e.g. interaction, network, participation, tie) and age (e.g. older, elder, senior, ageing). The engagement-related keywords were searched in abstract, while the other keywords were searched in article title. Supplementary Table 1 shows the full search strings used for the search. It was found that this search missed several studies that contain 'social interaction' or 'social network' in abstract. To supplement the original search, an additional search, using keywords for places, social engagement (abstract search) and age, was conducted with the same databases. The full search strings for the additional search are shown in Supplementary Table 2.

In this review, we considered 'social engagement' as an overarching construct covering the behavioural (social interaction) and relational (social network) dimensions. It has been argued that the key components of the social aspects of ageing are social interaction, social network and social support (Bennett, 2002). Social interaction includes behaviours, such as socialisation and social participation (Bennett, 2002), whereas social network refers to a web of social relationships with friends, relatives and acquaintances, including social ties, social integration and social connectedness (Kroenke, 2018). Our review did not consider social support as this may not be directly facilitated by third places.

Study selection

Studies were considered eligible if they met all the criteria below:

1. Published in peer-reviewed academic journals;

2. Conducted for a sample of adults over 50 years and older;

3. Assessed relationships between social engagement (social interaction or network) and

   third places (presence or characteristics of publicly accessible local places where people

   can socialise) in a quantitative or qualitative manner.

Studies were excluded if they were conference papers and written in a non-English language.

Studies targeting older adults living in aged-care facilities or sub-population with certain

conditions (e.g. dementia, cancer), those examining membership-based organisations (e.g.

sports clubs), those examining public transport use and those focusing on overall

characteristics of neighbourhood environments (e.g. walkability) were considered ineligible.

Studies that examined the use of third places (e.g. park visits) without reporting on how third

place attributes may be related to social engagement were also excluded. The reason for not

including studies examining the use of third places is that this review focuses on how

availability, types and attributes of local places contribute to social engagement amongst

older adults. The use of third places, which is a construct distinct from their presence or

characteristics, would require a separate investigation.

Two authors (MS, PV) independently screened the articles based on their title and abstract.

Selection based on the full text was done independently by two authors (MS, TA). The

discrepancies in the selection between each pair were resolved through consultation with the

last author (TS). Reference lists of the selected articles were also checked for any additional

eligible studies. This review included quantitative and qualitative studies examining the

relationship between third places and social engagement amongst older adults.

Extracting data for charting

Data from quantitative studies were extracted independently by two authors (MS, TA) and checked by one author (YK). Data from qualitative studies were also extracted by two authors (HWC, EJ) and reviewed by one author (TS). The following items were identified in each study:

1. Lead author, publication year
2. Study location (city, country)
3. Participant characteristics: sample size, age, gender
4. Study design
5. Data collection methods
6. Types of social engagement (social interaction or social network), with measurement method (quantitative studies only)
7. Types and features of third places, with measurement method (quantitative studies only)
8. Data analysis: statistical methods and covariates (quantitative studies only), analysis framework and software (qualitative studies only)
9. Results: The significance and direction of associations were noted for quantitative studies. The relationships identified were extracted for qualitative studies.

Collating, summarising and reporting the results

Each relationship between a third-place attribute and social engagement identified was treated as one case in quantitative studies. A significant association in the expected direction (e.g. having a third place nearby associated with more frequent interaction) was coded [S]. If such an association was observed only for a subgroup, then it was coded [M (mixed)]. A non-significant association was coded [NS], and a significant association in the unexpected direction (e.g. having a third place nearby associated with less frequent interaction) was

coded [U]. For qualitative studies, a relationship between them identified in interviews or focus groups was considered one case. To summarise the findings succinctly and address the first and second research questions posed (in relation to third-place types), we classified third places into four types: community facilities, local businesses, open/green spaces and transition spaces (walking/cycling trails, sidewalk, public transport facilities). These types were derived from the authors' reading of the studies reviewed in an attempt to cover the range of third places examined to date. To address the fourth research question (aspects of third places relevant to social engagement), we also categorised findings according to the characteristics of third places: presence/access and design/function. The former refers to the availability of third places, whereas the latter is concerned with their characteristics, including design, function, programs and management.

RESULTS

Figure 1 shows a flow chart of study selection according to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-analyses) guideline. Please refer to Supplementary Table 3 for the PRISMA checklist for scoping reviews. The initial database searches identified 919 records, of which 334 remained after excluding duplicates, non-English and non-journal articles. Screening based on the title and abstract produced 90 articles, which were reduced to 21 after a full-text review. The supplementary search found 892 records, after excluding 577 articles already identified in the original search. Of these, 473 remained after excluding duplicates, non-English and non-journal articles. Screening based on the title and abstract produced 57 articles, which were reduced to 9 after a full-text review. The flow diagram of the additional search is shown in Supplementary Figure 1. Secondary searches (checking the reference lists of the articles identified) found 24 articles that may be included in this review. Of these, one article was found eligible. We also

identified one additional article from another source (study previously cited by authors). In total, 32 articles (12 quantitative and 20 qualitative studies) were included in this review.

INSERT FIGURE 1 AROUND HERE

Study characteristics

Table 1 shows the characteristics of the 12 quantitative studies identified. The study design and data collection methods were omitted from the table as all the quantitative studies reviewed were cross-sectional in the design and used self-administered questionnaires for data collection. Supplementary Table 4 shows more detailed information about each study, including data analysis methods. Four of these studies were conducted in Canada (Levasseur et al., 2011; Levasseur et al., 2015; Richard et al., 2009; Richard et al., 2013), three in the US (Hong et al., 2018; Kweon et al., 1998; Lee & Tan, 2019), two in China (Chen & Yuan, 2020; Zhang et al., 2021) and one each in Taiwan (Chang, 2020), the Netherlands (Kemperman & Timmermans, 2014) and Singapore (Lane et al., 2020). Half of these studies were published after 2018. The sample size ranged from 91 to 1501. The studies used diverse methods to measure the presence/access and other aspects of third places. For instance, objective measures using geographic information systems (GIS) (e.g. distance from home, presence within a certain distance) were employed in six studies. Places of interest were audited or assessed by researchers in two studies (Chang, 2020; Kweon et al., 1998). Four studies relied on participants' self-report. Social interaction was the concept of interest in eight studies, and social network was investigated in eight studies, with four studies examining both (Chang, 2020; Hong et al., 2018; Kweon et al., 1998; Zhang et al., 2021). In quantitative studies, social interaction was measured by the frequency of participation in social activities. The social network was measured by a scale with multiple items asking

participants to indicate their level of agreement on issues such as the number of social

contacts, closeness with neighbours and willingness to help each other.

INSERT TABLE 1 AROUND HERE

Table 2 presents the characteristics of the 20 qualitative studies. Further details of the

qualitative studies (including data analysis methods) are presented in Supplementary Table 5.

Five of these studies were conducted in the US (Campbell & Kim, 2016; Cheang, 2002;

Finlay et al., 2020; Versey, 2018; Yen et al., 2012), four in Canada (Burns et al., 2012; Finlay

et al., 2015; Gardner, 2011; Ottoni et al., 2016), three in Australia (Alidoust & Bosman,

2015; Alidoust et al., 2019; Veitch et al., 2020) and in India (Adlakha et al., 2020; Adlakha et

al., 2021; Jahangir, 2018), two in Denmark (Carroll et al., 2020; Schmidt et al., 2021), and

one each in China (Yung et al., 2016), Singapore (Cao et al., 2019) and the UK (Sorensen &

Poland, 2015). Half of them were published after 2018. The sample size ranged from 6 to

161. Regarding social engagement, social interaction was examined in all studies, with five

studies examining both social interaction and network. As to the methods of data collection,

17 studies employed interviews (along with observation in five studies), with three studies

using the focus group method (Campbell & Kim, 2016; Versey, 2018; Yung et al., 2016).

INSERT TABLE 2 AROUND HERE

Types of third places examined

As mentioned earlier, we categorised third places into community facilities, local businesses,

open/green spaces and transition spaces. These types of places covered most third places

investigated in the studies reviewed. In quantitative studies, open/green spaces were

examined as a third place in all studies except for three (Chang, 2020; Chen & Yuan, 2020;

Lee & Tan, 2019). Community facilities, local businesses and transition spaces were investigated in two, one and six studies, respectively. Four studies combined proximity to community facilities, local businesses and open/green spaces. One study examined the access to blue space (body of water) (Chen & Yuan, 2020), and another investigated the availability of third place in general (Lee & Tan, 2019). In qualitative studies, open/green spaces and local businesses were most frequently mentioned (11 and 10 studies, respectively), followed by community facilities and transition spaces (eight studies for both). One study also explored the role of blue space in social interaction (Finlay et al., 2015).

Associations of the types of third places and social engagement

Table 3 summarises the findings of the quantitative studies grouped by the categories and attributes of third place and social engagement measures. Each number in the table (in square brackets) corresponds to each of the 12 studies identified and represents one case (finding) from the study. The top half of this table shows how the presence of and access to different types of third places were associated with social engagement. Seven studies examined associations of third places (presence/access) with the frequency of social interaction. The access to and availability of parks were found to be associated with frequent social interaction (Zhang et al., 2021). Perceived distance to urban greenways was positively associated with the frequency of social interaction (Chang, 2020). Proximity to neighbourhood resources (community facilities, local businesses and parks) was found to be associated with more frequent social interaction in four studies (Levasseur et al., 2011; Levasseur et al., 2015; Richard et al., 2009; Richard et al., 2013). One study observed a mixed finding for the relationship between the distance to the nearest park and social interaction: a shorter distance was associated with a more frequent interaction only amongst those who reported higher levels of pedestrian safety (Hong et al., 2018). The presence of public transport stops within a

short distance was found to be unrelated to social interaction in two studies (Richard et al., 2009; Richard et al., 2013). One study found no association between the number of public transport stops within a 1 km radius buffer and social interaction, but it found that shorter distance to the nearest transport stop was associated with less frequent interaction (Zhang et al., 2021). Seven studies examined associations of third places (presence/access) with a social network. A shorter distance to local businesses, such as markets and food/beverage outlets, was associated with larger and/or more developed social network (Lane et al., 2020). However, the association was not significant for access to community facilities, such as community gardens, community centres and places of worship (Kemperman & Timmermans, 2014; Lane et al., 2020). The findings for the access to open/green spaces were mostly non-significant. One study reported that having grassland within 100 m from home is positively related to a larger and/or more developed social network (Kemperman & Timmermans, 2014), but other studies found no associations or the association in the unexpected direction (Hong et al., 2018; Kemperman & Timmermans, 2014; Lane et al., 2020; Zhang et al., 2021). Better availability of urban greenways, public transport stops and blue space was also not associated with a more developed social network (Chang, 2020; Chen & Yuan, 2020). One study that examined the presence of third place in general found its association with a social network (Lee & Tan, 2019).

INSERT TABLE 3 AROUND HERE

Table 4 summarises the relationships identified in the qualitative studies. A study number (shown in square brackets) means that a relationship represented by the cell was identified in the study. The left-hand side of the table shows the results in relation to the presence of or access to third places. A positive contribution of having local businesses (e.g. shop,

restaurant/café, barber, shopping centre) and open/green spaces to social interaction was mentioned in half of the qualitative studies. Participants also reported their engagement in social interaction in local community facilities (e.g. library, community centre, church) in eight studies. Transition spaces (e.g. walking/cycling trails, sidewalks, public transport facilities, building entrance) were also mentioned as a place for social interaction in seven studies. In five studies that examined third places in relation to a social network, participants in three studies mentioned that the presence/access of community facilities (church, library) or local businesses (shops, café) contributes to their social network, possibly through social interactions in these places (Alidoust et al., 2019; Burns et al., 2012; Versey, 2018). Similarly, participants in two studies reported that the presence of open/green spaces is beneficial to their social network (Burns et al., 2012; Yung et al., 2016). Local transition spaces, such as sidewalk and storefront, were also found to help older residents to maintain and develop a social network in one study (Gardner, 2011).

INSERT TABLE 4 AROUND HERE

Associations of the aspects of third places and social engagement

The bottom half of Table 3 shows how the design/function aspects of third places were associated with social engagement in the quantitative studies. Having more attractive natural sights and greener open/green spaces was associated with more frequent social interaction (Hong et al., 2018; Kweon et al., 1998). Some aspects of transition spaces, such as the presence of seating, trees and nearby nature along urban greenways, were associated with frequent social interaction. However, other greenway attributes (the presence of facilities, open spaces, water features, aesthetics) were found unrelated (Chang, 2020; Hong et al., 2018). A negative association with social interaction was observed for the quality of path and

seating, that is, more interactions were reported in greenways with poor-quality paths and

seating (Chang, 2020). The attributes of open/green space found to be related to a social

network were nature sight, greenness and maintenance (Hong et al., 2018; Kemperman &

Timmermans, 2014; Kweon et al., 1998; Lane et al., 2020). Street trees (transition spaces)

were also found to be positively associated with a social network (Kemperman &

Timmermans, 2014), but the association was significant only in a subgroup (Hong et al.,

2018). No quantitative studies examined the design/function aspects of community facilities

or local businesses.

The right-hand side of Table 4 shows the results of how the design/function aspects of third

places are related to older adults' social engagement. The design/function aspects of

community facilities related to social interaction were opportunities for activities, such as

social events and activity programs (Adlakha et al., 2020; Alidoust et al., 2019; Cao et al.,

2019; Versey, 2018; Yen et al., 2012). For local businesses, places providing multiple

functions, such as retail (supermarket, grocer) and service (restaurant/cafe, post office, bank),

were more likely to attract older people and assist them to interact (Alidoust et al., 2019; Cao

et al., 2019). Providing good quality services to customers including affordability was also

found important to social interaction (Campbell & Kim, 2016; Cao et al., 2019; Finlay et al.,

2020; Gardner, 2011). The design/function attributes of open/green spaces considered

relevant to social interaction were maintenance (Jahangir, 2018; Yung et al., 2016), the

presence of amenities/facilities (e.g. shady trees, walking paths, benches, café, picnic/exercise

facilities, toilet) and safety (Adlakha et al., 2021; Cao et al., 2019; Carroll et al., 2020; Finlay

et al., 2015; Veitch et al., 2020; Yung et al., 2016). Attributes of transition spaces such as

walking trails that were mentioned as relevant to social interaction included benches

(Campbell & Kim, 2016; Carroll et al., 2020; Ottoni et al., 2016) and having trees and shade

(Cao et al., 2019 Carroll et al., 2020; Finlay et al., 2015).

DISCUSSION

This scoping review synthesised the findings of quantitative and qualitative studies examining the roles of third place in older adults' social engagement. The review identified 32 eligible studies, with half of them published after 2018, which suggests that there is an increasing interest

in this topic. The quantitative studies focused more on the role of open/green spaces and transition spaces in older adults' social engagement, whereas the qualitative studies were also interested in understanding how community facilities and local businesses work as a third place for older adults. Overall, the qualitative studies found that various types and aspects of third places can contribute to older adults' social engagement, but the quantitative studies reported mixed findings on these relationships.

Types of third places relevant to older adults' social engagement

The quantitative and qualitative studies agreed that the presence of and easy access to community facilities, local businesses and open/green spaces are conducive to older adults' frequent social interaction. The access to transition spaces (pedestrian infrastructure, public transport facilities) was found related to social interaction in some qualitative studies, but this was not fully supported in the quantitative studies. For the relationships between the presence of and access to third places and a social network, the quantitative and qualitative studies agreed on the importance of local businesses for older adults' social network. Accessible community facilities were found relevant to a social network only in the qualitative studies. Similarly, the quantitative studies did not support the importance of having open/green spaces for older adults' social network. In summary, the current research suggests that having

community facilities, local businesses and open/green spaces nearby contributes to older adults' social interaction, whereas accessible local businesses are conducive to a larger or more developed social network.

Aspects of third places relevant to older adults' social engagement

Various aspects of third places were found to facilitate social interaction in the qualitative studies. They include a provision of opportunities for activities, such as social programs and events, in community facilities and the presence of multiple functions (e.g. diverse types of shops and services), user-friendly services including affordability, and good acoustics and privacy in local businesses. No quantitative studies have examined aspects of community facilities and local businesses. For open/green spaces, the quantitative and qualitative studies agreed in general that quality aspects, such as greenness, maintenance, amenities/facilities, safety, and programs can enhance older adults' social engagement. For transition spaces, the importance of seating to older adults' social interaction was mentioned in both the quantitative and qualitative studies, while shaded/sheltered spaces were identified as relevant attributes in the qualitative studies. It is possible that when participants discuss aspects of third places (e.g. quality of services, amenities in parks), they tend to relate these to behaviours that occur in that context rather than network. It can be argued based on these findings that local destinations (commercial and public) and routes to them that provide relevant services and opportunities and comfortable to stay in or walk through for older adults are likely to facilitate informal encounters amongst them and promote their social interaction.

Measures for third places

The quantitative studies reviewed employed three types of measurement for third places: objective measures using GIS, audit by researchers and self-report by participants. Self-report measures, which were used in more than half of the studies, are likely to be subject to recall

errors. However, one study using GIS and self-report measures for similar destinations found that each measure contributed independently to social participation (Richard et al., 2013). Two quantitative studies reported that better access to local places (places of worship, parks, and public transport stops) was associated with less social interaction and poor social network (Lane et al., 2020; Zhang et al., 2021). It is not clear why these places worked against participants' social engagement, but it can be argued that simple GIS measures of access to destinations (presence, distance) may not accurately capture the availability of third places for older adults. It is possible that what is important to older adults' social engagement is perceived access to local destinations or local places with certain characteristics (rather than the simple presence).

Measures for social engagement

Social interaction was measured as the frequency of interacting behaviours such as greeting, talking, and participating in neighbourhood activities in the quantitative studies. They produced an average response to multiple behavioural items (from 3 to 10), except for two studies where one item asked the frequency of social interaction (Chang, 2020; Zhang et al., 2021). It was found that these measures included interactions that may occur in a private setting or outside the neighbourhood. A measure of social interaction specific to local, public settings may need to be developed and tested to accurately understand the contribution of local third places. Social network measures assessed relational aspects, such as having many contacts in the neighbourhood, knowledge about neighbours and willingness to help them. Two studies used pre-existing scales, such as the Lubben Social Network Scale (Lane et al., 2020) and part of the Friendship Scale (Lee & Tan, 2019). Social networks were measured with multiple items (2–6), but it is not clear if all of them have been validated for psychometric properties.

Research agenda

Our review suggests that awareness of the importance of having local places for older residents to gather for social engagement is increasing. However, this review identified several gaps in the current literature. To produce robust evidence on the role of third places for older adults' social engagement, future research needs to address the following issues.

1. Investigate places where older adults gather and interact: Future studies need to identify locations where older residents visit for social interaction. Addressing this question with a small sample, Campbell and Kim (2016) reported that food and retail outlets were most frequently visited by older adults for social interaction. A large-scale study on this topic would be informative for future research and practice. In addition, it would be useful to examine quantitatively what types of third places are more effective in facilitating social interaction. Developing accurate measures of social interaction (e.g. through observation or sensors) would be helpful to advance understanding on this topic.

2. Identify how close third places should be from home: Although shorter distances to local destinations were found to be associated with social engagement (Lane et al., 2020; Richard et al., 2013), little is known about how far older adults travel in what mode for social interaction. Different thresholds have been used in previous studies, including a 5-min walk distance (Richard et al., 2013) and within 100 m from home (Kemperman & Timmermans, 2014). Research needs to identify the distance to local destinations within which older residents are more likely to visit.

3. Examine the effects of multi-function places: The studies to date examined how individual places are related to social engagement. However, a qualitative study has shown that older adults prefer to visit places that provide a range of services (Alidoust et al., 2019). This suggests that a community centre with various functions may serve well as a third place by addressing the diverse needs of older adults. Future studies can examine how places with

different sets of services/functions may perform as a third place.

4. Further investigate attributes of local parks that foster social interaction: Open/green spaces were identified as local places for older residents to interact socially. However, quantitative studies found that various attributes of parks and greenways were not contributing to social interaction. A study not included in this review found that a majority of older adults observed in public open spaces were alone (Noon & Ayalon, 2018). Further research is needed to obtain a better understanding of the attributes of parks and other green spaces that may be modified to facilitate older adults' social interaction and to understand the importance of different types of green spaces for older adults.

5. Compare how objective and perceived measures of third places are associated with social engagement: A few quantitative studies using GIS measures of access to third places found unexpectedly that shorter distance to them was associated detrimentally with social engagement outcomes. Older adults' perception of their local environment may matter more to their social engagement. Research can investigate the magnitude of associations for objective and perceived measures of third places.

6. Examine whether the relationships of third places with social engagement may vary amongst different subgroups and different settings: Hong et al. (2018) found that the association of park access and social interaction is modified by perceived safety. As older adults tend to differ greatly in their behaviour patterns, perceptions and attitudes, different third places may work better for different groups. Future research needs to pay attention to the heterogeneity of the older adult population. Understanding how older adults differ in their perceptions of and expectations for third places is important to inform the design of third places that cater for the needs of diverse groups.

7. Conduct longitudinal studies: All the quantitative studies reviewed were cross-sectional and thus did not make any causal inferences. No qualitative studies have also examined

the effect of new or renovated places on social interaction. Natural experiments examining the effects of newly built commercial and public places where older adults can gather and the effects of relocation from neighbourhoods without third places to those with third places (or vice versa) may provide more solid evidence about whether third places can increase social interaction amongst older residents. Such studies may collect qualitative data to better understand factors that facilitate or hinder social interaction between them.

8. Ensure a diversity of participants: It is known that there is a sampling bias in research on older adults (Martinson et al., 2010). Those who may benefit most from social interaction in third places (e.g. older adults living alone with few acquaintances) may be difficult to reach. To better understand characteristics of local places that can facilitate a broad spectrum of older residents to interact, research needs to make sure that participants are diverse in terms of socio-demographic characteristics such as gender, race/ethnicity, socioeconomic status, language spoken at home, educational attainment, household composition, housing arrangement, and disability. Future research needs to consider strategies as to how to reach a wide range of population subgroups, potentially though working with public sectors, community organisations, and advocacy groups. It is also important that studies acknowledge how the sample overrepresents (or underrepresents) certain segments of the population.

9. Perform mixed-methods studies: The findings for the relationships between third places and social engagement obtained from the qualitative studies were not fully replicated in the quantitative studies. Mixed-methods studies can help to better understand why such discrepancies occur between studies with different data collection methods.

10. Conduct comparative studies in culturally different countries: All studies reviewed collected data in a single country. Given that cultural differences are likely to exist in the way older people socially interact and build a social network (due to traditional norms and

contextual factors), future studies can compare types and attributes of local places where older adults gather for social interaction in culturally diverse countries or localities.

Limitations of this review

Although we used a comprehensive set of keywords, it is possible that some eligible studies may have been missed in our search. The review did not include studies in which the use of third places was employed as an independent variable (e.g., Enssle & Kabisch, 2020). Summarising studies examining what local places are used more often by older adults and to what extent such use is conducive to social interaction can further contribute to better understand what types of places can enhance their social engagement. We limited our search to peer-reviewed English articles, which may have also led to an omission of relevant studies published in grey literature or reported in other languages. Finally, since this is a scoping review, we did not assess the risk of bias of the studies.

CONCLUSION

This literature review synthesised the findings on the relationships between third places and older adults' social engagement. Most studies were published in the last five years, suggesting that research is still at its early stage. The review identified four types of third places examined to date: community facilities; local businesses; open/green spaces and transition spaces. Many studies (in particular, qualitative studies) found that the presence of and easy access to community facilities, local businesses and open/green spaces are conducive to social interaction amongst older residents. The importance of accessible local businesses for older adults' social network was also found in a fewer number of studies. Building on the findings of these quantitative and qualitative studies, it is possible to argue

that local places that are convenient to visit and comfortable to stay for older adults are likely to enable them to meet informally and spontaneously, which in turn contributes to their social interaction and network. However, more specific research evidence is needed to inform the planning and design of third places for older adults. Researchers need to collaborate with government, business and community sectors to further identify attributes of local places that can assist older residents to socially engage with their neighbours.

Funding

None.

Conflict of Interest

The authors report no conflict of interest.

Acknowledgements

All studies analyzed in this paper are referenced in the reference list. This study was not preregistered.

REFERENCES

Adlakha, D., Chandra, M., Krishna, M., Smith, L., & Tully, M. A. (2021). Designing age-friendly communities: Exploring qualitative perspectives on urban green spaces and ageing in two Indian megacities. *International Journal of Environmental Research & Public Health*, 18(4), 1491. https://doi.org/10.3390/ijerph18041491

Adlakha, D., Krishna, M., Woolrych, R., & Ellis, G. (2020). Neighbourhood supports for active ageing in urban India. *Psychology & Developing Societies*, 32(2), 254–277, https://doi.org/10.1177/0971333620937497

Alidoust, S., & Bosman, C. (2015). Planning for an ageing population: Links between social health, neighbourhood environment and the elderly. *Australian Planner,* 52(3), 177–186. https://doi.org/10.1080/07293682.2015.1034145

Alidoust, S., Bosman, C., & Holden, G. (2019). Planning for healthy ageing: How the use of third places contributes to the social health of older populations. *Ageing & Society,* 39(7), 1459–1484. https://doi.org/10.1017/s0144686x18000065

Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology,* 8(1), 19–32. https://doi.org/10.1080/1364557032000119616

Bassuk, S. S., Glass, T. A., & Berkman, L. F. (1999). Social disengagement and incident cognitive decline in community-dwelling elderly persons. *Annals of Internal Medicine,* 131(3), 165–173. https://doi.org/10.7326/0003-4819-131-3-199908030-00002

Bennett, K. M. (2002). Low level social engagement as a precursor of mortality among people in later life. *Age & Ageing,* 31(3), 165–168. https://doi.org/10.1093/ageing/31.3.165

Biddle, K. D., d'Oleire Uquillas, F., Jacobs, H. I. L., Zide, B., Kirn, D. R., Rentz, D. M., Johnson, K. A., Sperling, R. A., & Donovan, N. J. (2019). Social engagement and

amyloid-β-related cognitive decline in cognitively normal older adults. *The American Journal of Geriatric Psychiatry,* 27(11), 1247–1256. https://doi.org/10.1016/j.jagp.2019.05.005

Burn, K., Dennerstein, L., Browning, C., & Szoeke, C. (2016). Patterns of social engagement in the transition to later life. *Maturitas,* 88, 90–95. https://doi.org/10.1016/j.maturitas.2016.03.016

Burns, V. F., Lavoie, J.-P., & Rose, D. (2012). Revisiting the role of neighbourhood change in social exclusion and inclusion of older people. *Journal of Aging Research,* 2012, 148287. https://doi.org/10.1155/2012/148287

Campbell, N., & Kim, D. (2016). Designing an ageless social community: Adapting a new urbanist social core to suit baby boomers in later life. *Journal of Housing for the Elderly,* 30(2), 156–174. https://doi.org/10.1080/02763893.2016.1162253

Cao, Y. X., Heng, C. K., & Fung, J. C. (2019). Using walk-along interviews to identify environmental factors influencing older adults' out-of-home behaviors in a high-rise, high-density neighborhood. *International Journal of Environmental Research & Public Health*, 16(21), 4251. https://doi.org/10.3390/ijerph16214251

Carroll, S., Jespersen, A. P., & Troelsen, J. (2020). Going along with older people: Exploring age-friendly neighbourhood design through their lens. *Journal of Housing & the Built Environment,* 35(2), 555–572. https://doi.org/10.1007/s10901-019-09700-z

Chang, P.-J. (2020). Effects of the built and social features of urban greenways on the outdoor activity of older adults. *Landscape & Urban Planning,* 204(103929), 103929. https://doi.org/10.1016/j.landurbplan.2020.103929

Cheang, M. (2002). Older adults' frequent visits to a fast-food restaurant: Nonobligatory social interaction and the significance of play in a "third place". *Journal of Aging Studies,* 16(3), 303–321. https://doi.org/10.1016/s0890-4065(02)00052-x

Chen, Y., & Yuan, Y. (2020). The neighborhood effect of exposure to blue space on elderly individuals' mental health: A case study in Guangzhou, China. *Health & Place*, 63, 102348. https://doi.org/10.1016/j.healthplace.2020.102348

Coll-Planas, L., Del Valle Gómez, G., Bonilla, P., Masat, T., Puig, T., & Monteserin, R. (2017). Promoting social capital to alleviate loneliness and improve health among older people in Spain. *Health & Social Care in the Community,* 25(1), 145–157. https://doi.org/10.1111/hsc.12284

Domènech-Abella, J., Mundó, J., Haro, J. M., & Rubio-Valera, M. (2019). Anxiety, depression, loneliness and social network in the elderly: Longitudinal associations from The Irish Longitudinal Study on Ageing (TILDA). *Journal of Affective Disorders,* 246, 82–88. https://doi.org/10.1016/j.jad.2018.12.043

Enssle, F., & Kabisch, N. (2020). Urban green spaces for the social interaction, health and well-being of older people: An integrated view of urban ecosystem services and socio-environmental justice. *Environmental Science & Policy*, 109, 36–44. https://doi.org/10.1016/j.envsci.2020.04.008

Finlay, J., Esposito, M., Tang, S., Gomez-Lopez, I., Sylvers, D., Judd, S., & Clarke, P. (2020). Fast-food for thought: Retail food environments as resources for cognitive health and wellbeing among aging Americans? *Health & Place*, 64, 102379. https://doi.org/10.1016/j.healthplace.2020.102379

Finlay, J., Franke, T., McKay, H., & Sims-Gould, J. (2015). Therapeutic landscapes and wellbeing in later life: Impacts of blue and green spaces for older adults. *Health & Place*, 34, 97–106. https://doi.org/10.1016/j.healthplace.2015.05.001

Gardiner, C., Geldenhuys, G., & Gott, M. (2018). Interventions to reduce social isolation and loneliness among older people: An integrative review. *Health & Social Care in the Community,* 26(2), 147–157. https://doi.org/10.1111/hsc.12367

Gardner, P. J. (2011). Natural neighborhood networks: Important social networks in the lives of older adults aging in place. *Journal of Aging Studies,* 25(3), 263–271. https://doi.org/10.1016/j.jaging.2011.03.007

Glass, T. A., & Balfour, J. L. (2003). Neighborhoods, aging, and functional limitations. In: Kawachi, I., Berkman, L. F. (Eds.), *Neighborhoods & Health.* Oxford University Press, New York, pp. 303-334.

Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology,* 78(6), 1360-1380.

Hajek, A., Brettschneider, C., Mallon, T., Ernst, A., Mamone, S., Wiese, B., Weyerer, S., Werle, J., Pentzek, M., Fuchs, A., Stein, J., Luck, T., Bickel, H., Weeg, D., Wagner, M., Heser, K., Maier, W., Scherer, M., Riedel-Heller, S. G., … AgeCoDe Study Group. (2017). The impact of social engagement on health-related quality of life and depressive symptoms in old age: Evidence from a multicenter prospective cohort study in Germany. *Health & Quality of Life Outcomes,* 15(1), 140. https://doi.org/10.1186/s12955-017-0715-8

Harada, K., Masumoto, K., Katagiri, K., Fukuzawa, A., Chogahara, M., Kondo, N., & Okada, S. (2018). Community intervention to increase neighborhood social network among Japanese older adults. *Geriatrics & Gerontology International,* 18(3), 462–469. https://doi.org/10.1111/ggi.13208

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Medicine,* 7(7), e1000316. https://doi.org/10.1371/journal.pmed.1000316

Hong, A., Sallis, J. F., King, A. C., Conway, T. L., Saelens, B., Cain, K. L., Fox, E. H., & Frank, L. D. (2018). Linking green space to neighborhood social capital in older adults: The role of perceived safety. *Social Science & Medicine,* 207, 38–45.

https://doi.org/10.1016/j.socscimed.2018.04.051

Jahangir, S. (2018). Perceived meaning of urban local parks and social well-being of elderly men: A qualitative study of Delhi and Kolkata. *International Journal of Reviews & Research in Social Sciences,* 6(3), 243-247. https://doi.org/10.5958/2454-2687.2018.00022.9

Kemperman, A., & Timmermans, H. (2014). Green spaces in the direct living environment and social contacts of the aging population. *Landscape & Urban Planning,* 129, 44–54. https://doi.org/10.1016/j.landurbplan.2014.05.003

Kroenke, C. H. (2018). A conceptual model of social networks and mechanisms of cancer mortality, and potential strategies to improve survival. *Translational Behavioral Medicine*, 8, 629–642. https://doi.org/10.1093/tbm/ibx061

Kweon, B.-S., Sullivan, W. C., & Wiley, A. R. (1998). Green common spaces and the social integration of inner-city older adults. *Environment & Behavior,* 30(6), 832–858. https://doi.org/10.1177/001391659803000605

Lane, A. P., Hou, Y., Hooi Wong, C., & Yuen, B. (2020). Cross-sectional associations of neighborhood third places with social health among community-dwelling older adults. *Social Science & Medicine,* 258, 113057. https://doi.org/10.1016/j.socscimed.2020.113057

Lapena, C., Continente, X., Sánchez Mascuñano, A., Pons Vigués, M., Pujol Ribera, E., & López, M. J. (2020). Qualitative evaluation of a community-based intervention to reduce social isolation among older people in disadvantaged urban areas of Barcelona. *Health & Social Care in the Community,* 28(5), 1488–1503. https://doi.org/10.1111/hsc.12971

Lee, J. H., & Tan, T. H. (2019). Neighborhood walkability or third places? Determinants of social support and loneliness among older adults. *Journal of Planning Education & Research*. https://doi.org/10.1177/0739456x19870295

Levac, D., Colquhoun, H., & O'Brien, K. K. (2010). Scoping studies: Advancing the methodology. *Implementation Science,* 5(1), 69. https://doi.org/10.1186/1748-5908-5-69

Levasseur, M., Cohen, A. A., Dubois, M.-F., Généreux, M., Richard, L., Therrien, F.-H., & Payette, H. (2015). Environmental factors associated with social participation of older adults living in metropolitan, urban, and rural areas: The NuAge study. *American Journal of Public Health,* 105(8), 1718–1725. https://doi.org/10.2105/AJPH.2014.302415

Levasseur, M., Gauvin, L., Richard, L., Kestens, Y., Daniel, M., & Payette, H. (2011). Associations between perceived proximity to neighborhood resources, disability, and social participation among community-dwelling older adults: Results from the VoisiNuAge study. *Archives of Physical Medicine and Rehabilitation,* 92(12), 1979–1986. https://doi.org/10.1016/j.apmr.2011.06.035

Luo, M., Ding, D., Bauman, A., Negin, J., & Phongsavan, P. (2020). Social engagement pattern, health behaviors and subjective well-being of older adults: An international perspective using WHO-SAGE survey data. *BMC Public Health,* 20(1), 99. https://doi.org/10.1186/s12889-019-7841-7

Martinson, B. C., Crain, A. L., Sherwood, N. E., Hayes, M. G., Pronk, N. P., & O'Connor, P. J. (2010). Population Reach and Recruitment Bias in a Maintenance RCT in Physically Active Older Adults. *Journal of Physical Activity and Health,* 7(1), 127–135. https://doi.org/10.1123/jpah.7.1.127

Noon, R. B., & Ayalon, L. (2018). Older adults in public open spaces: Age and gender segregation. *The Gerontologist,* 58(1), 149–158. https://doi.org/10.1093/geront/gnx047

Oldenburg, R. (1999). *The great good place: Cafes, coffee shops, bookstores, bars, hair salons, and other hangouts at the heart of a community.* Da Capo Press.

Ottoni, C. A., Sims-Gould, J., Winters, M., Heijnen, M., & McKay, H. A. (2016). "Benches

become like porches": Built and social environment influences on older adults'

experiences of mobility and well-being. *Social Science & Medicine,* 169, 33–41.

https://doi.org/10.1016/j.socscimed.2016.08.044

Pan, X., & Chee, K. H. (2020). The power of weak ties in preserving cognitive function: A

longitudinal study of older Chinese adults. *Aging & Mental Health,* 24(7), 1046–1053.

https://doi.org/10.1080/13607863.2019.1597015

Richard, L., Gauvin, L., Gosselin, C., & Laforest, S. (2009). Staying connected:

Neighbourhood correlates of social participation among older adults living in an urban

environment in Montréal, Quebec. *Health Promotion International,* 24(1), 46–57.

https://doi.org/10.1093/heapro/dan039

Richard, L., Gauvin, L., Kestens, Y., Shatenstein, B., Payette, H., Daniel, M., Moore, S.,

Levasseur, M., & Mercille, G. (2013). Neighborhood resources and social participation

among older adults: Results from the VoisiNuage study. *Journal of Aging & Health,*

25(2), 296–318. https://doi.org/10.1177/0898264312468487

Saito, M., Aida, J., Kondo, N., Saito, J., Kato, H., Ota, Y., Amemiya, A., & Kondo, K.

(2019). Reduced long-term care cost by social participation among older Japanese

adults: A prospective follow-up study in JAGES. *BMJ Open,* 9(3), e024439.

https://doi.org/10.1136/bmjopen-2018-024439

Sandstrom, G. M., & Dunn, E. W. (2014). Social interactions and well-being: The surprising

power of weak ties: The surprising power of weak ties. *Personality & Social Psychology

Bulletin,* 40(7), 910–922. https://doi.org/10.1177/0146167214529799

Schmidt, T., Pawlowski, C. S., Kerr, J., & Schipperijn, J. (2021). Investigating the WHAT

and WHY on older adults' use of neighborhood open spaces following an environmental

intervention. *Translational Behavioral Medicine*, 11(2), 582–596.

https://doi.org/10.1093/tbm/ibaa004

Sorensen, P., & Poland, F. (2015). Positioning older men's social interactions: A visual exploration of the space between acquaintanceship and strangerhood. *Families, Relationships & Societies, 4*(3), 503–512. https://doi.org/10.1332/204674315x14381865428657

Thomas, P. A. (2011). Trajectories of social engagement and limitations in late life. *Journal of Health & Social Behavior, 52*(4), 430–443. https://doi.org/10.1177/0022146511411922

Veitch, J., Flowers, E., Ball, K., Deforche, B., & Timperio, A. (2020). Designing parks for older adults: A qualitative study using walk-along interviews. *Urban Forestry & Urban Greening, 54*, 126768. https://doi.org/10.1016/j.ufug.2020.126768

Verhaeghe, P. P., Pattyn, E., Bracke, P., Verhaeghe, M., & Van De Putte, B. (2012). The association between network social capital and self-rated health: Pouring old wine in new bottles? *Health & Place, 18*(2), 358–365. https://doi.org/10.1016/j.healthplace.2011.11.005

Versey, H. S. (2018). A tale of two Harlems: Gentrification, social capital, and implications for aging in place. *Social Science & Medicine, 214*, 1–11. https://doi.org/10.1016/j.socscimed.2018.07.024

Woolrych, R., Sixsmith, J., Duvvuru, J., Portella, A., Fang, M. L., Menezes, D., Henderson, J., Fisher, J., & Lawthom, R. (2022). Cross-national perspectives on aging and place: Implications for age-friendly cities and communities. *The Gerontologist, 62*(1), 119–129. https://doi.org/10.1093/geront/gnab170

Yen, I. H., Shim, J. K., Martinez, A. D., & Barker, J. C. (2012). Older people and social connectedness: How place and activities keep people engaged. *Journal of Aging Research, 2012*, 139523. https://doi.org/10.1155/2012/139523

Yung, E. H. K., Conejos, S., & Chan, E. H. W. (2016). Social needs of the elderly and active

aging in public open spaces in urban renewal. *Cities,* 52, 114–122.

https://doi.org/10.1016/j.cities.2015.11.022

Zhang, R. R., Liu, S., Li, M., He, X., & Zhou, C. S. (2021). The effect of high-density built

environments on elderly individuals' physical health: A cross-sectional study in

Guangzhou, China. *International Journal of Environmental Research & Public Health*,

18(19), 10250. https://doi.org/10.3390/ijerph181910250

Zhang, W., Liu, S., Zhang, K., & Wu, B. (2020). Neighborhood social cohesion, resilience,

and psychological well-being among Chinese older adults in Hawai'i. *The*

Gerontologist, 60(2), 229–238. https://doi.org/10.1093/geront/gnz104

Tables

Table 1. Characteristics of the quantitative studies reviewed

No	Lead author, year	Study location	Sample size (age, gender)	Type of social engagement	Type of third place
1	Chang, 2020	Taichung (Taiwan)	N=769 (age: 55+, 60% women)	Interaction, Network	TS
2	Chen, 2020	Guangzhou (China)	N=966 (age: 60+, 57% women)	Network	Other (blue space)
3	Hong, 2018	Baltimore, Seattle (USA)	N=647 (age: 66–97, 52% women)	Interaction, Network	OGS, TS
4	Kemperman, 2014	The Netherlands	N=1501 (age: 60–95, 59% women)	Network	CF, OGS, TS
5	Kweon, 1998	Chicago (USA)	N=91 (age: 64–91, 88% women)	Interaction, Network	OGS
6	Lane, 2020	Singapore	N=981 (age: 55+, 53% women)	Network	CF, LB, OGS
7	Lee, 2019	Bryan, College Station, (USA)	N=303 (age: 65+, 53% women)	Network	Other (third place)
8	Levasseur, 2011	Montreal (Canada)	N=554 (age: 67+, 53% women)	Interaction	CF/LB/OGS
9	Levasseur, 2015	Québec (Canada)	N=1198 (age: 67-82, 60% women)	Interaction	CF/LB/OGS
10	Richard, 2009	Montreal (Canada)	N=282 (age: 58+, 74% women)	Interaction	CF/LB/OGS, TS
11	Richard, 2013	Montreal (Canada)	N=520 (age: 68-84, 53% women)	Interaction	CF/LB/OGS, TS
12	Zhang, 2021	Guangzhou (China)	N=882 (age: 60+, 56% women)	Interaction, Network	OGS, TS

Note. CF=Community facilities; LB=Local businesses; OGS=Open/green spaces; TS=Transition spaces.

Table 2. Characteristics of the qualitative studies reviewed

No	Lead author, year	Study location	Data collection methods	Sample size (age, gender)	Type of social engagement	Type of third place
13	Adlakha, 2020	New Delhi, Chennai (India)	Interview	N=55 (age 60+, 51% women)	Interaction	CF, LB, OGS, TS
14	Adlakha, 2021	New Delhi, Chennai (India)	Interview	N=60 (age 60+, 51% women)	Interaction	OGS
15	Alidoust, 2015	Gold Coast (Australia)	Interview	N=19 (age 65+, 68% women)	Interaction	CF, LB, TS
16	Alidoust, 2019	Gold Coast (Australia)	Interview + observation	N=54 (age: 65+, 61% women)	Interaction, Network	CF, LB
17	Burns, 2012	Quebec (Canada)	Interview + document analysis	N=30 (age: 68-95, 63% women)	Interaction, Network	CF, LB, OGS
18	Campbell, 2016	A mid-sized university town (USA)	Focus group + context analysis	N=29 (age: 65-89, 55% women)	Interaction	LB, TS
19	Cao, 2019	Singapore	Interview	N=12 (age: 55-80, 50% women)	Interaction	CF, LB, OGS, TS
20	Carroll, 2020	Copenhagen (Denmark)	Interview + observation	N=16 (age: 59-90, 50% women)	Interaction	OGS, TS
21	Cheang, 2002	Honolulu (USA)	Interview + observation	N=26 (age: 57-83, 50% women)	Interaction	LB
22	Finlay, 2015	Vancouver (Canada)	Interview	N=161 (age: 65-86, gender: not specified)	Interaction	OGS, TS, Other (blue space)
23	Finlay, 2020	Minneapolis (USA)	Interview	N=125 (age: 55-92, 67% women)	Interaction	LB
24	Gardner, 2011	Toronto (Canada)	Interview + observation	N=6 (mean age 82.5, 50% women)	Interaction, Network	CF, LB, OGS, TS
25	Jahangir, 2018	Delhi, Kolkata (India)	Interview + observation	N=47 (age: not specified, all men)	Interaction	OGS
26	Ottoni, 2016	Vancouver (Canada)	Interview	N=50 (age: 60+, 58% women)	Interaction	TS
27	Schmidt, 2021	Copenhagen (Denmark)	Interview + observations	N=10 (mean age: 77, 70% women)	Interaction	OGS
28	Sorensen, 2015	UK	Photo-elicitation interview	N=16 (age: 75+, all men)	Interaction	LB
29	Veitch, 2020	Melbourne (Australia)	Interview	N=30 (age: 65+, 50 % women)	Interaction	OGS
30	Versey, 2018	New York (USA)	Survey + focus group	N=98 (age: 55-92, 52% women)	Interaction, Network	CF, LB
31	Yen, 2012	San Francisco, Oakland (USA)	Interview	N=38 (age: 62-85, 63% women)	Interaction	CF
32	Yung, 2016	Hong Kong (China)	Focus group	N=74 (age: 51-90, 50% women)	Interaction, Network	OGS

Note. CF=Community facilities; LB=Local businesses; OGS=Open/green spaces; TS=Transition spaces.

Table 3. Classification of findings according to the type of third place and social engagement: quantitative studies (N=12)

Third place type	Social interaction				Social network				Number
	S	M	NS	U	S	M	NS	U	
Presence/access									
Community facilities (CF)	—	—	—	—	—	—	[4][6]	[6]	3
Local businesses (LB)	—	—	—	—	[6][6][6]	—	—	—	3
Open/green spaces (OGS)	[12][12]	[3]	—	—	[4]	—	[3][4][12][12]	[6][12]	10
Transition spaces (TS)	[1]	—	[10][11][12]	[12]	—	—	[1][12]	[12]	8
Combined (CF/LB/OGS)	[8][9][10][11]	—	—	—	—	—	—	—	4
Other	—	—	—	—	[7]	—	[2][2]	—	3
Design/function									
Community facilities	—	—	—	—	—	—	—	—	0
Local businesses	—	—	—	—	—	—	—	—	0
Open/green spaces	[3][5]	—	—	—	[3][4][4][5]	—	—	—	6
Transition spaces	[1][1][1][3]	—	[1][1][1][1]	[1][1][1]	[4]	[3]	—	—	13
Total number	13	1	7	4	10	1	10	4	50

Note. S=Significant; M=Mixed; NS=Non-significant; U=Significant in the unexpected direction. Each number in the table (in square brackets) corresponds to each of the 12 studies identified and represents one case (finding) from the study. [1] Chang, 2020; [2] Chen & Yuan, 2020; [3] Hong et al., 2018; [4] Kemperman & Timmermans, 2014; [5] Kweon et al., 1998; [6] Lane et al., 2020; [7] Lee & Tan, 2019; [8] Levasseur et al., 2011; [9] Levasseur et al., 2015; [10] Richard et al., 2009; [11] Richard et al., 2013; [12] Zhang et al., 2021

Table 4. Classification of findings according to the type of third place and social engagement: qualitative studies (N=20)

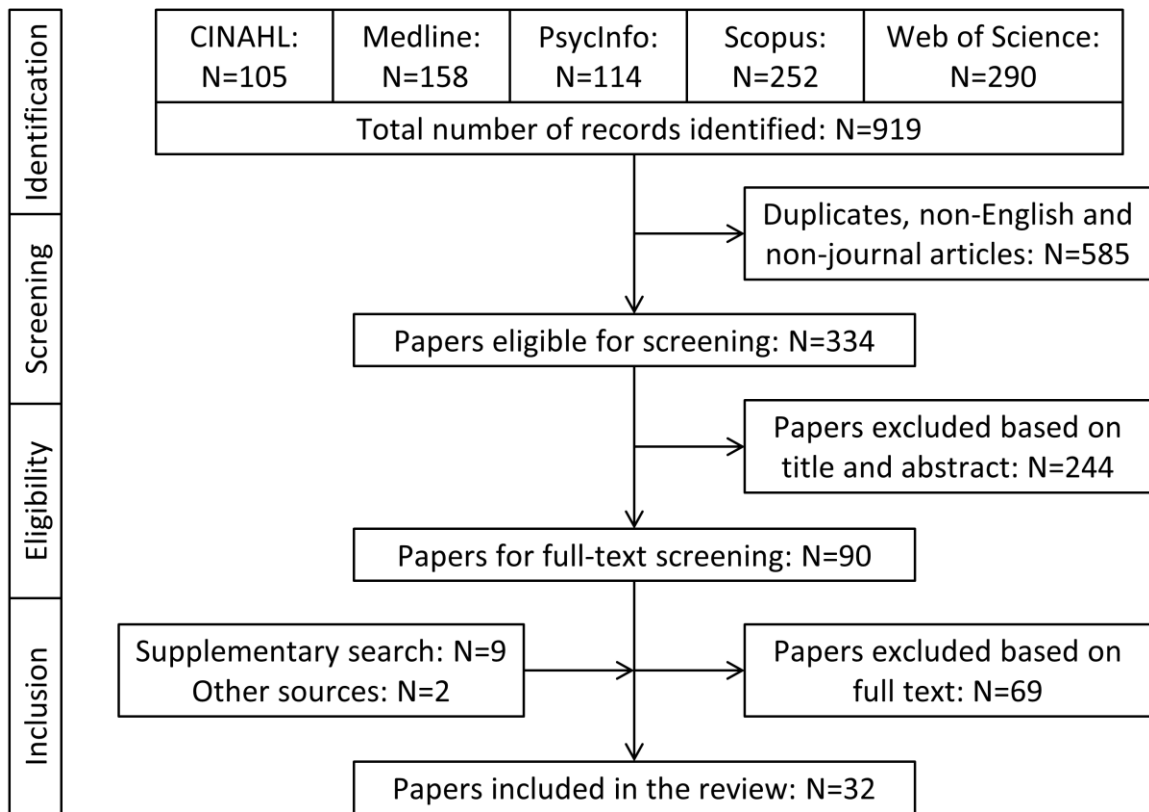| Third place type	Presence/access		Design/function		Number
	Social interaction	Social network	Social interaction	Social network	
Community facilities	[13][15][16][17][19][24][30][31]	[16][17][30]	[13][16][19][30][31]	—	16
Local businesses	[13][15][16][18][19] [21][23][24][28][30]	[16][17]	[16][18][19] [21][23][24]	—	18
Open/green spaces	[13][14][17][19][20][22][24][25][27][32]	[17][32]	[14][19][20][22][25][27][29][32]	—	20
Transition spaces	[13][15][18][22][23][24][26]	[24]	[13][18][19][20][22][26]	—	14
Other (blue space)	[22]	—	—	—	1
Total number	36	8	25	0	69

Note. [13] Adlakha et al., 2020; [14] Adlakha et al., 2021; [15] Alidoust & Bosman, 2015; [16] Alidoust et al., 2019; [17] Burns et al., 2012; [18] Campbell & Kim, 2016, [19] Cao et al., 2019; [20] Carroll et al., 2020; [21] Cheang, 2002; [22] Finlay et al., 2015; [23] Finlay et al., 2020; [24] Gardner, 2011; [25] Jahangir, 2018; [26] Ottoni et al., 2016; [27] Schmidt et al., 2021; [28] Sorensen & Poland, 2015; [29] Veitch et al., 2020; [30] Versey, 2018; [31] Yen et al., 2012; [32] Yung et al., 2016

37

Figure

Figure 1. PRISMA diagram

Figure 1

| Identification | CINAHL: N=105 | Medline: N=158 | PsycInfo: N=114 | Scopus: N=252 | Web of Science: N=290 |

Total number of records identified: N=919

Duplicates, non-English and non-journal articles: N=585

Papers eligible for screening: N=334

Papers excluded based on title and abstract: N=244

Papers for full-text screening: N=90

Supplementary search: N=9
Other sources: N=2

Papers excluded based on full text: N=69

Papers included in the review: N=32

Screening — Eligibility — Inclusion