

GREEN PUBLIC SPACES: CITIZEN'S PREFERENCES AND INTEREST FOR PLANTING APPLICATIONS IN URBAN RESIDENCES

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INTRODUCTION

The research aims for the evaluation of planting interventions in existing buildings, on the roof, on an external wall or in the uncovered area of the building block. These three options are a possible solution to the deteriorating quality of the environment, since, according to research, they have positive effects in reducing air temperature, rainwater retention and reducing air pollution.

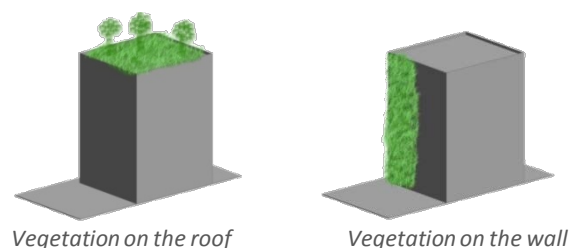
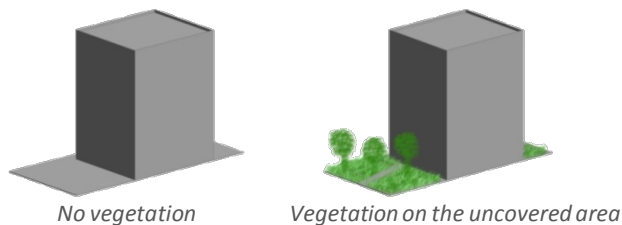


METHODOLOGY

A questionnaire with a Choice Experiment was used to ask from the respondents to choose between hypothetical options presented to them in the context of a scenario. The hypothetical choices are characterized by the values of specific variables, which are defined during the design of the experiment. The statistical and economic analysis of the answers allows the evaluation of the effect that each variable has on the choices and the quantification of the preference of the respondents for each variable (Patterson, 2017).

The alternative scenarios that derive from all possible combinations of the variables and their levels, as shown in the Table, following the full factorial design, are $3 \times 3 \times 3 \times 4 = 108$ alternative choices.

16 alternative scenarios resulted from fractional factorial design, which, when grouped in pairs, form 8 choice sets. Each set also includes the zero-cost scenario. The sets are divided into 2 groups of 4, to avoid respondents fatigue and allow them to answer all the questions carefully.



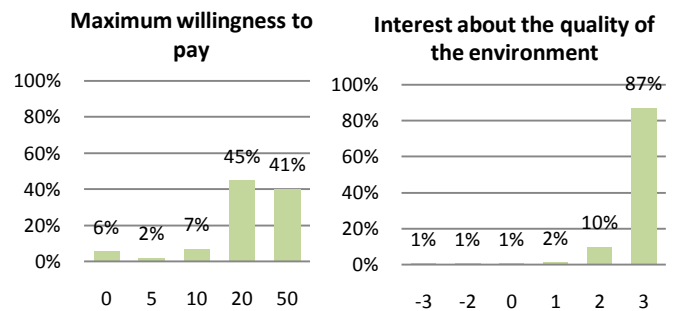
ATTRIBUTES	LEVELS
Surface	Roof / Wall / Non-built spaces
Vegetation	Lawn / Bushes / Trees
Area	<50m ² / 50-200m ² / >200m ²
Cost	5€ / 10€ / 20€ / 50€

RESULTS

240 residents of Athens and Thessaloniki responded to questions about their views and beliefs about the quality of the environment and green spaces, the Choice Experiment and demographic and social characteristics.

- 95% are willing to contribute financially to the maintenance of a green space
- 87% are very interested in the quality of the city environment
- 67% are not satisfied with the quantity of green spaces in their city
- The benefits of green spaces that were given as a response more often are the physical benefits, then the environmental, mental, aesthetic and finally social benefits.

The adaptation of the HCL model to the 153 valid questionnaires showed that all scenarios have a positive benefit, with a maximum for the scenario of uncovered space over 200sqm with low vegetation and a measure of prosperity CS = WTP = 120 € / month.



CONCLUSIONS

- ✓ The willingness of citizens to contribute financially proves, what they also state in the responses, that they recognize the value of green spaces and the significant benefits that they offer.
- ✓ The econometric analysis shows that plant installations create benefits for the households.
- ✓ The results could be used, as a valorisation of the opinion and preferences of the citizens, in the decision-making process of the State concerning relevant actions and subsidies. .

REFERENCES

Patterson, Z. et al. (2017). Comparing text-only and virtual reality discrete choice experiments of neighbourhood choice. *Landscape and Urban Planning* 157, 63-74. Available at: <https://www.sciencedirect.com/science/article/pii/S0169204616300913> (accessed 16 January, 2019)