

# Urban Quality of Life – a Case Study: the City of Rijeka

**Lana Slavuj**

This paper represents a study of the quality of life in the City of Rijeka. The main research aim was to analyse whether significant differences exist in mean satisfaction with neighbourhood among different groups of respondents according to selected variables. Overall neighbourhood satisfaction was used as an indicator of the quality of neighbourhood life. The main research method was a questionnaire survey conducted on a random sample of 365 households, chosen from five city neighbourhoods. Statistical procedures used were t-test and one-way analysis of variance. The conducted analysis showed that respondents in analysed neighbourhoods of Rijeka do not differ significantly in neighbourhood satisfaction regarding: gender, age, educational attainment, monthly household income, perceived property value, housing type and length of residence. On the other hand, significant difference in neighbourhood satisfaction was found regarding respondents' tenure. Furthermore, it has been shown that a positive feeling towards place and community is linked with higher levels of neighbourhood satisfaction. Respondents who meet their neighbours more often to discuss common neighbourhood issues were also more satisfied with their neighbourhoods.

**Key words:** urban quality of life, neighbourhood, Rijeka

## **Kvaliteta života – studija slučaja: Grad Rijeka**

Rad se bavi kvalitetom života u Gradu Rijeci. Glavni istraživački cilj bio je istražiti postoje li statistički značajne razlike u prosječnom zadovoljstvu susjedstvom među različitim grupama ispitanika s obzirom na odabrane varijable. Kao indikator kvalitete života u susjedstvu upotrijebljeno je pitanje o ukupnom zadovoljstvu susjedstvom. Glavna istraživačka metoda bila je anketno istraživanje, koje je provedeno na slučajnom uzorku od 365 kućanstava odabranih iz pet gradskih susjedstava. Primijenjeni su statistički postupci t-test i jednosmjerna analiza varijance. Navedenim analizama utvrđeno je da se ispitanici iz odabranih susjedstava Grada Rijeke ne razlikuju značajno u zadovoljstvu susjedstvom s obzirom na spol, dob, stupanj obrazovanja, prosječna mjesečna primanja kućanstva, percipiranu vrijednost nekretnina u susjedstvu, tip stambenog objekta te duljinu stanovanja u susjedstvu. S druge strane, značajne razlike u zadovoljstvu susjedstvom pronađene su s obzirom na stambeni status, pozitivne osjećaje prema mjestu i zajednici te učestalost sastajanja sa susjedima.

**Ključne riječi:** kvaliteta života u gradu, susjedstvo, Rijeka

## INTRODUCTION

Quality of life research has been focusing increasingly on urban areas over the last few decades. One of the main incentives for this research focus is the great growth in city populations. Today, every other inhabitant of Earth lives in a city. Predictions are that this trend will continue and that urban populations will increase to 5 billion people by the year 2030 (UNFPA, 2007). The fact that urban environments have become the main habitat of the modern (wo)man also means that the number of people affected by the prevailing conditions of their urban environments is constantly increasing (van Poll, 1997). Hence, it is important better to understand the spectrum of conditions contributing to and affecting the urban quality of life (Sufian, 1993). In addition, the urban quality of life is recognized as a relevant component of an individual's general quality of life. Many studies have found that satisfaction with urban living environments contributes significantly to overall life satisfaction (Sirgy and Cornwell, 2001; McCrea et al., 2005; Horelli, 2006; Power et al., 1999; Adams, 1992).

This paper analyses the quality of life in chosen neighbourhoods in the city of Rijeka. Overall neighbourhood satisfaction was used as an indicator of the urban quality of life. Many researchers consider this general measure, based on a single question, an appropriate way of assessing the overall quality of neighbourhood life. Expressed satisfaction represents integrated respondent perceptions that embrace a wide range of external conditions (Golant, 1982 cited in Lu, 1999). Hence, overall satisfaction is a unifying concept that can accommodate the variety of neighbourhood priorities held by different people (Parkes et al., 2002).

Neighbourhoods are considered to be the most appropriate scale on which to measure the urban quality of life (Pacione, 1982). They represent the immediate living environment, the place where most people spend most of their time during the day. As it is possible to identify different types of environments within the city, it is inevitable for different environment qualities to exist, too. To understand which factors affect neighbourhood satisfaction is the first step in managing and improving the urban quality of life.

### **Research aim and methods used**

Five different city areas within the City of Rijeka were chosen for this research (Fig. 1). The selected areas partly or almost completely overlap with the following local constituencies: Belveder/Brajda-Dolac, Pećine, Pehlin, Orehovica and Pašac. These city areas differ from each other in residents' profiles (sociodemographic composition, population and dwelling density, architectural features and their geographical location within the city structure). A questionnaire survey conducted during August 2010 was the main research method. Using random sampling procedure, a sample of housing units within each neighbourhood was selected. A total number of 365 households was selected.

The main research aim was to analyse whether significant differences exist in mean satisfaction with neighbourhoods among different groups of respondents according to selected variables. Selection of variables for this analysis was done following the previous research on the urban quality of life. The variables are as follows: sex, age, educational

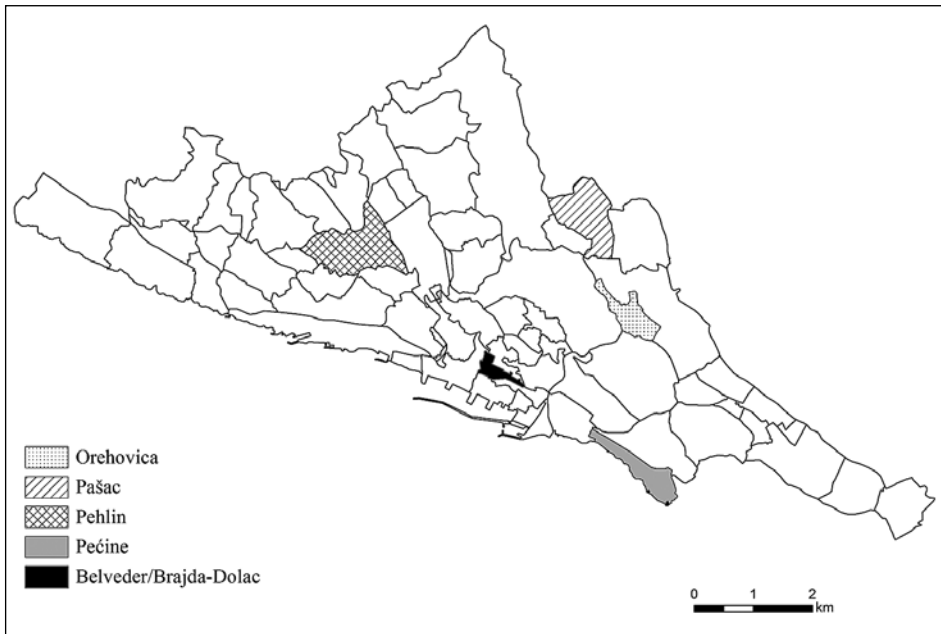


Fig. 1 Map of Rijeka with the selected neighbourhoods  
*Sl. 1. Karta Rijeke s odabranim susjedstvima*

attainment, monthly household income, length of residence, accommodation (dwelling) type, perceived property value, tenure, neighbourhood (place) attachment, community attachment, and activity and participation in solving common issues in the neighbourhood.

It is assumed that these variables can cause differences in objective living conditions, as well as in the way individuals experience and evaluate their quality of life. Therefore, it is interesting and important to know which of these variables affect neighbourhood satisfaction. In other words, understanding which factors contribute to different levels of satisfaction can play an important role in urban planning policies and city development (Laughlin and Farrie, 2005).

For testing neighbourhood satisfaction differences within different groups of respondents, t-test and one-way analysis of variance (ANOVA) were used. Overall neighbourhood satisfaction was used as a dependent variable. Respondents were asked the following question: "How satisfied are you with this neighbourhood as a place to live?", and a five-point response scale that ran from "very dissatisfied" (1) to "very satisfied" (5) was used. Higher levels of satisfaction indicate a better urban quality of life. The term "neighbourhood" was not defined in the questionnaire – it is what a respondent considers his or her neighbourhood to be. Many authors think this is more meaningful and relevant to the respondent than a pre-defined concept (Lu, 1999; Lovejoy et al., 2010; Amérigo and Aragonés, 1997; Dekker et al., 2007).

Results are shown in table 1.

Tab. 1 Average neighbourhood satisfaction, standard deviation, F-value and p-value obtained by t-test and one-way analysis of variance for the selected variables

*Tab. 1. Prosječno zadovoljstvo susjedstvom, standardna devijacija, vrijednosti F-omjera i p-vrijednosti dobiveni primjenom t-testa i jednosmjerne analize varijance za odabrane varijable*

Variable	M	SD	F	p
<b>Sex</b>			0.505	0.272
male	3.74	0.763		
female	3.65	0.797		
<b>Age</b>			2.072	0.104
18-30	3.74	0.689		
31-43	3.61	0.844		
44-64	3.60	0.820		
> 65	3.84	0.737		
<b>Education attained</b>			1.059	0.387
without school	3.75	0.957		
incomplete elementary school	3.88	0.641		
elementary school	3.47	0.725		
secondary school	3.69	0.835		
Bachelor's degree	3.78	0.773		
university degree	3.79	0.614		
Master's or PhD	3.33	0.816		
<b>Monthly household income</b>			2.127	0.062
less than 3,500 kn	3.68	0.968		
3,501 – 6,500 kn	3.52	0.778		
6,501 – 9,500 kn	3.64	0.701		
9,501 – 11,500 kn	3.84	0.683		
11.501 – 14,500 kn	3.89	0.685		
more than 14,501 kn	3.91	0.733		
<b>Dwelling type</b>			1.708	0.358
family house with one flat	3.61	0.774		
family house with more flats	3.73	0.833		
building up to 8 storeys	3.65	0.660		
high rise building	4.00	0.816		

<b>Length of residence</b>			2.156	0.117
less than 3 years	3.44	0.751		
3 to 10 years	3.59	0.547		
more than 10 years	3.73	0.806		
<b>Perceived property value</b>			1.100	0.349
below average	3.40	0.986		
average	3.72	0.737		
high	3.67	0.814		
very high	3.78	0.723		
<b>Tenure</b>			7.428**	0.000
property owner (without mortgage)	3.85	0.750		
property owner (with mortgage)	3.54	0.651		
renter	3.35	0.883		
other (children, spouse, parents...)	3.73	0.741		
<b>Place attachment</b>			26.097**	0.000
home	3.89	0.653		
only a place to live	3.33	0.866		
<b>Community attachment</b>			17.617**	0.000
yes	3.92	0.662		
no	3.30	0.817		
<b>Participation in local meetings</b>		Welch	8.303**	0.000
		Brown-Forsythe	8.903**	0.000
monthly	4.10	0.539		
few times per year	3.94	0.731		
2-3 times in last 5 years	3.69	0.652		
never	3.55	0.830		

\*\* difference is significant at the .001 level

## RESULTS AND DISCUSSION

In the following section, the study results are presented. Although the obtained results are not completely comparable with the results of similar studies because of their specificities, it is still interesting to observe them in the broader context of previous research conducted in this area.

T-test analysis revealed that there was no significant difference between men and women in neighbourhood satisfaction. Such a result was found in other studies, as well (Lu, 1999; Laughlin and Farrie, 2005; Lovejoy et al., 2010).

In addition, no significant difference in neighbourhood satisfaction regarding age was found. This is contrary to the reviewed studies, where results suggest that younger age groups are usually less satisfied with a neighbourhood than the older ones (Lu, 1999; St. John and Cosby, 1995; Spain, 1988; Dekker et al., 2007; van Poll, 1997; Galster and Hesser, 1981). Some authors assume this can be explained by the proportion of expectations individuals have towards their living environment. In that sense, younger people have greater expectations, while the older ones have lower expectations that they can improve their quality of neighbourhood life (Parkes et al., 2002). One other possible reason for this is that older people have, over time, adapted to their living environment (Lovejoy et al., 2010).

No significant difference in neighbourhood satisfaction with respect to the level of education was detected. Other studies have shown significant differences regarding education, but they are not consistent with regard to the groups that are more satisfied. A lower education level was associated in some studies with greater neighbourhood satisfaction (Lee and Guest, 1983 cited in Parkes et al., 2002) and in others with greater neighbourhood dissatisfaction (Lu, 1999; Miller et al., 1980; Spain, 1988; van Poll, 1997).

No significant difference in neighbourhood satisfaction according to household income was found either. This is contrary to some studies that have shown that the lower income groups have lower levels of neighbourhood satisfaction (Parkes et al., 2002; Miller et al., 1980; Marans and Rogers, 1975; Lu, 1999; Spain, 1988; Dekker et al., 2007; van Poll, 1997).

Additionally, no significant difference in neighbourhood satisfaction was detected according to perceived property value. In other studies this factor affected neighbourhood satisfaction – people living in city areas with higher average property values expressed higher neighbourhood satisfaction (Lu, 1999; Galster and Hesser, 1981; Parkes et al., 2002).

Results that show no significant differences in neighbourhood satisfaction regarding the level of education, household income and perceived property value, reflect the fact that there is no great contrast between examined neighbourhoods considering these categories. In studies conducted in American, British and other western cities the opposite has been observed, since the process of socio-economic polarisation of urban space is much more evident and longer present there than in Croatian cities. In the post-socialist period, the process of socio-economic polarisation of urban space has started to develop more intensively (Prelogović, 2004; 2009). As these results suggest, in Rijeka, this process is still not expressed enough for household income, educational attainment or property value to affect neighbourhood satisfaction.

However, it is important to stress that although studies have shown significant differences in neighbourhood satisfaction regarding sociodemographic variables, a general conclusion is that they are poor predictors of overall neighbourhood satisfaction (van Poll, 1997; Lovejoy et al., 2010; Parkes et al., 2002; Dekker et al., 2007), as well as satisfaction with life as a whole. Taken all together, they can account for a maximum of 10-15 % of the total variance of subjective quality of life (Andrews and Withey, 1976; Campbell et al., 1976).

In the overall satisfaction with neighbourhood, no significant differences were observed either between respondents living in different dwelling types or according to their length of residence. These factors have been found to have an important role in some studies (Laughlin and Farrie, 2005; Parkes et al., 2002). For example, the study by Parkes et al. (2002) showed that people living in detached houses are more satisfied with their neighbourhood than those living in flats. The examined neighbourhoods in Rijeka differ according to the dwelling types that prevail in them. In Pehlin, Pašac and Orehovica, only family houses with one or more flats are present; Belveder/Brajda-Dolac are specific for multi-storey buildings; while Pećine has a mixed housing typology. Still, results obtained on this sample did not show any significant difference in neighbourhood satisfaction. Although a family house represents the ideal type of housing for most people, living in a house does not necessarily say much about the quality of its physical or social environment. It is obvious that more than decent housing is necessary to be satisfied with one's place of residence.

As far as length of residence is concerned, the results are inconsistent. Some studies have shown that longer residence means greater neighbourhood satisfaction (Adams, 1992; Marans and Rodgers, 1975), while in others the length of residence has been associated with a lower level of neighbourhood satisfaction (Lu, 1999; Dekker et al., 2007; Parkes et al., 2002).

Regarding the variables examined so far, no significant differences in neighbourhood satisfaction between different respondent groups were found. Further on, variables influencing levels of satisfaction will be discussed.

Tenure was found to be an important factor in shaping levels of satisfaction. The most satisfied with the neighbourhood are home owners without a mortgage. The post hoc test showed that this group of respondents significantly differs in neighbourhood satisfaction from renters who are, on average, the least satisfied group. Renters also differ in neighbourhood satisfaction from those respondents - coded as *other* in the questionnaire - who are not renters, but do not own the property themselves (e.g. parents, children or spouses).

The result showing that mortgage-free home owners are more satisfied with their neighbourhood than renters is to be expected, considering numerous studies that have confirmed the same (Rohe and Basolo, 1997; Parkes et al., 2002; Dekker et al., 2007; Laughlin and Farrie, 2005; Weiss et al., 2009; van Poll, 1997). Lu (1999) states that home owners are almost always more satisfied with their neighbourhoods - and with their lives in general - than are renters. Potential reasons for such findings are numerous. First of all, to possess a property that represents the biggest investment in their life for most people is certainly a great advantage. Furthermore, a certain number of home owners have deliberately chosen the neighbourhood in which they live. Another factor influencing their

more positive neighbourhood evaluation could be the fact that home owners usually tend to see their neighbourhood as a long-term solution, in contrast to renters who consider relocating more often. For example, respondents were asked in the questionnaire whether they have considered relocating in the next 3-5 years. Only 3.8% of owners without a mortgage and 10.4% of owners with a mortgage responded affirmatively as compared with 47.6% of renters.

Significant differences were found in neighbourhood satisfaction according to the indicators measuring place attachment and community attachment.

Place attachment is defined as an affective bond between person and place (Tuan, 1977; Altman and Low, 1992). It is considered to be an integral part of human identity, that is, individuals form their personal identities and values through interaction with a place (Altman and Low, 1992; Ujang and Dola, 2001; Twigger-Ross and Uzzell, 1996; Proshansky et al., 1983).

Place attachment was measured with a question applied in many similar studies (Oktay et al. 2009; Hidalgo and Hernandez, 2001; Kasarda and Janowitz, 1974). The question posed to respondents was the following: "Do you consider this neighbourhood as your home or just a place to live?". It is thought that "feeling at home" expresses a sense of rootedness to a specific place, which means the same thing as feeling attached to that place (Connerly and Marans, 1985). Analysis showed that respondents who consider their neighbourhood as their home were more satisfied with it than those who consider it as just a place in which to live.

Community attachment or sense of community can be defined as feelings of membership or belonging to a group, including an emotional connection based on a shared history, as well as shared interests or concerns (Perkins and Long, 2002 cited in Manzo and Perkins, 2006). Community attachment was measured with the question: "Do you feel you belong to the community of your neighbourhood?". Respondents answering affirmatively to this question were more satisfied with their neighbourhood compared to respondents who do not feel a part of the community.

A positive relation of place and community attachment with the level of neighbourhood satisfaction was found in other studies as well (Parkes et. al., 2002; Ringel and Finkelstein, 1991; Ahlbrandt, 1986; Campbell, 1981).

Furthermore, studies have shown that place and community attachment have other important implications on the urban quality of life. A feeling of attachment influences the individual's activity in the community, as well as his/her relation with the environment. In other words, people more connected with a place and its community are more often engaged in local activities and meetings, and are more responsible towards their social and physical environment (Oktay et al., 2009; Halpenny, 2005; Vorkinn and Riese, 2001; Brown et al., 2003; Manzo and Perkins, 2006, Guest and Lee, 1983). If people's identity and values are influenced by places they consider significant, then it follows that people's bonds with those places will impact their engagement to maintain or improve them (Pretty et al., 2003). Thus, in influencing individual and group behaviour, place attachments affect communities at large (Manzo and Perkins, 2006). In that sense, some authors emphasise



that the feeling of attachment is directly linked with sustainable urban development, and this factor should necessarily be taken into consideration when debating sustainable development (Uzzell et al., 2002; Guardia and Pol, 2002).

Considering the above results, it is no surprise that participation in local meetings also influences neighbourhood satisfaction. Respondents were asked the following question: "How often do you meet your neighbours to discuss common issues?". Respondents who meet their neighbours on a monthly basis were the most satisfied with their neighbourhood. The post hoc test revealed a significant difference between this group and the one that had met 2-3 times in the last five years, as well as the one that had never met to discuss common issues. The latter group was also the least satisfied with the neighbourhood. A significant difference was also found between the group that met a few times per year and the one that never participated in local meetings.

The results suggest that higher activity in the community enables individuals to express their needs and wishes, and give their own contribution to improving the neighbourhood quality of life. So, in the end, they are more satisfied than those who rarely or never participate in the shaping of development goals of their residential place.

## CONCLUSIONS

The study results confirmed findings from many other studies, but it is worth reiterating them because they bear serious and important implications for urban planning. The conducted analysis (t-test and one-way analysis of variance) showed that respondents in the analysed neighbourhoods of Rijeka do not differ significantly in neighbourhood satisfaction regarding: gender, age, educational attainment, monthly household income, perceived property value, housing type and length of residence.

However, some studies have shown significant differences in neighbourhood satisfaction regarding these variables. It was mentioned above that the lack of statistically significant results regarding educational attainment, monthly household income and perceived property value in the neighbourhood could be a consequence of the fact that the City of Rijeka has not gone through a distinct socio-economic polarisation of its urban space. It is interesting that this research has not shown significant differences in neighbourhood satisfaction regarding age, even though other studies showed that older age groups are, in general, more satisfied with their neighbourhood than the younger ones are. It is not possible to interpret reliably from the information obtained which set of factors are influencing this result. Therefore, for better understanding of the results concerning age, as well as length of residence, housing type and socio-economic status, future analysis should be done.

On the other hand, significant difference in neighbourhood satisfaction was found regarding respondents' tenure. Furthermore, it has been shown that a positive feeling towards place and community is linked with higher levels of neighbourhood satisfaction. Respondents who meet their neighbours more often to discuss common neighbourhood issues were also more satisfied with their neighbourhoods.

The question of tenure is largely within the private domain of an individual, but his/her social integration, place attachment and level of activity in the community are parts of the public domain that can be influenced by the local authorities and decision makers. Identification of key factors influencing neighbourhood satisfaction suggests that efforts to promote and improve the quality of neighbourhood life should focus on encouraging and developing social cohesion and identification with a place. Although these factors are highly dependent on urban planning and design of the cities, planners and designers often overlook the personal experiences of place and attachments. The urban environment should be planned in order to facilitate these aspects. For example, if new neighbourhoods are being developed without - or with badly designed - open public places where people can meet and socialise, if streets are primarily intended for vehicles and not for pedestrians, than all this will inevitably, as empirical data shows, affect residents' satisfaction. If there is no identification with the place and the community, then lower levels of individual activity, less responsible behaviour towards the environment and lower levels of satisfaction with the place of residence can be expected.

Urban planning affects people's experience of a place. Hence, it is vital for planners and decision makers to recognise the value of the personal connections, attachments and meanings that specific places possess. Understanding that place and community attachment influence people's behaviour can help in using these connections for local development processes and positive community achievements.

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Received (Priljeno): 2010 – 12 – 22

Accepted (Prihvaćeno): 2011 – 03 – 15

**Lana Slavuj**, Junior Researcher  
University of Zagreb, Faculty of Science  
Department of Geography  
Marulićev trg 19/II, 10000 Zagreb  
[lslavuj@geog.pmf.hr](mailto:lslavuj@geog.pmf.hr)