Definition and Analysis of Subjective Indicators of Urban Quality-of-Life in an ‘atypical’ City

Towards Quality of Life Improvement

Edited by Walenty Ostasiewicz

The Publishing House
of the Wroclaw University of Economics
Wroclaw 2006

Publication supported financially by the State Committee for Scientific Research (KBN)

ISBN 83-7011-820-8

Printing and binding: Wrocław Scientific Printing House

Contents

From the Editor

The first conference on the quality of life, organized by the Chair of Statistics, Wrocław University of Economics, took place in September 9-11, 1999 and resulted in the volume *Aspects of Quality of Life* published in 2000 by the Wrocław University of Economics Publishing House. The second conference was organized by the same Chair in September 18-20, 2002 and resulted in the volume *Quality of Life Research* published in 2003 by Yang's Scientific Press. The third conference, also organized by the same Chair, took place in September 14-16, 2005. The focus of the Conference was on the problems of improving the quality of life. Already Aristotle said that just talking about virtue does not make man virtuous. The same concerns the quality of life. Just measuring and evaluating various aspects of the quality of life does not improve it.

It is of course a plain triviality to say that in order to improve the quality of life one should know what to improve, how to do it, and how to check whether or not it has been improved. One of the ways to acquire such information is to use appropriate indices and criteria for evaluation and assessment of the current state of affairs. The chapter prepared by W. Glatzer focuses not only on the widely used objective measures, like HDI, HWI and WISP, but also on new subjective indices like OSL and PWI. All the considered measures are used for comparative study of quality of living in the US and European Union. F. Carlucci and S. Pisani compare 25 countries of the EU with respect to their well-being and poverty level by means of an index proposed by them. Apart from the quality of life indices used in a global scale, of particular importance are indices on a local scale (concerning regions, towns, villages). Interesting examples of such specific indicators which concern various aspects of the city life are discussed in chapters written by F. Maggino and S. Schifini D'Andrea.

Over the past decades there has been a growing interest in researching well-being not only differentiated territorially but also with regard to other aspects. Because of drastic demographic changes in general, and in the family types in particular, researching all problems of young people becomes more and more important. A good piece of general methodology for studying subjective well-being of young people, exemplified by an analysis of the British Household Panel Survey, is presented by A. Keung.

Assuming that we already know the state of affairs and what should be improved, the question emerges: who should do the betterments? First of all it must be recognized that the human development cannot be exclusively a process of self-help. QoL is not a "do-it-yourself" product. The state as a whole and the local communities are responsible for the living quality of their citizens. Safety and quality of living depend not only on health systems, but also on another system, called public safety system or security system. An extensive study of the general methodology of evaluation of healthcare services is presented by G. Vittadini. Some other issues of health related to the quality of life are discussed by R. Rėklaitienė and M. Bačevicienė, as well as by A. Sapilak, C. Kozyra, D. Kurpas, A. Steciwko and M. Melon.

It seems to be very important to observe that all systems, which are vital to people's quality of living, are to be assessed by people themselves, and not, say, by officials or politicians. These assessments, or evaluations, technically are called performance measurements. Traditionally, almost all measurement instruments devised for performance assessment concern people's satisfaction. It seems to be more important to evaluate dissatisfaction rather than satisfaction. Highly valuable results concerning the dissatisfaction from various types of services are contained in the work of M. Marozzi and M. Bolzan.

The quality of performance of all the state institutions has been considered for a long time as a test for a government. Since the times of Plato and Aristotle we have known (and we should know) that the purpose of state is to make people's life good and to secure justice in their interpersonal relations. But it is also a plain truth that to make people's life good is costly. Whatever we may think of any government expenditures, we must recognize one basic fact of life: we pay for them. Fairness of this paying is one of the basic components of our quality of living. This highly complicated issue of our paying and the betterment of equity of paying is the subject matter of the chapter written by A. Vernizzi, M. Monti and M. Kośny. Theoretical considerations of this chapter are supplemented by the empirical research based on the data from Household Budget Survey carried out in 2001 by the Polish Central Statistical Office.

Some more specific aspects of quality of life from the point of view of Polish households are highlighted by M. Rószkiewicz, Z. Kudrycka and Z. Mielecka-Kubień. The volume provides good comparison of the state of research on QoL in Poland and in the world.

Walenty Ostasiewicz

Wolfgang Glatzer
University Frankfurt am Main[1], Germany

Conditions and Criteria for Improving Quality of Life

Premark:
A life course between Poland, Germany and Tasmania

My introductory lecture begins with a rather personal story and will then continue with the issue of the criteria for international investigations of the quality of life of nations.

Wrocław is the center of the region at the Polish border to Germany called Silesia, which in history was at certain times an independent state, while for some time it was part of Bohemia, Poland or Germany. The Silesian universities at Wrocław are rooted in different cultures. Historically, there has often been hostile rivalry between Germany and Poland about Silesia but obviously this has come to an end. In the expanded European Union, Poland and Germany are partners and Silesia as a part of Poland is now a region of Europe. My own life is linked in a very special way to the hostility and friendship between Poland and Germany. Normally, I do not like to talk about myself in a scientific context but today I have the feeling I should do it. My story, which I will tell you in a few minutes, is in the centre of German-Polish relationships and in the end it will lead to conclusions about the conditions of quality of life.

I want to start by saying that today is my birthday. I was born on September 15th in 1944, about 150 km north of Wrocław in a small village with the name Borowice. On my birthday, in the autumn of 1944/45, it became absolutely clear that Germany would loose the Second World War. The Russian front moved very quickly from the East towards Silesia and the

[1] The article was prepared during the fellowship at the Hanse Wissenschaftskolleg in Delmenhorst. The author was the president of the International Society of Quality of Life Studies, the new president is Richard Estes from Philadelphia.

Filomena Maggino
Università degli Studi di Firenze, Italy

Definition and Analysis of Subjective Indicators of Urban Quality-of-life in an "Atypical" City

Introduction[1]

In 2003 the City of Florence (Italy) together with the Department of Statistics of the University of Florence promoted a particular study on the citizens' perception and evaluation of the quality of life in their city. The main aim of the study was re-qualifying the city life through fair policies answering to residents' needs. In this perspective, the study attempted also to develop some particular indicators of quality of life in order to measure and interpret the levels of suitability of the living conditions that the city of Florence offers to its inhabitants.

The conceptual model

In the opinion of the research group, the definition of the conceptual model for the quality of life in Florence, describing some important aspects considered to be directly related to the subjective perception of the quality of life in an urban context, had to take into account the specificity and peculiarity of the urban reality of the city which makes the city of Florence atypical in the context of the Italian (and not only) towns.

The conceptual model adopted by the research group, composed by University researchers and City officials, has fixed the urban reality in the center of the study, bringing out and investigating the interaction between each individual and the urban environment, considered at three different levels: the citizen living Florence (not living *in* Florence) is placed in a well-

[1] Part of this work was presented in the ambit of the volume *Community Quality of Life Indicator – Best Cases*, special issue of Social Indicators Research, edt. M.J. Sirgy & D. Rahtz, Springer (in printing).

-defined spatial and temporal reality, defined in terms of housing-space, neighborhood space, and the whole city. In defining, measuring and interpreting the different citizens' levels of satisfactions, it is important to take into account that the three realities are successively inclusive, playing a concentric-role (in this perspective the presented approach deals with both community dimensions and subjective dimensions of quality of life [11].

The individual components (objective and subjective) leaving out of consideration the relationship between citizen and urban reality are not investigated.

The questionnaire structure

Consistently with the conceptual model, the structure of a questionnaire was defined with two general and wide ambits – the relation of the citizen with the city and the individual life aspects. The first ambit is consisting of two aspects exploring the relationship of the individual with the neighborhood area (the first one) and with the whole city (the second one). For each aspect, different areas, variables, and, consequently, items were defined (Fig. 1).

The second ambit is person-centred and is oriented to explore the individual life aspects defined in terms of individual conditions (profession, educational qualifications, house, social network supports, and free time activities), subjective life-values, happiness, financial situation (Fig. 2).

The *individual data* (sex, civil status, age, year of registration in the General Register, and number of family components and their relationship with the head of the family) were collected from the City General Register and then connected to the individual questionnaire data. The *individual data* together with the information related to the profession constitute the *basic variables*[2].

[2] Before performing the statistical analyses, the basic variables were submitted to a new defining, performed consistently with the aims of the study and with the conceptual model. Following the description of the basic variables submitted to the new defining.

- *Age* (AGE). Four categories were defined: 1) 18-30 (13%); 2) 31-49 (34%); 3) 50-64 (25%); 4) 65 and over (29%).
- *Profession* (PROF). The new defining of this variable is obtained by the combination of two variables – professional condition and professional position: 1) not employed (unemployed, house working, military/social service) (10%); 2) retired (retired or invalid) (31%); 3) student (6%); 4) manager or assimilated (manager, official, contractor, autonomous) (18%); 5) employee (clerk, staff, partner of co-operative society) (22%); 6) artisan/trader (5%); 7) worker (8%).

The sampling design and the data collection

The sample was selected by applying a probabilistic stratified design. The reference population – composed by the Florentine resident citizens that have reached the full age – was stratified according to three characteristics: area of residence (in 1995 the territory of the City of Florence was subdivided into twenty areas exclusively for the survey purposes), sex and age (the defined age-categories were: 18-24, 25-34, 35-44, 45-54, 55-64, 65-74, 75 and over).

The total dimension of the sample was set to 1200 units. In order to manage the non-responses, a reserve list was identified by drawing, for each unit of the base sample, 2 units belonging to the same stratum. In some cases, a further drawing was necessary to obtain the expected number of units.

The project has planned 2 surveys. The first one proceeded from the end of October to the end of November 2003 by a paper-questionnaire. 1185 individuals were interviewed by a group of trained interviewers, generally at the house of the respondents. The average length of each interview was 33 minutes (with a range of 15-120 minutes). The validity of the questionnaire was tested in a preceding pilot survey conducted on a small sample.

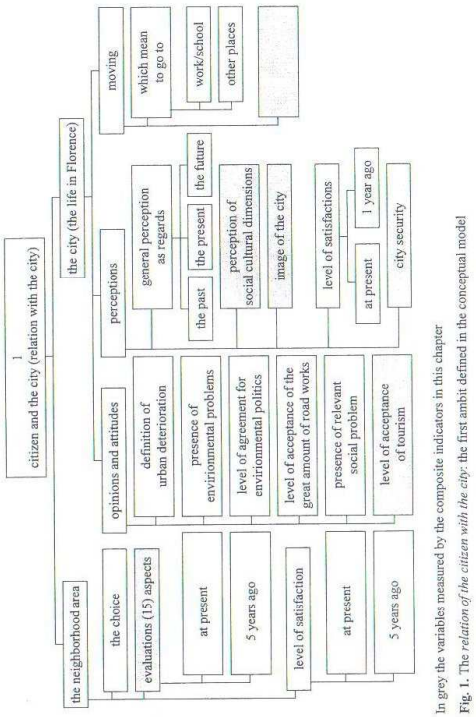
• *Residence area* (GEO). The new defining of this variable has taken into account the territorial distribution of the twenty census areas (employed for the sampling frame) and their position with reference to the city center: 1) central area (16%); 2) close-to-the-center area (19%); 3) mid-suburban area (20%); 4) suburban area (45%).

• *Household* (FAM). The new defining of this variable has taken into account the number of the family members, their age and civil status. Six family typologies were defined: 1) elderly person living alone (8%); 2) single (9%); 3) elderly person living in an enlarged family (7%); 4) not-elderly person living in an enlarged family (47%); 5) elderly person living with another elderly person – elderly couple (14%); 6) not-elderly person living with another not-elderly person – young couple (16%).

• *Standard of education* (STUDY). 1) Qualification corresponding to the compulsory education (49%); 2) qualification corresponding to the secondary school (30%); 3) qualification corresponding to at least a university degree (21%).

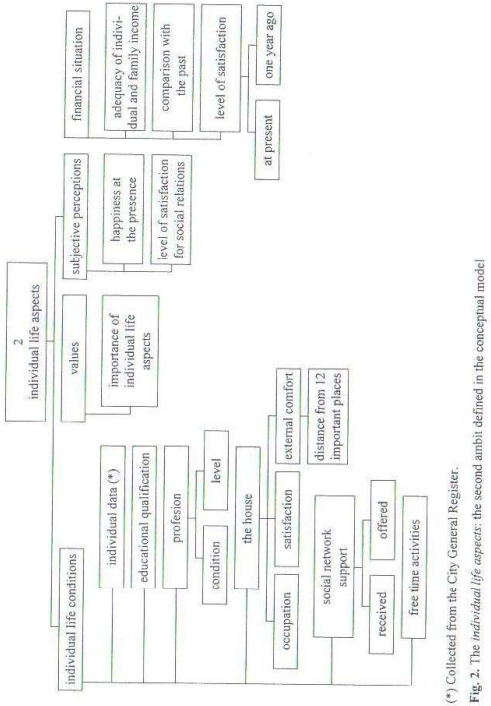
• Proportion of one's life spent in Florence as a resident (PERC_IM). The ratio between the age at one's registration in the City General Register and the present age was calculated. The following categories were defined: 1) not more than 50% of one's life spent in Florence as a resident (29%); 2) from 51 to 90% of one's life spent in Florence as a resident (28%); 3) more than the 90% of one's life spent in Florence as a resident (43%; 40% from birth). In the application of this variable we have to consider that Florentine citizens exist that usually live a relatively long part of their life in Florence not as residents – as usually happens among university students.

The *gender* variable was rarely employed because of its poor discriminant capability.



In grey the variables measured by the composite indicators in this chapter

Fig. 1. The *relation of the citizen with the city*: the first ambit defined in the conceptual model



(*) Collected from the City General Register.

Fig. 2. The *individual life aspects*: the second ambit defined in the conceptual model

The respondents who, at the end of the first interview, accepted to be re-interviewed were involved in the second survey, conducted in October 2004. Consequently, 694 subjects, among the 1185 involved in the first survey, were re-interviewed after one year by a telephonic-questionnaire[3] managed by the CATI system. Since the goal of the second survey was essentially to update some individual information concerning possible change in residence, house, and profession, and to measure possible change in some subjective dimensions concerning the city life, the telephonic-questionnaire (average length was 15 minutes) was more concise and agile than the paper one[4].

In both surveys, the interviewers have found a great collaborative attitude shown by all the interviewed citizens.

Noticeably, the selection procedure of the 2004 group does not allow considering it a probabilistic sample. However, the project gained, by this approach, important aspects concerning comparative analyses (not presented here), realizable according to different perspectives:

1. *Group comparison*: this comparison is accomplishable between the entire 2003 sample ($n = 1185$) and the entire 2004 re-interviewed group (694). This comparison is legitimated by the ex-post analysis, carried out on the demographic composition of both groups, which has statistically demonstrated the comparability of their structures with regard to the sampling variables (age, sex and residence district).

2. *Individual comparison*: this comparison is accomplishable between the data obtained by each individual that has took part in both surveys ($n = 694$). This kind of comparison, comparable to the panel technique, allowed particular approaches in the analyses of individual change[5].

[3] Appendix presents an English translation of the Italian submitted questionnaires. The English versions need a back-translation for accuracy of the meaning in the case some researchers would like to apply this in an English-spoken context.

[4] Even if the two questionnaires come from the same conceptual model, they required different scaling approaches. The data allowed the comparison of the two scaling approaches adopted for the same variables (single-item indicators) for the two surveys.

[5] The data collected in both surveys allowed the accomplishment of the following comparison analyses (not presented here):

– comparison between the perceptions of the year before the survey (perception of the 2002 vs. perception of the 2003); this kind of analysis is finalized to assess the stability of subjective perception of the past;

The stages for defining and analyzing subjective indicators of quality of life

Many variables identified and defined in the questionnaire structure and presented in the paper-questionnaire (2003 survey) have been investigated just by simple elements (single-item measures); on the other hand, some complex variables (marked in grey in Figs 1 and 2) required the definition of a composite model and the collection of several items. These variables are the following:

– *the subjective image of the city*: the image that each citizen has for one's city is considered related to the level of satisfaction of one's life in the city (30 items presented in the question no. 25 of the questionnaire);

– *the perception of the tourist dimension of the city*: the tourism is an important dimension of the city, which deeply conditions, positively or negatively, the citizens' life; in this sense, the level of perception may be related to the level of satisfaction of one's life in the city (10 items presented in the question no. 20 of the questionnaire);

– *the perception of the cultural dimension of the city*: the consciousness of the opportunities that the city can give may represent a chance to live the urban life in a satisfying way (4 items of the question no. 22 of the questionnaire) [9];

– *the personal safety perception*: feeling secure walking alone along the roads of the city represents one of the conditions to perceive and live a better quality of city life (6 items presented in the question no. 18 of the questionnaire);

– *the evaluation of the district*: the subjective evaluation of some different aspects of the life in one's district may represent an efficacious indicator of the perceived conditions, aside from the objective situation of the district (20 items presented in question no. 6 of the questionnaire) [7, 8];

– *the territorial distribution of the public services*: this indicator is to measure the subjective accessibility to some services, defined in terms of time required to go to; the perceived time is more important, and not necessarily connected to, the objective distance (12 items presented in the question no. 8 of the questionnaire); the research group considers this subjective indicator useful also in planning the territorial organization of services;

– *the irregularity of the time required to cover the daily-route distances*: this indicator is connected to the idea that one of the factors that may increase the quality of life in a city is the possibility to plan one's daily movements in a confident and reliable way; the possibility is measured in terms of regularity of time required to cover the daily-route distances (time referred to in the question no. 10 of the questionnaire).

The definition of the indicators, as well as of the corresponding defining items, is the result of a great and deep discussion among the researchers and in some cases represents a real compromise between the positions of the researchers on the one hand and that of the officials on the other. At the same time, the definition, having taken into account the peculiar characteristic of the city difficult to compare to other cities, found few literature supports.

The researchers share the common aim to obtain a group of complex and informative indicators, which, together with the other simple indicators, not only makes clear the measured aspects but also allows the observation and the interpretation of each analyzed ambit through different kind of comparisons [4; 5; 10]:

– transversal (comparisons between individuals in terms of age, gender, professional position, educational level, family, etc.),

– spatial (comparisons between individuals living in different urban areas),

– longitudinal/dynamic (comparisons between data of the same respondent in different moments or comparisons between groups in different periods as a result of plausible repeated surveys)[6].

The successive paragraphs have the purpose to illustrate the survey (and the obtained results) conducted with the following aims: a) the analysis, b) the aggregation, c) the combination of the composite indicators previously presented.

a) The analysis of the composite indicators. The goal of this work is to show the results of the statistical procedure, applied and finalized to the analysis and the description of the composite indicators[7]. In particular, the second paragraph of this chapter deals with the presentation of the explora-

– comparison between the present perceptions (2004 survey) and the past perceptions (2003 survey); this kind of analysis is finalized to assess the presence of the "memory effect";

– comparison between the present perceptions (2003 survey vs. 2004 survey); this kind of analysis is finalized to measure the individual change.

[6] One of the aims of the Florentine project was to accomplish and repeat cyclically this kind of surveys.

[7] In this context the analysis of the single-item indicators is not presented.

tive statistical process that was conducted in order *to construct the indicators* according to the data collected in the 2003 survey. This process proceeded through subsequent phases, finalized to:

1) verify the dimensionality of the group of selected items (*dimensional analysis*),

2) construct the synthesis of the indicators (*synthesis analysis*),

3) verify the informative characteristic of the indicators as well as of the items defining them (*descriptive analysis*),

4) verify the discriminant capacity of the indicators between different groups defined with regard to the basic variables (*comparative analysis*). The existence of a significant statistical difference between the defined groups was tested applying the appropriate statistical tests (ANOVA), parametric or non-parametric depending on item distributions, at a significance level of 0.01,

5) verify the validity of the indicators, in terms of quality of life, by correlating them with single-item indicators of satisfaction (see questionnaire structure) (*validity analysis*).

For each composite indicator, this kind of analysis process has the aim to re-establish the unity of the corresponding ambit and to synthesize the single measured elements (items) in terms of conceptual and methodological homogeneity.

b) The aggregation of the composite indicators. In order to make the composite indicators more interpretable and functional, they were submitted to a particular aggregation analysis finalized to aggregate the composite indicators in few, complex and significant dimensions. The aggregation analysis had to consider and take into account the dimensionality of the group of composite indicators, both in theoretical and statistical sense.

c) The combination of the composite and simple indicators. In order to identify the presence of typical profiles of citizens, a grouping analysis was performed by the identification of the most frequent combination of values.

Developing the composite indicators

The subjective image of the city

In order to investigate the image that the interviewed citizens have of the city, a group of differential semantic scales was defined (question no. 25 of the questionnaire).

The dimensional analysis (carried on by the principal component analysis)[8] of the observed data confirmed the presence of the five hypothesized "images". Accordingly, five different indicators of the "images of Florence" were defined: the *organization* (DF1), *uniqueness* (DF2), *dynamicity* (DF3), *hospitality* (DF4), and *liveability* (DF5). The individual scores (mean of the responses scores for the considered pairs of adjectives)[9] range from 0 (extremely negative image) to 7 (extremely positive image)[10].

Below, the results of the *descriptive analysis* and *comparative analysis*, for each composite indicator, the *validity analysis* for all composite indicators, are presented.

Organization[11]**.** The pairs of adjectives that define this indicator are (in parentheses component loadings are indicated): *conservative-innovator* (0.63), *disorganized-organized* (0.66), *improvisator-planner* (V155: 0.56), *chaotic-tidy* (0.54). Significant differences were observed between groups defined in terms of age (lower scores registered by individuals from 30 and 50 years old), of standard of education (scores tend to be lower with reference to high education levels), of professional position (scores tend to be lower with reference to the higher positions), of residence area (scores tend to be lower as the citizens live closer to the center) and of proportion of life lived in Florence (scores tend to be higher among citizens with a high proportion). No significant difference was observed between groups defined in terms of household, even if a tendency to lower scores for singles and young couples was observed.

Uniqueness[12]**.** The pairs of adjectives that define this indicator are (in parentheses component loadings are indicated): *ugly-beautiful* (0.69), *unknown-well-known* (0.75), *despised-appreciated* (0.68), *unpleasant-pleasant* (0.53), and *common-unique* (0.57). The high scores observed for this indicator point out the great consciousness of Florentine citizens about the inimitability of their city, independently from age, gender, standard of education, professional condition, residence area, household and proportion of life

[8] The extracted dimensions (*varimax* rotation) explain 56% of the total variance.

[9] The definition of the indicators has not considered the adjectives *industrious-indolent* and *formal-informal* since they registered no significant loading.

[10] In this method of calculus, we decided not to consider the different weight (*component score*) recorded by each item since the weights of the items defining each indicator have the same amount.

[11] This indicator has produced a significant level of internal consistency ($\alpha = 0.7$).

[12] See note 11.

lived in Florence. This characteristic let the citizens come to a total agreement apart from any other evaluation. This homogeneity transformed the indicator in a real constant, suggesting its exclusion from any subsequent analysis.

Dynamicity[13]**.** The pairs of adjectives that defined this indicator are (in parentheses component loadings are indicated): *passive-active* (0.42), *slow--fast* (0.48), *boring-amusing* (0.76), *placid-lively* (0.78), *depressing-stimulating* (0.57), *static-dynamic* (0.58). Significant differences were observed between groups defined in terms of age (elderly and young people reported higher scores), of standard of education (low scores are associated with high levels), of professional condition (lower scores are observed among managers, autonomous professionals and workers), of residence area (higher scores observed among citizens living far from the center). No significant difference was registered between groups defined in terms of proportion of life lived in Florence. A tendency to lower scores for singles and young couples was observed.

Hospitality[14]**.** The pairs of adjectives that define this indicator are (in parentheses component loadings are indicated): *intolerant-tolerant* (0.68), *quarrelsome-easy-going* (0.52), *close-open* (0.68), *rude-courteous* (0.69), *inhospitable-hospitable* (0.71), *uncaring-caring* (0.46). Significant differences were observed between groups defined in terms of age (elderly and young people reported higher scores), of standard of education (low scores are associated with high education levels), of professional condition (lower scores are observed among managers and autonomous professionals), of residence area (higher scores observed among respondents living far from the center), of household (higher scores observed among elderly people living in family and lower scores among singles and young couples), of proportion of life lived in Florence (lower scores observed among people living in Florence for a low proportion).

Liveability[15]**.** The pairs of adjectives that define this indicator are (in parentheses component loadings are indicated): *insecure-secure* (0.55), *noisy--silent* (0.56), *chaotic-tidy* (0.51), *disappointing-gratifying* (0.57), *unliveable-liveable* (0.74), *stressful-relaxing* (0.67), *uncomfortable-comfortable* (0.63), *uncivil-civil* (0.51). Significant differences were observed between groups defined in terms of professional position (higher scores observed among retired

[13] This indicator has produced a high level of internal consistency ($\alpha = 0.8$).

[14] See note 13.

[15] See note 13.

people, students and workers), of standard of education (lower scores are observed among higher education level) and residence area (higher scores among respondents living distant from the center). No significant difference was observed between groups defined in terms of proportion of life lived in Florence, age (even if a tendency to higher scores among elderly respondents was observed) and household (even if a tendency to lower scores among singles and young couples was observed).

The comparison between the distributions of the "image" indicators (Fig. 3) reveals a clear tendency of the respondents to have a great positive image in terms of the *uniqueness* (mean = 6.3, standard deviation = 0.7, negative asymmetry). The majority of the individuals registered mid-high scores for the indicators of *dynamicity* (mean = 4.5), *hospitality* (mean = 4.1) and *liveability* (mean = 4.1). Tendentially lower scores can be observed for the *organization* indicator (mean = 3.6).

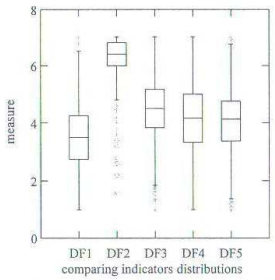


Fig. 3. Image of Florence: comparison between the distributions of the five composite indicators

In performing the validity analysis, quite interesting levels of correlation[16] were observed between these indicators and the *life in Florence* indicator (question no. 25 in the questionnaire) and the level of *satisfaction for one's life in Florence* (question no. 26 in the questionnaire) (Tab. 1). This is particularly true for the *liveability* indicator and *present-day* dimen-

[16] The relation was measured by the Pearson coefficient. Analogous results were obtained by applying the Spearman coefficient for ranked data.

sion. These outcomes suggest above all interesting considerations concerning the convincing capacity of the created image-indicators in measuring the citizens' perception of their city, particularly in terms of *liveability* dimension.

Table 1. Correlations between the subjective images of the city and other single-item indicators

Images of the city		The indicators of subjective image of Florence				
		Organization	Uniqueness	Dynamicity	Hospitality	Liveability
Life in Florence	in the past	–0.04	0.10	0.00	0.04	0.05
	at present	0.31	0.25	0.28	0.27	0.42
	in the future	0.30	0.19	0.24	0.27	0.40
Satisfaction for one's life in Florence	at present	0.31	0.34	0.35	0.35	0.48
	one year ago	0.28	0.35	0.35	0.33	0.41

This allowed also noticing that there is, in general, a high level of criticism towards the city among the Florentine citizens, especially with regard to the organization, the dynamicity, the hospitality and the liveability. This is particularly true among citizens that appear to have more "interaction occasions" with the city life because they are living in particular city area (as the center), because they are engaged in particular professional activities (autonomous or commercial), because they have particular family typology producing particular needs (singles and young couples).

The perception of the tourist dimension of the city

Each respondent had to point out his/her agreement with regard to 10 assertions concerning the presence of tourism in Florence (question no. 20 of the questionnaire). The individual aggregate scores, calculated by averaging the number of the positive attitudes reflected by the responses to the ten items, after having appropriately reflected the response scales of the negatively oriented items, have a positive polarity and range from 0 (maximum negative perception) to 1 (maximum positive perception). The frequency distribution (Fig. 4) shows a general tendency to mid and high scores (mean = 0.6 and SD = 0.2).

In terms of *comparative analysis*, no differences were observed between groups defined in terms of age, professional condition, proportion of time lived in Florence. On the other part, significant differences were observed between groups defined in terms of standards of education (individuals with high standards seem to be more critical) and in terms of residence area (the

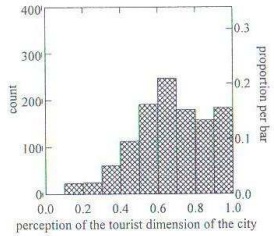


Fig. 4. Perception of the tourist dimension: frequency distribution

level of positive perception increases with the distance from the center of the city). These results seem to confirm the comments made as regards the "image" indicators: more critical attitudes are related to high standards of education and to the deep individual interaction with the urban reality.

In terms of *validity analysis*, no significant level of correlation was observed between this indicator and the *life in Florence* and the level of *satisfaction for one's life in Florence*. The results seem to suggest that the city tourist-dimension, even if it creates some practical liveability problem, seems to be distinguished from the level of satisfaction. This is confirmed by the relatively low levels of correlation (ranging between 0.19 and 0.26) observed between this indicator and the image-indicators.

The perception of the cultural dimension of the city

The respondents had to express their agreement (on a 0-10 rating scale) as regards four assertions concerning sentences concerning the offers presented by the city (question no. 22 of the questionnaire). The responses to the four items revealed to consider the artistic aspect of the city at a higher level compared to the other aspects. The frequency distribution of the corresponding combined indicator[17], defined as the average number of agreements (scores ranging from 0 – no esteem – to 10 – maximum esteem), shows (Fig. 5) a general tendency to mid-high scores (mean = 6.8, DS = 1.6).

[17] The internal consistency of the group of items produced a quite satisfying result ($\alpha = 0.7$), considering that the instrument was submitted here for the first time.

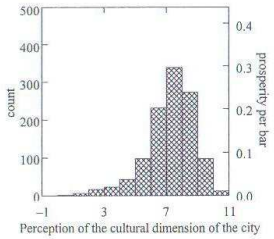


Fig. 5. Perception of the cultural dimension: frequency distribution of the scores for each item and for the composite indicator

The results of the *comparative analysis* show significant differences between groups defined in terms of age (the level of consideration is higher among elderly people and lower among people 30-50 years old), of standards of education (the level of consideration decreases as the level of education increases), of professional condition (higher scores among retired people, workers and unemployed), of residence area (higher score among people living very far from the center of the city) and of proportion of life lived in Florence (higher scores among people living in Florence for a long time).

The perception of the cultural dimension seems somehow to be related to the level of satisfaction for one's life in Florence (Tab. 2).

Table 2. Correlations between the perception of the cultural dimension of the city and other single-item indicators

Images of the city		Perception of the cultural dimension of the city
Life in Florence	in the past	0.06
	at present	0.30
	in the future	0.26
Satisfaction for one's life in Florence	at present	0.41
	one year ago	0.40

In particular, these results seem to suggest, on the one hand, that the level of perception could be related to an affective dimension (maybe stereotyped and fixed), on the other, that the satisfaction for the city life is not extraneous to the socio-cultural and artistic dimensions. This upshot needs to be well taken into account in developing strategies and policies finalized to the betterment of city life.

The perception of the personal safety

Each respondent reported his/her perception with regard to the personal safety in three different urban contexts and two different moments of the day (question no. 18). The observation of the frequency distributions of the six items revealed the respondents' tendency to have different perception between day-time and night-time.

The cluster analysis performed on the six items pointed out (Fig. 6)[18] the "moment of the day" as the prevailing dimension in this kind of perception. In other words, the subjective perception changes as a function of the moment of the day and not of the area.

Consequently, 2 different indicators of the personal safety perception were defined, the day-time safety perception and the night-time safety perception. The scores range from 1 (high security perception) to 4 (high insecurity perception). The observation of the obtained individual scores clearly shows, as expected, a more positive day-time perception (Fig. 7).

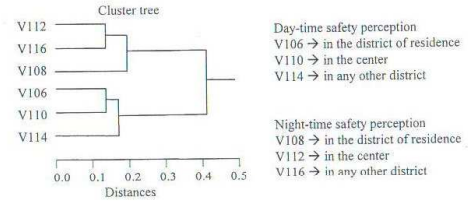


Fig. 6. Cluster tree obtained by the single items indicators concerning the security perception

[18] The produced cluster tree was obtained through the hierarchical approach (distance: *gamma*; linkage: *complete*).

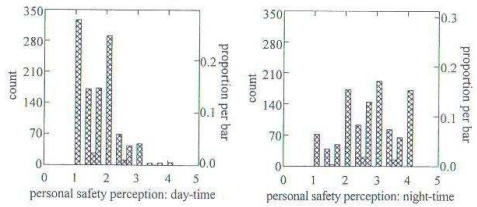


Fig. 7. Indicators of safety perception (day-time and the night-time): frequency distributions

Both indicators reported significant differences between groups defined in terms of residence area (high positive perception among citizens living in the center, high negative perception among citizens living in the suburban area), in terms of age (the level of insecurity increases with the age), in terms of gender (high positive perception among men), in terms of standard of education (high positive perception among people with high standard). The significant difference observed between groups defined in terms of professional condition seems to be related with the age (students feel more secure, retired more insecure). The relevance of the age factor is confirmed by both the comparison accomplished between groups defined in terms of household (elderly persons feel more insecure, apart from the typology of household) and the lack of any significant level of correlation between these indicators and the *life in Florence* and the level of *satisfaction for one's life in Florence*.

The evaluation of the district

The respondents reported their evaluations with regard to 20 single-item indicators concerning the district of residence (question no. 6 of the questionnaire).

The dimensional analysis (carried on by the principal component analysis)[19] of the 20 single-item indicators confirmed the presence of the 5 hypothesized areas of evaluation. Consistently, 5 indicators of evaluation were defined: *traffic condition* (ZONA1), *presence of services* (ZONA2), *road network condition* (ZONA3), *urban environment* (ZONA4), *urban green* (ZONA5).

[19] The Principal Component Analysis (*varimax* rotation) has extracted five dimensions (56% of the total variance explained).

The individual scores (mean score of the responses for the considered single-item indicators) range from 0 (extremely negative evaluation) to 10 (extremely positive evaluation)[20]. Below, the results of the *descriptive analysis* and *comparative analysis*, for each composite indicator, the *validity analysis* for all composite indicators, are presented.

Traffic conditions[21]**.** The single-items that define this indicator are (in parentheses component loadings): *roads cleaning* (0.54), *traffic* (0.78), *availability of parking areas* (0.67), *quietness* (0.78). Significant differences were observed between groups defined in terms of age (more positive evaluations among young people), of residence area (more positive evaluations among citizens living far from the centre of the city). No significant differences were observed between groups defined in terms of standard of education (even if the scores decrease with high standard), of professional condition (even if the scores are higher among students), of household (even if singles registered the lowest scores), and proportion of life lived in Florence.

Presence of services[22]**.** The single-items that define this indicator are (in parentheses component loadings): *chemist's shops and ambulatories* (0.72), *post-offices and banks* (0.77), *supermarkets or hypermarkets* (0.54), *stores* (0.74), *schools* (0.61). Significant differences were observed between groups defined in terms of residence area (low scores among citizens living in the center of the city). No difference was observed between groups defined in terms of age, of standard of education, of professional condition, of household (even if singles registered low scores), of proportion of life lived in Florence.

Road network condition[23]**.** The single-items that define this indicator are (in parentheses component loadings): *bikeways* (0.68), *state of the roads network* (0.46), *street islands* (0.76), *removal of the architectonic barriers* (0.57). Significant differences were observed between groups defined in terms of age (high scores among young people), of standard of education

[20] Also in this method of calculus, we decided not to consider the different weight (*component score*) that each item registered since the weights of the items defining each indicators registered almost the same amount.

[21] This indicator registered an interesting internal consistency value ($\alpha = 0.7$).

[22] This indicator registered a high internal consistency value ($\alpha = 0.8$).

[23] This indicator registered an encouraging internal consistency value ($\alpha = 0.6$).

(high scores among citizens with high standards), of residence area (high scores among citizens living far from the center). No significant difference was observed between groups defined in terms of professional condition (even if students registered a tendency to high scores), of household (even if singles and elderly people living alone registered low scores), of proportion of life lived in Florence (even if with a tendency to lower scores among citizens born in Florence).

Urban environment[24]. The single-items that define this indicator are (in parentheses component loadings): *road conditions* (0.50), *traffic signals* (0.58), *public transports* (0.61), *differentiated waste collection* (0.56), *removal of waste from garbage cans* (0.61), *streetlights* (0.49). Significant differences were observed among groups defined in terms of age (better evaluations among elderly people), of standard of education (scores tend to be low among citizens with high standards), of professional condition (low scores among managers and autonomous workers), of residence area (low scores among citizens living in the center), of household (low scores among singles and young couples). No significant differences between groups defined in terms of proportion of life lived in Florence.

Urban green[25]. The single-items that define this indicator are (in parentheses component loadings): *differentiated waste collection* (0.59), *public gardens* (0.63), *sporting installations and facilities* (0.71). Significant differences were observed between groups defined in terms of age (better evaluations in the extreme groups), of standard of education (scores tend to be low among citizens with high standards), of professional condition (low scores among managers and autonomous workers), of residence area (low scores among citizens living in the center), of household (lower scores among singles and young couples), of proportion of life lived in Florence (the scores tend to decrease with the proportion).

The comparison of the five indicators distributions allows to point out a tendentially positive level of satisfaction, especially in the case of the *presence of services* (mean = 6.9) and the *urban environment* (mean = 6.2) indicators. The evaluation concerning the *traffic condition* (mean = 4.8) and *road network condition* (mean = 4) appears to be less positive (Fig. 8).

No significant relation between these and the indicators of subjective image of the city was observed.

[24] This indicator registered an interesting internal consistency value ($\alpha = 0.7$).

[25] See note 24.

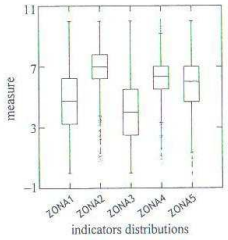


Fig. 8. The indicators of evaluation of the district: frequency distributions

These outcomes allow interesting considerations. The standard of education turned out to be a characteristic that can produce a more critical attitude, maybe caused by a different kind of expectations towards the surrounding environment. The critical evaluations produced by singles and young couples deserve to be underlined; in fact, these results allow to identify a particular sub-population that has some difficult in managing a reality that does not allow to bring on private and public rhythms and necessities. In performing the validity analysis, quite significant levels of correlation were observed between these indicators, especially the *traffic condition* indicator that reveals to be a strategic dimension of the district life, and the level of *satisfaction for the district* (Tab. 3). This result represents a satisfying evidence of the connection between the level of satisfaction, concerning the district of residence, and the urban environment in which one lives. It is

Table 3. Correlations between the evaluation of the district and other single-item indicators

Aspects of evaluation		The indicator of approval of tourism				
		Traffic condition	Presence of services	Road network condition	Urban environment	Urban green
Life in Florence	in the past	0.04	0.06	0.06	0.07	0.12
	at present	0.29	0.17	0.25	0.24	0.25
	in the future	0.23	0.18	0.23	0.24	0.20
Satisfaction for the one's life in Florence	at present	0.27	0.21	0.19	0.23	0.20
	one year ago	0.24	0.19	0.17	0.19	0.18
Satisfaction for the district		0.50	0.28	0.30	0.37	0.36

not possible to underestimate the role that the age and the level of education play in the way the citizens live and, consequently, evaluate the city.

The territorial distribution of the public services

The interviewees reported how long they usually take to walk to some sites considered important and notable in every-day-life (question no. 8 of the questionnaire). The referred times were very different within each individual and between individuals, depending on the objective site but also by the subjective situation and perception.

The aim was to construct a perceptual map – concerning the territorial distribution of the defined "sites" – that allows describing in realistic way the territorial distribution by an individual sight. In order to obtain a stable result, the minutes reported by each respondent were analyzed by three different statistical approaches: their produced coinciding outcomes. Fig. 9 allows to compare the results obtained through the three approaches (respectively the principal component analysis[26], the cluster analysis[27] and the multidimensional scaling[28]) and to identify clearly three "sites" typologies.

These outcomes allowed defining three levels of territorial distribution of the identified services:

1) extensive distribution (SERV_1M): services that can be reached in a short time (chemist's shop, shops, post-office, school, bus-stop),

2) zonal distribution (SERV_2M): services that can be reached in a mid--long time (district center, district Office Register, supermarket, local market, Police Office/Station),

3) variable distribution (SERV_3M): services that can be reached in variable time depending not on geographical factors but on individual preferences and conveniences (family doctor, bank).

[26] The produced configuration, obtained by a *varimax* rotation, explains 55% of the total variance. The figure shows the items' position in the space defined by three dimensions.

[27] The produced cluster tree, obtained through the hierarchical approach (distance: *euclidean*; linkage: *complete*) allows to represent the items aggregation process, which clearly helps to distinguish three groups of items.

[28] The *multidimensional scaling* allows to represent geometrically a multidimensional space and to describe a model underlying the observed data. The obtained configuration (*stress*: 0.07; proportion of explained variance: 0.99) helps to identify the position of the item in the defined space.

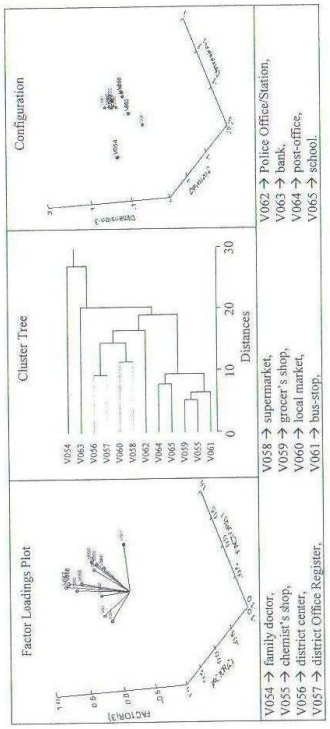


Fig. 9. Representations, obtained through three different statistical approaches, concerning the relations between the different times required to get to some sites considered important in every-day life

Consistently, 3 individual scores were calculated in terms of mean of the original scores for each level.

The observation of the frequency distributions of the 3 scores (Fig. 10) has to consider the different length of the scales (the peak-values are inevitably very different). The three distributions turned out to be significantly different between groups in terms of age only with regard to the extensive and zonal scores.

The outcomes revealed that the perceived times required to reach the "sites" are not homogeneous among respondents, especially with regard to the age and to the residence area; in particular, the highest scores were observed among respondents living in the peripherical area with regard to the extensive and zonal distributions, and among respondents living in the round-the-centre areas.

The outcomes concerning the third indicator (variable distribution of the services) clearly revealed that the individual perception of the times is connected not to the real distance but to the individual preference. In other words, the "sites" that define the indicator are chosen according not to practical conveniences but to the individual faith: it seems that each individual is inclined to cover even long distances to reach the "his/her" family doctor and "his/her" bank.

No significant level of correlation between these indicators the *life in Florence* and the level of *satisfaction for one's life in Florence* was observed. This result reveals that this is an overtaken dimension in terms of quality of life in Florence.

The irregularity of the time required to cover the daily-route distances

Whichever individual has the opportunity to know the life in Florence knows that one of the aspects related to the degree of quality of life at an individual level is the time that each citizen has usually to spend in the daily-route to go to work or to school. Actually, the distances that the citizens of Florence have to cover are not objectively very long; on the other hand, the heavy presence of commuters and tourists coming every day in the city in an unforeseeable way makes not always possible to predict the duration of the citizens' daily-route.

The analysis of the measures produced by an indicator of irregularity of the time required to cover the daily distances, defined by the minimum and the maximum time (expressed in minutes) that each respondent reported with regard to the daily-route to go to work or to school (question no. 10 of

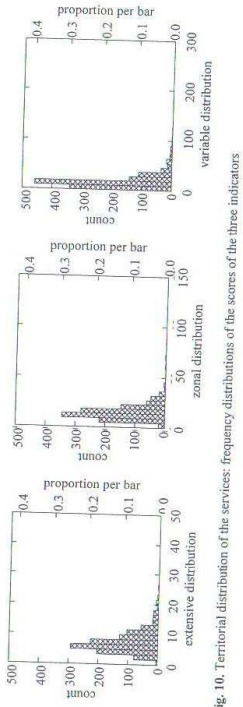


Fig. 10. Territorial distribution of the services: frequency distributions of the scores of the three indicators

the questionnaire), allows to add another element in the aim to describe and interpret the subjective level of quality of life. The indicator, calculated in terms of ratio between the maximum-minimum values difference and the maximum value, produced scores ranging from 0 (no irregularity) to 1 (maximum irregularity)[29]. In explanatory terms, a 0.5 score of irregularity points out that the subject can double the daily-route time. The indicator cannot take into account the weekly frequency of the reported time limits (minimum and maximum); in fact, the two limits could have different frequency, for example, the maximum just once a week and the minimum many times. The lack of the week frequency does not allow to weigh properly and consistently the indicator. The frequency distribution of the scores overall the sample is shown in Fig. 11.

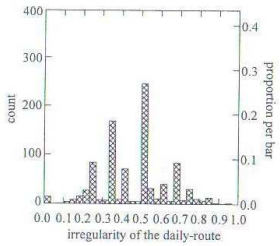


Fig. 11. Irregularity of the daily-route: frequency distribution

In the terms of validity analysis, significant differences were observed between groups defined in terms of residence area, with the greatest irregularities observed among citizens living in the round-center and peripherical areas. High significant differences were observed between groups defined in terms of the mean that the citizens usually use for the daily-routes (question no. 9 of the questionnaire). In particular, we observed the greatest irregularities among people moving by car, the greatest regularities among people

[29] The maximum value is a theoretical since it could be observed only in the case of zero recorded as minimum value.

moving by bicycle. No significant difference was observed between groups defined in terms of age and professional condition.

Contrary to the expectations, no significant relation between this indicator and the five indicators of evaluation of the district and the five indicators concerning the subjective image of the city and between this indicator and the *life in Florence* and the level of *satisfaction for one's life in Florence* was observed.

Aggregating the composite indicators

In the perspective to make the composite indicators more interpretable and functional, the composite indicators previously described were submitted to further analysis in order to explore and identify possible and meaningful aggregations.

A preliminary analysis, carried out by the principal component analysis approach, allowed to identify five significant aggregations[30], as reported below (the recorded loading value is reported for each indicator):

Component 1: the image of the city
- organization (0.76),
- dynamicity (0.76),
- hospitality (0.81),
- liveability (0.79),
- perception of the cultural dimension (0.39),
- perception of the tourist dimension (0.60).

Component 2: the services
- services with extensive distribution (0.81),
- services with zonal distribution (0.86),
- services with variable distribution (0.70),
- evaluation of the presence of services in the district (–0.49).

Component 3: evaluation of the district
- evaluation of the traffic condition (0.68),
- evaluation of the presence of services (0.57),
- evaluation of the road network condition (0.75),
- evaluation of the urban environment (0.83),
- evaluation of the urban green (0.79).

Component 4: security
- personal safety perception: day-time (0.87),
- Personal safety perception: night-time (0.88).

Component 5
- Irregularity of the daily-route distances (0.87),
- perception of the tourist dimension (0.50).

All the indicators, with the exception of two, recorded a significant component loading only on one of the five dimensions. Besides, while the interpretation of the first four components turns out to be easy, the fifth component seems to represent a residual aggregation.

In order to test the obtained aggregation, a further analysis was carried out through the cluster analysis approach[31] that helped to judge the aggre-

[30] The five dimensions explain 65% of the total variance (rotation method: *varimax*).

gation process. The cluster tree (Fig. 12) seems to partially confirm the previous result, allowing to identify four clear and interpretable aggregations.

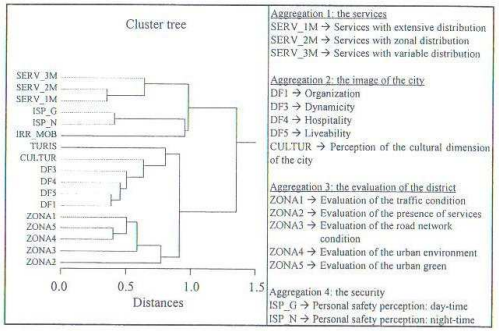


Fig. 12. Cluster tree describing the aggregation process of the indicators

The *irregularity of the daily-route distances* (IRR_MOB) and the *perception of the tourist dimension* (TURIS) indicators appear to be "far" from the other identified aggregations, revealing contents and meanings not related to the other elements. Similar result can be observed with regard to the indicator of the evaluation of the presence of services (ZONA2). The four aggregations model is supported by the result obtained by the *additive tree* approach (Fig. 13)[32]. This further result revealed a clear presence of four

[31] The hierarchical cluster analysis was applied on the matrix of the distances – defined in terms correlation coefficient (1-*r*) – between the composite indicators and adopted a joining algorithm defined in terms of complete linkage method. Generally, this combination allows pointing out homogeneous groups [1; 6].

[32] In this phase, the *additive tree* method was applied in order to model the distances between the indicators. The produced hierarchical trees imply that all within-cluster distances are smaller than all between-cluster distances and that within-cluster distances are equal ("ultrametric" condition). Additive trees represent similarities with a network model in the shape of a tree. The distances between indicators are represented by the lengths of the

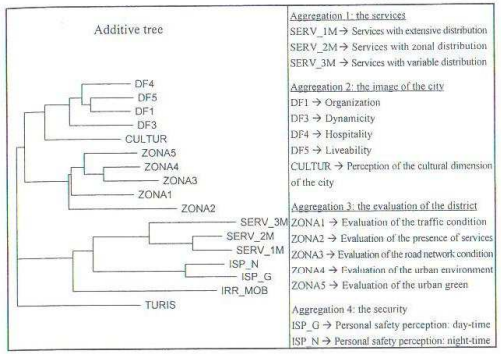


Fig. 13. Aggregation tree describing the aggregation process of the indicators

aggregations and the correspondent "separation" of the other two indicators (TURIS and IRR_MOB).

The application of the *factor analysis* approach confirmed the presence of the four aggregations dimensions, explaining 65% of the total variance. According to the four aggregations form, four individual scores were calculated, employing the factor scores recorded by each indicator (weighted scores).

The distributions overall the sample of the scores (Fig. 14) show a general normal shape, with the exception of the "evaluation of the district" composite indicator that shows a marked asymmetry, caused by the presence of extremely high positive scores.

branches connecting them in the tree. From the statistical point of view, the outcome is rather satisfactory (*stress* = 0.05, *r-squared* = 0.93).

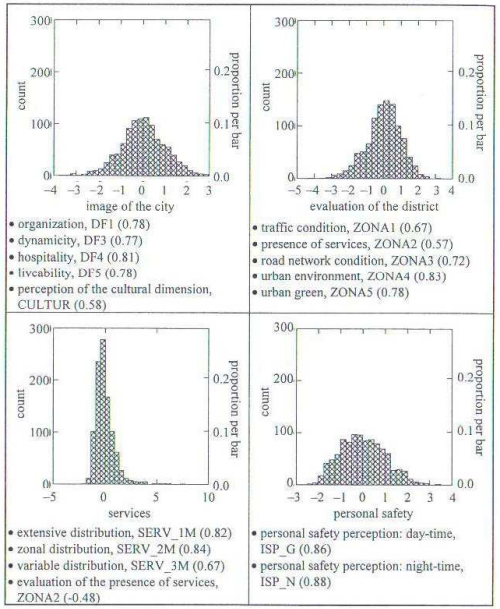


Fig. 14. The four aggregated indicators: frequency distributions of the individual scores and the defining indicators (with their individual component loadings)

Identifying typical profile of citizens

In order to explore the presence of meaningful and typical profiles among the interviewed citizens, the following analysis aims to identify the most frequent combination of values in the observed group. A hierarchical cluster analysis[33] was performed by taking into consideration the aggregated indicators (image of the city, evaluation of the district, services, personal safety), the composite indicators (irregularity of the daily-route distances, and perception of the tourist dimension) and some single-item indicators (happiness, satisfaction for one's life in Florence at present, the life in Florence at present, satisfaction for the district).

The initial interpretation required the comparison of the profiles by the observation of the basic statistical indexes (minimum, maximum, mean and standard deviation) registered by the standardized indicators for each group. This interpretation had to take into consideration the different polarization of the indicators, positive, when the highest scores indicate positive evaluations (satisfaction for the district, life in Florence at present, satisfaction for one's life in Florence, perception of tourist dimension, image of the city, evaluation of the district), and negative, when the highest scores indicate negative evaluations (happiness, irregularity of the daily-route, services, personal safety). Four typical profiles were individuated.

1. The *satisfied* group. This group, formed by 442 respondents, is characterized by a high level of happiness and satisfaction for one's life in Florence, for a positive representation of the life in the city. Further, they have a high level of satisfaction for their district, refer a good evaluation for the district, and perceive a high level of perception of personal safety (Tab. 4).

2. The *critical* group. This group, formed by 303 respondents, is characterized by mid-low level of image of the city and evaluation of their district. Their critical tendency is confirmed by the mid-low level of satisfaction for their district, for their life in Florence, for the life in the city and of happiness (Tab. 5).

3. The *satisfied-with-little* group. This group, formed by 364 respondents, is characterized by mid-low scores for all the considered indicators with the exception of the low level of perceived personal safety (Tab. 6).

[33] In the first phase of this analysis, a *hierarchical cluster analysis* was applied in order to verify the existence of a restricted number of typical profiles among the respondents. In the second phase, the application of the *k-means* approach allowed to identify, verify and interpret the obtained typologies.

Table 4. The *satisfied* group ($n = 442$): indicators profiles

		INDICATOR	min.	mean	max.	SD
Indicators polarity	Positive	Satisfaction for the district	−2.11	0.52	1.59	0.65
		Life in Florence at present	−1.93	0.62	1.63	0.64
		Satisfaction for one's life in Florence at present	−1.91	0.54	1.72	0.71
		Perception of the tourist dimension	−2.54	0.22	1.81	0.91
		Image of the city	−2.05	0.31	2.78	0.88
		Evaluation of the district	−2.44	0.43	3.18	0.87
	Negative	Happiness	−1.50	−0.50	2.16	0.74
		Irregularity in the daily-route	−2.61	0.06	2.38	0.96
		Services	−1.56	−0.22	1.95	0.60
		Personal safety	−2.26	−0.60	1.39	0.73

Table 5. The *critical* group ($n = 303$): indicators profiles

		INDICATOR	min.	mean	max.	SD
Indicators polarity	Positive	Satisfaction for the district	−3.70	−0.80	1.59	1.09
		Life in Florence at present	−2.64	−0.89	1.63	0.95
		Satisfaction for one's life in Florence at present	−4.33	−1.05	0.51	0.97
		Favour for the perception of the tourist dimension	−2.54	−0.59	1.81	1.01
		Image of the city	−3.60	−0.82	1.82	0.89
		Evaluation of the district	−4.06	−0.54	2.14	1.05
	Negative	Happiness	−1.50	0.76	2.89	1.06
		Irregularity in the daily-route	−2.61	−0.09	2.86	1.04
		Services	−1.78	−0.06	2.88	0.81
		Personal safety	−2.33	−0.07	2.94	0.96

Table 6. The *satisfied-with-little* group ($n = 364$): indicators profiles

		INDICATOR	min.	mean	max.	SD
Indicators polarity	Positive	Satisfaction for the district	−3.70	−0.04	1.59	0.86
		Life in Florence at present	−2.64	−0.09	1.63	0.86
		Satisfaction for one's life in Florence at present	−1.91	0.18	1.72	0.67
		Perception of the tourist dimension	−2.54	0.09	1.81	0.86
		Image of the city	−1.63	0.27	2.85	0.84
		Evaluation of the district	−2.92	−0.06	2.46	0.85
	Negative	Happiness	−1.50	−0.06	2.89	0.83
		Irregularity in the-daily route	−2.61	0.07	2.76	1.00
		Services	−1.95	−0.05	2.59	0.75
		Personal safety	−0.73	0.77	3.34	0.78

4. The *integrated* group. This group, composed 76 respondents, is characterized by mid-high level of satisfaction for their life in Florence. They have a positive level of representation of the city life and express a high appreciation for the presence of the tourism and for the territorial distribution of the services. They are regular in the time required to cover their daily-route distances (Tab. 7).

Table 7. The *integrated* group ($n = 76$): indicators profiles

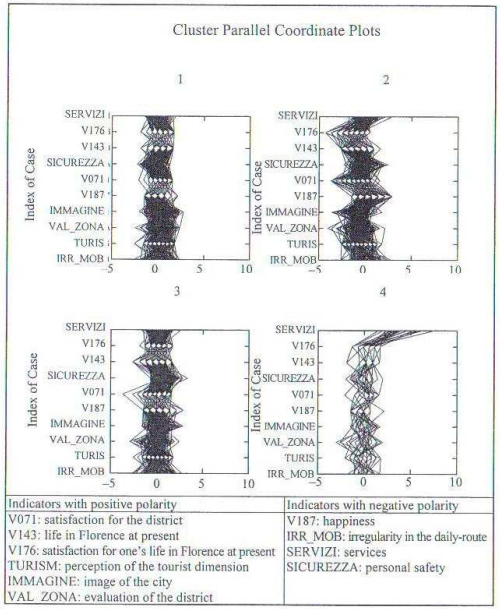
		INDICATOR	min.	mean	max.	SD
Indicators polarity	Positive	Satisfaction for the district	−2.11	0.35	1.59	0.78
		Life in Florence at present	−1.93	0.38	1.63	0.73
		Satisfaction for one's life in Florence at present	−1.31	0.07	1.72	0.77
		Perception of the tourist dimension	−2.06	0.59	1.81	1.07
		Image of the city	−1.50	0.05	2.70	1.03
		Evaluation of the district	−3.02	−0.16	2.01	1.25
	Negative	Happiness	−1.50	0.17	2.89	0.97
		Irregularity in the daily route	−2.61	−0.40	1.81	1.01
		Services	1.51	3.73	7.56	1.49
		Personal safety	−2.02	−0.21	2.00	0.98

Figs 15 and 16 show, respectively, the individuals' and indicators profiles for each group; these representations allow to graphically appreciate the differences between groups, previously described.

A multiple correspondence factor analysis was applied in order to point out the basic characteristics that better describe the four identified groups[34].

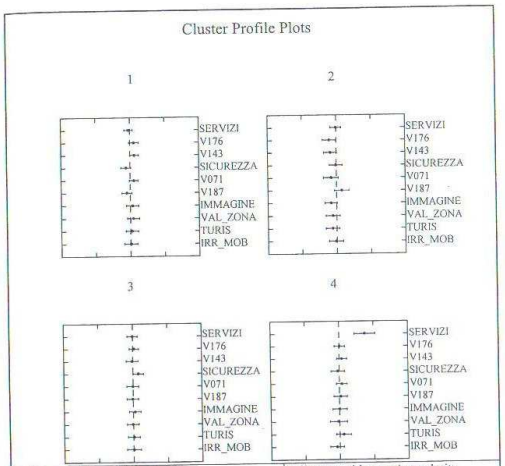
The results allow making clear the groups' profiles (Fig. 17). In particular, the *satisfied* group is characterized by the prevailing presence of men, being part of enlarged family context, carrying on a white-collar activity. The *critical* group is mainly composed of *singles* or young couples, citizens with a high standard of education (*degree*) and with managerial or autonomous activities (*manager*), and people living in central or round-the-centre city areas (*I-cint*). The *satisfied-with-little* group is mainly composed of women and people living far from the center. The *integrated* is characterized by a prevailing presence of elderly people (especially couples).

[34] The first two factors extracted account for 19% of the total inertia ($n = 1165$).



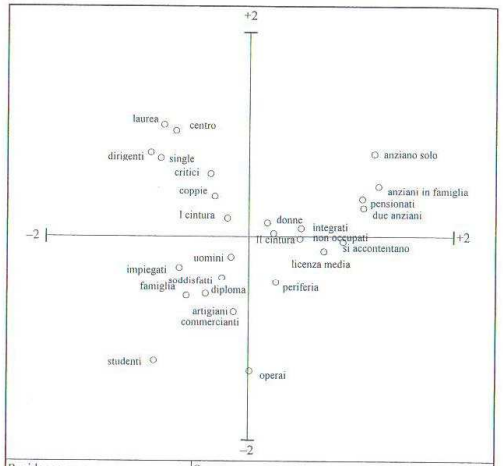
Indicators with positive polarity	Indicators with negative polarity
V071: satisfaction for the district	V187: happiness
V143: life in Florence at present	IRR_MOB: irregularity in the daily-route
V176: satisfaction for one's life in Florence at present	SERVIZI: services
TURISM: perception of the tourist dimension	SICUREZZA: personal safety
IMMAGINE: image of the city	
VAL_ZONA: evaluation of the district	

Fig. 15. Individuals' profiles for each group



Indicators with positive polarity	Indicators with negative polarity
V071: satisfaction for the district	V187: happiness
V143: life in Florence at present	IRR_MOB: irregularity in the daily-route
V176: satisfaction for one's life in Florence at present	SERVIZI: services
TURISM: perception of the tourist dimension	SICUREZZA: personal safety
IMMAGINE: image of the city	
VAL_ZONA: evaluation of the district	

Fig. 16. Indicators profiles for each group



Residence area	Sex
centro → center	donne → female
I cintura → close-to-the center area	uomini → male
II cintura → mid-suburban area	Household
periferia → suburban area	due anziani → elderly person living with another elderly person
Profession	anziani in famiglia → elderly person living in an enlarged family
non occupati → not employed	anziano solo → elderly single
pensionati → retired	Group
studenti → student	soddisfati → the satisfied
dirigienti → manager or assimilated	critici → the critical
impiegati → employee	si accontentano → the satisfied-with-little
artigiani commercianti → artisan/trader	integrati → the integrated
operai → worker	

Fig. 17. Description of the groups characteristics by some basic variables (multiple correspondence factor analysis)

Conclusions

The presentation of these first outcomes of the Florentine study suggests the possibility of further deep examination; in this sense, this presentation can constitute a first report that could be followed by further investigation. Nevertheless, the presented results allow giving prominence to a general positive relation of the Florentine citizens with their city, in terms of both perception and evaluation. In this general framework two particular individual profiles deserve to be cited: a) the positive relation that elderly people, living in couple, has with the city; b) the difficult relation that an emerging citizen typology has with the city; this particular typology seems to be composed mostly by singles, with a high standard of education, an exciting work and a high level of involvement in the city and urban environment. This remark seems to suggest the important role that the familiar and social relationships and the standard of education play in the individual life. In other words, the relationships and the cultural level are an important and basic factor connected, directly and indirectly, with the level of quality of life in urban context and with its subjective perception.

From a methodological perspective, it is worthwhile pointing out that the study perspective revealed that the "atypicity" concerns mainly the operational definition of the indicators but not necessarily the conceptual definition of the most part of them that can be applied, in our opinion, in other urban contexts.

The proposed approach has an interesting potentiality since it allows not only to measure particular ambit but also to explore the connection of the different levels of the indicators with other important individual characteristics.

From a policy point of view, the presented study and its results give a cue for other significant considerations. We know that, in this perspective, the availability of well-synthesized information makes possible to depict those composite descriptions necessary to develop strategies and policies aimed at specific urban area/s, segment of population, or particular urban urgent situation. Nevertheless, the analysis that have produced the aggregation of the composite indicators suggests that the requirement to find and to have good and significant syntheses of information – collected at a disjointed level within a reference conceptual model – has to take into account the risk that an excessive synthesis may produce especially in presence of multidimensional characteristics: a unique value that synthesizes too many components of subjective quality of life may be attractive but useless also

from a city management point of view. Alternatively, the efforts to perform deep analyses in order to explore the presence of typical citizens' profiles by well-defined composite indicators can be compensated by valuable and significant interpretation.

Finally, the utility of the efforts done in order to design and to accomplish a study like the one presented here actually relies on the availability of up-to-date information. Concerning this, it deserves to be noticed that the officials – composing the Florentine research group – have pointed out the interest of the second survey[35] and, above all, the importance and the opportunity to build a system that is periodically kept up-to-date. At the present time, this kind of system is under discussion within the Florentine group.

References

[1] Aldenderfer M.S., Blashfield R.K., *Cluster Analysis*, Sage University Paper Series on Quantitative Applications in the Social Sciences, series no. 07-044, Sage, Beverly Hills, CA; 1984.

[2] Bramston P., Pretty G., Chipuer H., "Unravelling subjective quality of life: An investigation of individual and community determinants", *Social Indicators Research* 2002, Vol. 59, Is. 3.

[3] Christakopoulou S., Dawson J., Gari A, "The community well-being questionnaire: Theoretical context and initial assessment of its reliability and validity", *Social Indicators Research* 2001, Vol. 56, Is. 3.

[4] Del Vecchio F., *Scale di misura e indicatori sociali*, Caccucci, Bari 1995.

[5] Horn R.V., *Statistical Indicators*, Cambridge University Press, Cambridge 1993.

[6] Lis A., Sambin M., *Analisi dei cluster*, CLEUP, Padova 1977.

[7] Michalos A.C., Zumbo B.D., "Public services and the quality of life", *Social Indicators Research* 1999, Vol. 48, Is. 2.

[8] Michalos A.C., "Policing services and the quality of life", *Social Indicators Research* 2003, Vol. 61, Is. 1.

[9] Michalos A.C., "Arts and the quality of life: An exploratory study", *Social Indicators Research* 2005, Vol. 71, Is. 1.

[10] Schifini S., "Teoria degli indicatori sociali", [in:] M. Strassoldo, E. Mattioli, S. Schifini (eds.), *Teoria dei numeri indici dei prezzi e degli indicatori economici, finanziari e sociali*, CEDAM, Padova 1996.

[11] Sirgy M.J., Rahtz D.R., Cicic M., Underwood R., "A method for assessing residents' satisfaction with community-based services: A quality-of-life perspective", *Social Indicators Research* 2000, Vol. 49, Is. 3.

[35] The presentation of the data and results of the second survey is not in the purpose of this work.

Appendix

The quality of life in Florence

2003 October

Paper-Questionnaire

The City of Florence is undertaking to re-qualify the city life through adequate politics in order to find an answer for residents' needs.

Together with the Department of Statistics of the University of Florence we intend to define some indicators of quality of life in Florence in order to measure the level of adequacy and satisfactoriness of living conditions that the city offers to its inhabitants.

Your co-operation, by answering the questionnaire, will be precious for obtaining a comprehensive view and for analyzing the survey data in the best way.

1. RELATION WITH THE CITY

RELATION WITH THE NEIGHBORHOOD AREA

1. How did you choose the district where you live? (more answers admitted).

- I have chosen it (the district is lovely, comfortable, …) ☐ (v1)
- I have always been living here ☐ (v2)
- For financial reason (purchasing or renting cost of the house) ☐ (v3)
- The relatives are close ☐ (v4)
- For working reasons ☐ (v5)
- I have found my house here (I didn't choose the district) ☐ (v6)
- I have chosen the house, not the district ☐ (v7)
- Others (please, point out) _____ ☐☐ (v8)

2. You are:

① the owner / the usufructuary of your house
② tenant of your house
③ others (please, mention explicitly) _____ (v9)

3. You live:

① with your parents' family
② with your family
③ alone
④ with a cohabitant
⑤ (please, mention explicitly) _____ (v10)

4. How long do you live in this house? Point out "zero" if less than one year.

☐☐ (v11)

5. From 0 (not at all) to 10 (completely), can you tell how much you are satisfied of your house?

⓪ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ DK☐ (v12)

Nome file: Wroclaw_2006
Directory: C:\Documents and Settings\Filomena\Documenti\Documenti miei\E-prints - Publications\2006 - Wroclaw
Modello: C:\Documents and Settings\Filomena\Dati applicazioni\Microsoft\Modelli\Normal.dot
Titolo:
Oggetto:
Autore: Filomena Maggino
Parole chiave:
Commenti:
Data creazione: 16/07/2012 18.11.00
Numero revisione: 2
Data ultimo salvataggio: 16/07/2012 18.12.00
Autore ultimo salvataggio: Filomena Maggino
Tempo totale modifica 1 minuto
Data ultima stampa: 16/07/2012 18.12.00
Come da ultima stampa completa
Numero pagine: 23
Numero parole: 3 (circa)
Numero caratteri: 21 (circa)