

## **Sustainability | Individual communication**

### **IC - (20865) - EXPOSURE TO GREENSPACE AND BLUE SPACE AND INTELLIGENCE IN POLISH SCHOOL CHILDREN**

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#### **Background and objectives**

Studies investigating associations between exposure to greenspace or bluespace and intelligence in children are scarce and findings are inconsistent. We examined whether higher exposure to greenspace and blue space is associated with higher intelligence scores in 10-13 aged children.

#### **Process and methods (for empirical research)**

The sample (N = 239) was collected from the on-going NeuroSmog case-control study where healthy children and children with Attention Deficit Hyperactivity Disorder (ADHD) were enrolled from 18 towns in southern Poland.

Green and bluespace was assessed by the tree, grass, and water cover in 500m and 1000m circular buffers around current residential and school addresses, as well as by the Normalized Difference Vegetation Index (NDVI). Intelligence was assessed by Stanford-Binet Intelligence Scales, 5<sup>th</sup> edition (SB5). SB5 Full scale IQ, nonverbal IQ and verbal IQ scores were used in the analyses as measures of overall intelligence, nonverbal, and verbal intelligence.

Associations of greenspace and bluespace with the IQ scores were assessed by linear regressions. First, we regressed outcome variables on exposure variables. Then, we adjusted the models by sex, age, maternal education level, and urbanicity, as well as stratified the analysis by ADHD status.

#### **Main results (or main arguments in the case of critical reviews)**

None of the greenspace or bluespace measures was consistently associated with IQ scores, neither in crude models nor in adjusted models nor in stratified analysis.

#### **Implications for research and practice/policy | Importance and originality of the contribution**

We could not find evidence that higher greenspace or bluespace exposure is associated with higher intelligence in school children. As the development of intelligence is a long-term process, future research should include lifelong greenspace and bluespace exposure data.

**Palavras-chave : Greenspace, blue space, intelligence, children**