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Araştırma Makalesi Research Article

PERCEIVED SAFETY AND AFFECTING FACTORS IN URBAN NEIGHBORHOODS

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Keywords

Perceived Safety,
Crime,
Security,
Sense of Community,
Demographics.

Abstract

This study intends to explore how various aspects of safety such as criminal acts, public order, and sense of community affect 'perceived safety'. A questionnaire was applied to 1050 individuals that comprise the sample set living within the urban sprawl of İzmit city. People were asked to rate their evaluations on a set of safety issues in the neighborhood they live, such as crime acts, public disorder, community relationships. Investigating relevance of these issues versus perceived safety is important to understand characteristics of perceived safety in an urbanizing city subject to industrialization and immigration. Primary demographic variables: gender, age, income, and education level were also explored for their relation with perceived safety in the city. Using the quantitative method of surveying and statistical analysis, several outcomes were inferred. Accordingly, perceived safety in the city is highly associated with peoples' opinion about crime incidences and other safety and public order issues. Community attachment has a moderate influence on perceived safety, where more connected communities are likely to feel more safe. Descriptive statistics and tests showed that perceived safety with respect to gender differs, where female feel less safe. Perceived safety versus education level and income also showed some sort of relation pattern. However, this was attributed to the fact that poor and disintegrated urban neighborhoods are more likely to suffer from crime, rather than poverty brings lack of feel of safety.

KENTSEL ALANLARDA GÜVENLİK ALGISI VE ETKİ EDEN FAKTÖRLER

Anahtar Kelimeler

Güvenlik Algısı,
Suç,
Güvenlik,
Topluluk Duygusu,
Demografi.

Öz

Bu çalışma, suç eylemleri, kamu düzeni, topluluk duygusu gibi güvenliğin çeşitli yönlerinin "güvenlik algısına" nasıl bir etkide bulunduğunu anlamayı amaçlamaktadır. Bunun için, İzmit kentinin yerleşik alanı içinde ikamet eden örneklem grubuna bir anket uygulanmıştır. 1050kişiden oluşan örneklem grubundaki kişilerden, suç eylemleri, düzen bozucu aktiviteler, topluluk ilişkileri gibi, yaşadıkları yakın çevreye dair bir dizi güvenlik sorunu hakkında değerlendirmeler yapmaları istenmiştir. Bu sorunların "güvenlik algısı" ile ilişkisini ortaya koymak, sanayileşme ve göçe maruz kalarak kentleşen bir şehirde güvenlik algısının özelliklerini anlamak açısından oldukça önemlidir. Birincil demografik değişkenlerden olan cinsiyet, yaş, gelir ve eğitim düzeyinin, kentteki güvenlik algısı üzerinde etkili olup olmadığı da araştırılmıştır. Kantitatif ölçme yöntemi ve istatistiksel analiz teknikleri kullanılarak, anket verilerinden bazı sonuçlara varılmıştır. Buna göre, kentteki güvenlik algısının, insanların suç olayları ve diğer güvenlik ve düzen sorunları hakkındaki görüşleriyle büyük ölçüde ilişkili olduğu görülmüştür. Topluluğa bağlılığın ise güvenlik algısı üzerinde olumlu bir etkisi olduğu ortaya çıkmıştır, birbirine daha bağlı toplum yapısı insanları daha güvende hissettirmektedir. Betimleyici istatistikler ve testler, kentteki güvenlik algısı düzeyinin, cinsiyete göre değiştiğini, kadınların daha az güvende hissettiğini göstermiştir. Eğitim seviyesi ile güvenlik algısı, gelir düzeyi ile güvenlik algısı karşılaştırmaları da belli bir seviyede ilişki olduğunu göstermektedir. Ancak, bu durumu, yoksul ve eğitim düzeyi düşük kesimlerin daha az güvende hissettiği

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şeklinde değil de, yoksul ve parçalanmış kent mahallelerinin suç olgusundan daha fazla muzdarip oldukları gerçeği ile açıklamak daha doğru olacaktır.

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1. Introduction

Despite various advantages that cities offer to their inhabitants, such as economic and societal opportunities, human interaction and functional relationships, they are the places of unrest, mistrust and danger (Kim et al., 2011). Perceived safety or fear of crime is an integral part of this urban pathology (Baumer, 1985; Ditton and Farrall, 2000).

A range of urban problems including the increase of criminal incidences is blamed for the urban decay, where crime is often considered the predominant urban problem (Jones and Fanek, 1997). Suggesting that Urbanization is the main source of crime (Beşe, 2006; Derdiman, 2010) this issue should be considered as another viewpoint.

Governmental policies in Turkey that stressed the need for industrialization led excess urban growth in cities with suitable logistic and physical conditions (Payne, 1993). İzmit city, center of Kocaeli province, with its proximate location to İstanbul, strong transportation connections, suitable topography and climate, has drastically transformed into an industrial region since 1960's. With industrialization, immigration, and rapid urban growth in İzmit, environmental and social problems have soon arised.

According to a research, Kocaeli is in 20th province among 81 for crime rates (Karaatlı et al., 2015). This indication of high crime rate highlights the fact that safety in the city worth a further exploration.

2. Materials and Method

A comprehensive questionnaire was applied to individuals living in the study area, where only the safety-relevant attributes are within in the scope of this study.

Within adequate tolerance and confidence intervals (5%, and 99%), for a population of 261,845 in the

study area, minimum number of 664 samples were adequately determined using Cochran's formula (Cochran, 1977).

However, for higher reliability of the results and better representation of the stratum, a sample size of 1050 was agreed up on. A proportionate stratified random sampling was applied such that 39 local districts constitute each strata and number of samples from each stratum were proportional to population of each strata.

Survey questions mainly investigate various aspects of safety in the neighborhoods such as fear of walking out at night, car thievery, house robbery, public intoxication, drug abuse, vandalism etc. Besides, sense of community as a preventive factor was explored. People were asked few other questions to understand their community attachment i.e. feel of belonging, friendly neighbors. Demographical attributes of the individuals were also recorded (Table 1).

Answers to the survey questions were in 1 to 5 Likert scale. Including all of the questions on various aspects of safety in the neighborhoods, so called 'variables', Factor analysis was performed. Factor Analysis reducing a set of variables to a small set of components, hence grouping relevant variables into groups is useful in understanding variability explained by variables. While Likert-type measurements are ordinal, they assume that the strength/intensity of experience is linear, i.e. on a continuum from strongly agree to strongly disagree, and makes the assumption that attitudes of persons can be measured (Rattray and Jones, 2007). For response scales with 5 points or more, Factor analysis can be applied assuming that there is an underlying continuous distribution, provided that sample size is minimum 150 (Pallant, 2005).

Descriptive statistics were calculated for all variables. This is primarily to compare variable means with mid-rate (3.00) of evaluation scale (1 to 5) and the dispersion of the evaluations (std. dev).

All of the variables were analyzed for their correlation with each other and with the main research question: perceived safety (C28). Pearson correlation coefficient for all pairs show that there is significant correlation (p

0.01, 2-tailed) between all variables. However, correlation between variables in different factor groups are lower than 0.4, whereas for variables within the same factor, correlation is roughly between 0.5 and 0.9.

Finally, a comparison of the mean Perceived Safety scores against Demographic attributes; gender, age, education level, and income were made to understand if demographics have an impact on Perceived Safety.

Table 1. List of questions about safety

Code	*Survey Question*
How do you evaluate your neighborhood for the below properties?	
C28	People in this neighborhood feel that it is a safe place to live
G1	It is fairly safe to walk in this neighborhood at night
G2	It is fairly safe for women to walk in this neighborhood at night
Problems in the neighborhood	
C14	Alcohol and drug abuse is a problem
C15	'Thinner' abuse is a problem
C17	Vehicle theft and destruction is a problem
C18	Abandoned and ruined houses is a problem
C19	Home theft is a problem
Community relationships in the neighborhood	
Mc1.2	People are friendly
Mc1.5	People are like me
Mc1.10	There are good neighbors
Mc1.11	There is no harm from people to public goods and environment
Demographic Records	
KB1	Gender (F/M)
KB2	Age (Age groups)
KB5	Education level (Classes of education degrees)
HB3	Income level (Income groups per person in the dwelling)

3. Results

Components

All of the ratings (1 to 5) from individuals about safety, peace and sense of community in their neighborhood were analyzed via Factor Analysis.

Three principle components were obtained and they were entitled as i. Feel of Safety, ii. crime activities and public disorder, iii. Sense of community (Table 2).

Descriptive Statistics of Variables

Descriptive statistics show that the question representing perceived safety (C28) is slightly above statistical mean (3.00) that is 3.14 across all city. Walking out at night in the neighborhood (G1) is slightly below statistical average (2.91). Women's' walking at night in the neighborhood (G2) which is major indicator of perceived safety is apparently lower than G1 (2.70) (Table 3).

Table 2. Factor Analysis Results

			1	2	3
i	People in this neighborhood feel that it is a safe place to live	C28	0,317	0,303	**0,684**
	It is fairly safe to walk in this neighborhood at night	G1	0,178	0,103	**0,914**
	It is fairly safe for women to walk in this neighborhood at night	G2	0,166	0,111	**0,912**
ii	Alcohol and drug abuse is a problem	C14	**0,821**	0,072	0,254
	'Thinner' abusers is a problem	C15	**0,854**	0,076	0,204
	Vehicle theft and destruction is a problem	C17	**0,864**	0,070	0,112
	Abandoned and ruined houses is a problem	C18	**0,772**	0,089	0,147
	Home theft is a problem	C19	**0,832**	0,010	0,111
iii	People are friendly	Mc1_2	0,007	**0,856**	0,052
	People are like me	Mc1_5	0,040	**0,767**	0,140
	There are good neighbors	Mc1_10	0,054	**0,867**	0,104
	There is no harm from people to public goods and environment	Mc1_11	0,255	**0,558**	0,399

Table 3. Perceived safety variables: Descriptive statistics

	N	Min.	Max.	Mean	Std. Dev.
C28	952	1	5	3,14	1,204
G1	1033	1	5	2,91	1,137
G2	1011	1	5	2,70	1,172

When we look at the variables that pose a threat to safety, it can be seen that alcohol and drug abuse (C14, C15) is a problem in the city. Vehicle theft and destruction and home theft (C17, C19) can be mentioned a certain level of problem. Abandoned houses are not a big issue (C18), (Table 4).

In general, it can be said that the sense of community in the city is slightly above the average levels (Table 5).

Table 4. Crime and disorder statistics

	N	Min.	Max.	Mean	Std. Dev.
C14	910	1	5	2,41	1,355
C15	869	1	5	2,56	1,458
C17	838	1	5	2,97	1,415
C18	826	1	5	3,24	1,437
C19	851	1	5	2,72	1,403

Table 5. Sense of community statistics

	N	Min.	Max.	Mean	Std. Dev.
Mc1.2	983	1	5	3,25	1,028
Mc1.5	948	1	5	2,89	1,083
Mc1.10	994	1	5	3,48	1,068
Mc1.11	981	1	5	3,11	1,190

Correlation of Variables

All of the variables' correlation was examined. Pearson correlation coefficient for all pairs show that there is significant correlation (p 0.01, 2-tailed) between all variables. However correlation between variables in different factor groups are lower than 0.4, whereas for variables within the same factor, correlation is roughly between 0,5 and 0,9. The main variable that represent Perceived Safety (C28) shows significant correlations with all other variables. The highest correlation is for night out (G1, G2) and vandalism (Mc1.11). These variables have a high correlation coefficient of 0,5and above where correlation coefficient of 0,4 and above indicate a strong correlation. However, correlation below this value is also considered reasonable. Accordingly, all other variables are associated with general perceived security at certain levels. All of the primary demographic variables; age, education level, and income have very low correlation with perceived of safety (Table 6). Gender was not evaluated for its correlation as its data range (2-values: male, female) is not appropriate for correlation analysis.

Among tested variables, C28 (People in this neighborhood feel that it is a safe place to live) that represents the safety in the neighborhood in general can be selected as a dependent variable. Collinearity statistics ranging between 1.58 and 4.38 suggest that dataset portray no or moderate multicollinearity and hence a linear regression may also be conducted.

Perceived Safety vs. Demographics

It was inspected whether male-female perception of safety differs. General safety and walking at night variables against gender was explored. It is evident that women's' perception of safety is lower than men's (Table 7).

The mean values show that there are some sort of difference with respect to genders in mean values for the list of questions coded C28, G1, G2. To understand if these differences were significant ANOVA test was conducted.

Table 6. Correlation between perceived safety and other variables

	C28
C28	1
G1	**0,585****
G2	**0,584****
C14	0,392**
C15	0,378**
C17	0,356**
C18	0,372**
C19	0,318**
Mc1_2	0,267**
Mc1_5	0,317**
Mc1_10	0,331**
Mc1_11	**0,527****
KB2	0,126**
KB5	0,081*
HB3	0,113**

Table 7. Perceived safety and Gender

KB1	C28	G1	G2
1 (Female)	3,10	2,82	2,67
2 (Male)	3,18	3,09	2,78
Total	3,13	2,91	2,70

ANOVA (ANalysis of VAriance) is used to test the null hypothesis that means of several groups are equal. A significance level denoted as α and of 0.05 is accepted as cutoff for significance. If the P-value ≤ α, we can safely reject the null hypothesis that there's no difference between the means and conclude that a significant difference does exist between means of groups – herein gender groups of male and female. Results of the ANOVA test reveal that difference of means of ratings by Genders to question G1: It is fairly safe to walk on this neighborhood at night is statistically significant at df: 983 and p: 0.00.

It was explored whether Demographic variables indicating socio-economic level has a role in degree of perceived safety. Comparison of perceived safety mean values per age group shows that safety perception increases slightly with age (Table 8). However this increase is trivial to make inferences. Comparison of perceived safety mean values per income group shows that safety perception decreases together with income level (Table 9). Comparison of perceived safety mean values per education level shows that safety perception decreases together with education level (Table 10).

Table 8. Perceived safety and Age

KB2	Mean	N	Std. Dev.
1	3,05	117	1,173
2	3,01	193	1,201
3	3,10	432	1,222
4	3,51	91	1,139
5	3,68	47	,837
Total	3,14	880	1,198

Table 9. Perceived safety and Income level

HB3	Mean	N	Std. Dev.
1	2,84	247	1,164
2	3,14	292	1,199
3	3,29	230	1,220
4	3,55	84	1,034
5	4,00	8	,926
Total	3,14	861	1,198

Table 10. Perceived safety and Education level

HB3	Mean	N	Std. Dev.
1	2,88	16	1,147
2	3,13	23	1,217
3	3,06	218	1,243
4	3,08	268	1,208
5	3,17	364	1,211
Total	3,58	62	,933

4. Conclusions

When we look at the variables that pose a threat to safety, it can be seen that alcohol and drug abuse is a problem in the city and walking out at night in the neighborhood, especially for women, is not fairly safe. However, positively, it can be said that there is plenty of community attachment in the city which is known to provide basic support security needs (UNRISD, 1994).

Correlation analysis of all variables shows that Perceived Safety is significantly correlated with all other variables. The highest correlation is however for walking out at night out and vandalism. These two variables among many other including thievery, substance abuse, sense of community, etc., are found to be most effective in individuals' perception of safety around their neighborhood. Therefore, to increase peoples' feel of safety in their neighborhoods, these problems need to be primarily addressed. A regression analysis that is used to estimate relationships between a dependent variable and one or more independent variables may also be conducted in further studies to understand the relative impact of the variables to perceived safety.

Comparison of perceived safety per income and education group shows that safety perception decreases together with income level and education level. However, it may not be right to come to a conclusion that "perceived safety decreases as the income and education level decreases". The association here can be described as a projection of inequities in the space and problems it brings about, i.e. increased crime, hence decreased perceived safety.

Individuals' evaluations from all over the study area were analyzed together. However, it should be noted that there may be spatial variations across the city. Crime in a city is not randomly distributed across the space and it typically shows spatial variation. This association between crime and place is inherent and sometimes very obvious (Brantingham and Brantingham, 1981). Crime displaying uneven variation in the space is the result of the interrelationship between humans and their surroundings (Park and Burgess (1925). Rapid social changes such as industrialization, urbanization, and immigration, the lack of control by institutions over individuals initiates social changes known as "social disorganization" which is emphasized as the major cause of crime (Shaw and McKay, 1942). As a conclusion, besides pointing out the major problems that cause reduced safety across the city, unmasking and overcoming inequities in urban environments is of great importance in reducing crime and improving individuals' perception of safety in their neighborhood.

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Conflict of Interest

No conflict of interest was declared by the authors.

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