Social capital in retirement villages

A literature review

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October 7, 2020

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Abstract

Retirement villages are a model of extra care housing, offering purpose-designed housing that incorporate both care services and a range of non-care related facilities and activities. These generate opportunities for formal and informal social activity, promote community engagement, solidarity between residents and active and independent ageing. Providers suggest that retirement villages are able to foster an environment rich in social capital. This study's purpose is to review and summarise key findings on the topic of social capital in retirement villages in the gerontological literature. Social capital is defined as both,an individual attribute of single actors and a feature of communities as a whole. A clear conceptualisation of social capital is used to organise the reviewed studies along different dimensions: On an individual level, *social networks*, *trustworthiness*, and *obligations* are differentiated, while the collective level distinguishes between *system control*, *system trust*, and *system morality*. 34 studies are reviewed. While retirement villages are generally described as friendly places with widespread helping behaviour where new friends are made, research has also highlighted the difficulty of socially integrating the frail and very old. While in particular social networks and system morality have received much attention, there is a clear need for future research into the other domains of social capital.
Keywords: retirement village, continuing care retirement community, social capital, social network, literature review.

Introduction

The population is ageing worldwide: As life expectancy rises and fertility rates decline, the number of older people and their proportion in the society is growing. Currently, a quarter of the European population is 60 years old or over and this number is increasing (United Nations 2015, 2017). As the share of older people grows, their life situations, problems and accommodation and care needs are gaining more and more political attention. Loneliness is one of the key problems older people face and more people live alone as family dynamics are changing and become more distant (Scales and Richard 2000).This is especially worrisome as social integration is central to the well-being (Callaghan, Netten, and Darton 2009; Hoban *et al.* 2013; Rowe and Kahn 1997): Both the objective lack of social relationships as well as the subjective experience of loneliness have shown to be risk factors for mortality and various aspects of ill physical and mental health (see e.g. Fratiglioni *et al.* 2000; Hawkley *et al.* 2003; Luanaigh and Lawlor 2008; Reblin and Uchino 2008; Seeman 2000; Steptoe *et al.* 2004; Uchino 2006). Human ageing is shaped by the social network and societal factors one grows old within; often embedded in an ageist social context with a negative construction of old age which can interfere with everyday experiences of the elders and contribute to disparities (see e.g. Ayalon and Tesch-Römer 2018). This can be particularly challenging in cases of intersectional identities which can

result in a cumulative burden and multi-faceted inequalities, for example when facing both ageism and racism (see e.g. Chrisler, Barney, and Palatino 2016).

Retirement villages are one model of extra care housing, offering purpose-designed barrier-free housing that incorporate both care services and a range of non-care related facilities and activities, which generate opportunities for formal and informal social activity and community engagement (Croucher 2006). In such villages, older people can buy or rent their own apartment and live independently, while still having access to various basic support and care services as needed. While most retirement villages are open to the public, they do exhibit entry criteria. These can vary from scheme to scheme and generally lead to a homogeneous resident population. In many cases, they require residents to have come from the same geographic area or have other strong connections to it. Larger extra care housing schemes are generally called villages and include more facilities than their small-scale counterparts, such as a restaurant, a gym or a hairdresser, often times open to the wider public community. However, there is generally a lack of a clear definition of different retirement housing options as the developers and providers try to appeal to different markets (Croucher, Hicks, and Jackson 2006; Riseborough, Fletcher, and Gillie 2015). Retirement villages are a common form of retirement housing in the United States, New Zealand and Australia, and a comparatively new development in the United Kingdom where they have been strongly gaining in popularity over the last years (Bernard *et al.* 2007; Croucher 2006; Evans 2009a).

Retirement villages market themselves as allowing successful ageing and fostering a friendly environment with a sense of community and solidarity, aiming to build an environment rich in social capital:

> "They're about giving their residents a new lease of life (...) [They] foster an environment of supported independence where residents can take advantage of the social and leisure opportunities provided by [them]. [Their] communities are diverse and fun. Residents can enjoy exciting activities and engage with family, friends and volunteers representing all generations." ExtraCare Charitable Trust (2015)

The social capital—briefly defined as resources accessed through and in social relations (Lin 2001)—inherent in these communities can provide older people with access to valuable social, practical and emotional support. The support is an outcome of network ties (that may be with friends, neighbours, relatives, or fellow members of organisations and clubs), the quality of the relationships, their availability, the values that they hold, and the trust placed in them (Gray 2008). Retirement villages try to enable older people to maintain a high level of social capital by promoting social interaction between residents, a friendly and neighbourly environment and participation in social gatherings and decision-making processes in and concerning the village. Social isolation has also been shown to work as a push-factor to move into a retirement village (Stimson and McCrea 2004), as more friendships and community are expected (Bekhet, Zauszniewski, and Nakhla 2009; Bernard *et al.* 2004; Evans and Vallelly 2007; Sergeant and Ekerdt 2008). Overall, such

novel forms of senior housing seem to offer promising modes to address all dimensions of social capital (see also Cannuscio 2003).

Against this background, a number of studies have tried to investigate to what extent retirement villages are able to foster social capital in older age. The following literature review summarises previous research and gives an overview of the coverage of different dimensions of social capital in the context of retirement villages. This review aims at combining articles on the different dimensions of social capital to identify gaps and motivate further research. It is structured as follows: After this introduction, the next section discusses the theoretical framework of social capital that is used to group previous studies and motivate further research. Following, the studies included in the literature review will be described and summarised. Finally, the conclusion will summarise previous key findings and identify gaps in the current state of the research.

Social capital

The concept of social capital has gained immense popularity both within and beyond the social sciences in the past 30 years. Considering the wide range of applications of social capital, the concept started to be understood to encompass a range of phenomena that are connected to social embeddedness. While the definitions of social capital vary, in its core it can be defined as resources accessed through and in social relations (Lin 2001); social capital focuses on the productive benefits of social interactions (Brunie 2009). Social capital has aspects on both the individual level, seen as additional resources for a person, and the aggregate level, seen as a collectively produced and owned good with benefits for the whole community. The classical conceptualisations of social capital, shaped in particular by the views of Pierre Bourdieu (1980, 1986), James Coleman (1988, 1990), and Robert Putnam (1993, 2000) who have emphasised different facets of the concepts in their discussions, have already incorporated the dual nature (see also Edwards and Foley 1998). As with capital in general, individual investments in social relationships can be made and the resulting benefits can be used individually (Esser 2008, 2002 Chapter 8.4). Neither the success nor the use of social capital can be controlled by individual actors though, as social capital develops and exists in the structure of relationships and is embedded in one's network (Portes 1998; Lin 2001: 55–56). The core idea of social capital theory is that networks have value (Putnam 2000).

The distinction between social capital as a property belonging to individuals and a collective asset has often been noted and discussed (e.g. Lin 2001: 21–25; Portes 1998, 2000; Inkeles 2000: 247). This distinction has been considered a controversy by some (Lin 1999b), but productively used to create a typology by others (Brunie 2009; Esser 2002, 2008). In the latter, social capital is broken apart in its interconnected, yet distinct, social processes. As the clear distinction between individual and collective social capital offers

a unifying framework that solves controversies and debates in the discourse, it seems to be a necessary and fruitful perspective to take.

Thus, this literature review uses the typologies suggested by Brunie (2009) and Esser (2002, 2008) to discuss previous literature on social capital. Esser (2008: 25) describes social capital firstly as the valued number of resources an actor can employ and use through direct or indirect personal relations with other actors who control those resources. The actor is assumed to intentionally invest in these relations with the expectations of them paying eventually off. This form of individual social capital is denoted as *relational capital*. Secondly, social capital can also be seen as an emergent characteristic of an entire network, going beyond the relationships of single actors and including aspects of a collective attitude towards the social system as a whole. This form of social capital, *system capital*, consists of *social control*, *system trust*, and a comprehensive *system morality* within a group or between individuals (Esser 2008: 25).

Relational and system social capital focus upon two theoretically distinct aspects of social capital, highlighting distinct processes (Esser 2008, 2002: 264; Brunie 2009). Individual social capital refers to access and use of resources an individual actor has through their acquaintances and friends. On this relational level, it is assumed that social capital constitutes an actor's 'personal' resource whose value depends on earlier investments in it. An actor's total endowment of relational social capital equals the sum of all the resources and benefits on which he can draw as a result of direct or indirect relations with other individual actors (Esser 2008; van der Gaag and Snijders 2004; Lin 1999a, 2001). Relational social capital refers to the network location an actor is positioned in and the embedded resources they have access to, i.e. network resources and network structures (Huang *et al.* 2018; Lin 2001; Portes 1998). Furthermore, the willingness of alters to make resources available to an ego (access to resources) is an important dimension of social capital (Flap 2002; Flap and Völker 2004; Lin 1999a, 2001; Lin and Erickson 2008). Esser (2008) argues that trust and obligations are key to this and conceptualises relational social capital as further including trust capital and obligation capital. Trust capital refers to trust that other actors place in an actor itself, as it determines the number of resources and benefits an actor can activate because of his reputation of being trustworthy (Esser 2008). Obligation capital refers to the idea that the degree to which one is committed to another is a function of the number of credit slips from the other actor, which he holds. Obligation works as a further motivation of the obliged actor to pass on requested resources. An actor's obligation capital thus consists of the number of obligations other actors owe him, the value of the resources and benefits that these favours can activate, and the total number of relations he maintains (Coleman 1990; Esser 2008; in specific relation to ageing, see also Antonucci and Jackson 1990; see also the term "favour bank" in Putnam 2000: 20).

Collective social capital, on the other hand, is an emerging property of aggregate collectives. It refers to the benefits a whole network offers to all of its members. Collective social capital is detached from individual actors, for it only exists through the relations between actors, and cannot be intentionally created by individuals (Esser 2008). System capital, as an attribute of the social structure instead of a private property, forms a public good from which all actors in a network can profit whether they have invested in it or not (Coleman 1990: 315). Esser (2008) distinguishes *system control*, *system trust*, and *system morality*.

System control refers to the degree of social control and collective attention in a community. It emerges if information on the behaviour of network members travels fast and completely, allowing the detection of non-compliant—and contributing—behaviour, and subsequently if the system has sanctioning capacities to discourage from deviant behaviour (Esser 2008; Festinger, Schachter, and Back 1950: 103–104, 114–131; Hechter 1988: 51–59). System control is a consequence of a network structure that is high in density, closure and stability of relations; it is social capital promoted by dense and stable networks (Esser 2008; Festinger, Schachter, and Back 1950: 107; Coleman 1990).

System trust and system morality build up system capital's superstructure, but they are building on an efficient system control. The overall trust in a network is referred to as system trust. It is not related to single actors, but instead refers to diffuse and generalised trust in the functioning of an entire system (Esser 2008). In the *generalised approach* formulated by Brunie (2009), trust is seen as an individual attribute about how trusting people are; it is a notion of goodwill and of a shared social conscience. This generalised trust is not limited to known individuals, but also applies to strangers. It captures what has been noted as "thin trust" (Putnam 2000: 136; Newton 1997).

Finally, system morality of a network refers to the validity of values, norms, and morality (Coleman 1990 see for a discussion on norms also; Festinger, Schachter, and Back 1950: 72). It consists of a specific, orientating attitude that directs actions as actors conform automatically. Morality, norms, and values therefore constitute a social relation of reciprocal commitment beyond the specific, single relations of the network (Esser 2008). Norms of reciprocity restrain opportunistic behaviour, reinforce trust and thus facilitate cooperation (Brunie 2009). System morality reduces the risk of social dilemmas and the costs and risks of transactions.

Lochner, Kawachi, and Kennedy (1999), following a strictly collective definition of social capital, links the concept of social capital to a number of other related community constructs. The concept of system morality shows notable parallels to *community, cohesion and collective efficacy,* and *solidarity.* As Lochner, Kawachi, and Kennedy (1999) point out, both the measures of a sense of community, as well as measurements for collective efficacy tap into the same indicators of a community's stock of social capital as these generally include mutual trust and solidarity between people (e.g. in Sampson 1997).

Collective efficacy can also often lead to organised social movements which are generally discussed as making use of pre-existing social capital, i.e. the individual—structural—and collective basis (Edwards 2013).

Solidarity, as conceptualised by Hechter (1988), also resembles the concept of system morality. He defines solidarity as consisting of the extensiveness of its obligations and the degree of compliance of members to these obligations to contribute to a group's good. Actors belong to groups because they are dependent on other members to access a joint good and thus incur obligations (Hechter 1988: 45). Similarly to Esser (2008), Hechter (1988: 166–167) discusses how the development of morality might lessen the importance of control mechanisms as in communities, actors will follow internalised norms (Hechter 1988: 147). The importance of control can though be diminished when systems build up loyalty by obligations, by putting trust in the actors (Hechter 1988: 141).

Against this theoretical background, social capital in a retirement village can be analysed as an individual property, referring to the social relations of a resident in terms of their social network, their trust and obligation capital they have built up, as well as a collective attribute, referring to the functioning of the community as a whole and the norms and values governing it. The most important dimensions of social capital are summarised in table 1.

< Insert Table 1 about here >

This framework allows the general analysis of social capital, but it is important to note that it can be experienced differently according to age and other attributes such as gender, ethnicity or disability which can shape the experience (see e.g. Burt 1998; Cheong *et al.* 2007; Goulbourne and Solomos 2003).

Review Data

In this review, qualitative and quantitative evidence on social capital in retirement villages are synthesised. Integrating quantitative and qualitative studies allows for a more in-depth and contextual understanding and integrated analysis (Pearson *et al.* 2015). The process of this review involved identifying relevant articles and making decisions about article inclusion. Finally, the evidence is analysed to find answers to the research questions to what extent retirement villages are able to foster an environment rich in social capital. The findings are organised along the identified dimensions of social capital.

This literature review has used Web of Science and Google Scholar to search for any published and grey literature, using the key word *social capital* and its key dimensions (*friendship*, *social network*, *norms and values*, *trust*, *community*, *social cohesion*) and terms related to the retirement accommodation (*retirement village*, *continuing care retirement community*). Besides using electronic databases, additional articles were retrieved by searching through the references of the previously retrieved literature.

The following inclusion criteria for literature were used: (a) written in English, (b) involving participants in larger-scale retirement homes, (c) involving residents in retirement housing, (d) published up to November 2019, (e) (a dimension of) social capital was a key theme, and (f) full text available. Both, peer-revied and non peer-reviewed articles are included to allow for a broader perspective on social capital as this allowed the inclusion of further research reports. Inclusion criterion (b) guaranteed comparable accommodation types as only residents in larger-scale retirement homes which are age-segregated and aim to provide a home for life are researched. These retirement communities generally go under the name of *retirement village* or *continuing care retirement community* (CCRC). Literature on smaller schemes (less than around 50 residents), naturally occurring retirement communities, mixed-age residential developments or nursing homes is excluded. As the focus of this literature review is on the perspective of residents, criterion (c) implies that any literature reviews or studies that only use data collected from the retirement housing management and providers are excluded (e.g. Croucher and Bevan 2010; Liddle *et al.* 2014). Further, in line with criterion (e), articles solely about (mental) health or quality of life were excluded as it was reasoned that the selected articles would not explicitly refer to the community aspect of the retirement living.

After the initial retrieval of abstracts through the key word search, they were read and discarded if they did not meet the inclusion criteria. After obtaining the full texts of the remaining studies, article references and citations were searched for additional relevant articles. After a first reading of the full articles and further exclusions in line with the inclusion criteria mentioned, 34 manuscripts were left as a background for the present review. These studies include non peer-reviewed reports. Three studies are interim or technical reports related to later publications and are not separately counted in the following, giving a total unique number of 31 research studies. They represent the United States of America (n=13), the United Kingdom (n=10), Australia (n=5), New Zealand (n=2) and Israel (n=1), with the earliest study dating back to 1984 and the most recent one from 2019.

Results

The final review includes 31 unique studies which researched social capital in retirement villages. Table 2 presents a list of the studies with selected information about key findings. The social capital domain assigned follows the framework outlined in the previous section.
< Insert Table 2 about here >

Individual social capital

Social network The social network is the most-studied studied dimension of social capital in retirement villages (n=20), analysing different facets of a social network and how new

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friendships being formed and previous ones maintained. Research has generally found that residents make new friends at the retirement village and become socially integrated (Bernard *et al.* 2012; Buys 2001; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher and Bevan 2010; Evans 2009b; Evans and Vallelly 2007; Heisler, Evans, and Moen 2003; Kingston *et al.* 2001; McDonald 1996; Perkinson and Rockemann 1996; Stacey-Konnert and Pynoos 1992). These new ties were especially important to provide social activity and companionship, but were also sources of low-level support in times of illnesses, to help in emergencies and regarding small favours in everyday life, such as giving lifts or helping with groceries (Bernard *et al.* 2004, 2007; Shippee 2012; Stacey-Konnert and Pynoos 1992).

Friends at the retirement village were most often made through social activities and in communal facilities the villages provide as these offer opportunities for formal and informal meetings (Bernard *et al.* 2004, 2007, 2012; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher, Pleace, and Bevan 2003; Evans 2009b; Evans and Vallelly 2007; Perkinson and Rockemann 1996; Stacey-Konnert and Pynoos 1992). In particular, many studies (n=7) have highlighted the importance of communal spaces such as restaurants and coffee shops, and of shared mealtimes to foster encounters between residents which can then lead to the development of friendships (Bernard *et al.* 2004, 2007; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher and Bevan 2010; Croucher, Pleace, and Bevan 2003; Gray 2015; Perkinson and Rockemann 1996; Williams and Guendouzi 2000). Research has shown that the majority of residents are generally active and involved in organisations which fosters the formation of new relationships (Bernard *et al.* 2004, 2007; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher, Pleace, and Bevan 2003; Stacey-Konnert and Pynoos 1992). The physical layout has also been shown to strongly influence friendship formation, with most frequent contact happening with neighbouring residents (Bernard *et al.* 2004, 2007, 2012; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Evans 2009b; Evans and Vallelly 2007; Gray 2015; Schafer 2014b; Shippee 2012).

While most residents in retirement villages generally found it easy to make friends, previous research has also identified social divisions and strata of isolates. Frailty and health in general can be considered the most important line of division in the context of retirement villages. In most to all villages, there has been observed some tension between the fit and the frail, with the frail (in particular the immobile and very old) becoming isolated (Bernard *et al.* 2004, 2007, 2012; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher and Bevan 2010; Croucher *et al.* 2007; Croucher, Pleace, and Bevan 2003; Evans 2009b; Evans and Vallelly 2007; Gray 2015; McDonald 1996; Nielson, Wiles, and Anderson 2019; Schafer 2011, 2012; Shippee 2012; Stacey-Konnert and Pynoos 1992; Williams and Guendouzi 2000). Frailty and sensory impairments can make it difficult for residents to leave their homes and thus take part in the social life of the village

(Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher, Pleace, and Bevan 2003; Williams and Guendouzi 2000) and cognitive impairment can make it difficult to hold up communication and interaction with other residents (Croucher and Bevan 2010; Croucher *et al.* 2007; Gray 2015; Shippee 2012). Health in general has shown to become a valuable resource in retirement settings and work as a status resource (Schafer 2011, 2012, 2014a,b).

While age and frailty are generally correlated, age by itself can also lead to certain divisions as a single retirement village generally combines different generations (Bernard *et al.* 2004, 2007; Croucher and Bevan 2010; Gray 2015). Residents of retirement villages have mentioned how different tastes in music and dancing can lead to discussions between generations and how younger residents can be bored by conversations of the older ones (Bernard *et al.* 2004, 2007).

Marital status and sex have been identified as important determinants in friendship formation (McDonald 1996; Perkinson and Rockemann 1996). While some studies have found that widows (Stacey-Konnert and Pynoos 1992) and the unmarried (Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008) often end up being socially isolated, others have highlighted how uncoupled residents become highly involved; in particular if previous responsibilities as caregiver have dissolved (McDonald 1996). In general, caregivers are also often shown to be socially excluded as they often have limited availability to participate in social activities (Stacey-Konnert and Pynoos 1992).

Another division is found in regard to finances; e.g., between residents that receive benefits and those that do not (Croucher and Bevan 2010) or leaseholders and house/apartment owners (Bernard *et al.* 2012; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Evans 2009b; Evans and Vallelly 2007). Many studies have also identified segregation between newcomers and older residents (Bernard *et al.* 2012; Croucher, Pleace, and Bevan 2003; Gray 2015; Nielson, Wiles, and Anderson 2019; Schafer 2012).

All of these aforementioned divisions can be exacerbated by the physical design, i.e. when different activities take place at different locations or when different tenures or care-levels live in different parts of the village (Bernard *et al.* 2012; Evans 2009b; Evans and Vallelly 2007; Shippee 2012). This reduces the opportunities for mixing and social interaction.

Many schemes are rather homogeneous (due to entry criteria, similar income, coming from similar place) which residents comment on as a desirable feature (Croucher and Bevan 2010), while too much variety (in particular on health levels) has been seen critically (Evans 2009b; Evans and Vallelly 2007). Due to the homogeneity in their composition, previous research has hardly had the opportunities to assess the role of other social demographic characteristics such as ethnicity in friendship formation. Gray (2015) has found mixed evidence on how ethnic minorities are integrated into retirement villages; while some develop cliques, others showed an environment appreciative of diversity.

In general, many studies have reported on some cliques; cliques can lead to the exclusion of some residents from facilities and activities (Bernard *et al.* 2004, 2007; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher, Pleace, and Bevan 2003; Gray 2015; Nielson, Wiles, and Anderson 2019; Perkinson and Rockemann 1996); additionally, they foster gossip and rumour (Croucher and Bevan 2010). The community studied by Nielson, Wiles, and Anderson (2019) has particularly tight social boundaries; residents report of experiencing rejections at seemingly social events and existing social group memberships are key to belonging.

While new friends were made after moving in, it is also important to residents to maintain a life and relationships with kin and non-kin outside of the retirement village (Bernard *et al.* 2004, 2007; Buys 2001; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher and Bevan 2010; Croucher, Pleace, and Bevan 2003; Evans 2009b; Evans and Vallelly 2007; McDonald 1996; Stacey-Konnert and Pynoos 1992; Williams and Guendouzi 2000). It is ties to outside friends and family which more intimate and give deeper levels of support than ties to village friends (Bernard *et al.* 2004, 2007; McDonald 1996; Perkinson and Rockemann 1996; Stacey-Konnert and Pynoos 1992; Stephens and Bernstein 1984). However, the quantity of face-to-face contact with outside friends and family has shown to be reduced after relocation to the village (Buys, Miller, and Barnett 2006; Crisp *et al.* 2015). While having a life outside is generally valued, there is mixed evidence on how involved residents are with the wider community; some studies report that a large fraction of residents are involved in the community (Evans 2009b; Evans and Vallelly 2007; McDonald 1996), while it is the minority in other villages (Buys 2001; Croucher, Pleace, and Bevan 2003).

Generally, research finds that involvement with the broader community depends on where residents have lived previously: Distance-movers that are new to the area rely more on fellow residents for social contacts and the retirement village for activities, while residents that come from the same locality can maintain their life outside better (Croucher and Bevan 2010; Croucher, Pleace, and Bevan 2003; Evans 2009b; Evans and Vallelly 2007). There is mixed evidence on how the distance to the previous location influences integration into the retirement village: While distance-movers have shown to have made more friends after moving in (Heisler, Evans, and Moen 2003) and it has been found that the socially inactive in the village are those which are highly active outside (McDonald 1996), Erickson *et al.* (2000) found that volunteering activity inside of the retirement village often comes as an addition to volunteering outside (Erickson *et al.* 2000). Furthermore, links to the wider local community are also influenced by age, health and transportation opportunities, with the younger, healthier and those with better transportation opportunities being more involved (Bernard *et al.* 2004, 2007; Gray 2015).

Obligations Obligations refer to the favours and investments residents have undertaken

for others and the community as a whole. Obligation capital refers to the number of obligations other actors owe them; they arise from advances that lead to indebtedness. In the case of retirement villages, residents generally commit favours and chores for the community as a whole by volunteering and to specific other residents.

The majority of residents are shown to be active volunteers, are organising activities for the community and are representing them in the form of a residents committee in resident-staff-meetings (Bernard *et al.* 2004, 2007; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher, Pleace, and Bevan 2003; Erickson *et al.* 2000; Stacey-Konnert and Pynoos 1992). Filling in these roles is sometimes difficult as it can be considered a burden (Croucher and Bevan 2010; Croucher, Pleace, and Bevan 2003) but also, high involvement is a sign of status (Stacey-Konnert and Pynoos 1992). In general, these roles often depend on the younger and fitter residents (Croucher, Pleace, and Bevan 2003; Resnick *et al.* 2013).

While co-residents are an important source of support and help in some situations and friendships are reinforced through exchanges, it has been suggested that residents make a clear distinction between what kind of support one can expect form co-resident friends versus family and staff; these relationships do not work as substitutions (Bernard *et al.* 2004, 2007). Residents are important in times of illness and incapacity and help in emergencies and exchange everyday favours, but are for example not carer for longer term illnesses (Bernard *et al.* 2004, 2007; Shippee 2012; Stacey-Konnert and Pynoos 1992). It has been stated that residents distance themselves from frailer residents as living independently is generally highly valued in retirement villages (Shippee 2012) and increasing dependency can disturb the reciprocity between residents (McDonald 1996). Also, it has been shown that not all residents appreciate a mix of dependency levels and lack understanding and tolerance in regard to different levels of frailty (Evans 2009b; Evans and Vallelly 2007).

Collective social capital

System Control System control refers to the availability of social control and a certain level of attention to the fate and actions of other members of an entire network which requires a certain flow of information.

Retirement villages often times have a residents committee to have some control and be in more direct contact with the management (Croucher and Bevan 2010; Croucher, Pleace, and Bevan 2003). Informational flows between management and residents can be an issue of critique with residents not knowing about processes (Malta, Williams, and Batchelor 2018), but newsletters are seen as an effective way to keep people informed about a range of issues, also to counteract rumours (Croucher and Bevan 2010). Retirement villages also show to have sanctioning capabilities as facilities rules such as dress codes for dinners are enforced in some of them (Shippee 2012).

System Morality A number of studies of retirement villages discuss dimensions on system morality, *solidarity, community, norms and values, and cohesion and efficacy* (n=18), most often investigating if and how a sense of community has developed.

In general, many residents of retirement villages report about a shared sense of community or a community spirit which has developed or is developing over time (Bernard *et al.* 2004, 2007, 2012; Biggs *et al.* 2000; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher, Pleace, and Bevan 2003; Evans 2009b; Evans and Vallelly 2007; Shippee 2012); retirement villages are even described to feel like a big family (Shippee 2012). It is generally seen as important to be part of the community (Croucher and Bevan 2010). Social interaction at organised events and in communal facilities are mentioned as important drivers for the community and for developing a sense of belonging (Evans 2009b; Evans and Vallelly 2007; Gray 2015; Shippee 2012), suggesting that it is the friendship networks that are created which are relevant for community development and the sense of belonging (Ayalon 2019b). The physical layout can further influence the perception of community (Evans 2009a; Evans and Vallelly 2007; Sugihara and Evans 2000): For example, it has been shown that people who live more central and had smaller distances to neighbours and activities are generally more attached to the community (Sugihara and Evans 2000).

The retirement community in itself is also often put in relation to the wider community. Visitors of the village are generally seen as not being part of the community (Bernard *et al.* 2012; Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher and Bevan 2010) or also see the whole village as "separate" to the rest of the community (Croucher, Pleace, and Bevan 2003). There is a great sense of ownership about the facilities in the village (Croucher and Bevan 2010) and opening these up to the wider community generally leads to mixed feelings (Callaghan, Netten, and Darton 2009; Callaghan *et al.* 2008; Croucher and Bevan 2010; Croucher, Pleace, and Bevan 2003). It has also be noted how the narrative of identity is build up in relation to the excluded non-members (Biggs *et al.* 2000).

While combining the fit and the frail in communities and social networks has been pointed out as difficult, it has also been found that mixing residents with extra-care needs with fit and active people leads to widespread informal helping behaviour between neighbours and extensive solidarity with other residents (Gray 2015). The literature suggests that retirement villages are marked by a high degree of neighbourliness and mutual help, with neighbours helping each other with mobility issues and other everyday favours (Bernard *et al.* 2012; Biggs *et al.* 2000; Croucher, Pleace, and Bevan 2003; Evans 2009b; Evans and Vallelly 2007; Graham and Tuffin 2004; Kingston *et al.* 2001; McDonald 1996; Stacey-Konnert and Pynoos 1992). This widespread helping behaviour is often highlighted as a key element of the community (Croucher and Bevan 2010). While support is valued,

Shippee (2012) also highlights that independence is valued in retirement villages. Disrupted communication is an offence against normative expectations, leading to the further exclusion of frail residents (Shippee 2012); poor health can be seen as a deviant status leading to stigmatisation in a community that tries to describes itself as active. This can lead to disassociation with peers and age-negative associations (Williams and Guendouzi 2000).

There has been found extensive solidarity with other residents (Gray 2015) and support, especially in times of bereavement which has also discussed to lead to a "lowering of the morale" in the village (Bernard *et al.* 2004, 2007). Comparing different kinds of schemes, Callaghan, Netten, and Darton (2009) and Callaghan *et al.* (2008) finds generally relatively high levels of cohesion and low levels of conflict in schemes, but especially larger villages have higher levels of conflict.

Summary and implications for future research

This literature review aimed at summarising to what extent retirement villages fulfill their promise of an engaging place to grow older, offering an active life and social engagement, fostering community and solidarity. A summary of the key findings is given in table 3.

The reviewed literature has largely focused on the social network of older people, norms in a retirement village and the development of a community. This is in line with the vast amount of research of social networks and gerontology in general which has increased in the past few decades (Ayalon and Levkovich 2018; Cornwell and Schafer 2016), exploring for example how social networks change throughout the life course and life span (see e.g. Cornwell, Laumann, and Schumm 2008; English and Carstensen 2014; McDonald and Mair 2010) and how they relate to measures of health and well-being (see e.g. Ashida and Heaney 2008).

While the social network is the most researched domain of social capital in retirement villages, there has only been one socio-centric complete network study in a continuing care community, discussed in Schafer (2011, 2012, 2014a,b). The socio-centric approach allows to map the complete social network of a village and analyse how different structural properties can influence individual attributes and vice versa and can thus greatly enhance previous findings (see also Ayalon, Yahav, and Lesser 2018 for a comparison of networks in different housing schemes). Besides gaining a full network of the residents inside of the village, previous research can be extended by also ask about outside ties, such as former friends and family, in the fashion of Ayalon (2019a). In line with this, it is also of interest to investigate what level of social capital residents bring into the village when moving in and what role this might play in both moving into a village and integrating into an existing resident community.

Many studies have also highlighted that retirement villages are generally considered friendly places where people talk with and neighbours help each other. Peer support

is a vital attribute of these communities with a norm of support at work. However, residents also value independence and do not want to become responsible carer for other residents (Shippee 2012). These findings suggest that residents seem hesitant to build up too much obligation capital with others. While the atmosphere of neighbourliness and mutual support is generally valued in retirement villages, it is also important to residents to maintain a high level of independence (in contrast to for example nursing homes). Mixed dependency levels generally lead to the development of a norm of neighbourliness and helping behaviour; this is not appreciated by all residents, suggesting this leads to the build-up of obligations. It could be expected that older people do not want to build up obligations with frailer and older residents who might never have the chance to reciprocate and "pay back"; this highlights an interesting area for future research.

System control is also discussed to some extent. Residents are generally interested to be informed about happenings in the village and their neighbours and the existence of gossip has been noted. Newsletters have been highlighted as one way to inform residents and distribute information. However, this has all only been discussed to a limited extent. Further research could explore more how information travels in a retirement village and how the interaction between management and residents is structured. So far, existing research has mostly only described institutions that are in place to spread information such as regular meetings.

The notions of trust and trustworthiness have hardly been discussed in previous literature, neither on a specific intra-individual level nor on the basis of generalised trust. This might be due to the fact that a lack of trust can be considered a sensitive topic. Nevertheless, trust is a core dimension of social capital and should be assessed in future research.

The development of system morality has been widely discussed in its notion of developed norms and the experience of a community. Other domains have received less attention, i.e. collective action problems, organisation of social movements and the experience of solidarity are only discussed to a very limited extent in research on retirement villages; however, it has been a topic with research on other retirement communities. For example, Andel and Liebig (2002) discuss how retirement communities in California have successfully fought the development of a new airport. Croucher (2006) also observe collective action and campaigning: They discuss how residents of a retirement community in England have campaigned to grant planning permissions for the development of land in a green belt and how residents have opposed extensions of a pub's licensing hours in another scheme. Lawrence and Schigelone (2002) have studied a small continuing care retirement community with only 20 residents and look at the domain of solidarity. Through semi-structured interviews and focus groups, they unravel the relevance of communal coping with the stressors of ageing. Individual problems are coped with as a community (dealt with as something that is commonly shared: ageing).

Overall, the negative side of social capital and community living have also only been discussed to a limited extent. It has been noted that there exists some clique building, exclusion of outsiders, gossip and certain lines of segregation, but the so-called *dark side of social capital* has never been a focus of a study and could offer further opportunities for research (Portes 1998). Further, the focus of the majority of previous studies is on non-marginalised, i.e. fit and engaged residents belonging to a demographic majority (white women). For example, while it has been mentioned that disability can lead to more isolation, there has been no study focusing on the experiences of frailer residents who rely more strongly on support. Additionally, most retirement villages are homogeneous in their demographic composition which has led to a lack of systematic research on for example ethnic diversity. It is important for future research to explore the consequences retirement living has for residents belonging to a minority group; particularly when avenues of inequalities intersect and residents belong to multiple disadvantaged groups (for example by employing an intersectional analysis, see e.g. Calasanti and King 2015; Crenshaw 1991). In this context, it could for example be explored how frail men experience life in a retirement village as these might suffer exceptionally from being removed from the productive work force (see e.g. Calasanti and King 2015; Phillipson 1982). Following this, it can also be questioned to what extent retirement villages might even contribute to a discriminatory environment by marketing and promoting themselves on the basis of a successful ageing and youthfulness (see e.g. Gibbons 2016).

< Insert Table 3 about here >

From a methodological standpoint, future research should include a control group in their analysis which is necessary when aiming at making causal claims about retirement village living. While previous studies have employed a wide range of methods, both qualitatively and quantitatively, only few have explicitly compared retirement village residents to a control group of other older people. Comparing studies on other forms of retirement housing suggests that retirement villages do offer a more social choice than other housing options: For example, Walters and Bartlett (2009) find a lack of social networks in a mixed-age residential development in Australia and Sheehan (1986) also find more social isolation in public senior housing, and Potts (1997) stress the importance of intimate relationships with outside housing family and friends when analysing data of a very large retirement community with over 8000 residents. To date, there are only few studies which explicitly make comparisons between residents of a retirement village and a control group: In the study of Ayalon (2019a), she compares the effects of social networks in two different retirement housing options; Bernard *et al.* (2004, 2007) compare health scores between people living in the village with numbers of the local community, comparing their resident-data with data from a different study; Buys, Miller, and Barnett (2006) compare family visitation patterns of residents of a retirement village with older people in community-dwellings; and Crisp *et al.* (2015) and Kingston *et al.* (2001) not only send

out questionnaires to residents of a retirement village, but also to community samples of older residents.

Even when a control group has been included in the study, self-selection into retirement villages might still be an issue. Sociability is generally mentioned as an important driver to move into the retirement village (e.g. Bernard *et al.* 2004, 2007), making it reasonable to expect that residents are a self-selected group with specific values and interests that align with communal living and activities. As randomly assigning older people to housing choices is not feasible, it is necessary to work with advanced statistical methods to control for this such as propensity score matching or to collect longitudinal data.

Conclusions

Retirement villages are a popular choice for older people in the USA, Australia and New Zealand and are gaining popularity in Europe, in particular in the United Kingdom. As it is a type of accommodation that addresses current policy demands and reflects the preferences for active and independent ageing it can be expected to continue growing in demand in many Western countries. While previous research suggests that such novel forms of senior housing offer promising modes to address different dimensions of social capital, there are still a number of gaps in the literature and additional research is needed. Future research should use a clear conceptualisation of social capital to address the concept in a unifying fashion. As the concept of social capital has features on both an individual and a community level, further research can be situated on both levels. This distinction implies different research strategies, suggesting a mixed-method approach with research methods complementing one another (van Deth 2008).

On an individual level, it will be of interest to ask who invests how into social capital and the underlying reasons, as well as how individual attributes, past investment and the new neighbourhood influence individual investments into social capital. When researching social capital as a community asset, it is of interest to describe the collective social capital that has developed within a village, as well as investigate the interplay of individual social capital and the perception of the community. While much has been done in the area of social capital in retirement villages, there are still considerable gaps for future research to address. Starting with a clear conceptualisation of social capital, future research should aim at exploring previously neglected domains of social capital and employ clear methodologies, sampling control groups and making use of state-of-the-art statistical approaches.

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Table 1: Overview social capital

Level	Dimension	Definition
Individual	Social network	Network position, number of ties
	Trustworthiness	Reputation of actor as trustworthy within network
	Obligations	Commitment to others in network depending on previous favours
Collective	System control	Control and sanctioning capabilities, flow of information
	System trust	Generalised trust
	System morality	Internalised orientation, accepted norms and values, sense of community, solidarity, cohesion efficacy

Table 2: Description of studies

Authors	Peer-review	Country	Methodology	Dimension of social capital	Key findings
Ayalon (2019b)	Y	Israel	2-wave survey with residents of two different retirement housing schemes (n=245; 104 in CCRC)	Social network, system morality (sense of belonging)	Size of egocentric network (inside and outside) influences sense of belonging. Being in highly cohesive network has negative effect on sense of belonging in CCRC. Betweenness in social network shows no effect on belonging.
Bernard et al. (2007) (see also report on same village, Bernard et al. (2004))	Y	UK	three year period: informal participant observation, diary-keeping, participation groups and community conferences (average n=17 per conference), individual and group interviews with key persons, structured questionnaires with residents (n=88 for the first wave; n=98 for wave 2 and 3; n=54 completed all three waves) and further questionnaires to family and friends (n=36) and members of staff (n=38)	Social network, system morality (community, morale)	Amenities and communal spaces enhance opportunities for social interactions in village; many opportunities for residents to volunteer within and beyond village. Key determinants for participation: gender, marital status, health; obstacles of participation: apartment, poor health, cliques which monopolise facilities and activities, loneliness and lack of friends, cost of activities. Divisions/isolates in village: generational gap, physical health problems (specifically mobility); 1/5 of residents report being lonely. 2/3 retain close friends and family outside. Different support from family and peers: Peer support in times of illness, for companionship, family support more intimate.

Table 2: Description of studies

Bernard *et al.* (2012)	Y	UK	Data from LARC (Longitudinal study of Ageing in a Retirement Community, 4 years) Exclusive retirement village which has gone through a phase of redevelopment Longitudinal interviews, diaries and directives (n=52 residents, 16 other individuals)	Social network, system morality (community, norms)	Friendships formed through social activities and supportive neighbourly behaviour. Shared sense of community strong during exclusive early days of village (shared occupational background), later influenced through built environment and segregation of tenures. Visitors to the village identified as not being part of the village community. Divisions/isolates in the village: Class, health, age; segregation of tenures (due to segregated activities).
Biggs *et al.* (2000)	Y	UK	Focused discussion groups (n=15)	System morality (community and norms as culture and narratives)	Retirement villages create a narrative for identity in old age that is secure and convincing, shared culture and identity that emphasises the positive effects on health of living in the village. Residents tell story of community based on interdependence and peer support Identity build up in relation to excluded non-members.
Buys (2001)	Y	Australia	Interviews (n=323) with residents of 25 retirement villages, descriptive results only	Social network	Residents regularly visit village friends and have regular phone calls with outside friends. Only few engage in community outings and village activities with friends.
Buys, Miller, and Barnett (2006)	Y	Australia	Survey with retirement village residents from 25 different villages (n=237) and the community (n=338)	Social network	Families provide instrumental support for older people in community-dwellings, while residents of retirement villages rely and paid assistance. Utilisation of formal services resulted in reduced face-to-face contact with family.

Table 2: Description of studies

| Callaghan, Netten, and Darton (2009) (see also interim report Callaghan *et al.* (2008)) | N | UK | Exploratory interviews (n=75 residents, n=26 staff), surveys (n=599 (n=205 smaller schemes, n=394 larger villages); follow up interviews with n=166) with residents of 15 newly built extra care housing (13 smaller schemes, 2 villages) | Social network, system morality (community, cohesion, conflict, social climate) | Majority of residents have made new friends, do not feel lonely and take part in activities (in particular in larger villages). Friendship formation encouraged through social activities and communal facilities (restaurants, shops); affected by building design. Self-organisation of residents' social activities depends on the younger and fitter (less physical impairment) residents. Isolation and loneliness in the frail (people needing more care) and unmarried; health and mobility challenge for social participation; segregation on basis of tenure; observed clique forming. Maintaining or building up links with local community is valued; mixed opinions of people coming in: division of "them and us". Villages become communities over time. Variance between different schemes, but generally relatively high level of cohesion and low level of conflict in schemes; especially larger villages have lower level of cohesion and higher level of conflict (source of conflict is high staff turnover). |
| Crisp *et al.* (2015) | Y | Australia | Transition in Later Life study (TRAILLs) longitudinal surveys of (n=83 retirement community residents | Social network | Increased contact with neighbours in retirement village. Small but significant reduction in contact with friends outside of the village; consistency of family networks. |

Table 2: Description of studies

Croucher, Pleace, and Bevan (2003)	N	UK	Postal surveys to all residents (n=192 first wave, n=171 second wave), interviews and discussion groups with residents (n=64 first wave, n=58 second wave); interviews and discussion groups with staff and professionals of local community (n=15)	System morality (community, norms, efficacy)	Development of community spirit through general good neighbourliness (peer interdependency) and frequent social interaction.
					Majority of residents involved in activities, but self-organisation of residents' social activities depends on the younger and healthier; existence of elected residents committee with some decision power.
					Importance of communal spaces for structured activities and informal meetings.
					Division and isolates: the frail and disabled; new residents find it difficult to fit into established social networks; newcomer to the area; professional background (most residents share background, residents with other background sometimes feel excluded); development of cliques.
					Life and friendship networks outside are valued, but only small number of residents more involved with wider community; about half of respondents see it "separate"; mixed feelings about sharing facilities/activities with non-residents.

Table 2: Description of studies

Croucher *et al.* (2007)	N	UK	7 different housing with care, two waves of interviews and focus groups with residents (first wave: n=156; second wave: n=34), interviews with key informants (first wave n=64, second wave n=13)	System morality (community, norms, efficacy)	Residents appreciate combination of independence and security in village, value privacy and companionship. Important of be part of a community. Key elements of community linked to mutual help and support. Opportunities for community formation in shared spaces. Residents' committees can be effective way to link residents and management and newsletters are effective way to keep people informed and counteract rumours. Isolates and divisions: Frailty, age, the housebound, cognitively impaired; people having lost their partner often lonely; Friction between residents that receive benefits and those that do not. Negative part of community: Gossip, rumour, in particular financial affairs. Importance to maintain life outside of scheme, in particular for people moving from close (distance-movers more dependent on fellow residents for social contact, close-movers have well-developed social networks and outside voluntary activities which are maintained). Tensions between residents and non-residents using facilities: sense of ownership.
Croucher and Bevan (2010)	N	UK	Mostly management perspective, but focus groups (n=13), interviews (n=3) and attempted diary/photo taking (n=0) with residents	System morality (community, norms, efficacy)	Determination to build a community, residents eager to build friendships. Challenges with residents needing high levels of care, tensions between the fit and the frail: difficult to balance the needs and concerns of all residents.
Erickson *et al.* (2000)	N	USA	Pathways to Life Quality project: survey (n=92)	Social network, obligations	Increase in visiting with neighbours and volunteering (inside volunteering in addition to outside volunteering) after relocation to CCRC. Stronger feeling of integration; women who had never been married highest social integration.

Table 2: Description of studies

Evans (2009b) (see also report Evans and Vallelly (2007))	Y	UK	Interviews (n=37), assessment forms on health/social needs (n=90), home questionnaire (n=34)	Social network, system morality (community, norms)	Friendships were reasons to move in and have developed: easy to make friends
					Social interaction (organised events, using communal facilities) important driver for community. Village layout can promote social interaction. Accessibility of communal areas central for development of social networks.
					High level of mutual support due to mixed dependency levels (not appreciated by everyone).
					Division and isolates: tenures (cross-tenure interaction casual; established friendships between people living in the same tenure) due to spatial clustering (leads to segregated activities and less everyday encounters) and economic divide; exclusion of frail residents and with physical impairment.
					Many residents maintain broader links with community: friends, family and organisations outside, in particular if they live closely; less frequent contact if they are from further away.
Graham and Tuffin (2004)	Y	New Zealand	Semi-structured discursive interviews (n=12)	System morality (norms)	People friendly, retirement village described as worry-free and safe environment.
					Companionship readily available in village, but balance between sociability and privacy.

Table 2: Description of studies

Gray (2015)	N	UK	Focus groups (n=130) and mail surveys (n=120) with respondents from 16 different English housing schemes	Social network, system morality (community, solidarity)	Network decline observed over time (19% have more friends now than during the 10 years before moving in, 28% fewer, rest same); the oldest residents are most likely to have fewer friends, but are also satisfied with their social involvement; outside friendships relevant for receiving support.
					Building design affects social interactions.
					Social divisions: age (younger residents bored with activities), newcomers feel excluded by long-standing residents; wheelchair users and people suffering from cognitive or sensory impairment have difficulty accessing social activities; mixed evidence of inclusion of ethnic minorities.
					Maintaining activities outside: In particular younger residents, men.
					Extensive solidarity with other residents, especially in villages with inclusive, well-attended social events.
Heisler, Evans, and Moen (2003)	Y	USA	Panel interviews (n=92)	Social network	Family contacts independent of relocation to retirement village, but changes in friendship networks.
					Distance movers were more likely to make new friends within the CCRC.
Kingston *et al.* (2001)	Y	UK	Longitudinal questionnaire interview (wave 1: all residents of a village n=47, community sample n=98: wave 2: n=42 in retirement village, n=74 in community), participant observation, focus groups (9 groups, n=6 per group)	Social network, system morality (norms)	Most residents stated having made new friends.
					Sense of support and camaraderie in village with prevalent peer support.
Malta, Williams, and Batchelor (2018)	Y	Australia	Survey to residents of different retirement village (n=1876)	System control	Residents often not well informed about dispute resolution processes by the management

Table 2: Description of studies

McDonald (1996)	Y	Australia	Survey and in-depth interviews (n=42), participant observation, documentary analysis	Social networks, obligations, system morality (norms)	Promotion the development of new social networks, high degree of neighbourliness.
					Co-residents important for sociability, but close friends (life-long friends) outside.
					Friendship segregation: sex and marital status; in particular female widows highly active; neighbouring (exchanging practical and social support) spans across gender and marital status.
					Socially inactive within village: people with high activity outside, people in poor health/poor mobility (increasing dependency can disturb reciprocity).
Nielson, Wiles, and Anderson (2019)	Y	New Zealand	Interviews (n=12), walk-about conversations, social site mapping, media material	System morality	Community with tight social boundaries: might be difficult to get into social groups, rejections at seemingly social meetings (existence of invite-only groups). Existing social group membership key to belonging.
					Social isolates: Newcomers, residents with health decline.
Perkinson and Rockemann (1996)	Y	USA	Ethnographic observations and interviews (n=20)	Social network	New friendships formed, especially during mealtimes and sustained through structured activities and reinforced through exchanges.
					Determinants of friendship formation: marital status; the frail and caregivers socially inactive; development of cliques. Intimate relationships with friends outside and family.
Resnick et al. (2013)	Y	USA	Surveys (n=127 residents)	Obligations	Half of residents are actively volunteering, majority (87%) within facility.
					Extent of volunteering influenced by health and age.

Table 2: Description of studies

Schafer (2011)	Y	USA	Structured interviews (n=123), full social network	Social network	Good health considered a status characteristic in old age. Residents in better health receive more nominations about socialising, but health is not related to a person's own nominations of peers; those in better health report fewer close discussion partners, but health did not influence how many nominations they received. Ties received by healthier people tend to come from others central in the network.
Schafer (2012)	Y	USA	Structured interviews (n=123), full social network	Social network	Residents with the best health had positional advantage in the network. Residents with better overall health experienced less constraint and more integration. Tenure also relevant: both recent residents and long-term residents were more constrained and less integrated than those with midrange tenancy.
Schafer (2014a)	Y	USA	Structured interviews (n=123), full social network	Social network	Health as a scarce and valued resource for status. healthiest residents receive a disproportionate share of social tie nominations. Network characterised by distinct patterns of health-based sorting; some support for status-oriented health homophily.
Schafer (2014b)	Y	USA	Structured interviews (n=123), full social network	Social network	Close relationships were strongly influenced by physical proximity (neighbours nominated as close discussion partners). Health-related asymmetry (assortativity): People were less likely to identify those in worse health than themselves as a close tie. Physical proximity intensified the health-based asymmetries.

Table 2: Description of studies

Shippee (2012)	Y	USA	Long term observations, structured interviews (n=60) in two retirement homes	System morality (community, norms)	Retirement village described as a friendly place of closeness, politeness, engagement and mutual support; participation in activities and membership in groups crucial for belonging. Floor neighbours important social network. Independence highly valued: residents support each other, e.g. with transportation and in emergencies, but clear boundaries. Independent living residents distance themselves from frailer residents. Poor health (e.g. hearing problems) considered a deviant stigma as offence against normative expectations (independent living, communicative skills); courtesy committee of residents also enforce other facility rules such as dress code for the restaurant through informal actions.
Stacey-Konnert and Pynoos (1992)	Y	USA	Participant observation, structured interviews (n=50)	Social network, system morality (norms)	CCRC for social activity, providing assistance and supporting frail; widespread mutual assistance. High level of social involvement and activity (most participants involved in committees); community involvement determines social status. Family members source of confidant relationship. Social isolates: very old, widowed, caregivers, frail.
Stephens and Bernstein (1984)	Y	USA	Structured interviews (n=44) from two housing complexes	Social network	Within-community interaction stays superficial and limited in scope: Interactions with other residents are the most frequent, but also least valued. Family and non-resident friends are primary providers of support, relationships more essential and intimate.
Sugihara and Evans (2000)	Y	USA	Survey (n=67)	System morality (community)	Place attachment influenced by the physical environment: more attachment to the retirement community when living in closer walking distance to the central activity building, smaller distances to neighbours, closer to outdoor garden spaces.

Table 2: Description of studies

Williams and Guendouzi (2000)	Y	USA	Interviews (n=15), analysis of discourse	System morality (norms)	Communal dining important for establishing peer relationships.
					Disassociating from negative stereotypes of old age and of frailty.
					Physical and mental deterioration of peers makes it difficult to form deep relationships.
					Problematic relationships with peers: living in communal environment with people with different interests is difficult.
					Disassociation with peers, age-negative association, critiquing of cliques.
					Residents maintain ties to families and activities outside; highly valued.

Table 3: Overview social capital and key findings

Level	Dimension	Definition	Key findings
Individual	Social network	Network position, number of ties	New friends, in particular through social activities and communal spaces; friends for companionship and low-level support; difficult inclusion for the frail and very old. Life outside village valued; more intimate friendships; reduction of contact.
	Trustworthiness	Reputation of actor as trustworthy within network	Not previously researched.
	Obligations	Commitment to others in network depending on previous favours	Widespread creation of obligations through volunteering and helping; reservation to create deep obligations.
Collective	System control	Control and sanctioning capabilities, flow of information	Existence of infrastructure to be informed (committees, newsletters) and sanctioned (rumours, gossip); only limited.
	System trust	Generalised trust	Not previously researched.
	System morality	Internalised orientation, accepted norms and values, sense of community, solidarity, cohesion efficacy	Development of community, visitors excluded; widespread helping behaviour; poor health can be seen as deviant; extensive solidarity; high levels of cohesion, low level of conflict.