LIVING ENVIRONMENT AND LIFE SATISFACTION: SOME INSIGHTS FROM ITALY

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Abstract. With this work, we add to the debate on the significance of the living environment on individual well-being for the Italian case, till now neglected by the literature. Using data from the ISTAT *Aspects of Daily Life* surveys from 2013 to 2021 and considering Italians aged 20 and over, we analyse the relationship between the perceived neighbourhood environment – conceptualized through various dimensions – and individuals' satisfaction with life, also exploring potential heterogeneity by age. Our findings confirm that living environment is an essential predictor for individual well-being, but also reveal that some aspects are important especially at old ages, particularly those about the friendliness, well-maintenance and the ease of access to services in the area.

1. Introduction

The well-functioning and well-being of local communities is a strategic target in government welfare policies, and traditionally research in this domain has focused on the analysis of socio-economic aspects of local areas, such as regional measures of deprivation or social exclusion, or labour market outcomes of residents (for a review see, e.g., Shields *et al.,* 2009). A growing strand of research has also been focusing on the neighbourhood environment as a crucial factor in determining health outcomes, both objectively and subjectively measured (Macintyre and Ellaway, 2003; Diez Roux and Mair, 2010; Weden *et al.*, 2002; Hale *et al.*, 2013). More sparsely, some authors have considered the potential effect of the living environment on measures of individuals' well-being and their quality of life (Shields *et al.*, 2009; Tomaszewski, 2013; Teixeira Vaz *et al.*, 2019).

Our study aligns with this latter line of research, by investigating the relationship between life satisfaction – as a measure of subjective well-being – and some characteristics of the neighbourhood area, as perceived by people who live in that area. The idea is that the perceived neighbourhood environment may be a more telling indicator than objective characteristics (Wen *et al.*, 2006). By making use of nine ISTAT cross-sectional waves of the survey *Aspects of daily life* (2013-2021) and estimating logistic regression models, we add the Italian case to the debate on the significance of living environment on individual well-being, till now neglected by the literature, building on the concept of living

environment from a subjective perspective. We first analyse the effect of the perceived neighbourhood environment on individuals' life satisfaction for the overall population aged 20 and over; second, we explore if and to what extent the diverse facets of the quality of the living area do matter differently by age.

2. The significance of the living environment for health and well-being: Exploring the interconnections

Among the numerous aspects recognised as necessary to enhance individual well-being, like economic comfort, good health, family life and social relationships (e.g., Frey and Stutzer, 2002), a rapidly growing literature refers to the *neighbourhood pathway*, or the importance of the environmental and social characteristics of where people live (Macintyre and Ellaway, 2003).

Much of this literature has considered the health effects of specific socio-economic neighbourhood characteristics – such as economic deprivation, residential mobility, local unemployment or crime rates – or of physical environmental attributes – like air quality, cleanliness and pollution. Individuals residing in deprived neighbourhood areas are particularly vulnerable to increased rates of illness and death (Ellaway *et al.*, 2012). Residing near heavily trafficked roads or in congested traffic areas poses a health hazard and can lead to higher occurrences of respiratory diseases (e.g., Vlahov *et al.*, 2007). Living in a dangerous (i.e. with high criminality rates), polluted and unclean neighbourhood has been found to increase anxiety, anger, and depression levels in residents (Ross and Mirowsky, 2009).

Also, the largely used measure of self-rated health has been found significantly affected by a large set of neighbourhood attributes (e.g., Weden *et al.*, 2008; Wen *et al.*, 2006). In addition, living in deteriorated or unfriendly areas – i.e. characterized by scarce accessibility of public transportation or fresh food markets and grocery, or by lack of green or safe spaces to exercise – may affect lifestyles behaviours (e.g., Heinrich *et al.*, 2007; Salehi *et al.*, 2017), finally deteriorating health outcomes.

In this strand of research, we also locate sparse evidence regarding more nuanced and subjective measures of well-being or life satisfaction. Psychological and personal well-being is directly affected by living in deteriorated neighbourhoods or areas with high crime rates (Tomaszewski, 2013; Taylor and Harrell, 1996): poor living conditions within the local community can considerably diminish one's sense of security, leading to lower life satisfaction. When individuals are surrounded by deteriorating buildings, social problems such as high unemployment and crime rates, and environmental hazards such as noise and pollution, they generally express lower satisfaction with their lives (Teixeira Vaz *et al.*, 2019; Shields *et al.*, 2009). Broadly speaking, environmental sustainability, which includes the availability of public shops,

health and community services and leisure opportunities in a safe neighbourhood (Lowe *et al.*, 2015), has been recognized as essential for fostering place attachment and identity (Hernández *et al.*, 2007), reducing security concerns or social isolation feelings (Lu and Wu, 2022), and definitely enhancing community well-being.

The abovementioned literature refers to both objective and subjective measures when describing the living environment. Nevertheless, some research argued that, although linked, objective neighbourhood context and neighbourhood perceptions are distinct constructs (Wen *et al.*, 2006). Especially, as it happens for subjective measures in general, the perceptions about the living area should not be treated as an indefinite and vague measure of the objective conditions, by entailing an additional meaning that could be relevant to individual well-being. Among the most investigated aspects which provide evidence of the viability of a neighbourhood from a subjective perspective and that have been proven to play a significant role in overall well-being or satisfaction with life, we highlight factors such as access to public transportation, cultural amenities, retail establishments and public offices. Furthermore, sidewalks and pedestrian crossings, access to green spaces, cleanliness and pollution are also significant determinants to consider (Weden *et al.*, 2008; Tomaszewski, 2013; Hale *et al.*, 2013).

To conclude this brief summary of the significance of the environmental quality for health and well-being, it is worthwhile to remember that the various facets of the living environment could be expected to act differently depending on individuals' characteristics, primarily age. For younger residents, for instance, access to cultural, shopping, and sports facilities, and a visually appealing city might represent more relevant factors than for adults or elderly people (Hogan *et al.*, 2016). On the other hand, other features of the immediate neighbourhood are likely to play a role in shaping the well-being of the elderly: health and satisfaction with life of older adults have been found to be strictly associated with the accessibility of key public services in the local area, health facilities, banks or food suppliers (Hogan *et al.*, 2016; Tomaszewski, 2013). In addition, older adults spend much more time in the surrounding neighbourhood, which becomes a source of security and safety (Oswald *et al.*, 2011; Tomaszewski, 2013).

3. Data, variables and method

To investigate the relationship between living environment and life satisfaction, we relied on the latest nine ISTAT waves of *Aspects of Daily Life*, from 2013 to 2021[1], a nationally cross-sectional representative survey which collects rich and detailed demographic, social and economic characteristics of individuals and their families,

[1] We considered the most recent editions of the survey because of consistency of the variables about the area where individuals live.

together with information about their habits and daily life conditions, especially from a subjective perspective. Our analytical sample refer to individuals aged 20 and over at survey time and included 276,304 individuals.

Our outcome variable was life satisfaction, a comprehensive measure of individual's overall well-being (Diener *et al.*, 2002), also found to be correlated with morbidity, depression, and overall health status throughout life (e.g., Collins *et al.*, 2009). In our data, life satisfaction was measured through the question "Currently, how much are you satisfied about your life overall?". The possible responses were ordinal in nature and ranged on a numerical scale from 0 to 10, where 0 corresponded to *not at all satisfied* and 10 to *very satisfied*. The response distribution was skewed towards higher levels of satisfaction, with a third of the sample rating it 6 or lower, and about one out of four 7 and 8 respectively. To disentangle highly satisfied and not satisfied respondents, we dichotomised the variable, opposing those who rated their life satisfaction from 8 to 10 – highly satisfied individuals, namely 41% of the sample, *vs* those who provided an assessment from 0 to 7 – that is people not (entirely) satisfied (59% of the sample[2]).

Our main focus in explaining life satisfaction was living environment, which we operationalised through various ad hoc indicators, built expressly considering individuals' evaluations of different aspects of their residential area. Based on previous literature (e.g., Ross and Mirowsky, 1999; Weden *et al.*, 2008), and also supported by an explorative factor analysis, we relied on two major domains representing the quality of the living environment from a subjective perspective: *liveability* and *accessibility*. For the first one, the liveability, we built three normalised[3] indicators highlighting three distinct and well-defined dimensions[4]: (1) *security*, including only one item about the perceived criminality risk in the surrounding area; (2) *friendliness* of the area, composed by four items about (i) parking difficulty, (ii) traffic, (iii) air pollution and (iv) noise of the surrounding area; (3) *maintenance*, formed by three items about the presence of (i) dirt and garbage, (ii) inadequate lighting in the streets, and (iii) bad condition of the pavement. For the second domain, accessibility of daily services, it resulted characterised by two main dimensions, for which we again built two normalised indicators[5]: (1) *services access*, which considered access to (i) postal office, (ii) municipality offices, (iii) police station, (iv) pharmacy, (v) emergency room; (2) *goods supply*, indicating accessibility of (i) markets and (ii) supermarkets.

[2] We re-run our models trying alternative formulations, such as continuous specification, or dichotomizing 0-6 vs 7-10. Results remained virtually unchanged.

[3] We relied on a modified version of the min-max procedure, where the minimum value is 1 and the maximum is 3.

[4] For each item, the respondents were asked to indicate to what extent "The area where the family live presents…", with responses possible on a 4-level scale, where 1 meant *a lot*, 2 *quite a lot*, 3 *a few* and 4 *not at all*. To interpret the indicators in positive terms – or liveability – the normalized indicators have been finally reversed.

[5] For each item, the respondents had to answer to the question "Generally, does joining the following services entail problems of difficulty for the family?", according to a 3-level scale where 1 corresponded to *a lot of difficulty*, 2 to *some difficulty*, and 3 to *no difficulty*.

The resulting five normalised indicators ranged from 1 to 3, where 1 means a *low* level of liveability/accessibility, 2 a *medium* level and 3 a *high* level (see Table 1).

Table 1 – *Sample distribution of the covariates used in model estimation, by life satisfaction. Column percentages.*

	highly satisf.	not satisf.	Total		highly satisf.	not satisf.	Total
Security				Living arrangement			
low	30.7	23.9	27.9	alone	13.3	17.0	15.5
medium	43.8	42.9	43.5	couple with child.	50.4	44.5	46.9
high	25.4	33.2	28.6	couple w/o child.	24.8	21.9	23.1
Friendliness				single parent	7.7	11.4	9.9
low	12.7	9.8	11.5	other family types	3.9	5.2	4.7
medium	50.2	44.6	47.9	Education			
high	37.1	45.6	40.6	high	58.8	50.8	54.1
Maintenance				medium	25.9	28.6	27.5
low	12.4	9.3	11.2	low	15.4	20.6	18.5
medium	60.5	54.6	58.1	Economic resources			
high	27.1	36.0	30.8	good	74.0	53.6	62.0
Services access				not good	26.0	46.4	38.0
low	6.2	3.7	5.2	Self-rated health			
medium	27.2	20.6	24.5	good	56.7	73.8	63.8
high	66.6	75.7	70.4	not good	43.3	26.2	36.2
Goods supply				Area of residence			
low	5.8	4.1	5.1	North-West	23.8	20.5	21.9
medium	27.3	23.1	25.6	North-East	25.0	18.1	20.9
high	66.8	72.8	69.3	Centre	18.0	18.9	18.6
Sex				South	24.3	32.3	29.0
men	49.2	47.0	47.9	Islands	8.8	10.2	9.6
women	50.8	53.0	52.1	City type			
Age class				metropolitan area	18.5	23.5	21.5
20-34	18.6	17.5	18.0	>10000 inhabitants	42.7	44.3	43.6
35-49	27.8	25.3	26.3	<10000 inhabitants	38.8	32.2	34.9
50-64	27.0	27.6	27.4				
65-74	14.7	14.4	14.6				
75+	12.0	15.1	13.8				

Source: Authors' elaborations on Aspects of Daily Life surveys, 2013-2021.

To control for potential heterogeneity in the relationship between life satisfaction and living environment, we considered in our analysis a large set of demographic and socio-economic confounders[6]: sex (male; female); age (divided into classes: 20-34; 35-49; 50-

[6] We also considered the migrant status, since the living arrangements (and the perception of it) can be very different between migrants and natives. The results were virtually unchanged, and because the migrant status has been

64; 65-74; ≥75); living arrangement (alone; in couple with children; in couple without children; single parent; other family types); education (low; medium; high); perception of the economic resources (not good; good); perception of health (not good; good). To account for territorial variation, also potentially linked to the liveability and accessibility indicators, we considered the area of residence (North-West, North-East, Centre, South, Islands) and the city type (metropolitan area, <10.000 inhabitants, ≥10.000 inhabitants). The survey year – from 2013 to 2021 – was also included in the model specification. Table 1 shows the sample distribution of the various dimensions of liveability and accessibility and the control covariates, differentiating between highly satisfied and not completely satisfied individuals.

To assess the association between the various dimensions of liveability and accessibility – namely security, friendliness, maintenance, services access and goods supply – and life satisfaction, controlling for the confounders listed above, we estimated a logistic regression model. In addition, to explore whether the different dimensions of the living environment differently affect individuals depending on their age, we estimated a further set of logistic regression models by adding an interaction between the age classes and the five indicators of liveability and accessibility (each interaction has been modelled separately to avoid over-specification). In the following section we present our results in terms of Average Marginal Effects (AME).

4. Results

4.1. Living environment and life satisfaction

Table 2 reports the results from the logistic regression model on the probability of being highly satisfied *vs* being not (entirely) satisfied, in terms of AMEs.

It is straightforward that, all other things being equal, living in a good and well-mannered environment and with easy access to services is positively correlated with life satisfaction. The most notable neighbourhood features linked to life satisfaction are *security*, *friendliness* of the area (in terms of absence of traffic, air and noise pollution in our specification), and *services accessibility*. The average marginal effect of perceiving high quality as for these aspects on the probability to be highly satisfied ranges from 3.6 to 3.8 percentage points (p.p. hereafter) relative to the medium level.

included in AVQ survey only since 2015, we decided to exclude this aspect from the analysis to preserve the sample size.

Table 2 – *Probability of being highly satisfied vs being not (entirely) satisfied, models' results: AME (in p.p.) for the covariates introduced in the model.*

	AME (p.p.)	Std. Err.	P>z
Security (ref. medium)			
low	-1.3	0.279	*0.000*
high	3.8	0.291	*0.000*
Friendliness (ref. medium)			
low	-0.3	0.376	*0.411*
high	3.7	0.265	*0.000*
Maintenance (ref. medium)			
low	0.5	0.384	*0.181*
high	2.8	0.269	*0.000*
Services access (ref. medium)			
low	-1.2	0.619	*0.056*
high	3.6	0.298	*0.000*
Goods supply (ref. medium)			
low	0.8	0.619	*0.179*
high	2.6	0.289	*0.000*
Sex (ref. men)			
women	-0.4	0.153	*0.011*
Age classes (ref. 20-34)			
35-49	0.7	0.292	*0.020*
50-64	-1.4	0.284	*0.000*
65-74	0.7	0.386	*0.070*
75+	-0.4	0.441	0.346
Living arrangement (ref. couple with children)			
alone	-6.5	0.302	*0.000*
couple w/o children	0.9	0.315	*0.005*
single parent	-9.6	0.371	*0.000*
other family types	-6.3	0.599	*0.000*
Education (ref. low)			
medium	1.1	0.334	*0.001*
high	4.1	0.340	*0.000*
Economic resources (ref. not good)			
good	16.3	0.236	*0.000*
Self-rated health (ref. not good)			
good	15.8	0.217	*0.000*
Area of residence (ref. North-West)			
North-east	1.3	0.340	*0.000*
Centre	-3.4	0.352	*0.000*
South	-8.4	0.322	*0.000*
Island	-4.1	0.436	*0.000*
City type (ref. metropolitan area)			
<10000 inhabitants	6.1	0.332	*0.000*
>10000 inhabitants	3.7	0.301	*0.000*
Survey year (cnt.)	1.0	0.043	*0.000*

Source: Authors' elaborations on Aspects of Daily Life surveys, 2013-2021.

As for security and services accessibility (in this latter case with a significance at 10% level), we find a positive gradient – that is living in low quality areas decreases life satisfaction – whereas for friendliness, low and medium levels are not statistically different.

Then, we find that a high level of market accessibility (i.e., *goods supply*) and *maintenance* are essential in enhancing life satisfaction, although with a somewhat lower, but still important, magnitude (AMEs equal to 2.6 and 2.8 p.p. respectively, relative to the medium level).

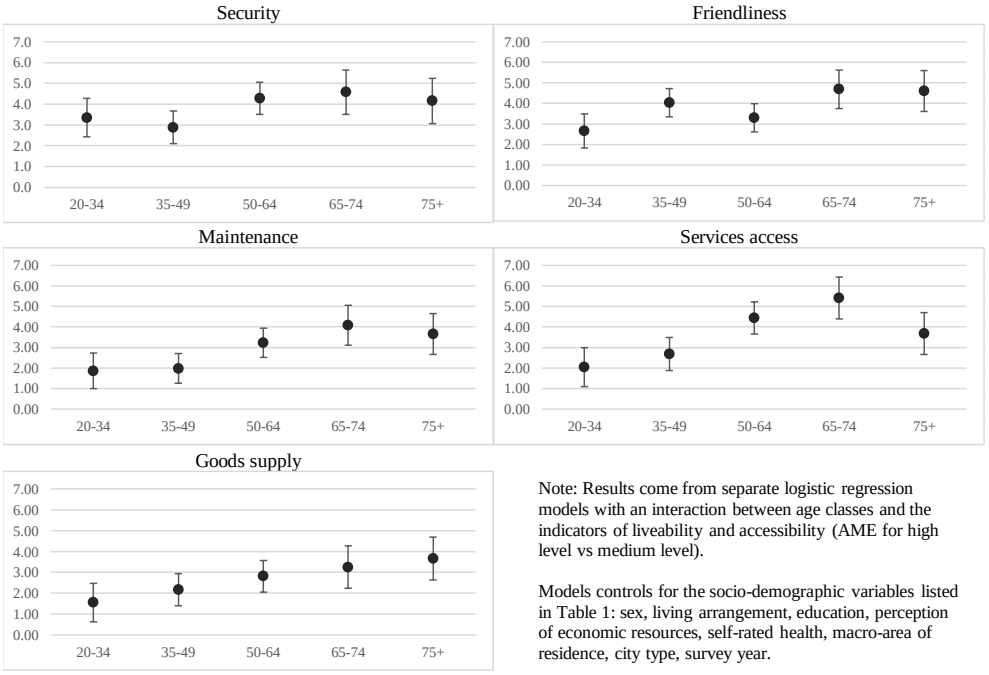
Estimates for the socio-demographic confounders confirm previous findings on other contexts: women are less satisfied than men, and satisfaction tends to decrease with age. Life satisfaction tends to be higher for people living in couples (both with or without children), while it decreases for those living alone, single parents or other family types, other things being equal. A positive association with life satisfaction is also found for educational levels and, with a high magnitude, economic resources (AME = 16.3 p.p.) and self-rated health (AME = 15.8 p.p.).

In addition to these measures of liveability and accessibility, the macro-area of residence and the city type also play an autonomous role. Specifically, Italians living in Southern regions are less likely to be satisfied (AME = -8.4 p.p.) than those in the North-West. A lower probability is also found for the central regions and the Islands. Somewhat expected, people living in metropolitan areas are generally less likely to be satisfied with their lives, followed by those residing in bigger centres residents (≥10,000 inhabitants, AME = 3.7 p.p.); instead, those residing in small municipalities have the highest level of satisfaction (<10,000 inhabitants, AME = 6.1 p.p.). Finally, it seems that life satisfaction perception positively increased in the last decade.

4.2 Age differentials in the relationship between living environment and life satisfaction

After having assessed the existence of a positive relationship between the various dimensions of the living environment and life satisfaction, our aim was to explore potential age differences in this relationship. According to the previous literature (e.g., Hogan *et al.*, 2016; Tomaszewski, 2013), the numerous facets of liveability and accessibility may differently concern and distress individuals depending on their age, due to their different characteristics, needs, and requirements. In Figure 1, for each liveability/accessibility indicator, we show the average marginal effects on the probability to be highly satisfied, by age class. Because we found that the low and medium categories of the indicators are not substantially different (except for security and, at 10% level for services access), we reported here only the estimated AME of the high level of the indicator versus the medium one.

Figure 1 – *Probability of being highly satisfied vs being not (entirely) satisfied, models' results: AME (in p.p. with confidence interval at 90% level) for the five indicators of liveability and accessibility (high level vs. medium level) by age class.*



Note: Results come from separate logistic regression models with an interaction between age classes and the indicators of liveability and accessibility (AME for high level vs medium level).

Models controls for the socio-demographic variables listed in Table 1: sex, living arrangement, education, perception of economic resources, self-rated health, macro-area of residence, city type, survey year.

Source: Authors' elaborations on Aspects of Daily Life surveys, 2013-2021.

When *security* is considered, we don't find significant age differentials, which means that secure areas represent key aspects for satisfaction with life at all ages. Otherwise, *friendliness* and *maintenance* of the area seem especially important for the well-being of elderly than for that of young adults (significant at 10% level). Whereas the probability of being satisfied with life increase of 4.6-4.7 p.p. for an old person living in a friendly area, for a young adult the effect is reduced (AME ranging from 2.6 to 4.0 p.p. depending on age). Similarly, for maintenance the marginal effects range from 1.9 p.p. for the youngest to 3.7-4.0 for the elderly.

As for the accessibility domain, a high level of *services access* is importantly related to individual life satisfaction especially for people aged 50-74 (AME from 4.4 to 5.4 p.p.) and to a lower extent also for people aged 75 and over (AME = 3.7 p.p.) relative to young adults (AME from 2.0 to 2.7 p.p.). Results for accessibility to *goods supply* show an increasing importance of this aspect for life satisfaction as far

as age increases, especially for the oldest group (AME=3.7, significantly different at 10% level relative to the youngest age group).

5. Conclusions

In this work, we provide fresh evidence, completely new for the Italian context, on the importance of *external effects* on life satisfaction (Shields *et al.*, 2002), focusing on the quality of the area where individuals live from a multifaceted subjective perspective. Liveability and accessibility of the living area have been proved noteworthy to enhance the well-being of the entire population. Confirming results for other contexts, living in a good and well-mannered environment, with ease of access to services, is positively correlated with life satisfaction at all ages. Additionally, age has emerged as an important characteristic in shaping the contribution of neighbourhood conditions. We found that aspects linked to the accessibility of the area, e.g., the ease to access public offices, pharmacies and health services or goods suppliers, as well as living in a friendly (i.e., unpolluted, quiet and not trafficked) and well-maintained (i.e., clean, with adequate street conditions and lighting) area are especially important for older people, who may experience mobility difficulties in this phase of life.

Overall, our findings highlight the importance of creating and maintaining supportive living environments that promote well-being for individuals and communities. By considering various facets and perspectives of environmental quality, the study may also be of interest to policymakers and urban planners: gaining insights into dimensions that hold meaning for residents and where their needs remain unaddressed might furnish community developers with valuable information.

We acknowledge that this study does not fully capture the complexity of living and neighbourhood environment. In addition, as we rely on perceptions, it is necessary to recognize that individual assessment can also be influenced by other individual or contextual attributes that we are not able to account for in the analysis. Nevertheless, the use of subjective measures both for the outcome and the key explanatory variables is an explicit choice, following the idea that individual perceptions are expected to predict more of the variance in well-being (e.g., Ettema and Shekkerman, 2016) and could be able to carry an additional significance on neighbourhood characteristics (e.g., Zhang *et al.*, 2022).

Bearing in mind these cautions, this work does suggest some directions for further research in this domain. For instance, we deem that a deeper investigation and understanding is needed as for other outcomes (e.g., self-rated health), other aspects of daily life and living areas (e.g., housing conditions or the social characteristics of the area), and specific population groups (e.g., elderly or more fragile individuals).

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References

COLLINS A.L., GLEI D.A., GOLDMAN N. 2009. The role of life satisfaction and depressive symptoms in all-cause mortality, *Psychology and aging*, Vol. 24, pp. 696.

DIENER, E., LUCAS, R. E., & OISHI, S. 2002. Subjective well-being: The science of happiness and life satisfaction, *Handbook of positive psychology*, Vol. 2, pp. 63-73.

DIEZ ROUX A.V., MAIR C. 2010. Neighborhoods and health, *Annals of the New York academy of sciences*, Vol. 1186, No.1, pp. 125-145.

ELLAWAY A, BENZEVAL M, GREEN M, LEYLAND A, MACINTYRE S. 2012. "Getting sicker quicker": does living in a more deprived neighbourhood mean your health deteriorates faster?, *Health Place*, Vol.18, No.2, pp.132-7.

ETTEMA D., SCHEKKERMAN M. 2016. How do spatial characteristics influence well-being and mental health? Comparing the effect of objective and subjective characteristics at different spatial scales. *Travel behaviour and society*, *5*, 56-67.

FREY B.S., STUTZER A. 2002. What can economists learn from happiness research?, *Journal of Economic literature*, Vol. 40, No.2, pp. 402-435.

HALE L., HILL T. D., FRIEDMAN E., NIETO F.J., GALVAO L.W., ET AL. 2013. Perceived neighborhood quality, sleep quality, and health status: evidence from the Survey of the Health of Wisconsin, *Social science & medicine*, Vol. 79, pp. 16-22.

HEINRICH K.M., LEE R.E., SUMINSKI R.R. ET AL. (2007) Associations between the built environment and physical activity in public housing residents, *International J. of Behavioral Nutrition and Physical Activity*, Vol. 4, No. 56.

HERNÁNDEZ B., CARMEN HIDALGO M., SALAZAR-LAPLACE M.E., HESS S. 2007. Place attachment and place identity in natives and non-natives, *Journal of Environmental Psychology*, Vol. 27, No.4, pp. 310-319.

HOGAN M.J., LEYDEN K.M., CONWAY R., GOLDBERG A. ET AL. 2016. Happiness and health across the lifespan in five major cities: The impact of place and government performance, *Social Science & Medicine*, Vol.162, pp. 168-176.

LOWE M., WHITZMAN C., BADLAND H., DAVERN M., AYE L., ET AL. 2015. Planning Healthy, Liveable and Sustainable Cities: How Can Indicators Inform Policy?, *Urban Policy and Research*, Vol. 33, No.2, pp. 131-144.

LU N., WU B. 2022. Perceived neighborhood environment, social capital and life satisfaction among older adults in Shanghai, China, *Scientific Reports*, Vol. 12 No.1.

MACINTYRE S., ELLAWAY A. 2003. Neighborhoods and health: an overview. In Ichiro Kawachi, and Lisa F. Berkman (Eds.) *Neighborhoods and health*, Oxford University Press, pp. 20-42.

OSWALD F., JOPP D., ROTT C., WAHL H.-W. 2011. Is aging in place a resource for or risk to life satisfaction?, *The Gerontologist*, Vol. 51, No.2, pp. 238-250.

ROSS C.E., MIROWSKY J. 2009. Neighborhood disorder, subjective alienation, and distress, *Journal of health and social behavior*, Vol. 50, No.1, pp. 49-64.

SALEHI, A., HARRIS, N., SEBAR, B., COYNE, E. 2017. The relationship between living environment, well-being and lifestyle behaviours in young women in Shiraz, Iran, *Health & social care in the community*, Vol. 25, pp. 275-284.

SHIELDS M.A., WHEATLEY PRICE S., WOODEN M. 2009. Life satisfaction and the economic and social characteristics of neighbourhoods, *Journal of Population Economics*, Vol. 22, No.2, pp. 421-443.

TAYLOR R., HARRELL A. 1996. *Physical environment and crime*. Washington: National Institute of Justice.

TEIXEIRA VAZ C., SOUZA ANDRADE A.C. DE, PROIETTI F.A., ET AL. 2019. A multilevel model of life satisfaction among old people: individual characteristics and neighborhood physical disorder, *BMC public health*, Vol. 19, No.1, pp. 861.

TOMASZEWSKI W. 2013. Living Environment, Social Participation and Wellbeing in Older Age: The Relevance of Housing and Local Area Disadvantage, *Journal of Population Ageing*, Vol. 6, No.1, pp. 119-156.

VLAHOV D., FREUDENBERG N., PROIETTI F., OMPAD D., QUINN A., ET AL. 2007. Urban as a determinant of health, *Journal of urban health: bulletin of the New York Academy of Medicine*, Vol. 84, No.3 Suppl, pp. i16–i26.

WEDEN M.M., CARPIANO R.M., ROBERT S.A. 2008. Subjective and objective neighborhood characteristics and adult health, *Social science & medicine*, Vol. 66, No.6, pp.1256-1270.

WEN M., HAWKLEY L.C., CACIOPPO J.T. 2006. Objective and perceived neighborhood environment, individual SES and psychosocial factors, and self-rated health: An analysis of older adults in Cook County, Illinois. *Social science & medicine*, Vol. 63, No.10, pp. 2575-2590.

ZHANG F., LOO, B. P., WANG, B. 2022. Aging in place: From the neighborhood environment, sense of community, to life satisfaction. *Annals of the American Association of Geographers*, *112*(5), 1484-1499.

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