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Does a visit to a blue-green space evoke positive feelings? Blue and green spaces survey in Shkodra' Lake, Albania

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Urbanism promotes numerous changes in human behavior that influence human health, as smoking, traffic accidents, mortality and adult obesity (World Health Organization, 1998). However, urban environments contain infrastructures that can help reduce the serious health consequences of urban living. Due to the great benefits provided by nature, both in theoretical and practical aspects during the last two decades, there has been a growing interest in nature-based ecological health promotion initiatives (Hartig *et al.*, 2014). Building, protecting, maintaining, and growing blue and green spaces (BGS) are the targets of new strategies.

Previous studies have demonstrated the benefits of blue and green spaces on the mental health of the population. The availability of and access to green and blue spaces has shown to be associated with improved mental health (Sturm & Cohen, 2014; Wood *et al.*, 2017). Evidence suggests that exposure to green spaces is associated with decreased stress levels and pleasant feelings due to physiological reactions to a relaxed state (Hazer *et al.*, 2018; Honold *et al.*, 2016).

Nonetheless, empirical, and qualitative research shows that using blue spaces in urban areas has a favorable impact on both physical and mental health. Several studies have demonstrated that blue space, particularly turbulent water bodies, can protect and promote health by masking road noise (Jeon *et al.*, 2010) and mitigate summertime temperatures (Völker *et al.*, 2018).

Although the relationship between blue and green spaces and human health is intricate, the understanding of their dynamics, the amount of information and data on health and well-being, as well as access to blue and green spaces, varies from different countries.

The aim of this study is to reduce the gap between the understanding of the complex relationship between blue and green spaces, and the positive effects on mood feelings in the population of Shkodra. In



Albania, studies relating to the impact of blue and green spaces on the well-being of the population have been limited and poorly explored.

Shkodra is an ancient town of 2500 years old and one of the most important cities of Albania. It is situated in the northwest of Albania, with a surface area of 872,71 km². The lake of Shkodra with 369km², the largest lake in Albania and Montenegro, is located on the west of the city of Shkodra and serves as a border between the two countries (Sadori *et al.*, 2014), with 149 km of it belongs to Albania. Both countries put their decisions and procedures for managing this region into action, using national legislation and international accords to preserve this area. The Albanian side of Shkodra' Lake and the green areas surrounding, is a protected area and one of the most important national and international ecosystems, proclaimed Managed Nature Reserve as well as Ramsar Area (Albanian Government Decision No.684, dated 11/02/2015, while the Montenegrin side is proclaimed National Park in 1983 (Government Report, 2020).

The lake frames the historic and artistic town of Shkodra, a tranquil and relaxing environment, reflecting the effect of the water that elegantly surrounds it. It is also rich in cultural and historical monuments, which stretch along an important part of this managed nature reserve. Many visitors pass through the impressive Buna River delta to reach Lake Shkodra. Many others choose to take a cycling tour to fully immerse themselves in the natural environment of the area. During the summer, several lakeside resorts offer excellent alternatives to visitors thanks to their clear waters and proximity to the city. Visitors should not miss the waterfront restaurants offering the famous Carp fish in a variety of meals.

Population data presented in this paper are preliminary data extracted from an online cross-sectional survey on BGS carried out in Shkodra' city. Respondents have been asked to complete the survey via the platform Google Form, from April to May 2021. During this period, Albania was open to all citizens and visitors, with some restrictions in place, such as masks required outside and inside certain buildings and institutions, no gatherings of more than 50 people, and public movement prohibited from 10:00 p.m. to 5:00 a.m. The questionnaire used in the study was prepared by an interdisciplinary panel formed by urban planner, geographer, psychologist, and environmental scientist. The questionnaire provided 68 questions, designed in 3 main sections: 1) General information, 2) Natural environment information, 3) Self-reported health information. To improve the clarity of the questions before launching the survey, a pilot study was conducted. After the validation and cleaning process, a representative sample (95% level of confidence) of 530 respondents was obtained. This survey targeted people over 16 years old and was disseminated to the public using social media platforms.

Descriptive statistics were used to analyze such as indicators (1) sociodemographic characteristics; (2) frequency of visits in BGS in the last 4 weeks; (3) time spending during the visit; (4) activities carried out during the visit; (5) type of accompaniment; (6) the reason for not visiting BGS and the quality of BGS. The SPSS software platform was used for the statistical analyses. The frequency, percentage, mean and standard deviation calculations were used to calculate data from the sample. The Chi-square test was used to analyze association of visits frequency in blue space with the people mood. There exists any statistical significance when p-value was $P < 0.05$.

According to the analysis of the sociodemographic variables, the mean age of the respondents was 30.32 ± 12.971 . It can be observed that the population sample was young, with 63.4% between 16 and 31 years old, 23.4% between 32 and 48 years old, 12.6% between 49 and 64 years old, and only 0.6% over 65 years old, including 76.2% of women and 23.8% of men.

Regarding employment status, 55.8% were working at the time of the survey, 30.2% were students, 1.9% were unemployed, 1.1% were homemakers followed by 0.8% retired, and 0.2% disabled. It is interesting to remark that only 14.7% of the respondents had not visited Shkodra' Lake during the last four weeks of whom 43.5% for lack of time, 37.1% for living too far from this area, and only 3.8% for describing it as an overpopulated area.

In terms of frequency of visits to Shkodra Lake, 30.9% had visited once or twice in the last four weeks, 28.1% several times a week, 26.2% had visited only once a week and 14.7% had not made any visits in the last four weeks.



Concerning the type of accompaniment during the visits, 37.9% visited Shkodra' Lake with friends, 14.2% with wife/husband or boyfriend/girlfriend, 13.4% with children, 8.5% with parents, 5.8% with another adult, and 2.8% alone. In their visits, the respondents spent approximately 60 minutes at the Shkodra' Lake BGS as follows: 31.1% cycling, 18.3% consuming food and drink, 8.9% walked or played with children, 4.3% engaged in quiet activities (e.g., reading, meditating), 0.8% walked with a dog, 0.6% went swimming and 0.2% used this time for fishing.

In terms of quality, 46.6% of the people who had visited during the last 4 weeks rated this area as good quality, 29.8% rated it as acceptable, 14.8% considered Shkodra' Lake as very good quality and only 7.5% thought that the quality of this area was bad or very bad.

In terms of mood after the visits to Shkodra' Lake, there are significant differences between positive feelings with the visit ($p=0.032$) and feeling part of nature ($p=0.004$). It is generally observed that regardless of the frequency of visits 87.6% felt tranquility and 87.6% felt safe.

The current study found a correlation between people's mood and visits to blue and green spaces (BGS), in a way that people who visited Shkodra' Lake more frequently demonstrated higher positive feelings. Therefore, the results of this study confirm the results acquired from previous studies claiming the benefits of visits to BGS on mood and well-being of people (White *et al.*, 2013; Su Sugiyama *et al.*, 2008; Pretty *et al.*, 2005).

Referring to the methodology, one of the limitations of this study is conducting the survey using an on-line platform which created biases in the obtained sample, in order to better identify gaps in research on the benefits of blue and green spaces on the population health and well-being.

The results of this study reinforce the importance of BGS as a community resource to promote good health. Therefore, local governments who are often in charge of the design and maintenance of BGS could address community health problems by improving and creating BGS.

Although the health benefits of BGS have been demonstrated, such findings have probably not been sufficient to persuade decision makers to act. It is essential to emphasize that improving BGS is likely to be a practical health promotion effort that local governments can undertake.