




ORIGINAL ARTICLE

Gender differences in the perceptions of green spaces characteristics

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Abstract

Objective: Urban green spaces provide a wide range of health benefits for the population and, therefore, their use should be promoted. However, men and women perceive and value the characteristics of urban green spaces differently, as both have different sensitivities and expectations. The present study aims to identify gender differences in the perceptions of urban green spaces characteristics.

Methods: Gender differences in the perceptions of eleven urban green spaces characteristics were assessed, including lighting, safety, cleanliness, walking routes, bike lanes, shaded areas, recreational areas, off-leash dog areas, children's playgrounds, drinking fountains, and pleasant views.

Results: Our results showed that women attribute a higher value to all the characteristics of the urban green spaces analyzed, being the most appreciated the presence of off-leash dog areas, lighting, children's playgrounds, pleasant views, drinking fountains, safety and recreational areas. In addition, older and more educated people, unemployed women, and single men consider green spaces to be highly important.

Conclusion: The results of this study provide evidence for the adequate planning, design and development of urban green spaces that meet the needs of all users.

KEYWORDS

urban green space, natural environment, perceptions, gender differences

Urban green spaces provide both physical and psychological benefits (Lo and Jim, 2012) that contribute to improving citizens' well-being (Adinolfi, Suárez-Cáceres, and Cariñanos, 2014; Scopelliti et al., 2016). Recreational green spaces enable interactions between humans and the natural environment, being one of the key facilities in modern cities due to the benefits provided, such as stress relief and aesthetic appreciation (Tyrväinen, Mäkinen, and Schipperijn, 2007).

However, not all urban green spaces have the same characteristics, nor are their health and wellbeing benefits perceived in the same way by the population (Ode Sang et al., 2016), affecting their frequency of

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use (Taylor et al., 2011). It is therefore important to evaluate the population's perceptions of the characteristics of these spaces, since it may help to identify facilitators and barriers related to use of green spaces (Caula, Hvenegaard, and Marty, 2009; Putnam, 1995).

Regarding gender-related perceptions, women and men present different sensitivities and expectations related to urban green spaces (Kong et al., 2007). For instance, women are more sensitive to the availability of children's facilities, such as playgrounds (Conedera et al., 2015; Ho et al., 2005) and prefer urban green spaces integrated into the neighborhood and that serve as a meeting spot for socializing (Molinari, Ahern, and Hendryx, 1998). This may be due to the fact that women tend to spend more time in the neighborhood since they are primarily responsible for household chores (Stafford et al., 2005), including child care (Dietz, Kalof, and Stern, 2002), or caring for other relatives (Jiménez Ruíz and Moya Nicolás, 2018). As a result, women are more likely to work part-time (Kavanagh et al., 2006) and tend to have more time available to spend in green spaces near their homes (Jim and Shan, 2013).

The lighting or maintenance of green spaces is one of the main factors to consider when assessing their safety (Jorgensen, Hitchmough, and Dunnett, 2007; Lindgren and Nilsen, 2011). Perceived lack of safety and/or the threat of sexual assault may deter women from visiting green spaces (Madge, 1997; Richardson and Mitchell, 2010; Virden and Walker, 2010), as they tend to feel more uncomfortable in abandoned, rundown or poorly-lit areas (Kong et al., 2007), as well as in remote natural areas (O'Brien, 2005).

Most studies have assessed gender differences in terms of the perceptions of one or two characteristics of green spaces, such as safety (Cohen et al., 2007; Jim and Shan, 2013; Madge, 1997; Mowen, Payne, and Scott, 2005; Richardson and Mitchell, 2010; Conedera et al., 2015), pleasant views (Conedera et al., 2015; Ode Sang et al., 2016) or the availability of children's playground (Virden and Walker, 2010). Ho et al. (2005) assessed gender differences in the perceptions of safety, availability of recreational area, shaded areas, or drinking fountains. In line with this, Krajter et al. (2017) analyzed gender differences in perceptions of safety, lighting, bike lanes, and cleanliness.

The most important achievement of the present research is the assessment of eleven green spaces characteristics (safety, lighting, bike lanes, cleanliness, pleasant views, walking routes, shaded areas, recreational areas, off-leash dog areas, children's playgrounds, drinking fountains) from a gender perspective, being this field scarcely researched.

The present study aims to assess gender differences in perceptions of urban green space characteristics. The ultimate goal of this research is to provide evidence on key characteristics that should be taken into account when planning and designing new urban green spaces, along with the management of existing ones, in order to meet the needs of their users to increase their visit frequency.

METHODS

Study area

Carmona is a medium-sized historical Roman city (Lievais, 2014) located 28 km from the city of Seville, Spain (Carmona Town Council, 2017) and 233 meters above sea level. The municipality has a surface area of 924.6 km² (Institute of Statistics and Cartography of Andalusia, 2018), and a population of 28,620 inhabitants, 14,379 of whom are men and 14,241 women (National Statistics Institute, 2018). It is surrounded by natural views and landscapes with hills, rugged terrain, irrigated crops, and Mediterranean woodland (Carmona City Council, 2017; Office of the Environment and Territorial Planning, 2015). The present study evaluates the perceptions of citizens in relation to 17 existing urban green spaces within the city boundaries, ranging in size from 491 m² to 33,995 m² (Figure 1). The urban green spaces considered in our study include land covered with grass, trees, shrubs, or other vegetation (L. Taylor and Hochuli, 2017). All these urban green spaces are public, equipped with street furniture (i.e. benches, streetlights, and bins) and just six are fenced.

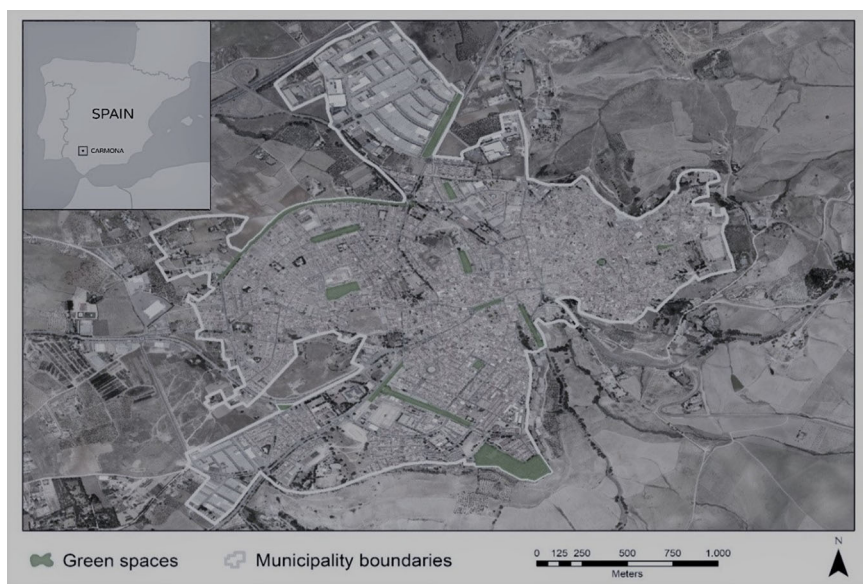


FIGURE 1 Distribution of green spaces in the municipality of Carmona (Spain)

Survey

The present study was conducted in collaboration with the City of Carmona. The aim was to promote the development of local plans and ascertain the preferences of citizens regarding the design, development, and management of urban green spaces.

Information on the population's perceptions of urban green spaces was taken from the “Green Spaces, Commuting, Daily Habits and Urban Health” survey conducted in 2018 (Braçe et al., 2020; Garrido-Cumbrera et al., 2020). For optimal and accurate data collection, the survey was performed face-to-face in respondents' homes (door-to-door), over two time periods in 2018: spring (February to May) and autumn (September to November). This population survey was carefully planned so that it would be representative and comprehensive. We took as reference a previous study conducted in the province of Seville (Spain), which was conducted with a representative sample comprised of similar socioeconomic and environmental conditions to the present study (Gálvez Ruiz et al., 2018; Garrido-Cumbrera et al., 2018). A two-stage survey was carried out: (1) the first stage considering the division of the city of Carmona into 13 homogeneous areas zoned according to a number of urban features (including building height, year of construction, type of architecture, and population density); (2) The second stage involved a sample of 479 respondents aged 16–64 years residing in the main family household at the time of the survey. The representative sample was designed for stratification by reference age, gender, and geographic area using data taken from the Carmona census, updated in 2017, at a 95 percent level of confidence. A flow chart was prepared to illustrate the sample selection process and the variables evaluated (Figure 2).

Perceptions of eleven urban green spaces characteristics were assessed, including lighting, safety, cleanliness, walking routes, bike lanes, shaded areas, recreational areas, off-leash dog areas, children's playgrounds, drinking fountains, and pleasant views. The question asked respondents to “rate the priority of the following characteristics of green spaces (parks and gardens)”, with possible answers for each of the mentioned characteristics being “not important/important/very important”. Furthermore, amount of green spaces was assessed using the question “In general, how would you rate the amount of green spaces (parks and gardens) in the city of Carmona?” with the possible answers being “Sufficient/Normal/Insufficient”.

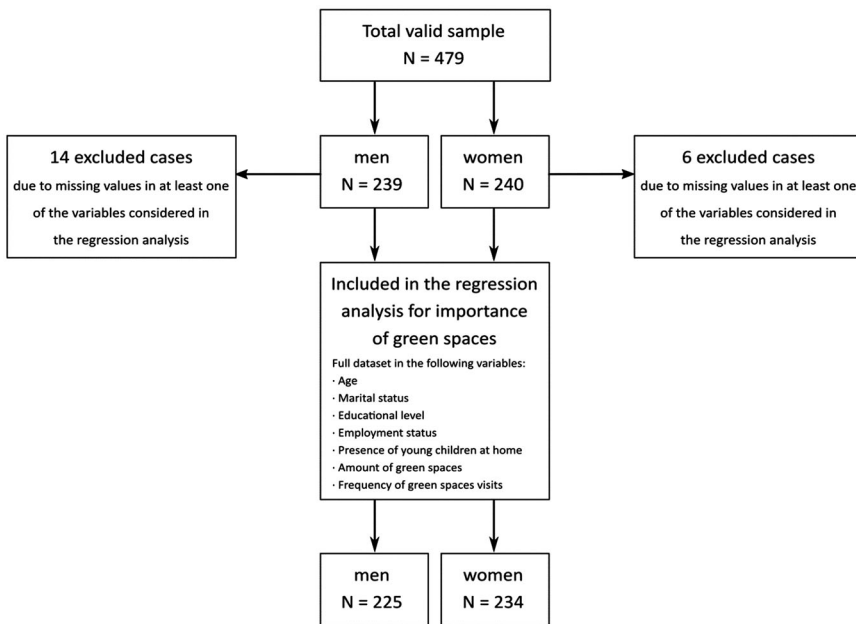


FIGURE 2 Sample selection flowchart

Statistical analysis

A Chi-squared test was used to analyze categorical variables and compare gender distributions for sociodemographic variables and perceptions of the eleven green spaces characteristics, including lighting, safety, cleanliness, walking routes, bike lanes, shaded areas, recreational areas, off-leash dog areas, children's playgrounds, drinking fountains, and pleasant views (reference category: very important). To analyze quantitative variables, in this case, age, the Mann-Whitney test was used to compare means and standard deviations by gender. Binary logistic regression has been used to explain the relationship between the perceptions of the characteristics (not important and important = 0 and very important = 1) of green spaces and gender (men = 0; women = 1). The perceptions of the characteristics was dichotomised as "not important and important = 0" and "very important = 1" due to the low representation of the category "not important".

Linear regressions analysis was conducted stratifying by gender in order to explain the relationship between perceptions of green spaces. The dependent variable was overall importance of the existence of green spaces (ordinal scale: not important, little important, important, and very important). The independent variables were age (numerical scale), gender (reference category: women), marital status (reference category: married or in a relationship), educational level (ordinal scale), employment status (reference category: unemployment), having a young child at home (reference category: yes), amount of green spaces (reference category: unsatisfactory), and frequency of visits (never = 0; rarely = 1; 1 or 2 times per week = 2; 3 to 5 times per week = 5; daily = 7).

These tests provide information about the existence of any statistically significant differences in the variables with a p -value < 0.05.

RESULTS

With respect to sociodemographic characteristics, mean age (43.5 years for men and 42.6 years for women) and marital status (59.0 percent married men; 57.5 percent married women) were similar for men and women. Only 13.4 percent of men and 15.4 percent of women had a university education, while

TABLE 1 Bivariate analysis of sociodemographic characteristics by gender ($N = 479$, unless specified)

Sociodemographic characteristics	Mean \pm SD/ n (%)			P-value
	Men	Women	Total	
Age				
Average age	43.5 \pm 13.8	42.6 \pm 13.5	43.0 \pm 13.6	0.428
Marital status				
Single	86 (36.0)	71 (29.6)	157 (32.8)	0.026
Married	141 (59.0)	138 (57.5)	279 (58.2)	
Divorced/separated	7 (2.9)	14 (5.8)	21 (4.4)	
In a relationship	5 (2.1)	14 (5.8)	19 (4.0)	
Widowed	0 (0.0)	3 (1.3)	3 (0.6)	
Educational level				
Uneducated	35 (14.6)	25 (10.4)	60 (12.5)	0.514
Primary school	107 (44.8)	107 (44.6)	214 (44.7)	
High school	65 (27.2)	71 (29.6)	136 (28.4)	
University	32 (13.4)	37 (15.4)	69 (14.4)	
Young children at home				
Yes	88 (36.8)	99 (41.3)	187 (39.0)	0.320
No	151 (63.2)	141 (58.8)	292 (61.0)	
Job status ($N = 477$)				
Employed	128 (53.6)	68 (28.6)	196 (41.4)	<0.001
Unemployed	44 (18.4)	99 (41.6)	143 (30.0)	
Student	28 (11.7)	33 (13.9)	61 (12.8)	
Retired	27 (11.3)	10 (4.2)	37 (7.8)	
Sick leave	12 (5.0)	5 (2.1)	17 (3.6)	
Homemaker	0 (0.0)	23 (9.7)	23 (4.8)	

44.8 percent of men and 44.6 percent of women had completed primary education. 41.3 percent of women had young children, while for men this figure decreases to 36.8 percent. With respect to unemployment, there is a significant difference between men (18.4 percent) and women (41.6 percent) (Table 1).

Compared to men, women attributed greater importance to the eleven characteristics of the urban green spaces analyzed, considering the most important the presence of off-leash dog areas (49.8 percent vs. 29.3 percent, $p < 0.001$), lighting (82.1 percent vs. 68.8 percent, $p = 0.010$), children's playgrounds (74.2 percent vs. 61.1 percent, $p = 0.009$), pleasant views (64.6 percent vs. 50.6 percent, $p = 0.008$), drinking fountains (75.0 percent vs. 63.6 percent, $p = 0.016$), safety (69.6 percent vs. 58.6 percent, $p = 0.010$), and recreational areas (43.3 percent vs. 32.3 percent, $p = 0.047$). In contrast, we found no statistically significant differences ($p > 0.05$) between men and women with respect to cleanliness, walking routes, bike lanes and shaded areas, although a higher percentage of women rated these as very important. Binary logistic regression confirmed that the most important characteristics associated for women were the availability of off-leash dog areas (OR = 2.394, $p < 0.001$), lighting (OR = 2.096, $p = 0.001$), children's playgrounds (OR = 1.829, $p = 0.002$), and pleasant views (OR = 1.779, $p = 0.002$) (Table 2).

Those who attributed greater importance to green spaces were older ($B = 0.045$ and $B = 0.038$ for men and women, $p < 0.001$), with higher educational level ($B = 0.561$ and $B = 0.548$ for men and women, $p < 0.001$), and visited the green spaces more frequently ($B = 0.072$ and $B = 0.061$ for men and women,

TABLE 2 Bivariate analysis and binary logistic regressions between the high importance of the existence of green space characteristics (dependent variables) according to gender (independent variable) ($N = 479$, unless specified)

Green spaces characteristics	Bivariate analyses			Binary logistic regression
	Men	Women	<i>P</i> -value	Ref: Women (vs. men) OR (<i>p</i> -value)
Ref: Very important	n (%)			
Lighting	164 (68.8)	197 (82.1)	0.001	2.096 (0.001)
Safety	140 (58.6)	167 (69.6)	0.010	1.618 (0.012)
Cleanliness	179 (74.9)	200 (83.3)	0.055	Not applicable
Walking routes	114 (47.7)	129 (53.8)	0.228	Not applicable
Bike lanes	81 (33.9)	105 (43.8)	0.052	Not applicable
Shaded areas; $N:469$	152 (65.2)	169 (71.6)	0.332	Not applicable
Recreational areas [*] ; $N = 475$	76 (32.3)	104 (43.3)	0.047	1.599 (0.014)
Off-leash dog areas; $N = 478$	70 (29.3)	119 (49.8)	<0.001	2.394 (<0.001)
Children's playgrounds	146 (61.1)	178 (74.2)	0.009	1.829 (0.002)
Drinking fountains	152 (63.6)	180 (75.0)	0.016	1.717 (0.007)
Pleasant views	121 (50.6)	155 (64.6)	0.008	1.779 (0.002)

*Including barbecues, picnic areas, bars and/or kiosks.

TABLE 3 Multiple linear regression to assess the importance of the existence of green spaces according to sociodemographic characteristics, the valuation of the amount of green spaces, and the frequency of visits by gender

Model*	Men ($N = 225$)		Women ($N = 234$)	
	<i>B</i>	<i>P</i> -value	<i>B</i>	<i>P</i> -value
Age	0.045	<0.001	0.038	<0.001
Marital Status. Married or in a relationship	-0.404	0.012	0.071	0.557
Educational level. From unschooled to university	0.561	<0.001	0.548	<0.001
Employment Status. Unemployed	0.257	0.066	0.282	0.004
Young children at home. Yes	0.125	0.344	0.126	0.220
Amount of green spaces. Unsatisfactory	0.118	0.295	0.345	<0.001
Frequency of visits to green spaces (0–7)	0.072	0.001	0.061	0.001

*Dependent variable: Considering the importance of the existence of green spaces (not important, little important, important and very important).

$p = 0.001$). By gender, women who attributed greater importance to green spaces were unemployed ($B = 0.282$, $p = 0.004$) and those who considered the amount of green spaces unsatisfactory ($B = 0.345$, $p < 0.001$). Compared to married men, single men attributed greater importance to green spaces ($B = -0.404$, $p = 0.012$) (Table 3).

DISCUSSION

The present study has proven the existence of significant gender differences on the perceptions of urban green spaces characteristics. According to our results women attributed greater importance to the eleven characteristics of the urban green spaces analyzed, being the most important the presence of off-leash dog areas, lighting, children's playgrounds, pleasant views, drinking fountains, safety and recreational areas.

These gender differences may be due to the fact that women continue to be responsible for most household chores, childcare and caregiving. Indeed, in our study, a significant percentage declared being unemployed (41.6 percent) or housewives (9.7 percent), which enables them to spend more time in their neighborhood.

To the best of the authors' knowledge, none of the previous studies assessed gender differences in the perceptions of eleven characteristics of urban green spaces (i.e. safety, lighting, bike lanes, cleanliness, pleasant views, walking routes, shaded areas, recreational areas, off-leash dog areas, children's playgrounds, and drinking fountains). In addition, factors such as unemployment and the lack of green spaces were associated with the greater importance of green spaces for women.

The results of our study are in line with previous studies in which women assigned a greater priority to green space characteristics such as lighting, which provides greater safety (Conedera et al., 2015; Kong et al., 2007), and pleasant views that improve the aesthetic quality (Ode Sang et al., 2016). Perceptions of safety in green spaces (related to lighting, security, or pleasant views) could influence their use by women (Madge, 1997; Richardson and Mitchell, 2010). In fact, women tend to feel less safe than men in spaces that are neglected or poorly maintained due to the fear of possible sexual assault (Madge, 1997). Improved lighting, ongoing maintenance, and increased levels of safety could prevent gender-based violence and improve women's feelings of safety when visiting urban green spaces (Kong et al., 2007; Jim and Shan, 2013).

Women tend to appreciate children's playgrounds more (Tyrväinen, Mäkinen, and Schipperijn, 2007) due to their childcare role (Dietz, Kalof, and Stern, 2002). Similarly, the greater value given to off-leash dog areas by women can also be explained by the care functions that they usually undertake (Dietz, Kalof, and Stern, 2002). It could also be due to the fact that women prefer to visit green spaces accompanied by their dogs (O'Brien, 2005). Therefore, in order to increase the number of visits, it is important that urban green spaces are better adapted to the needs of women (Caula, Hvenegaard, and Marty, 2009; Richardson and Mitchell, 2010).

From a methodological point of view, the results of this study should be interpreted carefully due to the cross-sectional design, even though the representativeness of the sample by gender, age and geographic area, together with the reliability of the information collected through face-to-face interviews, provide results of significant scientific value.

CONCLUSIONS

The present study shows that women attribute a higher value to the eleven characteristics of the urban green spaces analyzed, being the most appreciated the presence of off-leash dog areas, lighting, children's playgrounds, pleasant views, drinking fountains, safety and recreational areas. In addition, older and more educated people, unemployed women, and single men are those who attribute the greatest importance to green spaces. The results of this study provide evidence for the efficient planning, design and development of urban green spaces to meet the needs of their users.

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REFERENCES

- Adinolfi, C., G. P. Suárez-Cáceres, and P. Cariñanos. 2014. "Relation Between Visitors' Behaviour and Characteristics of Green Spaces in the city of Granada, South-Eastern Spain." *Urban Forestry and Urban Greening* 13(3):534–42. <https://doi.org/10.1016/j.ufug.2014.03.007>
- Braçe, O., M. Garrido-Cumbrera, R. Foley, J. Correa-Fernández, G. Suárez-Cáceres, and R. Laforzezza. 2020. "Is a View of Green Spaces From Home Associated with a Lower Risk of Anxiety and Depression?" *International Journal of Environmental Research and Public Health* 17(19):1–9. <https://doi.org/10.3390/ijerph17197014>
- Carmona City Council. 2017. "Estrategia de Desarrollo Urbano Sostenible Integrado (EDUSI) Carmona: Impulsa Carmona 2020." Carmona.
- Caula, S., G. T. Hvenegaard, and P. Marty. 2009. "The Influence of Bird Information, Attitudes, and Demographics on Public Preferences Toward Urban Green Spaces: The Case of Montpellier, France." *Urban Forestry & Urban Greening* 8:117–28. <https://doi.org/10.1016/j.ufug.2008.12.004>
- Cohen, D. A., T. L. McKenzie, A. Sehgal, S. Williamson, D. Golinelli, and N. Lurie. 2007. "Contribution of Public Parks to Physical Activity." *American Journal of Public Health* 97(3):509–14. <https://doi.org/10.2105/AJPH.2005.072447>
- Conedera, M., A. Del Biaggio, K. Seeland, M. Moretti, and R. Home. 2015. "Residents' Preferences and Use of Urban and Peri-Urban Green Spaces in a Swiss Mountainous Region of the Southern Alps." *Urban Forestry & Urban Greening* 14(1):139–47. <https://doi.org/10.1016/J.UFUG.2015.01.003>
- Dietz, T., L. Kalof, and P. C. Stern. 2002. "Gender, Values, and Environmentalism." *Social Science Quarterly* 83(1):353–64. <https://doi.org/10.1111/1540-6237.00088>
- Gálvez Ruiz, D., P. Diaz Cuevas, O. Braçe, and M. Garrido-Cumbrera. 2018. "Developing an Index to Measure Sub-municipal Level Urban Sprawl." *Social Indicators Research* 140(3):929–52. <https://doi.org/10.1007/s11205-017-1801-3>
- Garrido-Cumbrera, M., O. Braçe, G. Suárez-Cáceres, and J. Correa-Fernández. 2020. "Does Having Children or a Dog Influence Visits to Urban Green Spaces?" *Landscape Research* 45(8):1018–1031. <https://doi.org/10.1080/01426397.2020.1808966>
- Garrido-Cumbrera, M., D. Gálvez Ruiz, O. Braçe, and E. López Lara. 2018. "Exploring the Association Between Urban Sprawl and Mental Health." *Journal of Transport & Health*. 10:381–90. <https://doi.org/10.1016/j.jth.2018.06.006>
- Ho, C.-H., V. Sasidharan, W. Elmendorf, F. K. Willits, A. Graefe, and G. Godbey. 2005. "Gender and Ethnic Variations in Urban Park Preferences, Visitation, and Perceived Benefits." *Journal of Leisure Research* 37(3):281–306. <https://doi.org/10.1080/00222216.2005.11950054>
- Institute of Statistics and Cartography of Andalusia. (2018). Multiterritorial Information System of Andalusia (SIMA). Department of Economic Transformation, Industry, Knowledge and Universities of Andalusia. Available at: <http://www.juntadeandalucia.es/institutodeestadisticaycartografia/sima/index2-en.htm>
- Jim, C., and X. Shan. "2013. "Socioeconomic Effect on Perception of Urban Green Spaces in Guangzhou, China" *Cities* 31:123–31. <https://doi.org/10.1016/J.CITIES.2012.06.017>
- Jiménez Ruiz, I., and Moya Nicolás M. 2018. "The Family Caregiver: The Naturalized Sense of Obligation in Women to be Caregivers." *Enfermería Global* 49:434–47. <https://doi.org/10.6018/eglobal.17.1.292331>
- Jorgensen, A., J. Hitchmough, and N. Dunnett. 2007. "Woodland as a Setting for Housing-Appreciation and Fear and the Contribution to Residential Satisfaction and Place Identity in Warrington New Town, UK." *Landscape and Urban Planning* 79(3–4):273–87. <https://doi.org/10.1016/J.LANDURBPLAN.2006.02.015>
- Kavanagh, A. M., R. Bentley, G. Turrell, D. H. Broom, and S. V. Subramanian. 2006. "Does Gender Modify Associations Between Self Rated Health and the Social and Economic Characteristics of Local Environments?" *Journal of Epidemiology & Community Health* 60(6):490–5. <https://doi.org/10.1136/JECH.2005.043562>
- Kong, L. L., B. Yuen, C. Briffett, and N. S. Sodhi. 2007. "Nature and Nurture, Danger and Delight: Urban Women's Experiences of the Natural World." *Landscape Research* 22(3):245–66. <https://doi.org/10.1080/01426399708706514>
- Krajter, K., C. C. Konijnendijk, D. Vuletić, M. Stevanov, I. Živojinović, S. Mutabdžija-Bećirović, J. Lazarević et al., 2017. "Citizens' Perception of and Satisfaction with Urban Forests and Green Space: Results from Selected Southeast European Cities." *Urban Forestry & Urban Greening* 23:93–103. <https://doi.org/10.1016/J.UFUG.2017.02.005>
- Lievois, E. 2014. "Town: Small and Medium Sized Towns in their Functional Territorial Context." Case study report. Luxembourg: Flanders.
- Lindgren, T., and M. R. Nilsen. 2011. "Safety in Residential Areas." *Tijdschrift Voor Economische En Sociale Geografie* 103(2):196–208. <https://doi.org/10.1111/j.1467-9663.2011.00679.x>
- Lo, A. Y. H., and C. Y. Jim. 2012. "Citizen Attitude and Expectation Towards Greenspace Provision in Compact Urban Milieu." *Land Use Policy* 29(3):577–86. <https://doi.org/10.1016/J.LANDUSEPOL.2011.09.011>
- Madge, C. 1997. "Public Parks and the Geography of Fear." *Tijdschrift Voor Economische En Sociale Geografie* 88(3):237–50. <https://doi.org/10.1111/j.1467-9663.1997.tb01601.x>
- Molinari, C., M. Ahern, and M. Hendryx. 1998. "The Relationship of Community Quality to the Health of Women and Men." *Social Science & Medicine* 47(8):1113–20. [https://doi.org/10.1016/S0277-9536\(98\)00114-2](https://doi.org/10.1016/S0277-9536(98)00114-2)
- Mowen, A. J., L. L. Payne, and D. Scott. 2005. "Change and Stability in Park Visitation Constraints Revisited." *Leisure Sciences* 27(2):191–204. <https://doi.org/10.1080/01490400590912088>
- National Statistics Institute. 2018. "Sevilla: Población por municipios y sexo. (2895). Instituto Nacional de Estadística, INE." <https://www.ine.es/jaxiT3/Datos.htm?t=2895>

- O'Brien, E. A. 2005. "Publics and Woodlands in England: Well-Being, Local Identity, Social Learning, Conflict and Management." *Forestry: An International Journal of Forest Research* 78(4):321–36. <https://doi.org/10.1093/forestry/cpi042>
- Ode Sang, Å., I. Knez, B. Gunnarsson, and M. Hedblom. 2016. "The Effects of Naturalness, Gender, and age on how Urban Green Space is Perceived and Used." *Urban Forestry and Urban Greening* 18:268–76. <https://doi.org/10.1016/j.ufug.2016.06.008>
- Office of the Environment and Territorial Planning. 2015. "Los Alcores y Vega de Carmona." In *Catálogos de Paisajes de Andalucía*, 164–72.
- Putnam, R. D. 1995. "Tuning in, Tuning Out: The Strange Disappearance of Social Capital in America." *Political Science and Politics* 28(4):664–83. <https://doi.org/10.2307/420517>
- Richardson, E. A., and R. Mitchell. 2010. "Gender Differences in Relationships Between Urban Green Space and Health in the United Kingdom." *Social Science and Medicine* 71(3):568–75. <https://doi.org/10.1016/j.socscimed.2010.04.015>
- Scopelliti, M., G. Carrus, C. Adinolfi, G. Suarez, G. Colangelo, R. Laforteza, A. Panno, and G. Sanesi. 2016. "Staying in Touch with Nature and Well-Being in Different Income Groups: The Experience of Urban Parks in Bogotá." *Landscape and Urban Planning* 148:139–48. <https://doi.org/10.1016/j.landurbplan.2015.11.002>
- Stafford, M., S. Cummins, S. Macintyre, A. Ellaway, and M. Marmot. 2005. "Gender Differences in the Associations Between Health and Neighbourhood Environment." *Social Science and Medicine* 60:1681–92. <https://doi.org/10.1016/j.socscimed.2004.08.028>
- Taylor, B. T., P. Fernando, A. E. Bauman, A. Williamson, J. C. Craig, and S. Redman. 2011. "Measuring the Quality of Public Open Space Using Google Earth." *American Journal of Preventive Medicine* 40(2):105–12. <https://doi.org/10.1016/j.amepre.2010.10.024>
- Taylor, L., and D. F. Hochuli. 2017. "Defining Greenspace: Multiple uses Across Multiple Disciplines." *Landscape and Urban Planning* 158:25–38. <https://doi.org/10.1016/j.landurbplan.2016.09.024>
- Tyrväinen, L., K. Mäkinen, and J. Schipperijn. 2007. "Tools for mapping social values of urban woodlands and other green areas." *Landscape and Urban Planning* 79(1):5–19. <https://doi.org/10.1016/j.LANDURBPLAN.2006.03.003>
- Viriden, R. J., and G. J. Walker. 2010. "Leisure Sciences Ethnic/Racial and Gender Variations Among Meanings Given to, and Preferences for, the Natural Environment." 21(3):219–239. <https://doi.org/10.1080/014904099273110>

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