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Social Capital, Health, and Place

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Photo by Ann Forsyth

The HEALTH AND PLACE INITIATIVE (HAPI) investigates how to create healthier cities in the future, with a specific emphasis on China. Bringing together experts from the Harvard Graduate School of Design (HGSD) and the Harvard School of Public Health (HSPH), it creates a forum for understanding the multiple issues that face cities in light of rapid urbanization and an aging population worldwide.

Health and Places Initiative
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The Research Briefs series summarizes recent research on links between human health and places at the neighborhood or district scale and provides background for a number of other forthcoming products—a set of health assessment tools, planning and urban design guidelines, urban design prototypes, and neighborhood cases. While the Research Briefs draw out implications for practice, it is these other tools that really provide specific, real-world guidance for how to create healthy places.

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Big Ideas

- Social capital can be either health enhancing, or damaging, depending on the nature of the individuals and relationships; however, in the literature it is mostly discussed as a positive, resulting in outcomes like better mental health, self-reported health, life satisfaction and happiness. A lack of social capital and social support has negative health effects.
- Social capital may be primarily related to groups, organizations, and other social networks. The focus of this brief is narrower. It investigates evidence for neighborhood environments affecting health-related aspects of social capital.
- There is strong evidence for community stability and perception of neighborhood quality having a positive effect on sense of community and other social capital indicators.
- While early evidence on social capital suggested that urban sprawl or high-density urban environments decreased social capital, recent evidence suggests more complex relationships and few consistent patterns between types of living environments and social capital.
- The implication is to provide a variety of options for making social connections of the kind that will enhance health. Creating a variety of different types of environments means people can find housing and activities that fit their preferences.
- Good things to do—that typically won't harm and may help foster social capital—include making neighborhoods pleasant walking environments (for leisure or transportation), having quality community resources, affordable housing of a variety of types, civic opportunities, and attention to public safety and neighborhood upkeep.

What the Research Says

Health Issues

What is social capital?

Social capital as a concept has developed over time. However a universally accepted theory is lacking. Pierre Bourdieu conducted what is often seen as the first contemporary analysis of social capital in 1980, published in the english literature in 1985, which defines social capital as, "the aggregate of actual or potential resources linked to possession of a durable network…" (Bourdieu 1986, 248; Portes 1998). According to Jackman (2001, 14216) the concept was first most clearly distinguished from physical and human capital by Coleman in the 1990 work, *Foundations of Social Theory*. Another often cited definition is by Putnam, who in 1993 described social capital as a "feature of social organization, such as trust, norms and networks, which can improve the efficacy of society by facilitating coordinated actions" (Putnam 1993, 167; Jackman 2001; Murayama et al. 2012).

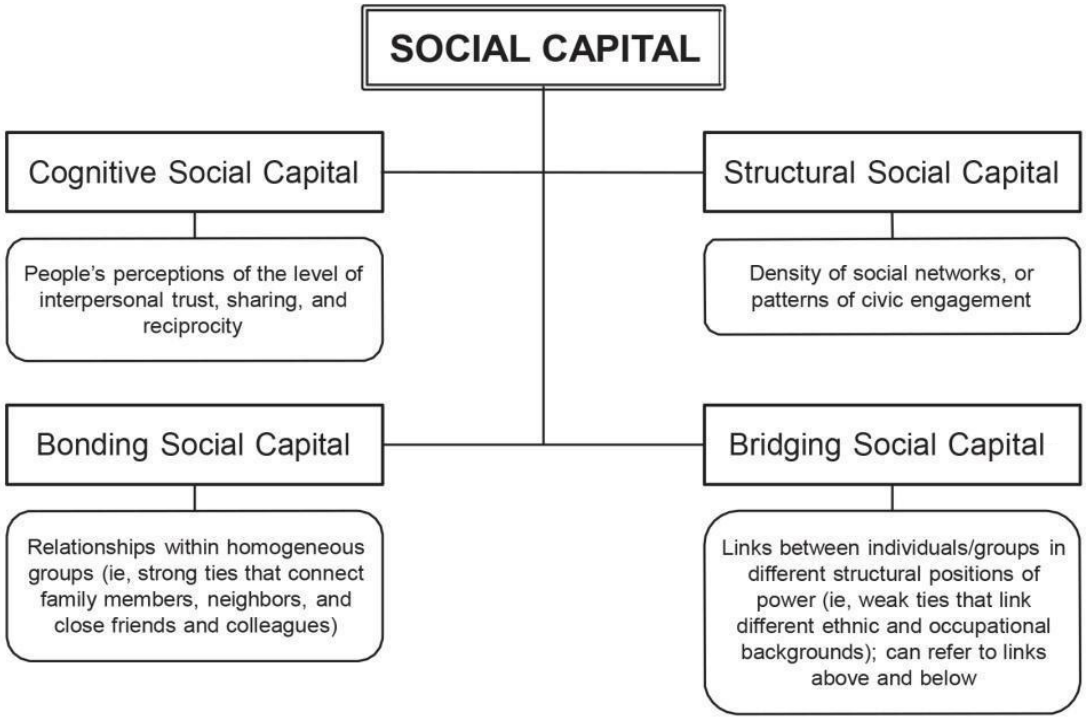
In a review of studies of health and social capital, Murayama et al. (2012) defined social capital in a more structured way, with four general categories: structural, cognitive, bonding, or bridging (Figure 1).

Bonding and cognitive social capital refer to trust, sharing and cooperative relations within homogeneous groups. Bridging or structural social capital is between individuals who are dissimilar with respect to social identify and power, or refers to social networks and patterns of civic engagement (Murayama et al. 2012, 179). See also Islam et al. (2006) and Pridmore et al. (2007).

Social capital is measured in many ways in the research literature: such as political participation, trust, social support, physical interaction or emotional connection. For the purposes of this study, we look into how social capital is related to health, place and the built environment.

Social capital can be health enhancing or damaging, depending on the nature of the relationships. Many authors focus entirely on the positives, but negative consequences include social exclusion of those outside beneficial networks, groups with negative norms (e.g. free riders, eating unhealthy foods), and forced conformity (Portes 1998; Ellen et al. 2001).

Figure 1. Conceptual arrangement of social capital.



Source: Murayama et al. (2012, 179), used with permission.

The list below describes positive health impacts related to social capital in the literature.

Positive health impacts related to social capital in research studies:

- Self-rated health (physical)[1]
- Better mental health, reduced mental disorders, reduced stress[2]
- Life satisfaction and happiness[3]

Table 1 describes negative health impacts related to a lack of social capital in the literature. However, it is very difficult to disentangle effects from individual characteristics and behaviors versus social influences.

Table 1. Negative health impacts related to a lack of social capital

Social factor description	Health impact
Lack of social support[4]	Worse cardiac and all-cause mortality among patients diagnosed with coronary heart disease, increased risk of depressive symptoms during pregnancy, increased institutionalization in the elderly
Social isolation[5]	Negatively related to self-reported health
Low social capital[6]	Self-rated poor health, increased physician level depression
Loneliness[7]	Psychological and physiological stress

1. D'Hombres et al. 2010, 66; Islam et al. 2006; Kawachi et al. 2013, 2; Kim et al. 2006a; Rocco and Suhrcke 2012, 13.
2. D'Hombres et al. 2010, 66; Kawachi et al. 2013, 2; Leyden et al. 2011; Lofors et al. 2007; Murayama et al. 2012; de Silva et al. 2006
3. Elgar et al. 2011; Leyden et al. 2011, 864
4. Barth et al. 2010, 229; Lancaster et al. 2010; Luppa et al. 2009
5. D'Hombres et al. 2010, 56
6. Kawachi et al. 1999, 1187; Murayama et al. 2012, 184
7. Gao et al. 2012, 2; Resnick et al. 2011;

Place Issues

The connection between the built environment and social capital is still limited and not well understood.

For example, there is mixed evidence if various urban design aspects (e.g. walkability), certain scales of density (e.g. rural, small town, suburban, core city), and urban form (e.g. grid, cul-de-sac, combination) are related to greater amounts of social capital. Social capital has many areas in which it occurs—at home, work, school, or faith communities (bonding or cognitive social capital), as well as neighborhood, political, or community action groups (bridging or structural social capital).

Additionally, not all social networks occur in specific places or the place is only a minor part.

Contemporary technologies have dramatically expanded the range of ways people can communicate at a distance and reduced the costs and time delays of such communications. For example, networks can be created and maintained inexpensively on the phone (e.g. free long-distance with cell carriers or internet phones), email, Internet video chatting (e.g. Skype, Google Chat), and social networking sites (e.g. Facebook, Google Plus), all of which allow people to keep in touch with friends and family regardless of how far away one lives. Websites such as "MeetUp.com" help people find others with common interests in their local community. These technologies further complicate, and potentially dilute, the relationship between place, health, and social capital.

People with things in common are more likely to create social networks—they may make similar individual choices to go to particular public spaces or reside in particular locations. When they naturally form social bonds it is hard to disentangle the self-selection effect from the effect of place. The situation that not all social capital is positive for health further complicates the situation.This means there are many potential connections between health and place and many potential confounders. Later in this brief we review some of this complicated research.

Vulnerable Groups

Social capital may be especially important for health as we age, and vice versa.

Example: Rowe and Kahn's (1987, 146) classic article on successful aging describes how older people with social support show greater health and wellbeing, less mortality, greater recovery from illness and injury, and better adherence to good health habits. Social support might come from a spouse, family, friends, church groups or other community affiliations (Rowe and Kahn 1987, 147).

Example: As described in Resnick et al.'s (2011) book *Resilience in Aging: Concepts, Research, and Outcomes*, loneliness increases psychological and physiological stress, which in turn decreases the body's ability to restore and maintain physiological and psychological reserves (Resnick et al. 2011, 6), a finding confirmed by Gao et al. (2012, 2).

Example: Sirven (2012) examined the causal relationship between health and social capital for older adults in Europe (data was from 2004 SHARE baseline study: 40,000 individuals aged 50 or older, across 11 countries). Social activities (e.g. volunteering, religious or social organizations) served as the measure for social capital. Health was measured across several variables, including physical and mental health. The authors found, "Individual social capital has a causal beneficial impact on health and vice-versa. However, the effect of health on social capital appears to be significantly higher than the social capital effect on health. These results indicate that the sub-population reaching 50 years old in good health has a high propensity to take part in social activities and to benefit from it. Conversely, the other part of the population in poor health at 50, may see their health worsening faster because of the missing beneficial effect of social capital. Social capital may therefore be a potential vector of health inequalities for the older population" (Sirven 2012, 1288).

Parental social capital is beneficial to the child's sense of belonging in school.

Example: In a survey of 289 parents and their children in Hong Kong, Cheung (2011) found that degree of parental social capital found through membership in a parent-teacher association (e.g. contact with other parents, familiarity and help from other parents) "was more highly associated with a child's present belongingness if his or her prior belongingness was high rather than low" (Cheung 2011, 199). In other words, the parents were able to capitalize on the child's strength to further advance the child's belongingness.

China

Older people in China are becoming more vulnerable to social isolation and loneliness.

Example: Flaherty et al. (2007) compiled data from Chinese migration studies to show that "millions of migrant workers come to the cities to try to make a living, which may leave older people behind without the traditional network of children to care for them as they age. Older persons from the rural areas or small towns sometimes come with their adult children when they move to the big cities, but only if the adult children are financially successful" (Flaherty et al. 2007, 1297).

Consistent with previous research, Chinese people with high levels of self reported trust (bonding social capital) also self-report they are healthy but other forms of social capital (e.g. bridging) were only related to self-reported health in urban areas.

Example: Meng and Chen (2014) used 2005 data from the Chinese General Social Survey to look at the relationship between social capital and self-reported health (SRH) in China (n=10,372 adults across 125 county-level units). "Results showed that only trust was beneficial for SRH in China. Bonding trust mainly promoted SRH at individual level and bridging trust mainly at county level. Moreover, the individual-level bridging trust was only positively associated with SHR of urban residents, which mirrored the urban-rural dual structure in China. We also found a cross-level interaction effect of bonding trust in urban area. In a county with high level of bonding trust, high-bonding-trust individuals obtained more health benefit than others; in a country with low level of bonding trust, the situation was the opposite" (Meng and Chen 2014, 38). In other words, in a county with low levels of bonding trust, individuals with high levels of bonding trust did not report better self-reported health.

Example: In 2004, Yip et al. (2007) surveyed 839 households (n=2401 people aged 16-80) in rural China to examine the relationship between social capital and health. Social capital was defined as structural (e.g. bridging) versus cognitive social capital (e.g. bonding) and health metrics included self-reported health, psychological health, and subjective well-being. The authors found, "Results indicate that cognitive social capital (i.e., trust) is positively associated with all three outcome measures at the individual level and psychological health/subjective well-being at the village level as well. We further find that trust affects health and well-being through pathways of social network and support. In contrast, there is little statistical association or consistent pattern between structural social capital (organizational membership) and the outcome variables. Furthermore, although organizational membership is highly correlated with collective action, neither is associated with health or well-being" (Yip et al. 2007, 35).

Photo: Ann Forsyth

Chinese people with high levels of bonding social capital (trust) report higher levels of health.

Things for Certain (or semi-Certain)

There is strong evidence for the relationship between receiving positive social capital (social support, bonding social capital), self-reported health, and mental health benefits (at least among trusting individuals).

Example: Murayama et al. (2012) conducted a systematic review of the literature on social capital and health (13 articles included, mainly Western countries, but also included Japan). They found, "An association between lower individual-level social capital and self-reported, physician-diagnosed depression was found, but there was no association between workplace-level social capital and depression" (Murayama et al. 2012, 184).

Example: Leyden et al. (2011) studied happiness across ten major cities (New York, London, Paris, Stockholm, Toronto, Milan, Berlin, Seoul, Beijing, and Tokyo) using the 2008 Quality of Life survey on random samples of 1,000 people in each city. They state, "Our findings suggest that social connections within the city, aspects of city planning, and the maintenance of the public sphere are associated with individual happiness around the world" (Leyden et al. 2011, 864).

Example: D'Hombres et al. (2010) investigated the impact of social capital on self-reported health in the eight countries of the Commonwealth of Independent States (Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, and Ukraine). Data was drawn from the 2001 Living Conditions survey, and number of participants from each country ranged from 11 to 474 respondents. They found that individuals who trust others are more likely to report good health. They state that, "Trusting relationships are likely to facilitate the transfer of health-related information and to reduce psychological stress" (D'Hombres et al. 2010, 66).

There is strong evidence for community stability and perception of neighborhood quality having a positive effect on sense of community and other social capital indicators. Community stability is measured in terms of home ownership, length of residence, and older, established communities; neighborhood quality indicators include interesting sites, desirabilty of destinations, aesthetics/ upkeep, infrastructure for walking, safety. In turn, separate studies show a link between social capital and health.

Example: Brisson and Usher (2005) studied how neighborhood characteristics and resident participation affect bonding social capital in low-income neighborhoods, surveying low-income neighborhoods in 10 cities in the U.S. (800 residents in each city). "Findings demonstrate that participation, homeownership, and neighborhood stability are associated with bonding social capital" (Brisson and Usher 2005, 644).

Example: Hanibuchi et al. (2012) studied how social capital varied based on walkability, date of community settlement and degree of urbanization using results from the Aichi Gerontological Evaluation Study (AGES) conducted in 2003 in Japan (n=9414). They found, "No significant positive association was found between the walkability score and any of the social capital indices. In contrast, community age and degree of urbanization were associated with many of the social capital indicators, even after controlling for characteristics of the residents" (Hanibuchi et al 2012, 229).

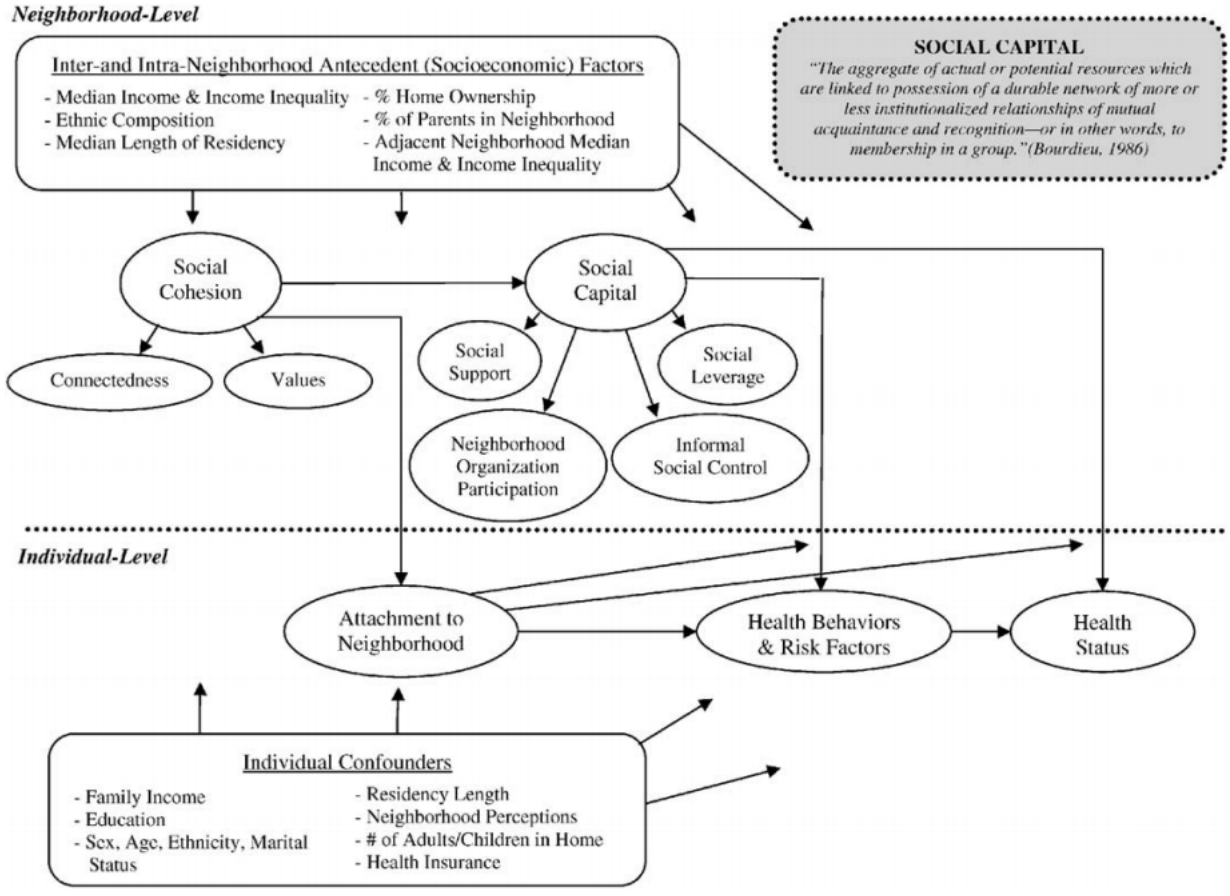
Example: French et al. 2014 investigated the relationship between neighborhood built form and sense of community in Perth, Western Australia using results of the Australian RESIDential Environments Project (RESIDE) longitudinal analysis (survey and GIS neighborhood measures for 1,655 participants). Results indicated that duration of residence was significantly ($p=.00$) associated with sense of community (French et al. 2012, 6). Likewise, "Positive perceptions of infrastructure for walking, neighborhood aesthetics, and safety were all associated with greater sense of community" (French et al. 2014, 12).

Example: Wood et al. (2010) examined the association between neighborhood design, walking and sense of community among 609 residents of Atlanta, U.S. using a telephone survey to capture physical activity patterns, neighborhood perceptions, and social interactions. The authors found, "After adjustment, SofC [sense of community] was positively associated with leisurely walking (days/week), home ownership, seeing neighbors when walking and the presence of interesting sites" (Wood et al. 2010, 1381).

Example: Wood et al. 2008 explored the connection between social capital and the walkability of suburbs street network design and mix of land uses (n=355) in Perth, Western Australia, using objective and perceived data on the built environment. "After adjustment for demographic factors, the built environment was found to have a significant but small effect on social capital and feelings of safety, particularly in relation to the number and perceived adequacy of destinations. A high level of neighbourhood upkeep was associated with both higher social capital and feelings of safety" (Wood et al. 2008, 15).

Example: Using Bourdieu's definition of social capital, Carpiano (2006, 169) offers a conceptual model of how neighborhood social capital might influence health outcomes (see Figure 2).

Figure 2. Proposed conceptual model of neighborhood processes on individual health outcomes.



Source: Carpiano 2006, 169, used with permission

Things up in the Air

Evidence of social capital's relationship to healthcare access, mortality, healthy behaviors, disaster resilience, and poverty is less certain. Table 2 describes these findings.

Table 2. Less certain connections between social capital and health.

Health impacts	Description
Healthcare access[8]	• Social capital can increase healthcare access, but it depends on quality of relationship and norms or beliefs of the members within the network
Mortality[9]	• Literature has found positive, negative, and no effects of social capital and death rates
Health behaviors[10]	• Depends on the health behavior: for example, social capital may improve/increase physical activity, or diabetes control, but mixed results for smoking cessation • Also depends on culture of the community, social norms, informal social control, etc.
Resilience to disasters[11]	• Mixed results on withstanding heat stress; Causal pathways not clearly understood - but recent evidence suggests social capital may provide more resources to deal with disasters
Effects of poverty on health[12]	• Social capital can buffer some of the negative effects of poverty on health • It can also be harmful to health to those providing social support and practical assistance through burdening people's already stressful lives

8. Derose and Varda 2009, 287
9. Lower death rates: Lochner et al. 2003; Martikainen et al. 2003; Mixed results: Murayama et al. 2012, 184; Not related: van Hooijdonk et al. 2008
10. Carpiano 2007; Kim et al. 2006b; Long et al. 2010; Meijer et al. 2012, 1204; Murayama et al. 2012, 184; Poortinga 2006
11. Kawachi et al. 2013, 183-184; Romero-Lankao et al. 2012
12. Kawachi et al. 2013, 16; Mitchell and LaGory 2002; Sapag et al. 2008; Uphoff et al. 2013, 9

Photo by Ann Forsyth

Community stability (e.g. homeownership, long residency) and perceptions of neighborhood quality (e.g. aesthetics, safety) are related to individuals' "sense of community" and other social capital indicators.

Does neighborhood design and density affect social capital?

While early evidence on social capital suggested that urban sprawl or high-density urban environments decreased social capital, recent evidence suggests more complex relationships and few consistent patterns between types of living environments (Kawachi et al. 2013, 134). Table 3 describes some of these mixed findings related to types of place.

Table 3. Type of place examined in research on social capital and findings

Type of place	Findings for social capital

Degrees of density or urbanization (e.g. low versus high density; core city, suburban or rural)[13]	• Relationship varies by study area, population, and other variables
	• No consistent pattern for density
	• May support some types of social capital, while negatively affecting others (Nguyen 2010):
	  ○ Urban areas (vs. rural) have higher rates of political participation
	  ○ Urban areas (vs. rural) found unfavorable for social interaction, faith-based social capital, giving and volunteering
	  ○ Sense of community negatively associated with residential density (also French et al. 2012)

"Walkability" or pedestrian-friendliness (land use mix, connectivity, infrastructure, low traffic hazards, aesthetics, low crime, destinations)[14]	• Some positive evidence of walkability and increased social capital and sense of community, but other have found mixed or little support • Perceptions of mixed use, safety and walkability may be more important that actual walking
Residential urban form (e.g. "Traditional neighborhood"/grid layout, "Typical suburban"/cul-de-sacs, some combination of mixed and cul-de-sac designs, ecological suburban designs)[15]	• Relationship varies by study area, population, and other variables • No consistent pattern for urban form • Possible evidence for increased sense of community and connection to ecological suburban designs over typical suburban form • Possible evidence for decreased social capital and connection to a combined grid and cul-de-sac design versus either grid layout or typical suburban forms

13. Negative relationship between density and social capital: Brueckner and Largey 2008; Hanibuchi, Nakaya, et al. 2012; French et al. 2014; Positive relationship between density and social capital: Hanibuchi et al. 2012 Mixed: Kawachi et al. 2013, 134; Nguyen 2010
14. Yes: Leyden 2003; Cohen et al. 2008; French et al. 2012; Lund 2002, 2003; Podobnik 2002; Renalds et al. 2010; Rogers et al. 2011; No: du Toit et al. 2007; Hanibuchi et al. 2012, 229; Wood et al. 2008, Wood et al. 2010;
15. Rogers and Sukolratanamettee 2009

Photo: Ann Forsyth

Photo by Ann Forsyth

There are no consistent patterns between degrees of density, or residential forms, and social capital indicators.

Implications

In these HAPI Research Briefs we aimed to find implications for planning and design at roughly the neighborhood level. These could include quantifiable standards, more qualitative but yet evidence-supported insights, and other good practices. Not every topic has a full complement of these implications.

Standards and Insights

The relationship between place, social capital, and health is a complex one.

Different kinds of places support different kinds of social capital; the effect of place may be weak or non-existent depending on the form of social capital. The relationship between social capital and the built environment seems to be largely dependent on cultural influences (Kawachi et al. 2013, 9). There is also a great deal of individual variation.

Additionally, self-selection is also an important factor, where people who value social interaction through walking to activities (for example) may choose a more "mixed use", traditional neighborhood to live in. The implication is to provide a variety of options for making social connections of the kind that will enhance health. The next section on "good things to do" explains some strategies.

Provide opportunities for civic and community involvement.

Example: Baum et al. (2011, 53) conducted a case study, in which they investigated what aspects of social planning may have contributed to higher socio-economic differences between four communities in South Australia. They found one of the aspects of social planning that contributed to the development of social capital and mental health was community development programs in local government to facilitate interaction between new and existing residents.

Example: Fried et al. 2004 investigated whether the Experience Corps, an American volunteer program for older adults in public elementary schools, lead to improvements in health and social capital. They found, "In this pilot trial, physical, cognitive, and social activity increased, suggesting the potential for the Experience Corps to improve health for an aging population and simultaneously improve educational outcomes for children" (Fried et al. 2004, 64).

Example: Likewise, Kawachi et al. (2013) discuss how the Japanese REPRINTS program, a school-based volunteer program for older adults, resulted in, "The participant's self-rated health and some aspects of social support and networking were significantly improved in senior volunteers" (Kawachi et al. 2013, 227).

Good Things to Do

There should be a variety of different types of environments created, so people can find housing and activities that fit their preferences. Table 4 provides some options that will create pleasant places that may also support social connections.

Photo by Ann Forsyth

Providing opportunities for civic and community involvement can increase social captial and improve mental health.

Table 4. Ways to provide opportunities for increased socialization and social capital.

Intervention	Examples
Increase walkability, pedestrian-friendliness[16]	• Attractive places to walk, for either recreational or transportation walking • Sidewalks, pedestrian amenities • Connections to community resources
Improve access to high-quality, affordable, and appealing community resources[17]	• Quality public spaces (e.g. parks, playgrounds, libraries, community centers, schools, religious institutions) and third places (e.g. cafes, bookstores, pubs, coffee shops, etc.) • Timely planning for human services facilities and infrastructure prior to the arrival of new residents • Co-location of services • Physical planning that takes explicit account of social impact of the environment
Increase public safety[18]	• Street lighting • Well-maintained streets and public spaces • Traffic safety interventions
Provide affordable housing options (home-ownership)[19]	• Higher levels of ownership housing have been correlated with higher levels of social capital

16. Baum and Palmer 2002, 351; Bjornstrom and Ralston 2014, 734; Cohen et al. 2008; French et al. 2012; Leyden 2003; Lund 2002; Lund 2003; Pudobnik 2002; Rogers and Sukolratanamettee 2009; Rogers et al. 2011
17. Baum and Palmer 2002, 351; Baum et al. 2011, 53; Cattell 2001, 1504; Oldenburg 1999; Rosenbaum 2006
18. Bjornstrom and Ralston 2014, 737; see also Safety synthesis
19. Belsky et al. 2014; Brisson and Usher 2005; Lund 2002; Cattell 2001, 1504; Wood et al. 2010

Photo by Ann Forsyth

Walkable, safe, and high-quality public spaces—with high access to appealing community resources can increase opportunities for socializaiton.

Source

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