

# A Perceptual Approach to Environmental Risks in Istanbul

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Handan Dülger Türkoglu  
Seda Kundak  
Perver Korca Baran  
Fulin Bolen  
Robert W. Marans

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# Introduction

## Motive of the study

- ◆ The population of over 10 million residents of Istanbul faces several environmental problems.
- ◆ These problems include such as traffic, crime, air and water pollution, noise, informal housing development and threats to natural values are constantly changing as are the perceptions and behaviors of the city's residents.
- ◆ Understanding how/what people think about these environmental problems can be helpful for decision making for environmental planning.

# Introduction

The aim of this paper is to better understand how subjective assessments of people differ according to individual and community features in Istanbul.

# Case Study

- ◆ This study is part of a research program on quality of urban life on Metropolitan Istanbul.
- ◆ The Quality of Urban Life Study was undertaken as part of the Istanbul Strategic Plan prepared by the **Greater Istanbul Municipality** and partially supported by **Istanbul Technical University**.
- ◆ The purpose was to explore the impact of environmental, economic, social, physical and health related indicators on quality of life satisfaction among Istanbul residents.
- ◆ **1,635 face-to-face household interviews**, the interviewers tapped residents' assessments of various dimensions of urban life.

# Case Study

- ◆ Among all these dimensions, the interviews measure people's evaluation and assessment of environmental problems.
- ◆ Findings related to natural, physical and social problems are presented at two levels of urban environment including the neighborhood and the city.
- ◆ The residents were asked about environmental threats and several physical environmental problems such as traffic, pollution, population density etc as well as social problems such as crime, vandalism etc.

# Statistical Findings

- ◆ To reveal perceptual environmental problems of Istanbul's citizens, **principal component analysis** has been deployed.
- ◆ The components related different issues have been represented with **their new dimensions** to better comprehend main topics in people's agenda.
- ◆ Additionally, **perceptual components have been crossed** with personal features of respondents such as age, education, income and household.

# Statistical Findings

Main components explaining perceptual environmental problems and risks



COMPONENT	% OF VAR.	EXPLANATION
I – Natural Environment	21,47%	How they react natural environmental problems in city wide
II – Willingness to pay	17,12%	Their monetary contribution to solve environmental problems
III – Built-up Environment	10,71%	Deterioration of built-up environment, illegal housing, desolated buildings
IV - Security	9,27%	Personal security during day and night
V – Potential security problems	8,87%	Thieves, vandalism, drug users/dealers
<b>TOTAL</b>	<b>67,44%</b>	

# Statistical Findings

- ◆ Five main components with an explanation level of 67,44%.
- ◆ **The first component** represents individual reactions or approaches to natural environmental issues in city wide.
- ◆ At the **second** rank, there is willingness to pay more to solve environmental problem and to preserve both natural and cultural assets for future generations.
- ◆ **The third component** presents nearby physical environment and problems with the maintenance and occupancy of buildings.
- ◆ **The last two components** are related with security problems representing with safety at day/night time and crime

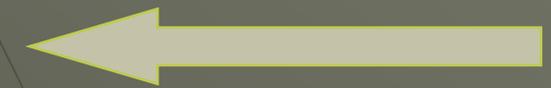
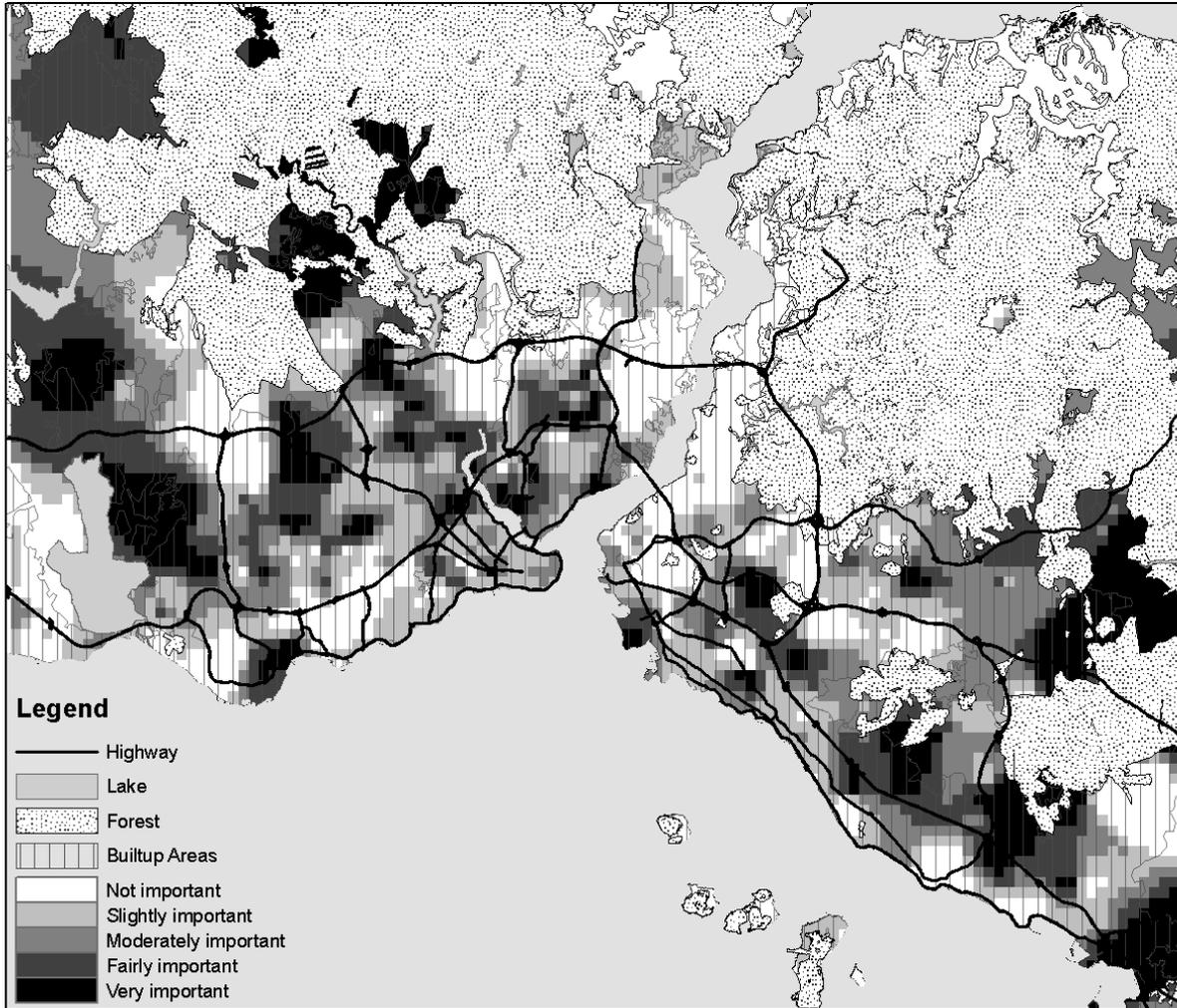
# Statistical Findings

Cross-tabulation results between perceptual components and personal features:

- ◆ Respondents having **children less than 5 year-old** are more concerned with environmental problems and consequently willing to pay more.
- ◆ **Female respondents** take security issues more serious than male respondents do.
- ◆ **High income** groups are willing to pay to reduce environmental risks whereas low income groups are not.
- ◆ **Highly educated people** take risk components more serious and are willing to act to make things better.

# Spatial Findings

0 2,550 5,100 10,200 15,300 20,400 Meters



Spatial  
Distributions  
Of Main  
Components

# Conclusions

## Important remarks:

- ◆ Differentiation on **perception** according to: gender, income, education and parenthood.
- ◆ Differentiation on **willingness to pay** according to: income, education, parenthood.
- ◆ Sensitivity on **security** according to: gender, high populated zones.
- ◆ Despite their notification about deterioration of natural resources and security problems, more than half of the respondents think that **quality of life of Istanbul would be better in the next 10 years.**

# Conclusions

How to use the findings?

- ◆ The first risk perception component which is related to “**How people react natural environmental problems in city wide**” can be used as a tool to increase awareness due to dissemination activities.
- ◆ Engagement of **local initiatives** would encourage people to contribute even they are not able to fund activities.