## Additional file 2

## Online Appendix 2: Overview of literature of social neighborhood environmental characteristics in relation to mediators, health outcomes and healthcare utilization.

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| **Social neighborhood characteristics** | **Study outcome** | | | |
| **Mediators**[[1]](#footnote-1) | **Self-perceived health / mental health**[[2]](#footnote-2)**/ well-being** | **Diseases & mortality** | **Healthcare utilization** |
| **Social capital**  Articles about social capital encompass measures of social capital, social participation, social cohesion, (dis)organization of communities, informal social control, , attachment to the neighborhood, degree and nature of social connections between neighbors, social organization, and clubs; social norms, culture  church, ethnical background, reputation, neighborliness, collective efficacy. | A review concluded that there is limited evidence that greater social capital and collective efficacy are associated with healthier weight status [1]. Another review’s findings about elderly on  neighborhood social environment and PA were inconsistent [2]. In the Netherlands: neighborhood social capital is associated with more PA and less smoking. Not associated with nutrition and sleep habits or moderate alcohol intake [3]. Improvements in neighborhood social cohesion were positively associated with PA [4]. | A review concluded that greater social capital is protective against depression [5,6]. A review about elderly concluded that findings on neighborhood social environment and self-reported health and mental health are inconsistent [2]. Lower social capital is associated with worse self-perceived health [6]. | Neighborhood cohesion is associated with lower cardiovascular disease [6].  A review about elderly concluded that neighborhood social environment was associated with heart disease and mortality [2]. | More perceived social capital is associated with more preventive dental visits in the US [7]. More social cohesion is related to the use of more health services [8] and more cancer screening [9]. Others found no association between the social environment and healthcare use, like accident and emergency department attendance rates of children [10]. |
| **Crime and violence**  levels of safety and violence, neighborhood problems: drug use, drug dealing, shootings, murder, abandoned buildings, neighbors on welfare, homeless people and prostitution on the street; perception of violence, perceptions of neighborhood environment. | A review concluded that there is no evidence of an association between neighborhood problems and PA among elderly [2]. The perception of unsafe neighborhoods was associated with lower PA, especially for women, living in urban low-income housing [11]. Police-recorded crime on the neighborhood level was associated with stress for African-American and Latina women in a US diabetes population [12].  In the Netherlands improvements between 2006 and 2009 with respect to social and physical disorder were associated with increasing PA [4]. | A review concluded that disorder seems to affect depression via neighborhood perception [5]. Violence and hazardous conditions could be associated with increased depressive symptoms [6].  Neighborhood problems were associated with self-rated health of elderly in Britain [13]. | The poorest Canadian neighborhood with high crime rates showed higher risk for HIV infections among a cohort of drug users [14].  Public injecting might be associated with higher risk of HIV [15]. | UK: No significant association between wards with higher violent crime rates and children’s admission to the accident and emergency hospital department, [10]. Canada: Neighborhood problems were not associated with utilization for child injuries [16] but higher perceived neighborhood disorder was associated with higher rates of total health services usage (specialist / emergency room visits)  [17]. Paris: neighborhood safety was associated with lower overdue cervical cancer screening rates among women, but no association was found with neighborhood disorder [18].  USA: Elderly women living in areas with higher crime rates are less likely to use mammography [19]. Neighborhood problems are associated with higher community-based mental health service costs and increased hospital-based mental health service costs for adults with a chronic mental illness [20]. Neighborhood safety was not associated with the use of primary care use in NYC [21]. |
| **Socioeconomic status of the neighborhood**  Inequality, resources, wealth, deprivation, neighborhood disadvantage | A review concluded that neighborhoods with lower SES generally show more smoking, dietary fat consumption, alcohol consumption, and violence [22]. Neighborhood disadvantage is associated with drug use [23,24]. | A review reported that thirteen out of the twenty-five studies that examined the effect of neighborhood socioeconomic position on depressive symptoms supported the presence of an association after adjustment for  individual-level characteristics [5]. A review about elderly also found that low economic status of the neighborhood is associated with poor health [2]. | A review found that more deprived neighborhoods have an increased risk of mortality [22]. One study reports that deprived neighborhoods experience higher homicide rates [25]. Neighborhood deprivation independently influences injury risk of children [26]. Neighborhood deprivation might be associated with higher risk of HIV [15]. | In neighborhoods with lower socioeconomic status *more* [27,28,26] or *less* [29,30] healthcare is being used compared with areas with a higher socioeconomic status; and some studies report no association [17,31,32]. |
| **Stability of the neighborhood**  residential (in-)stability, mobility | In Philadelphia a stable neighborhood could weaken the unfavorable association between stress and health  [33]. | Four of the eight studies that examined the association between residential mobility and depression found evidence of an association [5]. A French study showed an association between residential stability and self-reported health [34]. | Neighborhood residential instability was weakly associated with ischemic heart disease as well as shorter survival time after myocardial infarction [35]. | Residential stability in Canadian neighborhoods increased health service use of patients with mental health disorders [29]. |
| **Ethnic composition**  Racial composition, racial heterogeneity, Residential racial segregation, ethnic enclaves, | A study on older Chinese and Hispanic immigrants to the U.S. showed an association between increase in BMI (during 9 years) and a decrease in  neighborhood co-ethnic concentration, mainly for the Chinese population [36]. | A review summarized that only four of the ten studies that examined racial/ethnic composition of neighborhoods found an association with depression [5]. The relationship between residential segregation and subjective rated health of Latinos living in Washington State depends on the level and change of segregation [37]. A review among elderly concluded that while ethnic enclaves for Latinos seems to be beneficial for health (depression and self-related health), this does not work for African American elderly [2]. | A review concluded that elderly Latino’s experience an ethnic enclave advantage regarding morbidity levels [2]. | Gaskin et al. [38] found that disparities in healthcare utilization are related to both individuals’ racial and ethnic identity and the racial and ethnic composition of their communities. |

## References Appendix 2

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1. Mediators were health-related behavior, stress-level, eating habits, participation, and willingness to use healthcare. [↑](#footnote-ref-1)
2. Mental health = Self-perceived and objective diagnoses of mental health problems. [↑](#footnote-ref-2)