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## COMMUNITY QUALITY-OF-LIFE INDICATORS

# Social Indicators Research Series

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Volume 28

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# COMMUNITY QUALITY-OF-LIFE INDICATORS

*Best Cases II*

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## Preface

This book is the second in a series covering best practices in community quality-of-life (QOL) indicators. The first was published in 2004. The editors are M. Joseph Sirgy, Don Rahtz and Dong-Jin Lee. Volume 1 is a compilation of cases of best work in community indicators research. The cases describe communities that have launched their own community indicators programs. Elements that are included in the descriptions are the history of the community indicators work within the target region, the planning of community indicators, the actual indicators that were selected, the data collection process, the reporting of the results and the use of the indicators to guide community development decisions and public policy. The chapters in Volume 1 are:

Chapter1: Vital Signs: Quality-of-Life Indicators for Virginia's Technology Corridor by *Terri Lynn Cornwell*

Chapter2: The Sustainable Community Model Approach to the Development and Use of Multi-dimensional Quality-of-Life Indicators by *William T. Grunkemeyer* and *Myra L. Moss*

Chapter3: Taking Indicators to the Next Level: Truckee meadows Tomorrow Launches Quality-of-Life Compacts by *Karen Barsell* and *Elisa Maser*

Chapter4: A Collaborative Approach to Developing and Using Quality-of-Life Indicators in New Zealand's Largest Cities by *Kath Jamieson*

Chapter5: 2002 Hennepin County Community Indicators Report: Aligning Community Indicators with Government Mission, Vision and Overarching Goals by *Misty Lee Heggeness*, *Paul Buschmann*, and *Thomas Walkington*

Chapter6: The State of the City of Amsterdam Monitor: Measuring Quality of Life in Amsterdam by *Peggy Schyns* and *Jeroen Boelhower*

Chapter7: A Three-decade Comparison of Residents' Opinions and Beliefs about Life in Genesee County, Michigan by *Robin Widgery*

Chapter8: Creating an Index to Evaluate a Region's Competitiveness by *Beth Jorosz* and *Michael Williams*

Chapter9: Toward a Social Development Index for Hong Kong: The Process of Community Engagement by *Richard J. Estes*

Chapter10: Measuring Sustainability and Quality-of-Life in the City of Zurich by *Marco Keiner*, *Barbara Schultz*, and *Willy A. Schmid*

Volume 2 continues to build on the goal of the book series. Eleven chapters are included in Volume 2. Here is a brief description of these chapters.

Chapter1: The Jacksonville, Florida, Experience by Ben Warner (Associate Director of the Jacksonville Community Council Inc. (JCCI), Jacksonville, Florida, USA) describes a community QOL indicators project focusing on Jacksonville, Florida. The sponsoring organization is the JCCI. He explains the origin of the QOL project, the goal of producing a QOL report, the exercise involving the definition of QOL, how JCCI involved the community in the definition and

specification of QOL indicators, the actual process involved in selecting QOL indicators and the criteria for inclusion and exclusion, finding data related to the selected indicators, presenting the indicators, and using the indicators to develop community programs to enhance community QOL.

Chapter2: The Boston Indicators Project by Charlotte Kahn (Executive Director of the Boston Foundation, Boston, Massachusetts, USA) depicts a community QOL indicators project focusing on City of Boston, Massachusetts, USA. The sponsoring organization of the indicators project is the Boston Foundation. This chapter starts out with an introduction of the Boston Foundation, its history and the inception of the Boston Indicators Project. Kahn proceeds to describe the conceptual framework guiding the indicators project. She describes ten sectors, and within each sector information is provided in relation to specific population segments (e.g., children and youth). The author then describes the project structure involving two tracks: civic agenda and indicators data and reports. In terms of indicators, she explains the goals behind each indicator, the exact measure and scales, the data source and when the data were collected. She concludes by revisiting some of the core principles of the project and lessons learned.

Chapter3: Indicators in Action: The Use of Sustainability Indicators in the City of Santa Monica by Genevieve Bertone (Executive Director for Sustainable Works, California, USA), Shannon Clements Parry (Founder of Sustainable Places, California, USA), Dean Kubani (Senior Environmental Analyst with the City of Santa Monica's Sustainable City Program, California, USA), and Jennifer Wolch (College Dean of Graduate Programs and Professor of Geography at the University of Southern California, California, USA) describes a community QOL indicators project focusing on the City of Santa Monica, California, USA, and referred to as the "Santa Monica Sustainable City Program." The sponsoring organization is Santa Monica City Council. The authors describe the circumstances leading to the inception of the Santa Monica Sustainable City Program, the creation of the Sustainable City Plan, the elements of the plan, the indicators, policies related to the indicators, and performance assessment based on the indicators. Finally, they describe how these indicators are used to mobilize community development.

Chapter4: A Measure and Method to Assess Subjective Community Quality-of-Life by M. Joseph Sirgy (Professor of Marketing at Virginia Polytechnic Institute and State University) and Don Rahtz (Professor of Marketing at the College of William and Mary) introduces the readers to a measure and method to capture subjective indicators of community QOL. The measure and method is based on a conceptual model linking community residents' ratings of their overall life satisfaction and satisfaction from other life domains. Ratings of overall community satisfaction, in turn, are determined by satisfaction with a variety of services found in the community (business services, government services and nonprofit services) plus evaluations of community conditions (e.g., environment, crime).

Chapter5: Perception and Evaluation of the Quality of Life in Florence, Italy by Filomena Maggino (Researcher and Professor of Social Statistics at the Università degli Studi di Firenze, University of Florence, Florence, Italy) describes a community QOL indicators project focusing on Florence, Italy. The City of Florence

(Italy) together with the Department of Statistics of the University of Florence sponsored this project. She starts out by explaining the conceptual model underlying the indicators project, and describes the survey research methods used in carrying out the study: sampling, data collection methods, selection and development of the QOL indicators, the development of composite indicators involving the subjective image of the city, the perception of the city as a tourist destination, the perception of the cultural dimensions of the city, and perception of personal safety. Then she reports trend analyses, and breaks down the data in terms of the various districts and neighborhoods within the city. She identifies several groups of residents: the satisfied group, the critical group, the satisfied-with-little group and the integrated group, and explores the determinants of satisfaction for each group.

Chapter6: City of Winnipeg Quality-of-Life Indicators by Peter Hardi (Senior Fellow at the International Institute for Sustainable Development, Canada) and Laszlo Pinter (Director of the International Institute for Sustainable Development, Canada) is the outcome of a collaboration involving the Strategic Planning Division of the City of Winnipeg and the Measurement and Indicators program of the International Institute for Sustainable Development (IISD). The chapter introduces the reader to the concept of QOL and a little history of the indicators project, and then describes the process involving the development of QOL indicators. The authors have built a foundation for the reader by defining basic concepts such as what is a QOL framework, what are QOL indicators, how a QOL index can be formed from individual indicators, and how indicators are reported. They proceed by describing framework development, stakeholder participation, and indicator development. Following this they report on the resulting QOL framework and provide a sample list of QOL indicators for the City of Winnipeg. They also describe data availability assessment and finally the plan used to implement the framework.

Chapter7: Sustainable Seattle: The Case of the Prototype Sustainability Indicators Project by Meg Holden (Assistant Professor of Urban Studies and Geography at Simon Fraser University, Canada) focuses the indicators project on the City of Seattle, Washington, USA. The sponsoring organization of this indicators project is Sustainable Seattle. The chapter is structured to reflect the organization's life cycle. The author starts out by describing the inception phase (1990–1991), then proceeds to describe the early phase (1991), the heyday (1991–1998), the changeover and downturn (1996–1999), the near-death experience (1998–2001), and finally the torchbearers and reorganization (2001–2004). Managers of new indicators projects can benefit significantly from the many “lessons” inherent in the Sustainable Seattle story.

Chapter8: Using Community Indicators to Improve the Quality of Life for Children: The Sacramento County (CA) Children's Report Card by Nancy Findeisen (President and CEO of the Community Services Planning Council Inc., Sacramento, California, USA) starts out by describing how the Community Services Planning Council was formed. The sponsoring organization is the Community Services Planning Council Inc., Sacramento, California, USA. The focus of this indicators project is children residing within Sacramento County. The author turns her attention to the 2000 Children's Report Card, the primary goal of the Community Services Planning Council. She describes the process involving

collecting the needed information for inclusion in the report card. Then she devotes considerable energy in describing the content of the report card. The format and presentation of the report card are also described. She discusses the public response to the report card, the resulting summit and the events following the summit, and concludes by highlighting future challenges in this area.

Chapter9: Living in a Postapartheid City: A Baseline Survey of Quality of Life in Buffalo City by Robin Richards (Senior Researcher at the Community Agency for Social Enquiry, University of Fort Hare, East London, South Africa) and Ellen Kamman (Senior Data Manager/Researcher at Development Research Africa CC in Durban, South Africa) focuses this indicators project on the Buffalo City, South Africa. The authors describe a major survey (the Buffalo City 2001 QOL Survey) designed to help city planners monitor the QOL of the city residents and conditions that can improve community QOL. They explain the survey in some detail (sampling, data collection, and survey instrument). The results are reports broken down by four geographic regions, and cover demographics, material living conditions (income, employment status, employment blockages, work seeking strategies, dependency ratio, transportation, type of tenure and housing access to basic household services, access to community services), perceptions of QOL (domain satisfactions, perceptions of safety, perceptions of community improvements, and global satisfaction with life).

Chapter10: Making Community Indicators Accessible Through the Census Information Center by Rodney Green (Executive Director of the Howard University Center for Urban Progress, Washington, DC, USA), Maybelle Taylor Bennett (Director of the Howard University Community Association, Washington, DC, USA), Haydar Kurban (Assistant Professor of Economics at Howard University, Washington, DC, USA), Lorenzo Morris (Professor and Chair of the Political Science Department at Howard University, Washington, DC, USA) and Charles Verharen (Graduate Professor in the Philosophy Department at Howard University, Washington, DC, USA) aims to show how universities are increasingly taking on partnership roles through service learning and community-based research. University students, faculty, and administrators are all involved in that endeavor. It describes a model that other universities can use to set up its own community outreach program.

Chapter11: Quality Indicators for Progress: A Guide to Community Quality-of-Life Assessments was originally written by Marian Chambers (who was a civic leader in Jacksonville, Florida, USA from 1975 until her death in 1996). The chapter has a foreword by David Swain (currently a consultant, retired from the Jacksonville Community Council Inc., Jacksonville, Florida, USA). It provides community planners with practical guidelines on how to plan and implement community indicator projects. It introduces the reader to QOL projects (motivation, definitions, components, etc.), and proceeds by taking the reader through a step-by-step approach to planning and implementing a QOL indicators project. Chambers specifically describes how early decisions (e.g., adopting a QOL model) are made. The chapter explains the processes of citizen participation, selecting indicators, compiling indicators, designing and using a telephone survey, establishing priorities, setting targets, preparing the publication, distribution and public education, encouraging citizen action, and the annual review.

## Perception and Evaluation of the Quality of Life in Florence, Italy

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### Introduction

In 2003, the City of Florence (Italy) in conjunction with the Department of Statistics at the University of Florence conducted research regarding the citizens' perception and evaluation of the quality of life (QOL) in the city of Florence. The focus of the study was to identify residents' needs and develop programs and policies to enhance their QOL. The study also attempted to develop specific indicators of QOL aimed at measuring and assessing the levels of suitability of the living conditions that the city of Florence offers to its inhabitants.

#### *The Conceptual Model*

It was important that the conceptual model for the QOL in Florence described some important aspects directly related to the subjective perception of the QOL in an urban context. That is, such a model had to take into account the specificity and peculiarity of the urban reality. Additionally, the model needed to recognize the uniqueness of Florence, that is, account for the various aspects regarding QOL that make the city of Florence atypical in the context of the Italian city and town environment. The development of the conceptual model that guided this examination of QOL in Florence was, itself, guided with an eye on two different priorities. These were: (1) the individual and (2) the territory.

1. **The individual.** In this perspective, the individual objective (sex, age, education, profession, family, house, income) and subjective (attitudes, opinions, evaluations) characteristics represent the really central dimensions of QOL. It is focused on cultural aspects, lifestyles, values, social relations, etc. of the citizens. In this perspective, information concerning individual characteristics has to be collected with great detail. The physical and social environments are considered as the conditions that are external to the individual, but an environment in which the individual is immersed. This external environment acts as a frame for the study.
2. **The territory.** In this perspective, the urban territory is considered in terms of space as well as in terms of its efficiency and security. It is where individuals operate, act, interact, move, and organize their life. Following this perspective, information concerning the individual characteristics is collected as a function of the understanding of the territory. The objective (for example,

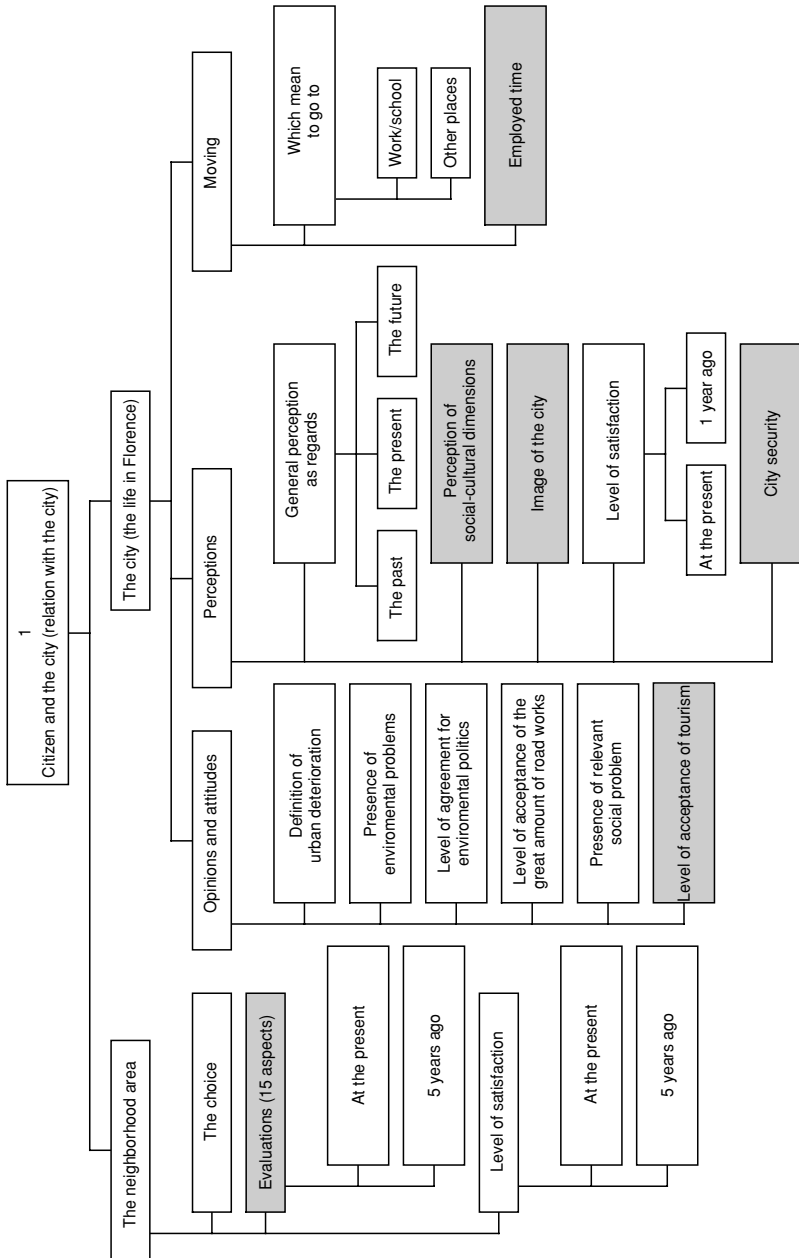
time for movements, use of public transportation) and subjective (evaluations for the public services, expectations, and so on) information are collected for each individual regarding connections to the urban reality. The individual is in constant exchange with the urban environment as a dynamic entity. The city transformations involve, and have consequences on, social, cultural, organizational aspects as well as on individual (affective, relationship, ethical, etc.) dimensions. These kinds of transformation are elaborated and assimilated by the individuals as a function of their personal, objective, and subjective characteristics (Bramston *et al.*, 2002; Christakopoulou *et al.*, 2001; Sirgy and Cornwell, 2001; Sirgy *et al.*, 2000).

The conceptual model here focused on the urban reality. Specifically, the focus was on investigating the interaction between each individual and the urban environment. This was considered at three different levels: the citizen living in Florence (not living *in* Florence) is placed in a well-defined spatial and temporal reality, defined in terms of housing space, neighborhood space, and the whole city. Defining, measuring, and interpreting the different citizens' levels of satisfaction. It was important to take into account that the three realities are successively inclusive. These play a concentric role (in this perspective, the presented approach deals with both community dimensions and subjective dimensions of QOL (Sirgy *et al.*, 2000)). The individual components (objective and subjective) leaving out of consideration the relationship between citizen and urban reality were not investigated.

#### *Measuring the Model's Components: The Questionnaire*

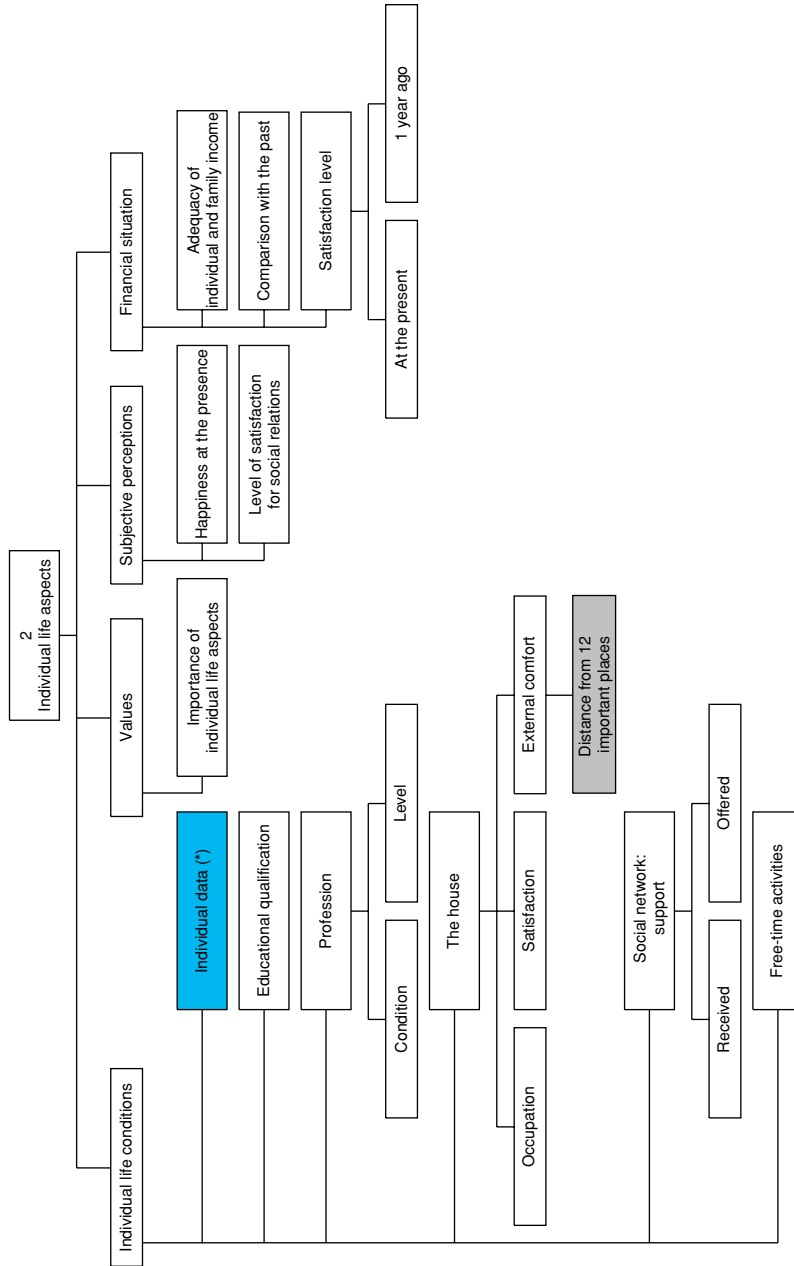
Consistent with the conceptual model, the questionnaire was built around two ambits—the relation of the citizen with the city and the citizen's individual life aspects. The first ambit consists of two aspects that explore the relationship of the individual with the neighborhood area (the first one) and with the whole city (the second one). For each aspect, different areas, variables, and subsequent items were defined. Some variables aimed at the investigation of the satisfaction levels of particular aspects related to the city reality (like the use of public transportation). The definitions of particular variables were built around the exploration of the subjective attitude toward the tourist dimension of the city and the subjective priority related to some environmental problems that cause troubles in urban context.

The second ambit was person-centered and is oriented to explore the individual life aspects defined in terms of individual conditions (profession, educational qualification, house, social network supports, and free-time activities), subjective life values, happiness, and financial situation. 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*.<sup>1</sup> The areas and the variables identified for each ambit are presented respectively in Figures 1 and 2.



In grey, the variables measured by the composite indicators presented 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.

### *Sampling Design and the Data Collection*

The sample was selected by applying a probabilistic stratified design according to the following drawing procedure. 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 in 20 areas exclusively for survey purposes), sex, and age (the defined age-categories were: 18–24, 25–34, 35–44, 45–54, 55–64, 65–74, 75 and above).

The total dimension of the sample was set to 1200 units. Initially, organizational reasons suggested to equally arrange/distribute the total sample according to the 20 areas. Subsequently, in order to define the sample numerosness for each of the 280 strata, the sample was proportionally distributed in the 14 strata (2 sexes  $\times$  7 age classes). Consequently, the weight for each unit belonging to the  $h$ th stratum ( $h = 1, \dots, 280$ ) was defined, according to the sampling design, as the ratio between the number of the population units of the  $h$  stratum and the number of the sample units of the same stratum.

In order to manage the nonresponses, a reserve list was identified by drawing, for each unit of the base sample, two units belonging to the same stratum. In some cases, a farther drawing was made necessary to obtain the expected number of units.<sup>2</sup>

The project was centered around two survey executions. The first execution was run from the end of October to the end of November 2003. Using a structured questionnaire, 1185 individuals were interviewed by a group of trained interviewers, generally at the house of the respondents. An English translation of the Italian submitted instrument can be seen in Appendix A.<sup>3</sup> 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.

Respondents who, at the end of the first interview, consented to be reinterviewed were involved in the second survey, conducted in October 2004. Among the 1185 involved in the first survey, 694 subjects consented and were reinterviewed after 1 year by a telephone survey (not presented here) managed by the CATI system. The goal of the second survey was to update basic individual information concerning possible change in residence, house, and profession, and to measure possible change in some subjective dimensions concerning city life. As a consequence, a telephone survey was chosen over the more extended and complex personal interview method that was used in the first survey. Average length for this interview was 15 minutes.<sup>4</sup> In general, during data collection of both surveys there was a good collaborative attitude shown by all the interviewed citizens.

While the selection procedure of the 2004 group did not adhere to a true probabilistic sampling process, the data generated in the collection still offered valuable insights regarding important aspects for comparative analyses (not presented here).

1. **Group comparison.** Consistency across the entire 2003 sample ( $n = 1185$ ) and the entire 2004 reinterviewed group (694) was examined in the ex-post analysis. Demographic compositions of both groups statistically demonstrated the comparability of their structures with regard to the sampling variables (age, sex, and residence district).

2. **Individual comparison.** This comparison examined data obtained by each individual that has took part in both surveys ( $n = 694$ ). This kind of comparison, comparable to a panel technique, allowed particular approaches in the analyses of individual change.<sup>5</sup>

*Developing and Using Subjective Indicators of Quality of Life in Florence*

A number of variables identified and defined in the questionnaire structure and presented in the first questionnaire (2003 survey) were investigated using single-item measures. Some complex variables, however (marked in gray in Figures 1 and 2), required the definition of a composite model and the collection of several items. These variables are presented below:

- **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 question no. 25 of the questionnaire).
- **The perception of the tourist dimension of the city.** The tourism is an important dimension of the city that 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 (ten items presented in 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 (four items of question no. 22 of the questionnaire) (Michalos, 2005).
- **The personal safety perception.** Feeling secured while walking alone along the roads of the city represents one of the conditions to perceive and live a better quality of city life (six items presented in 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) (Michalos, 2003; Michalos and Zumbo, 1999).
- **The territorial distribution of the public services.** This indicator try to measure the subjective accessibility to some services, defined in terms of time required to go; the perceived time is more important, and not necessarily connected to, the objective distance (12 items presented in question no. 8 of the questionnaire); this subjective indicator may also be useful 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 QOL 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 in question no. 10 of the questionnaire).

The definition of the indicators, as well as of the corresponding items, is the result of extended discussions among city officials and the university research team involved in the project. In some cases, the outcomes represent a real compromise between the positions of the researchers on one side and that of the officials on the other. At the same time, the definition, having taken into account the peculiar characteristics of this city, may make it difficult to compare with other cities. A review of existing literature in the area, however, did not support such a contention.

The university researchers and public policy officials who constituted the research group shared the common aim to obtain a group of complex, yet informative, indicators that, when taken together with the other simple indicators, provided a clear picture of the measured aspects. Additionally, these indicators needed to allow for the observation and the interpretation of each analyzed ambit through different kind of comparisons (Del Vecchio, 1995; Horn, 1993; Schifini, 1996):

- Transversal (comparisons between individuals in terms of age, gender, professional position, educational level, family, and so on)
- 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)<sup>6</sup>

The following sections of this chapter offer a presentation of the analysis, the aggregation, and the combination of the composite indicators. The processes that were undertaken regarding these are briefly summarized below. An extended discussion of each of these follows in the subsequent major sections of this chapter.

*The analysis of the composite indicators.* The goal of this work was to show the results of the statistical procedure, applied and finalized to the analysis, and the description of the composite indicators.<sup>7</sup> In particular, the section on “the analysis of the composite indicators” in this chapter deals with the presentation of the explorative 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, designed 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 QOL, by correlating them with single-item indicators of satisfaction (see questionnaire structure) (*validity analysis*)

For each of the composite indicators, the analysis sought to reestablish the unity of the corresponding ambit and to synthesize the single-measured elements (items) in terms of conceptual and methodological homogeneity.

*The aggregation of the composite indicators.* The composite indicators were submitted to an aggregation analysis to provide more interpretable and functional dimensions (section under “the aggregation of the composite indicators”). The aggregation analysis considered the dimensionality of the group of composite indicators, both in the theoretical and in the statistical sense.

*The combination of the composite and simple indicators.* In order to identify the presence of typical profiles of citizens, a grouping analysis was performed using identification of the most frequent combination of values (section under “exploring the existence of some typical citizens’ profiles”).

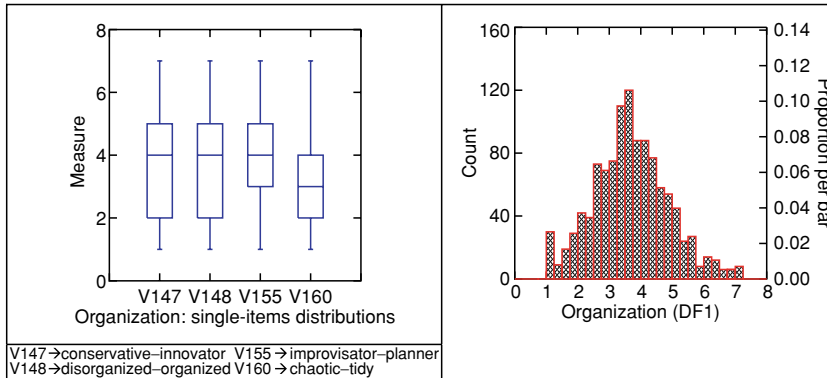
### The Analysis of the Composite Indicators

#### *The Subjective Image of the City*

To investigate the image of the city held by the respondents, a group of differential semantic scales was defined (question no. 25 of the questionnaire). The dimensional analysis (principal component analysis)<sup>8</sup> of the data confirmed the presence of the five hypothesized “images.” Accordingly, five different indicators of the “images of Florence” were defined. These were: *organization* (DF1), *uniqueness* (DF2), *dynamicity* (DF3), *hospitality* (DF4), and *livability* (DF5). The individual scores (mean of the responses scores for the considered pairs of adjectives)<sup>9</sup> range from 0 (extremely negative image) to 7 (extremely positive image).<sup>10</sup>

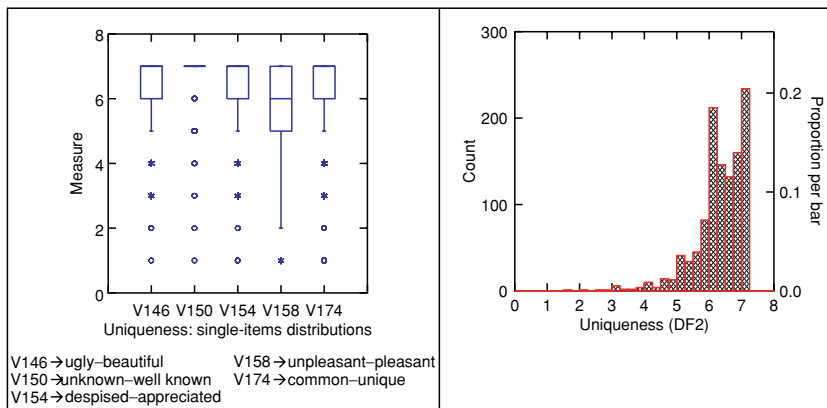
The results of the *descriptive analysis* and *comparative analysis*, for each composite indicator, and the *validity analysis* for all composite indicators, are presented below.

*Organization.*<sup>11</sup> 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), and *chaotic–tidy* (0.54). Figure 3 shows the distributions of each pair of adjectives and of the composite indicator. Significant differences were observed between groups defined in terms of age (lower scores registered by individuals from 30 to 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 were observed.



**Fig. 3.** Image of Florence: distribution of the pairs of adjectives and of the corresponding defined indicator (*organization*).

*Uniqueness*.<sup>12</sup> 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). In Figure 4 the distributions of each pair of adjectives and of the composite indicator are shown. The high scores observed for this indicator point out the strong awareness of Florentine citizens regarding the inimitability of their city. This awareness is generally independent of age, gender, standard of education, professional condition, residence area, household, and proportion of life 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.



**Fig. 4.** Image of Florence: distribution of the pairs of adjectives and of the corresponding defined indicator (*uniqueness*).

*Dynamicity*.<sup>13</sup> 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), and *static–dynamic* (0.58). Figure 5 shows the distributions of each pair of adjectives and of the composite indicator. 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, autonomous professionals, and workers), of residence area (higher scores observed among citizens living distant 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*.<sup>14</sup> 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), and *uncaring–caring* (0.46). In Figure 6 the distributions of each pair of adjectives and of the composite indicator are shown. 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 respondent living distant 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).

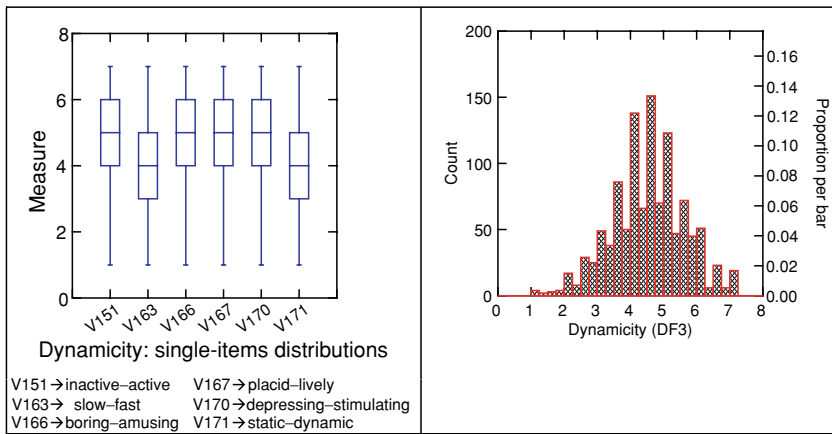


Fig. 5. Image of Florence: distribution of the pairs of adjectives and of the corresponding defined indicator (*dynamicity*).

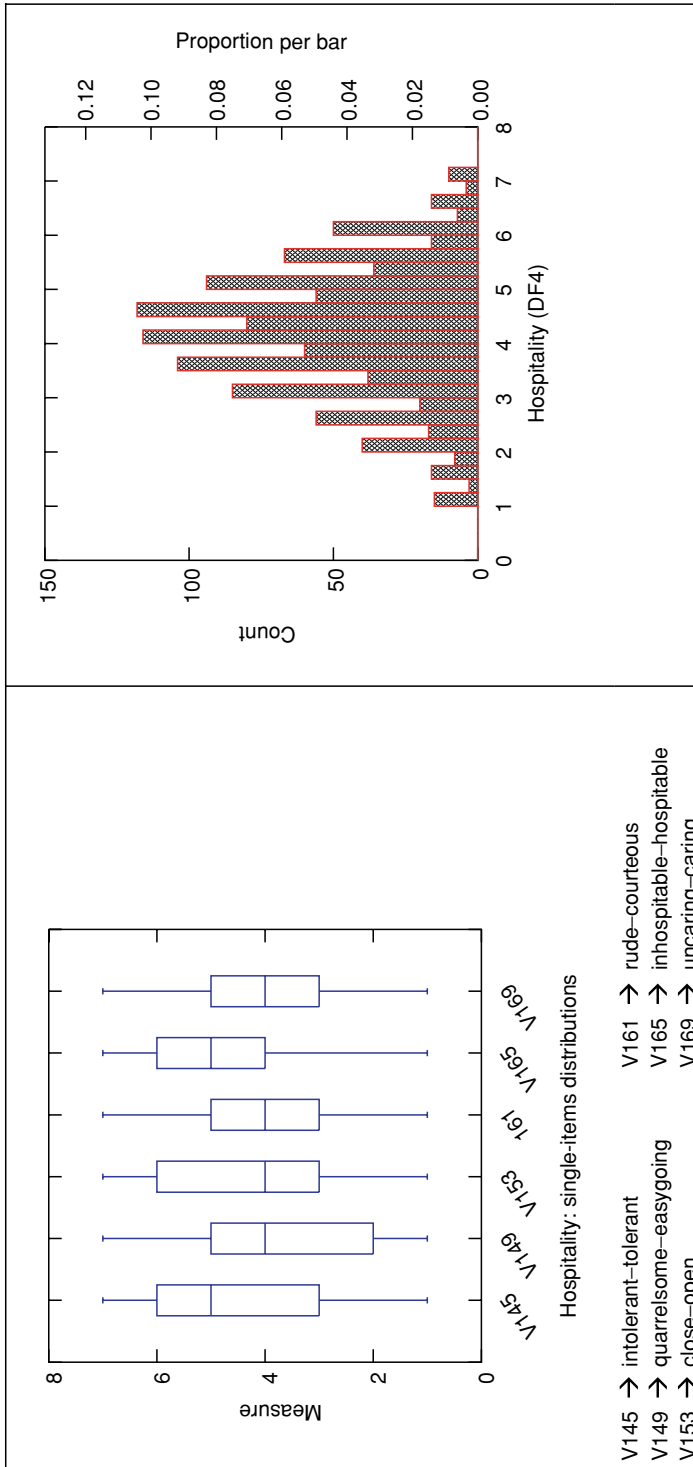


Fig. 6. Image of Florence: distribution of the pairs of adjectives and of the corresponding defined indicator (*hospitality*).

*Livability*.<sup>15</sup> 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), *unlivable–livable* (0.74), *stressful–relaxing* (0.67), *uncomfortable–comfortable* (0.63), and *uncivil–civil* (0.51). Figure 7 shows the distributions of each pair of adjectives and of the composite indicator. Significant differences were observed among groups defined in terms of professional position (higher scores observed among retired 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 differences were 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).

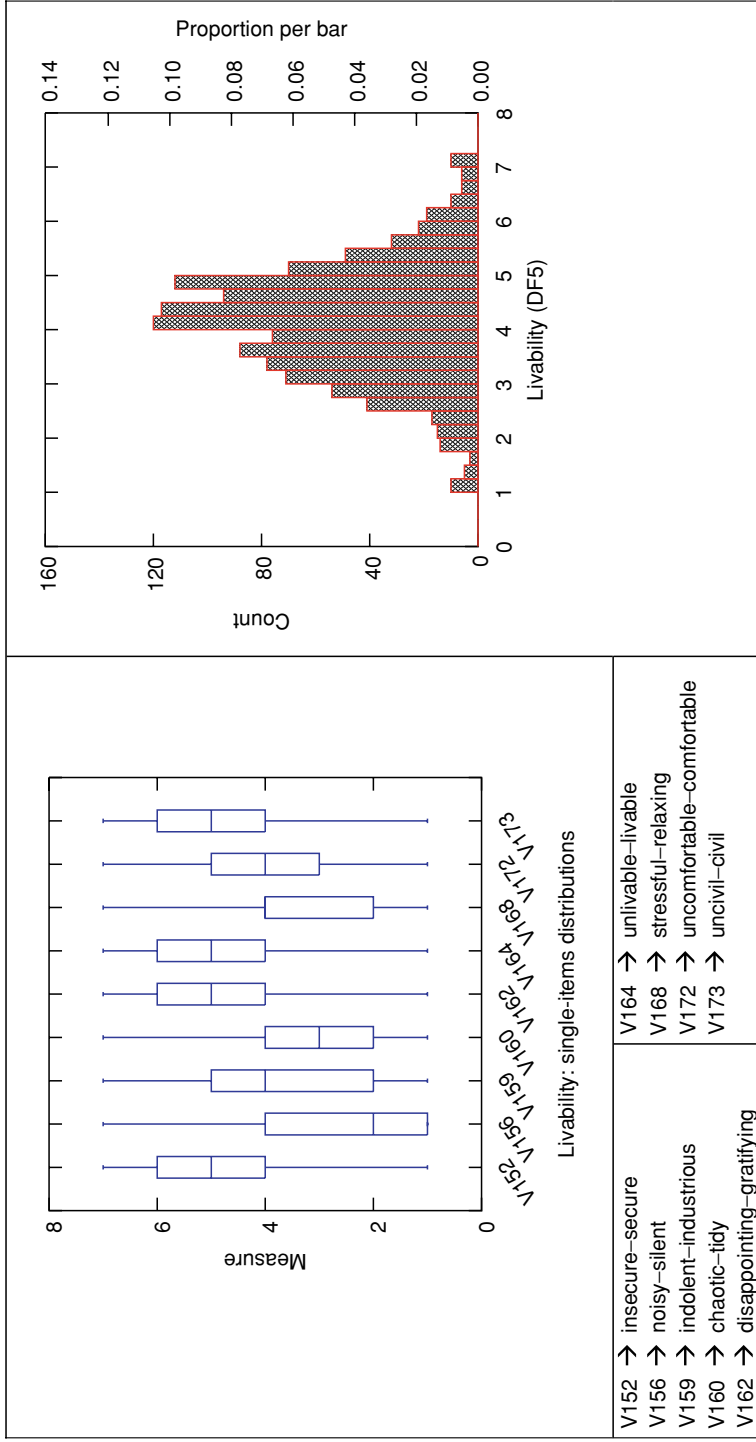
The comparison between the distributions of the “image” indicators (Figure 8) reveals a clear tendency of the respondents to have a strong positive image regarding the *uniqueness* (mean = 6.3, standard deviation (SD) = 0.7, negative asymmetry). The majority of the individuals registered mid-high scores for the indicators of *dynamicity* (mean = 4.5), *hospitality* (mean = 4.1), and *livability* (mean = 4.1). Tendentially lower scores can be observed for the *organization* indicator (mean = 3.6).

While conducting validity analysis, interesting levels of correlation<sup>16</sup> were observed between these indicators and the *life in Florence* indicator (question no. 25 of the questionnaire) and the level of *satisfaction for one’s life in Florence* (question no. 26 from the questionnaire) (Table 1). This is particularly true for the *livability* indicator and as regards to the *present-day* dimension. Such levels raise interesting questions regarding the capacity of the created image indicators in measuring the citizens’ perception of their city, particularly in terms of *livability* dimension.

There is, in general, a high level of criticism directed toward the city among the Florentine citizens. This was especially true regarding the organization, the dynamicity, the hospitality, and the livability of the city. Among citizens that appear to have more “interaction occasions” with the city life (these are people living in a particular city area, such as the city center), as they are engaged in particular professional activities (autonomous or commercial), and/or they have particular family typology producing particular needs (singles and young couples), this effect is particularly noticeable.

### *The Perception of the Tourist Dimension of the City*

Each individual involved in the study responded to ten assertions concerning the presence of tourism in Florence (question no. 20 of the questionnaire). The individual aggregate scores were calculated by averaging the number of positive attitudes reflected by the responses to the ten items. This reflected the response scales of the negatively oriented items appropriately. Thus, the results have a positive polarity and range from 0 (maximum negative perception) to 1 (maximum positive perception). The frequency distribution (Figure 9) shows a general tendency to mid and high scores (mean = 0.6 and SD = 0.2).



**Fig. 7.** Image of Florence: distribution of pairs of adjectives and of the corresponding defined indicator (*livability*).

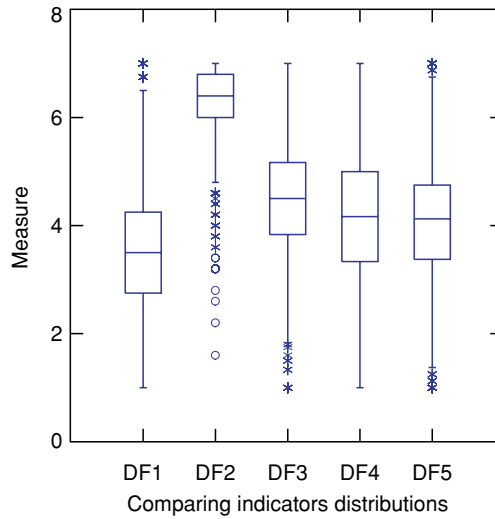


Fig. 8. Image of Florence: comparison between the distributions of the five indicators.

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

		The indicators of subjective image of Florence				
		Organization	Uniqueness	Dynamicity	Hospitality	Livability
Life in Florence	in the past	-0.04	0.10	0.00	0.04	0.05
	at the 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 the present	0.31	0.34	0.35	0.35	0.48
	1 year ago	0.28	0.35	0.35	0.33	0.41

In terms of *comparative analysis*, no differences were observed between groups defined in terms of age, professional condition, and proportion of time lived in Florence. Significant differences were, however, 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 level of positive perception increases with the distance from the center of the city). These results seem to confirm the comments made regarding the “image” indicators: the more critical attitudes are related to high standards of education and to 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 livability problems, seems to be distinguished

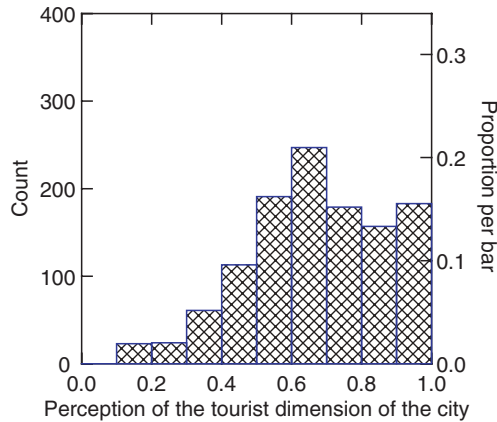


Fig. 9. Perception of the tourist dimension: frequency distribution.

from the level of satisfaction. This is supported by the relatively low levels of correlation (ranging between 0.19 and 0.26) observed between this indicator and the image indicators.

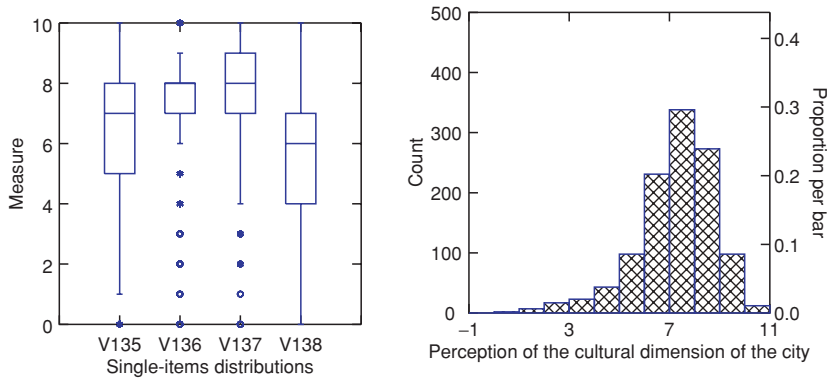
#### *The Perception of the Cultural Dimension of the City*

Respondents expressed their agreement (on a 0–10 rating scale) regarding four assertions about the city (question no. 22 of the questionnaire). Figure 10 shows the corresponding four distributions. The artistic aspect of the city rated a higher level compared to the other aspects. The frequency distribution of the corresponding combined indicator,<sup>17</sup> defined as the average number of agreements (scores ranging from 0—no esteem—to 10—maximum esteem), as seen in Figure 10 shows a general tendency to mid-high scores (mean = 6.8, SD = 1.6).

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

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

In particular, these results seem to suggest, on one hand, that the level of perception could be related to an affective dimension (may be stereotyped and fixed). On the other hand, they may suggest that the satisfaction for the city life is not extraneous to the sociocultural and artistic dimensions. This issue may well need to receive significant attention when developing strategies and policies finalized to the betterment of city life.



- V135 → Florence facilitates communication among people
- V136 → Florence facilitates cultural activities
- V137 → Florence increases aesthetic sensibility and artistic sensitivity
- V138 → Florence offers same opportunities of other great cities

**Fig. 10.** Perception of the cultural dimension: frequency distribution of the scores for each item and for the composite indicator.

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

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

*The Perception of the Personal Safety*

Perceptions of personal safety were measured 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 daytime and nighttime (Figure 11).

A cluster analysis was performed on the six items pointed out (Figure 12),<sup>18</sup> 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 day and not of the area. Consequently, two different indicators of the personal safety perception were defined. These were: (1) the daytime safety perception and (2) the nighttime 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 daytime perception (Figure 13).

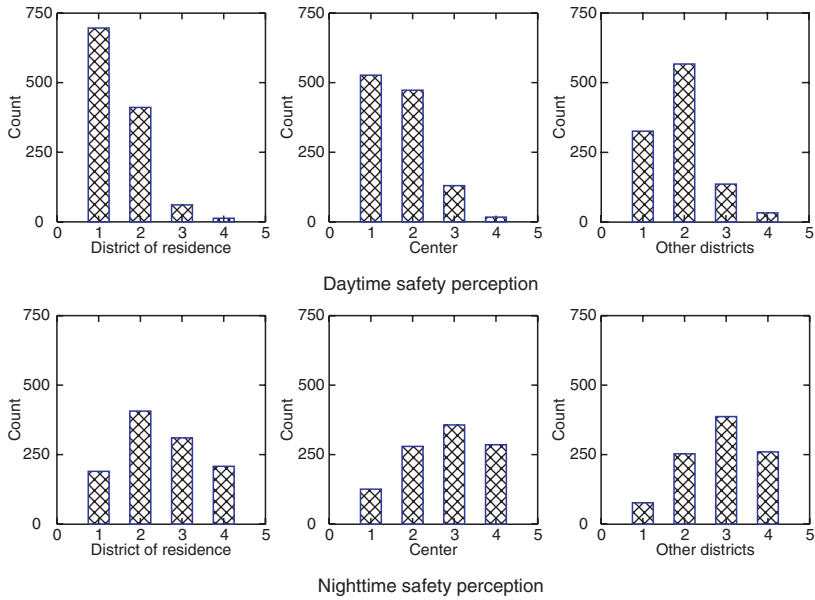


Fig. 11. Perception of the cultural dimension: frequency distribution of the scores for each item.

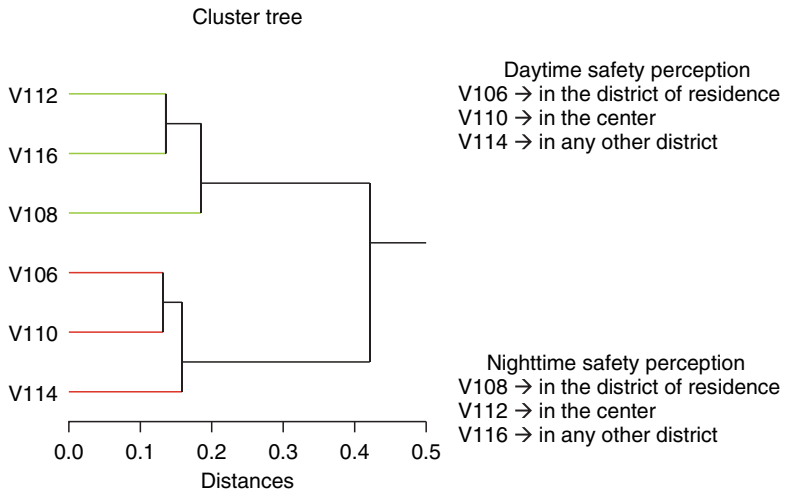


Fig. 12. Cluster tree obtained by the single-item indicators concerning the security perception.

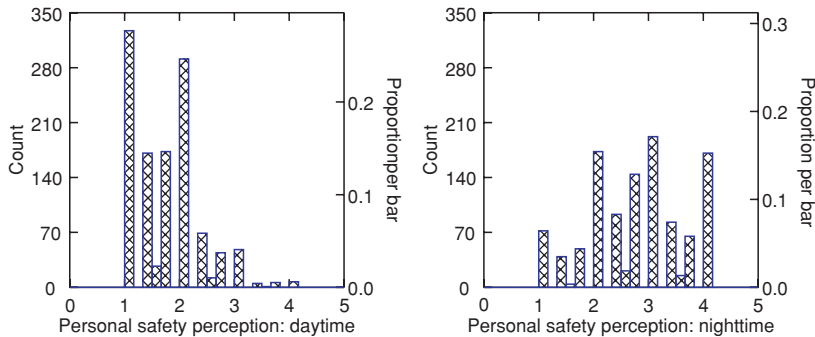


Fig. 13. Indicators of safety perception (daytime and the nighttime): frequency distributions.

Both indicators showed 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 people 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*.

#### *Dynamic Evaluations: Time-related Comparisons*

For each single-item indicator, respondents reported a time-related comparison (today vs. 3 years ago). The grouping analysis<sup>19</sup> on these perceptions produced the same ambits aggregations observed for the previous analysis, having pointing out the presence of the same two dimensions with the same single-item profiles. The new two indicators (ISP\_GS, ISP\_NS, respectively) can support and enrich the interpretation of the previous ones in terms of dynamic evaluation. The scores of the two new indicators range from 1 (clear betterment of the security perception) to -1 (clear worsening of the security perception). The analysis allowed verifying a relative stability of the perception with a tendency for both to the worsening (Figure 14). The comparison perception also revealed a discriminant capacity in terms of age (the worsening perception increases with age). The worsening perception is related also to the residence area, central and suburban. Moreover, each dynamic score registered an interesting level of relation ( $r$  values ranging from -0.35 to -0.40) with the corresponding perception indicator.

#### *The Evaluation of the District*

Respondents were asked to give their evaluations regarding 20 single-item indicators that concerned their district of residence (question no. 6 of the questionnaire).

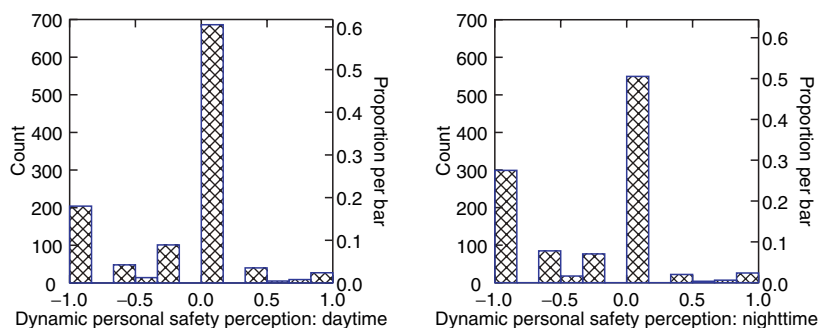


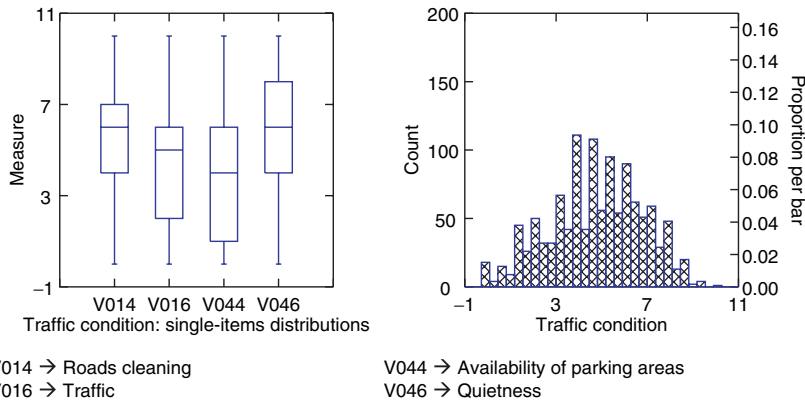
Fig. 14. The dynamic perception of the day- and night safety: frequency distributions.

Dimensional analysis (principal component analysis)<sup>20</sup> of the 20 single-item indicators was used to confirm the presence of the five hypothesized areas of evaluation. Consistently, five indicators of evaluation were defined: *traffic condition* (ZONA1), *presence of services* (ZONA2), *road network condition* (ZONA3), *urban environment* (ZONA4), and *urban green* (ZONA5). 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).<sup>21</sup> The results of the *descriptive analysis* and *comparative analysis* for each composite indicator and the *validity analysis* for all composite indicators are presented below.

*Traffic conditions.*<sup>22</sup> The single items that define this indicator are (in parenthesis component loadings): *roads cleaning* (0.54), *traffic* (0.78), *availability of parking areas* (0.67), *quietness* (0.78). Figure 15 shows the distribution of these items and of the related indicator. Significant differences were observed between groups defined in terms of age (more positive evaluations among young people) and of residence area (more positive evaluations among citizens living far from the center 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 one's life lived in Florence.

*Presence of services.*<sup>23</sup> The single items that define this indicator are (in parenthesis 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). In Figure 16 the distribution of these items and of the related indicator are shown. Significant differences were observed between groups defined in terms of residence area (low scores among citizens living in the center of the city). No differences were 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.

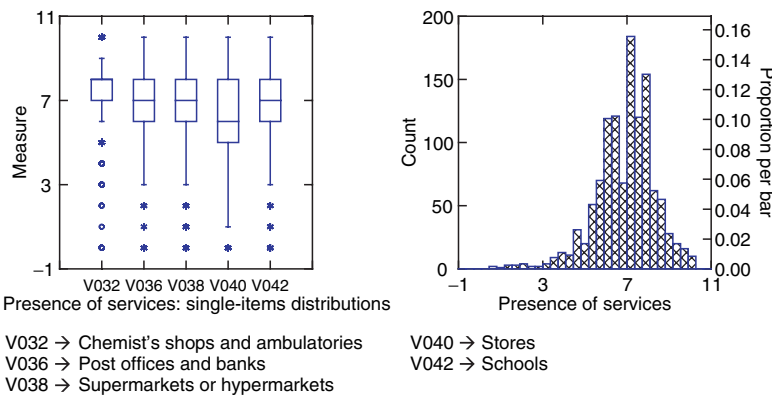
*Road network condition.*<sup>24</sup> The single items that define this indicator are (in parenthesis component loadings): *bikeways* (0.68), *state of the roads network*



**Fig. 15.** Evaluation of the district: distribution of the items and of corresponding indicator (*traffic condition*).

(0.46), *street islands* (0.76), *removal of the architectonic barriers* (0.57). Figure 17 shows the distribution of these items and of the related indicator. Significant differences were observed between groups defined in terms of age (high scores among young people), of standard of education (high scores among citizens with high standards), of residence area (high scores among citizens living far from the center). No significant differences were 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 one's life lived in Florence (even if with a tendency to lower scores among citizens born in Florence).

*Urban environment*.<sup>25</sup> The single items that define this indicator are (in parenthesis component loadings): *road conditions* (0.50), *traffic signals* (0.58), *public transports*



**Fig. 16.** Evaluation of the district: distribution of the items and of corresponding indicator (*presence of services*).

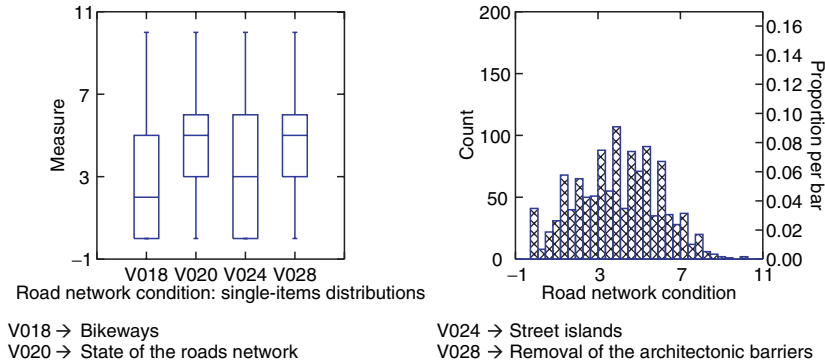


Fig. 17. Evaluation of the district: distribution of the items and of corresponding indicator (*road network condition*).

(0.61), *differentiated waste collection* (0.56), *removal of waste from garbage cans* (0.61), *streetlights* (0.49). Figure 18 displays the distribution of these items and of the related indicator. 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 were observed between groups defined in terms of proportion of one's life lived in Florence.

*Urban green*.<sup>26</sup> The single items that define this indicator are (in parenthesis component loadings): *differentiated waste collection* (0.59), *public gardens* (0.63), *sporting installations and facilities* (0.71). In Figure 19 the distribution of these items and of the related indicator are shown. Significant differences were observed

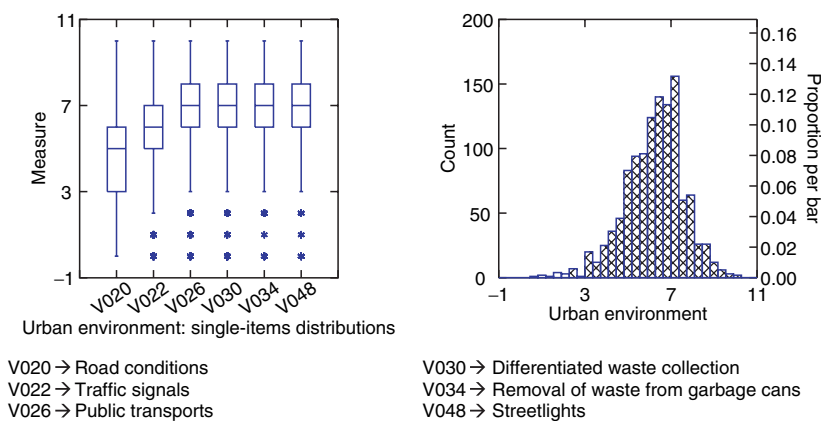
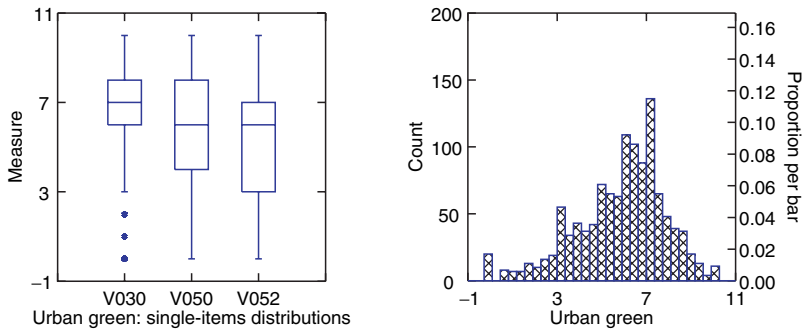


Fig. 18. Evaluation of the district: distribution of the items and of corresponding indicator (*urban environment*).



V030 → Differentiated waste collection  
 V050 → Public gardens  
 V052 → Sporting installations and facilities

Fig. 19. Evaluation of the district: distribution of the items and of corresponding indicator (*urban green*).

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 one's life lived in Florence (the scores tend to decrease with the proportion).

The comparison of the five indicators' distributions allows one 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 (Figure 20).

No significant relationships between these and the indicators of subjective image of the city were observed. These outcomes provide some interesting

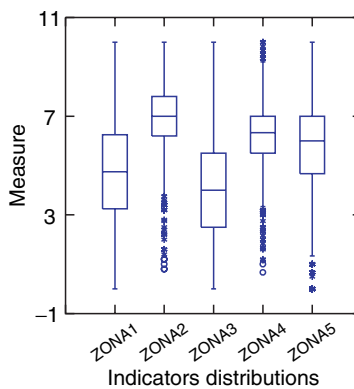


Fig. 20. The indicators of evaluation of the district: frequency distributions.

considerations. The positive evaluations reported by the group of young citizens seem to suggest that they live the urban dimension by a different kind of involvement. Again the standard of education turned out to be a characteristic that can produce a more critical attitude, may be produced by a different kind of expectation toward the surrounding environment. The critical evaluations produced by singles and young may allow one to identify a particular subpopulation that seems to have some difficulty in managing the urban reality.

In performing the validity analysis, significant levels of correlation were observed between the 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* (Table 3). This result represents evidence of the connection between the level of satisfaction concerning the district of residence and the urban environment in which one lives. It is 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.

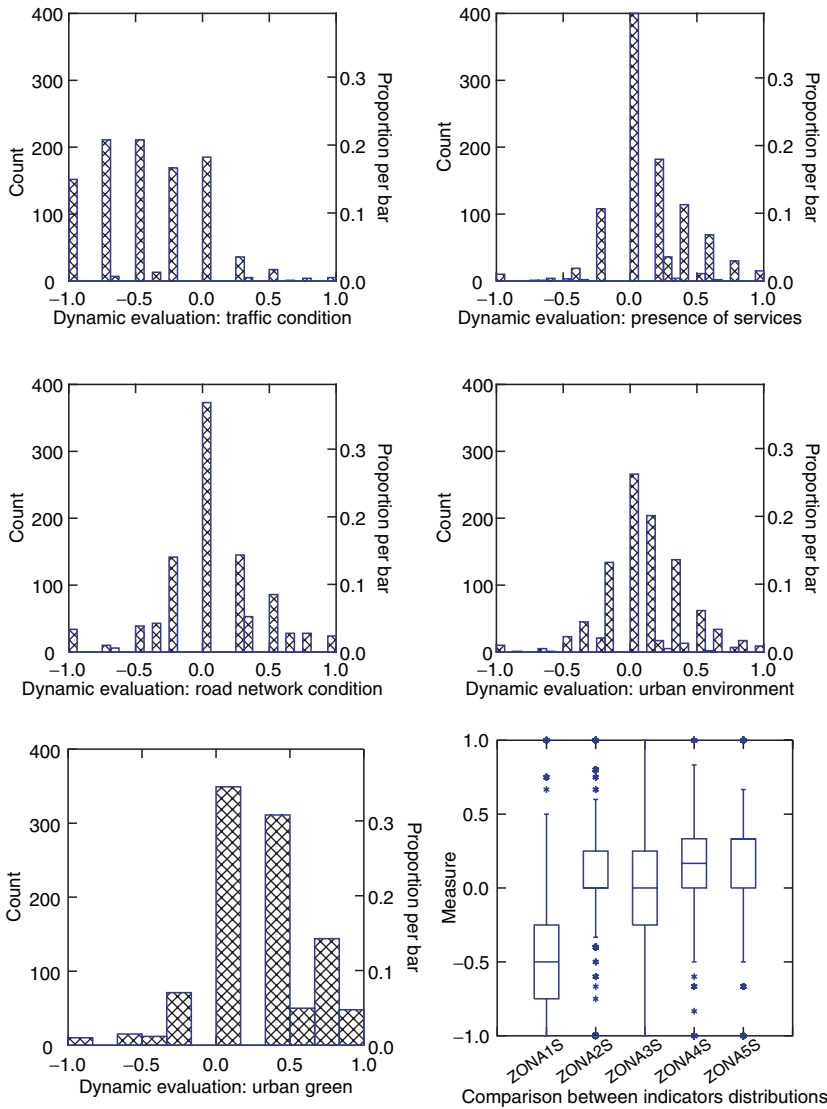
#### *Dynamic Evaluations: Time-related Comparisons*

For each single-item indicator of evaluation regarding the personal safety perception, respondents had to report a time-related comparison (today vs. 5 years ago). The grouping analysis,<sup>27</sup> conducted on these evaluations, confirmed the presence of the same five ambits of aggregations observed for the previous analysis (each ambit produced the same single-item profiles). The new five indicators can support and enrich the interpretation of the previous ones in terms of dynamic evaluation.<sup>28</sup> The same score can be related to an improvement evaluation for a citizen or to a worsening evaluation for another citizen or to stability judgment for another one.

The analysis of the dynamic scores (Figure 21), ranging from 1 (clear improvement in the evaluated ambit) to -1 (clear worsening in the evaluated ambit), allowed to point out (1) a relative stability in the evaluation of the *presence of services* (mean = -0.1), the *road network condition* (mean = 0.1) and the *urban environment* (mean = 0.1); (2) an improvement in the evaluation of the *urban green*; (3) a worsening in the evaluation of the *traffic* (mean = -0.4). Each dynamic

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

		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 the 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 one's life in Florence	at the present	0.27	0.21	0.19	0.23	0.20
	1 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



**Fig. 21.** The five dynamic indicators of the evaluation of the district: frequency distributions.

score registered an interesting level of relation ( $r$  values ranging from 0.4 to 0.5) with the corresponding evaluation indicator.

The *traffic* dynamic indicator showed clear discriminate capacity. Significant differences were observed between groups defined in terms of standard of education (the worsening is observed among subjects with high standards), of age and professional condition (young people and students do not perceived any worsening). While the former outcome confirms previous comments, the latter can be explained by

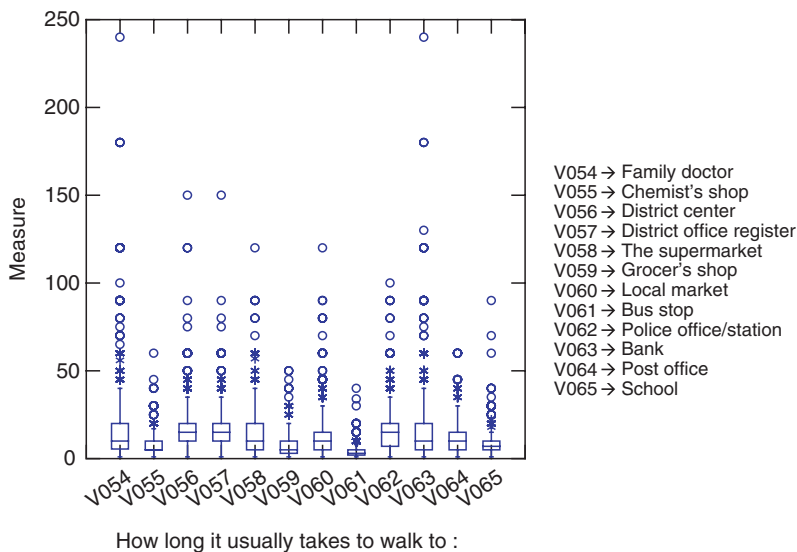
possibly different methods of urban mobility that young people and students have by using different means of transit that are not heavily involved in the city traffic.

The role that the residence area plays in this kind of evaluation also deserves a brief note. It seems that the citizens that live in suburban areas do not perceive any worsening situation regarding these dimensions. There are noticeable deteriorations, though perceived by the citizens living round-the-center areas (with regard to the traffic) and in the town center (with regard to the urban green). Finally, the previously described critical attitude observed among singles is confirmed here: the persons living alone feel a worsening with regard to the presence of services, confirming the great difficulty in their everyday-life managing.

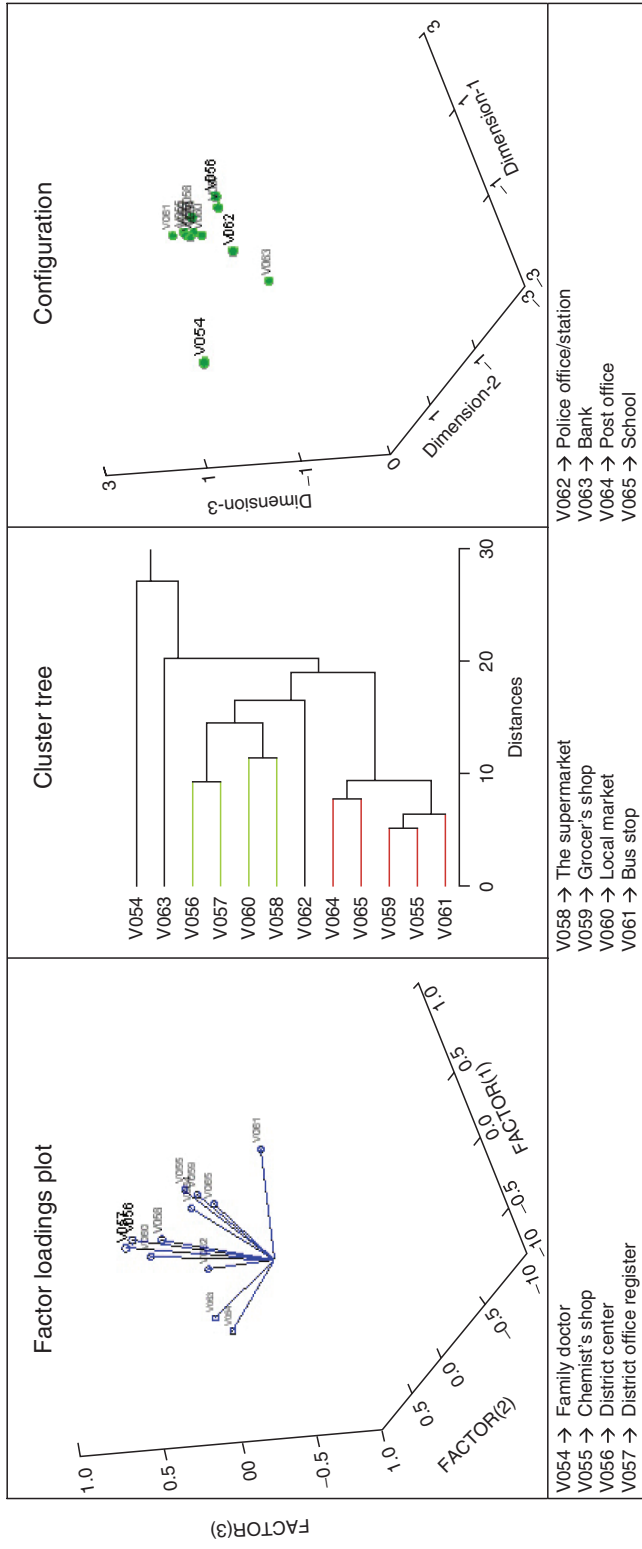
*The Territorial Distribution of the Public Services*

Those in the study responded to items related to the amount of time required by them to walk to a variety of sites considered important and notable in everyday life (question no. 8 of the questionnaire). The reported times to these sites were varied for each individual and also between individuals, depending not only on the particular objective site but also by the subjective situation and perception (Figure 22).

The aim here 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 site. In order to obtain a stable result, the minutes reported by each respondent were analyzed by three different statistical approaches producing coinciding outcomes. Figure 23 compares the results obtained through the three approaches (the principal component analysis,<sup>29</sup> the



**Fig. 22.** Minutes (referred by respondents) required to walk to some sites considered important in everyday life.



**Fig. 23.** Representations, obtained through three different statistical approaches, concerning the relations between the different times required to get to some sites considered important in everyday life.

cluster analysis,<sup>30</sup> and the multidimensional scaling,<sup>31</sup> respectively) and is used in identifying three “sites” typologies.

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

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 register office, 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).

Three individual scores were calculated in terms of the mean of the original scores for each level. The observation of the frequency distributions of the three scores (Figure 24) 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 requires to reach the “sites” were 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 peripheral area with regard to the extensive and zonal distributions, and among respondents living in round-the-center areas.

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

No significant level of correlation between these indicators regarding *life in Florence* and the level of *satisfaction for one’s life in Florence* was observed, suggesting that this is an overtaken dimension in terms of QOL in Florence.

### *The Irregularity of the Time Required to Cover the Daily-Route Distances*

It is generally agreed among individuals that the QOL in Florence is influenced by the amount of time that each citizen must usually spend in the daily commute of going to work or to school. The actual 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 it difficult to predict the duration of the citizens’ daily commute time and route. This degree of commute variability, the minimum and the maximum time (expressed in minutes) that each respondent reported with regards to the daily route to go to work or to school (question no. 10 of the questionnaire), allows the addition of another element in describing and interpreting the subjective level of QOL.

This commute variability indicator was calculated as the ratio between the maximum–minimum values difference and the maximum value, which produced

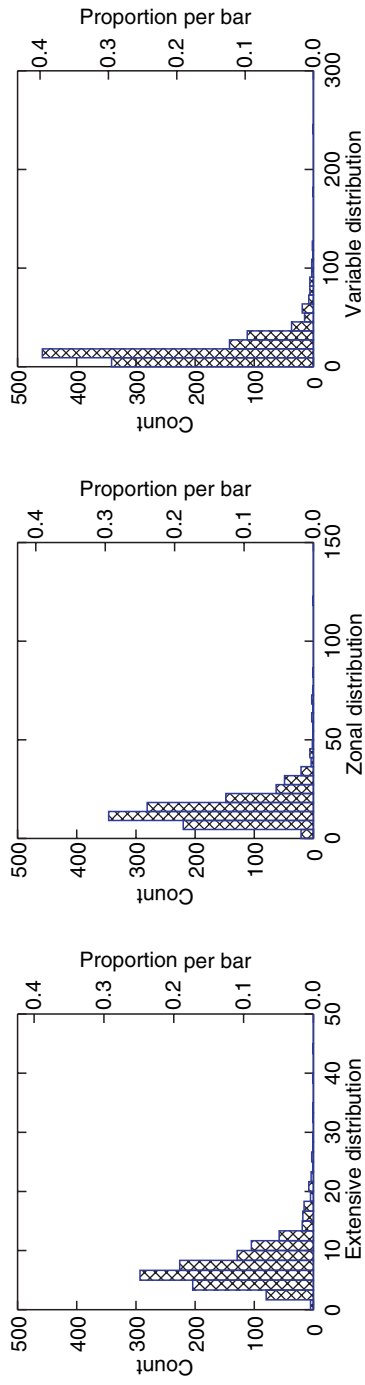


Fig. 24. Territorial distribution of the services: frequency distributions of the scores of the three indicators.

scores ranging from 0 (no irregularity) to 1 (maximum irregularity).<sup>32</sup> In explanatory terms, a 0.5 score of irregularity points out that the subject can double the daily-route time. The indicator does not 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 weekly frequency does not allow a properly and consistently weighting of the indicator. The frequency distribution of the scores for the overall sample is shown in Figure 25.

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 round-the-center and peripheral areas. Significant differences were also 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, it was observed that the greatest irregularities were among people moving by car. The greatest regularities were among people moving by bicycle. No significant difference was observed between groups defined in terms of age and professional condition.

Contrary to expectations, no significant relationships were observed between this indicator and the five indicators of evaluation of the district. Additionally, no significant relationships were seen between 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*.

### The Aggregation of the Composite Indicators

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

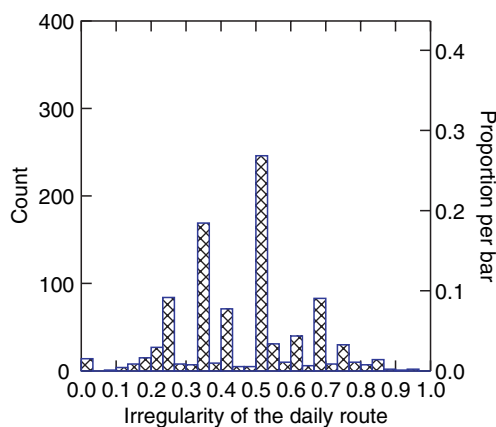


Fig. 25. Irregularity of the daily route: frequency distribution.

by the principal component analysis approach, identified five significant aggregations,<sup>33</sup> 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)
- Livability (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: daytime (0.87)
- Personal safety perception: nighttime (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 significant component loadings only on one of the five dimensions. The interpretation of the first four components are fairly straight forward, the fifth component, however, seems to represent a residual aggregation. In order to test the obtained aggregation, further analysis was carried out using cluster analysis<sup>34</sup> to help judge the aggregation process. The cluster tree (Figure 26) seems to partially confirm the previous result, allowing identification of the four clear and interpretable aggregations.

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. A 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 (Figure 27).<sup>35</sup> This further result revealed a clear presence of four aggregations and the correspondent “separation” of the other two indicators (TURIS and IRR\_MOB).

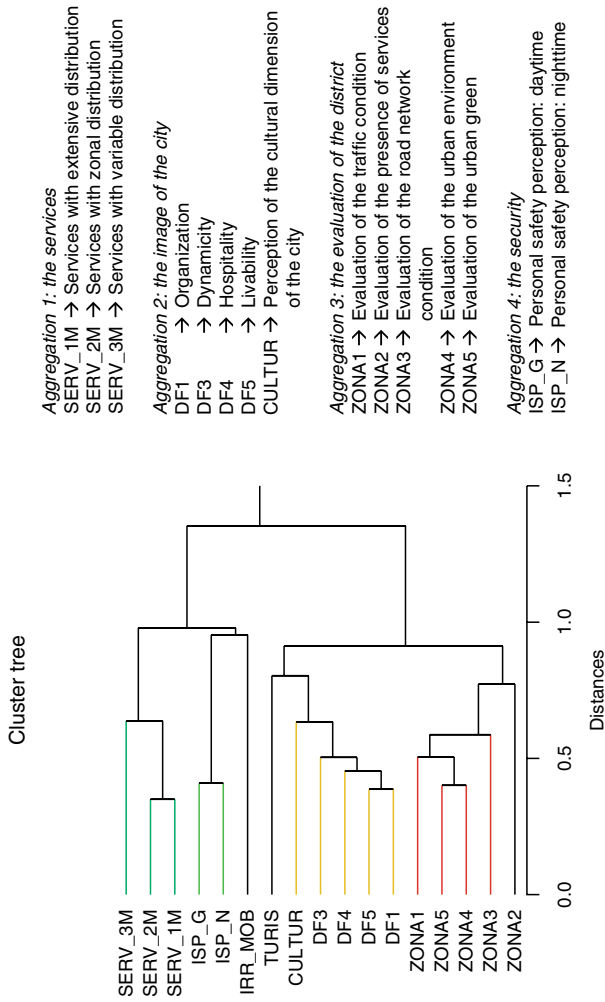
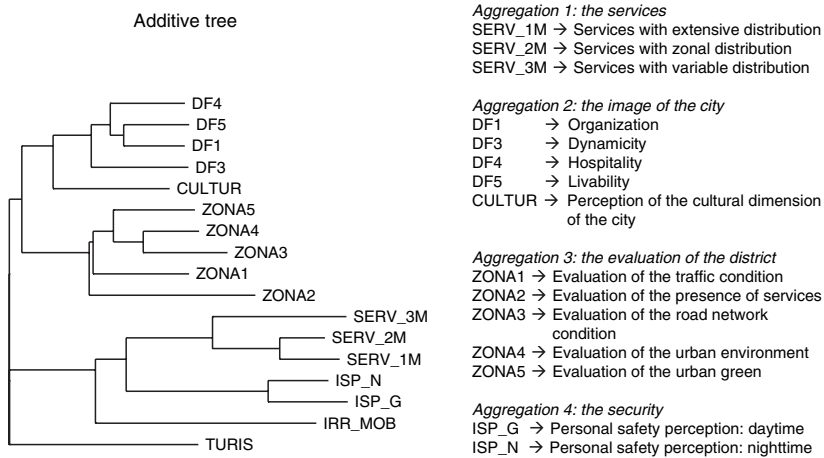


Fig. 26. Cluster tree describing the aggregation process of the indicators.



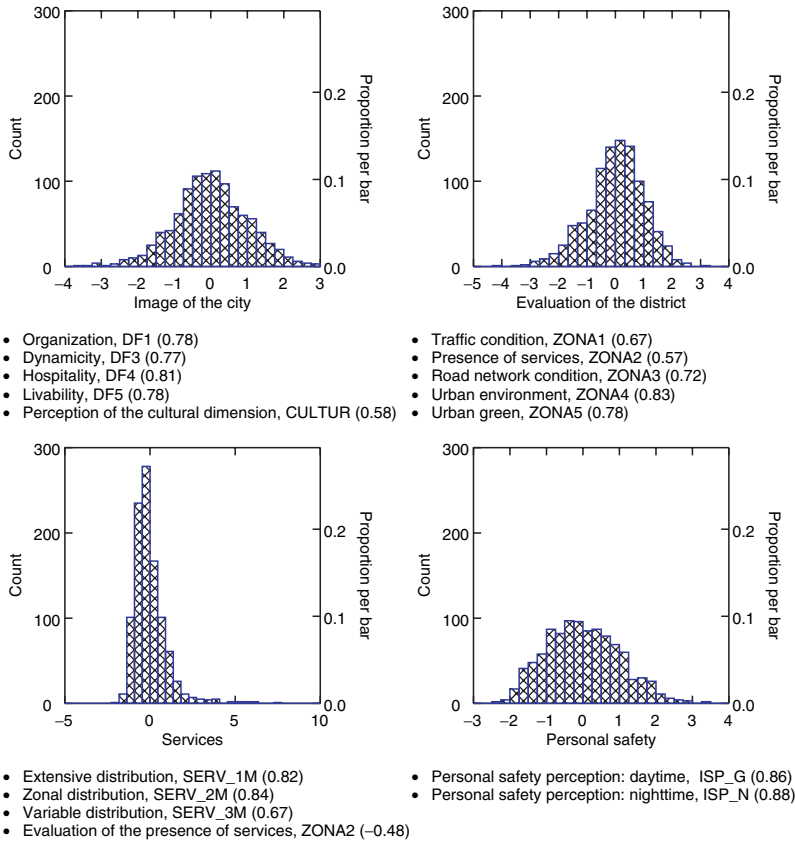
**Fig. 27.** Aggregation tree describing the aggregation process of the indicators.

*Factor analysis* was used to confirm the presence of the four aggregations dimensions, explaining the 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).

Overall the distributions of the sample scores (Figure 28) 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.

### Exploring the Existence of Some Typical Citizens’ Profiles

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<sup>36</sup> 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 the present, the life in Florence at the present, satisfaction for the district). The initial interpretation required the comparison of the profiles through the observation of the basic statistical indexes (minimum, maximum, mean, and SD) registered by the standardized indicators for each group. This interpretation had to take into consideration the different polarizations of the indicators. These were positive when the highest scores indicate positive evaluations (satisfaction for the district, life in Florence at the 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.



**Fig. 28.** The four aggregated indicators: frequency distributions of the individual scores and the defining indicators (with their individual component loadings).

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 (Table 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 (Table 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 (Table 6).
4. **The integrated group.** This group, comprising 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 (Table 7).

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

Indicator	Minimum	Mean	Maximum	SD	
Indicators polarity Positive	Satisfaction for the district	-2.11	0.52	1.59	0.65
	Life in Florence at the present	-1.93	0.62	1.63	0.64
	Satisfaction for one's life in Florence at the 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
Indicators polarity Negative	Evaluation of the district	-2.44	0.43	3.18	0.87
	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	Minimum	Mean	Maximum	SD	
Indicators polarity Positive	Satisfaction for the district	-3.70	-0.80	1.59	1.09
	Life in Florence at the present	-2.64	-0.89	1.63	0.95
	Satisfaction for one's life in Florence at the present	-4.33	-1.05	0.51	0.97
	Favor 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
Indicators polarity Negative	Evaluation of the district	-4.06	-0.54	2.14	1.05
	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	Minimum	Mean	Maximum	SD	
Indicators polarity Positive	Satisfaction for the district	-3.70	-0.04	1.59	0.86
	Life in Florence at the present	-2.64	-0.09	1.63	0.86
	Satisfaction for one's life in Florence at the 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
Indicators polarity Negative	Evaluation of the district	-2.92	-0.06	2.46	0.85
	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

Figures 29A and 29B show, respectively, the individuals' and indicators' profiles for each group; these graphic representations allow a better appreciation of the differences between the previously described groups.

A multiple correspondence factor analysis was applied in order to point out the basic characteristics that better describe the four identified groups.<sup>37</sup> The results help clarify the groups' profiles (Figure 30). 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 mainly constitutes *singles* or young couples, by citizens with a high standard of education (*degree*) and with managerial or autonomous activities (*manager*), and by people living in central or round-the-center city areas (*I-cint*). The *satisfied-with-little* group mainly comprises women and people living far from the center. The *integrated* group is characterized by a prevailing presence of elderly people (especially couples).

### Conclusions

The initial results of the Florentine study presented here raise a number of questions regarding QOL in Florence and suggest the need for further examination. Nevertheless, the presented results suggest 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 noted. These are: (1) the positive relation that elderly people, living as couples, have with the city; and (2) the difficult relations 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 exacting work schedule, and a high level of involvement in the city and urban environment. This seems to suggest the important role that familiar and social relationships and the standard of education play in individual life. In other words, these relationships and cultural levels are important and basic factors. These are connected, directly and indirectly, to the level of QOL in urban context and to its subjective perception by the city's populace.

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

Indicator	Minimum	Mean	Maximum	SD	
Indicators polarity Positive	Satisfaction for the district	-2.11	0.35	1.59	0.78
	Life in Florence at the present	-1.93	0.38	1.63	0.73
	Satisfaction for one's life in Florence at the 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
Indicators polarity 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	

From a methodological perspective, it is worthwhile pointing out that the study revealed that the “atypicality” concerns mainly are related to the operational definition of the indicators, but not necessarily to the conceptual definitions. For the most part, these can be applied, in our opinion, in other urban contexts. The proposed approach has significant potential since it allows not only the ability to measure a particular ambit but also the ability to explore the connection of the different levels of the indicators with other important individual characteristics.

From a policy point of view, the current study provides a cue for a variety of considerations. The approach here used well-synthesized information, which makes it possible to depict the composite descriptions necessary to develop strategies and policies aimed to specific urban areas, segment of population, or particular urban urgent situation. Nevertheless, public policy officials need to be aware of some concerns regarding such data synthesis and analysis. The analysis, which aggregated the com-

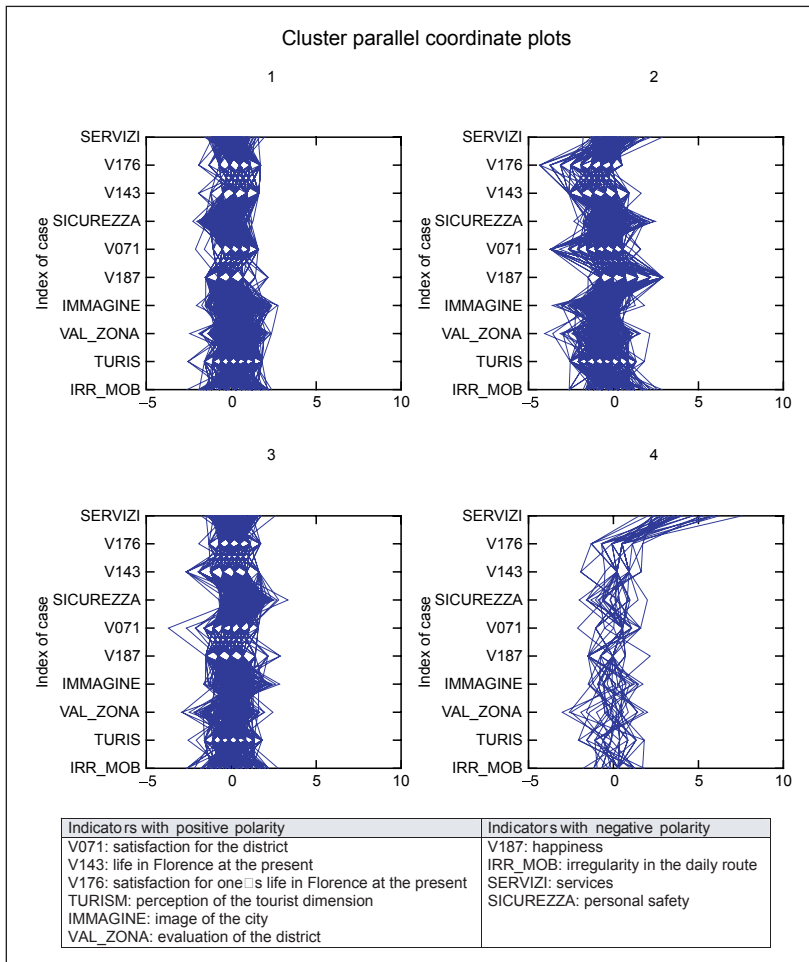
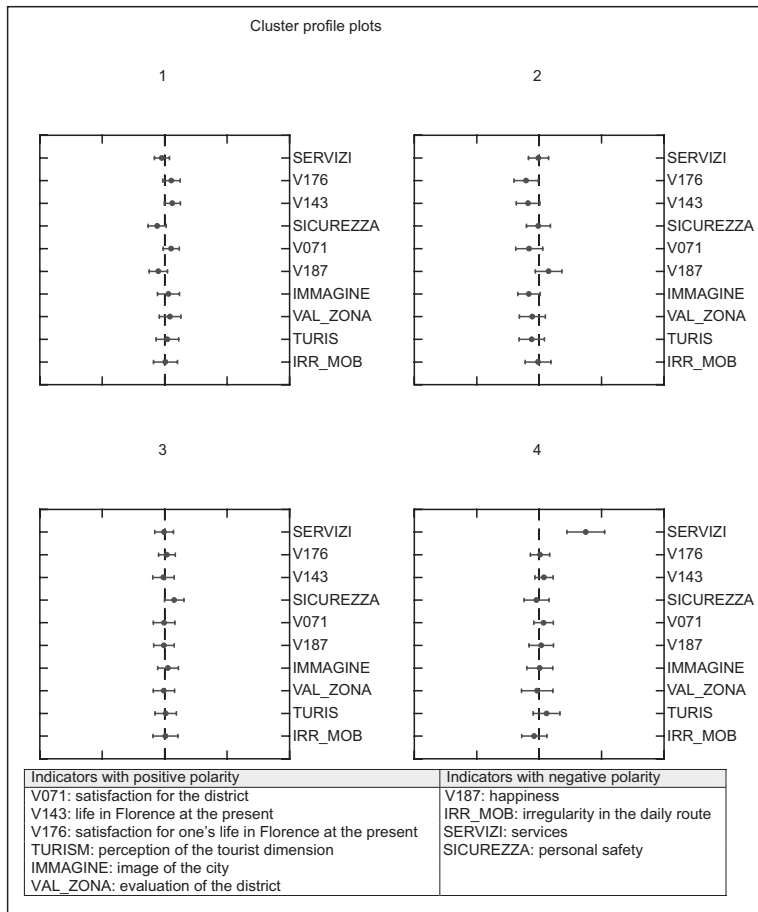


Fig. 29A. Individuals' profiles for each group.



**Fig. 29B.** Indicators' profiles for each group.

posite indicators—collected at a disjointed level within a reference conceptual model—needs to consider the risk that an excessive synthesis may produce especially in the presence of multidimensional characteristics. A unique value that synthesizes too many component of subjective QOL may be not only attractive but also useless 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 recompensed by valuable and significant interpretation.

Finally, the long-term value of QOL studies relies heavily on the ability to create a reliable and longitudinal database. The utility of the efforts done in order to design and to accomplish a study like the current one relies on the availability of timely, up-to-date information. In the case of this particular study, officials—composing the Florentine research group—have expressed interest in continuing with the survey,<sup>38</sup> and discussed the importance and the opportunity to build a system that is kept up-to-date. At the present time, the authors are hopeful that this kind of QOL measurement and monitoring system will come to pass.

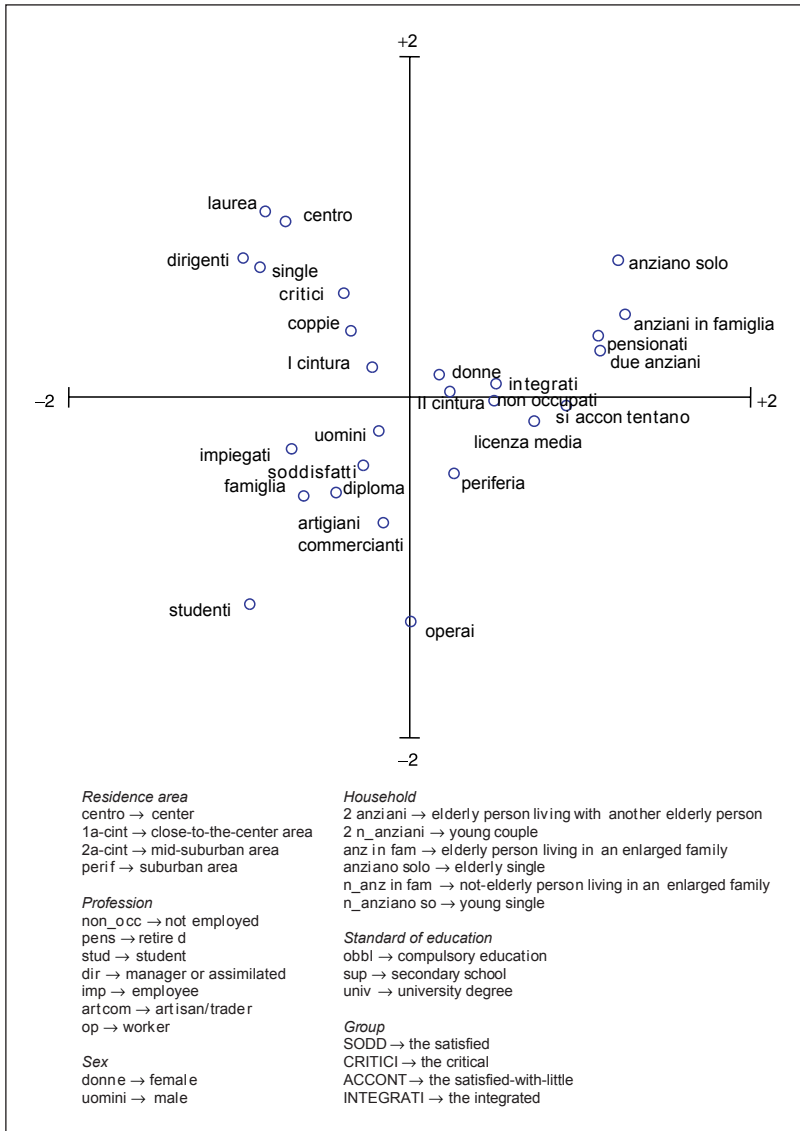


Fig. 30. Description of the group's characteristics by some basic variables (multiple correspondence factor analysis).

### Notes

1. 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 is 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 above (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 cooperative society) (22%); (6) artisan/trader (5%); (7) worker (8%).
- **Residence area (GEO).** The new defining of this variable has taken into account the territorial distribution of the 20 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 ages, 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 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 a resident—but as usually happens among university students.

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

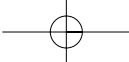
2. Obviously, the substitution of the nonresponses produced a sample affected by a form of self-selection susceptible to introduce distortions, but the strict control of the strata (in terms of area, sex, and age) can help to reduce the effects. In spite of the presence of the substitution list, some strata did not reach the expected numerosity at the end of the survey. In order to cope with this residual quote of nonresponses, the weights were multiplied by the reciprocal of the response rate (calculated for each unit belonging to the  $h$ th stratum as the ratio between the number of respondents for the  $h$  stratum and the number of the drawn units for the  $h$  stratum). This choice assumes that inside each stratum the respondents and nonrespondents are homogeneous as regards the involved characteristics. The high level of stratification of the sampling design and low rate of nonresponses (1.3%) made the assumption realistic and any source of distortions noninfluential.
3. The English version of the questionnaire presented in Appendix A needs 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

- [Au1]
- 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.
  8. The extracted dimensions (*varimax* rotation) explain the 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 (*Cronbach alpha* = 0.7).
  12. This indicator has produced a significant level of internal consistency (*Cronbach alpha* = 0.7).
  13. This indicator has produced a high level of internal consistency (*Cronbach alpha* = 0.8).
  14. This indicator has produced a high level of internal consistency (*Cronbach alpha* = 0.8).
  15. This indicator has produced a high level of internal consistency (*Cronbach alpha* = 0.8).
  16. The relation was measured by the Pearson coefficient. Analogous results were obtained by applying the Spearman coefficient for ranked data.
  17. The internal consistency of the group of items produced a quite satisfying result (*Cronbach alpha* = 0.7), considering that the instrument was submitted here for the first time.
  18. The produced cluster tree was obtained through the hierarchical approach (distance: *gamma*; linkage: *complete*).
  19. The grouping analysis, realized by the *hierarchical cluster analysis* (distance: *gamma*, linkage: *complete*) allowed to verify the aggregation process of the single-item indicators.
  20. The principal component analysis (*varimax* rotation) has extracted five dimensions (56% of the total variance explained).
  21. 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.
  22. This indicator registered an interesting internal consistency value (*Cronbach alpha* = 0.7).
  23. This indicator registered a high internal consistency value (*Cronbach alpha* = 0.8).
  24. This indicator registered an encouraging internal consistency value (*Cronbach alpha* = 0.6).
  25. This indicator registered an interesting internal consistency value (*Cronbach alpha* = 0.7).
  26. This indicator registered an interesting internal consistency value (*Cronbach alpha* = 0.7).
  27. The grouping analysis, realized by the *hierarchical cluster analysis* (distance: *gamma*, linkage: *complete*) allowed to verify the aggregation process of the single-item indicators.
  28. Each dynamic indicator represent a comparison with respect to *traffic condition* (ZONA1S), *presence of services* (ZONA2S), *road network condition* (ZONA3S), *urban environment* (ZONA4S), *urban green* (ZONA5S).
  29. The produced configuration, obtained by a *varimax* rotation, explains the 55% of the total variance. The figure shows the items’ position in the space defined by three dimensions.
  30. 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.
  31. 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.

32. The maximum value is theoretical since it could be observed only in the case of zero recorded as minimum value.
33. The five dimensions explain the 65% of the total variance (rotation method: *varimax*).
34. 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 (Aldenderfer and Blashfield, 1984; Lis and Sambin, 1977).
35. 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 branches connecting them in the tree. From the statistical point of view, the outcome is rather satisfactory ( $stress = 0.05$ ,  $r^2 = 0.93$ ).
36. 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.
37. The first two factors extracted account for 19% of the total inertia ( $n = 1165$ ).
38. The presentation of the data and results of the second survey is not in the purpose of this work.

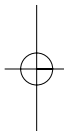
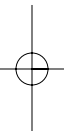
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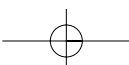
## Appendix A: The Quality of Life in Florence

2003 OCTOBER



QUESTIONNAIRE NUMBER

INTERVIEWER CODE



The City of Florence is undertaking to requalify 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 cooperation, by answering the questionnaire, will be precious for obtaining a comprehensive view and for analyzing the survey data in the best way.

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## 1. RELATION WITH THE CITY

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### RELATION WITH THE NEIGHBOURHOOD AREA

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

- |  |                          |      |
|--|--------------------------|------|
| ➤ I chose it (the district is lovely, comfortable, . . .)        | <input type="checkbox"/> | (v1) |
| ➤ I always lived here  | <input type="checkbox"/> | (v2) |
| ➤ For financial reason (purchasing or renting cost of the house) | <input type="checkbox"/> | (v3) |
| ➤ The relatives are close  | <input type="checkbox"/> | (v4) |
| ➤ Working reasons  | <input type="checkbox"/> | (v5) |
| ➤ I found my house here (I didn't choose it)                     | <input type="checkbox"/> | (v6) |
| ➤ I have chosen the house, not the district                      | <input type="checkbox"/> | (v7) |
| ➤ Others (please, point out)                                     | <input type="checkbox"/> | (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 (at all) to 10 (completely), can you tell how much you are satisfied about your house?

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK  (v12)

<p><b>6. From 0 (worst evaluation) to 10 (better evaluation), how do you evaluate your district as regards following aspects?</b></p>	<p><b>7. In your opinion, in comparison with 5 years ago, the evaluation is better (+), same (=) or worst (-)?</b></p> <p>I lived in another district <input type="checkbox"/> (v13)</p>
<p>➤ Cleaning (roads, sidewalks, . . .)    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v14)</p>	<p>+ = - DK <input type="checkbox"/> (v15)</p>
<p>➤ Road traffic    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v16)</p>	<p>+ = - DK <input type="checkbox"/> (v17)</p>
<p>➤ Bikeways    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v18)</p>	<p>+ = - DK <input type="checkbox"/> (v19)</p>
<p>➤ Road condition    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v20)</p>	<p>+ = - DK <input type="checkbox"/> (v21)</p>
<p>➤ Traffic signals (zebra crossing, traffic lights, . . .)    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v22)</p>	<p>+ = - DK <input type="checkbox"/> (v23)</p>
<p>➤ Street islands    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v24)</p>	<p>+ = - DK <input type="checkbox"/> (v25)</p>
<p>➤ Public transport    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v26)</p>	<p>+ = - DK <input type="checkbox"/> (v27)</p>
<p>➤ Removal of the architectonic barriers    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v28)</p>	<p>+ = - DK <input type="checkbox"/> (v29)</p>
<p>➤ Differentiated waste collection    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v30)</p>	<p>+ = - DK <input type="checkbox"/> (v31)</p>
<p>➤ Chemist's shops, ambulatories    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v32)</p>	<p>+ = - DK <input type="checkbox"/> (v33)</p>
<p>➤ Removal of waste from garbage cans    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v34)</p>	<p>+ = - DK <input type="checkbox"/> (v35)</p>
<p>➤ Post offices, banks    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v36)</p>	<p>+ = - DK <input type="checkbox"/> (v37)</p>
<p>➤ Supermarkets / hypermarkets    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v38)</p>	<p>+ = - DK <input type="checkbox"/> (v39)</p>
<p>➤ Stores (clothes, shoes, . . .)    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v40)</p>	<p>+ = - DK <input type="checkbox"/> (v41)</p>
<p>➤ Schools (kindergartens, primary schools)    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v42)</p>	<p>+ = - DK <input type="checkbox"/> (v43)</p>
<p>➤ Parking places    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v44)</p>	<p>+ = - DK <input type="checkbox"/> (v45)</p>
<p>➤ Quiet (little noise)    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v46)</p>	<p>+ = - DK <input type="checkbox"/> (v47)</p>
<p>➤ Street lights    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v48)</p>	<p>+ = - DK <input type="checkbox"/> (v49)</p>
<p>➤ Public gardens    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v50)</p>	<p>+ = - DK <input type="checkbox"/> (v51)</p>
<p>➤ Sporting installations and facilities    ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩    DK <input type="checkbox"/> (v52)</p>	<p>+ = - DK <input type="checkbox"/> (v53)</p>

**8. How long it takes you to walk from your home to (minutes)**

- Your family doctor     DK  (v54)
- The nearest chemist's shop     DK  (v55)
- The district center     DK  (v56)
- The district Register Office     DK  (v57)
- The supermarket     DK  (v58)
- Your usual grocer's shop     DK  (v59)
- The local market     DK  (v60)
- The nearest bus stop     DK  (v61)
- The police office/station     DK  (v62)
- Your bank     DK  (v63)
- The post office     DK  (v64)
- The kindergarten and/or primary school     DK  (v65)

*Which mean do you use to go throughout the city*

**9. With reference to last week, by which mean did you go to:**

- |                    | By private<br>car | By motor-<br>bike | By<br>bicycle | By bus | By<br>walking | I didn't go to<br>anywhere |                                      |
|--------------------|-------------------|-------------------|---------------|--------|---------------|----------------------------|--------------------------------------|
| ➤ ... work/school  | ①                 | ②                 | ③             | ④      | ⑤             | ⑥                          | DK <input type="checkbox"/><br>(v66) |
| ➤ ... other places | ①                 | ②                 | ③             | ④      | ⑤             | ⑥                          | DK <input type="checkbox"/><br>(v67) |

**10. How long it takes you to go for the daily route (to go to work/school)?**

Minimum time (minutes)   (v68) Maximum time (minutes)   (v69) DK  (v70)

**11. Using a score from 0 (at all) to 10 (completely), can you tell how much are you satisfied for your district?**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ DK  (v71)

**12. and in comparison with 5 years ago?**

- ① More satisfied
- ② The same
- ③ Less satisfied
- ④ I lived in another district DK  (v70)

**13. As you know, urban deterioration is a process shared by many cities. In your opinion what is "deterioration" for a city? Indicate which are, in your opinion, the three factors that mostly characterize it (in order: 1 = the most important).**

- A. I burned / damaged cars  (v73)
  - B. abandoned / destroyed bicycles, motorbikes  (v74)
  - C. damaged / burned garbage cans, abandoned house refuses  (v75)
  - D. abandoned / degraded buildings  (v76)
  - E. damaged / out of order / absent public lights  (v77)
  - F. little illegal garbage dumps  (v78)
  - G. dirty walls  (v79)
  - H. unclean streets  (v80)
  - I. ruined streets and sidewalks, broken manhole covers  (v81)
  - J. urban vandalism (damaged benches, traffic signals or signs,.)  (v82)
  - K. neglected public garden  (v83)
  - L. others: \_\_\_\_\_  (v84)
- DK  (v85)

14. Some problems of the urban environment are common to many Italian cities. With regard to Florence, put the following problems in order, according to which is worrying you (1 = the most, 6 = the less).

- A. urban deterioration  (v86)
  - B. road accidents  (v87)
  - C. acoustic pollution (noise)  (v88)
  - D. atmospheric / olfactory pollution  (v89)
  - E. dangerous roads (streets, crossroads, . . .)  (v90)
  - F. too much traffic  (v91)
- DK  (v92)

15. Indicate your level of agreement with the following proposals concerning environmental politics set up in Florence.

- |   | Strongly agree | Slightly agree | Slightly disagree | Strongly disagree |    |       |
|---|----------------|----------------|-------------------|-------------------|----|-------|
| ➤ block off to private-cars traffic           | ①              | ②              | ③                 | ④                 | DK | (v93) |
| ➤ "ecological days"                           | ①              | ②              | ③                 | ④                 | DK | (v94) |
| ➤ alternating private-cars traffic            | ①              | ②              | ③                 | ④                 | DK | (v95) |
| ➤ free electric-bus in the center of the city | ①              | ②              | ③                 | ④                 | DK | (v96) |

16. There are many road works ahead in Florence. Tell how much you . . .

- |   | Much | Quite | Little | At all |    |       |
|---|------|-------|--------|--------|----|-------|
| ➤ believe to be well informed about road works                              | ①    | ②     | ③      | ④      | DK | (v97) |
| ➤ accept to suffer temporary inconveniences for the improvement of the city | ①    | ②     | ③      | ④      | DK | (v98) |
| ➤ believe that the road works are able to improve the mobility              | ①    | ②     | ③      | ④      | DK | (v99) |

17. Like other great cities, Florence presents some important social phenomena. In your opinion, how much are the following phenomena relevant in the city of Florence?

- | Presence of                              | Very important | Quite important | Little important | At all |    |        |
|--|----------------|-----------------|------------------|--------|----|--------|
| ➤ pushing drugs                          | ①              | ②               | ③                | ④      | DK | (v100) |
| ➤ nomads                                 | ①              | ②               | ③                | ④      | DK | (v101) |
| ➤ clandestine immigration                | ①              | ②               | ③                | ④      | DK | (v102) |
| ➤ crimes (thefts, bag-snatchings, . . .) | ①              | ②               | ③                | ④      | DK | (v103) |
| ➤ street prostitution                    | ①              | ②               | ③                | ④      | DK | (v104) |
| ➤ homeless people                        | ①              | ②               | ③                | ④      | DK | (v105) |



24. Point out the figure that better represents the “life” in Florence ...



- in the past      ①          ②          ③          ④          ⑤          ⑥          ⑦      DK  (v142)
- at the present    ①          ②          ③          ④          ⑤          ⑥          ⑦      DK  (v143)
- in the future     ①          ②          ③          ④          ⑤          ⑥          ⑦      DK  (v144)

25. Think about Florence. For each pair of adjectives, point out the position that is closer to the adjective that describes your ideal city in a better way. Please, don't dwell too much.

Tolerant								Intolerant	(v145)
Beautiful								Ugly	(v146)
Innovator								Conservative	(v147)
Organized								Disorganized	(v148)
Easy-going								Quarrelsome	(v149)
Well-known								Unknown	(v150)
Active								Inactive	(v151)
Secure								Insecure	(v152)
Open								Close	(v153)
Appreciated								Despised	(v154)
Planner								Improvisator	(v155)
Silent								Noisy	(v156)
Formal								Informal	(v157)
Pleasant								Unpleasant	(v158)
Industrious								Indolent	(v159)
Tidy								Chaotic	(v160)
Courteous								Rude	(v161)
Gratifying								Disappointing	(v162)
Fast								Slow	(v163)
Livable								Unlivable	(v164)
Hospitable								Inhospitable	(v165)
Amusing								Boring	(v166)
Lively								Placid	(v167)
Relaxing								Stressful	(v168)
Caring								Uncaring	(v169)
Stimulating								Depressing	(v170)
Dynamic								Static	(v171)
Comfortable								Uncomfortable	(v172)
Civil								Uncivil	(v173)
Unique								Common	(v174)
	A	B	C	D	E	F	G	DK <input type="checkbox"/>	(v175)

26. Using a score from 0 (at all) to 10 (completely), tell how much are you satisfied for your life in Florence.

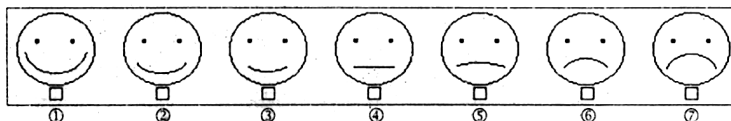
- At the present                      ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩                      DK  (v176)
- One year ago                        ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩                        DK  (v177)

**2. INDIVIDUAL LIFE CONDITIONS**

**27. I am going to draw up a list of individual life aspects. Put them in order from that you believe is the most important (1) to that you consider the less important &circ8;**

- A. Friendship  (v178)
- B. Physical aspect  (v179)
- C. Career  (v180)
- D. Culture  (v181)
- E. Family  (v182)
- F. Earnings  (v183)
- G. Social relationship  (v184)
- H. Health  (v185)      DK  (v186)

**28. Looking at the following face expressions, point out the face that better represents your happiness condition at the present.**



DK  (v187)

**29. In order to evaluate the importance of social relations in our city, indicate how much support...**

... you receive from	... practical ...				... psychological ...					
	Much	Quite	Little	At all	Much	Quite	Little	At all		
➤ Relatives	①	②	③	④	DK <input type="checkbox"/> (v188)	①	②	③	④	DK <input type="checkbox"/> (v189)
➤ Friends	①	②	③	④	DK <input type="checkbox"/> (v190)	①	②	③	④	DK <input type="checkbox"/> (v191)
➤ Neighbors	①	②	③	④	DK <input type="checkbox"/> (v192)	①	②	③	④	DK <input type="checkbox"/> (v193)
➤ Acquaintances and colleagues	①	②	③	④	DK <input type="checkbox"/> (v194)	①	②	③	④	DK <input type="checkbox"/> (v195)

**30. and how much support...**

... you receive from	... practical ...				... psychological ...					
	Much	Quite	Little	At all	Much	Quite	Little	At all		
➤ Relatives	①	②	③	④	DK <input type="checkbox"/> (v196)	①	②	③	④	DK <input type="checkbox"/> (v197)
➤ Friends	①	②	③	④	DK <input type="checkbox"/> (v198)	①	②	③	④	DK <input type="checkbox"/> (v199)
➤ Neighbors	①	②	③	④	DK <input type="checkbox"/> (v200)	①	②	③	④	DK <input type="checkbox"/> (v201)
➤ Acquaintances and colleagues	①	②	③	④	DK <input type="checkbox"/> (v202)	①	②	③	④	DK <input type="checkbox"/> (v203)

**31. Using a score from 0 (at all) to 10 (completely), tell how much are you satisfied for your relation with:**

- > Relatives  0  1  2  3  4  5  6  7  8  9  10  DK (v204)  
 > Friends  0  1  2  3  4  5  6  7  8  9  10  DK (v205)  
 > Neighbors  0  1  2  3  4  5  6  7  8  9  10  DK (v206)  
 > Acquaintances and colleagues  0  1  2  3  4  5  6  7  8  9  10  DK (v207)

**32. During last month, how many times you carried out the following free-time activities? Indicate zero if no activity was carried out.**

- > Leisure activities (cinema, theater, concert, discotheque, restaurant, pizzeria, . . .)  (v208)  
 > Cultural activities (museum, art exhibition, cultural meeting, . . .)  (v209)  
 > Social, politic and voluntary activities, . . .  (v210)  
 > Sport activities  (v211)

**33. Are you able to satisfy your free-time requirements in Florence?**

- 1 Yes (*go to 36*)  2 No  DK (v212)

**34. If no, which is the predominant reason? (indicate only one predominant reason).**

- 1 Financial reason  5 Personal (lack of time, schedule problems, . . .)  
 2 Work  6 Absence of public transports  
 3 Family reason  7 Parking problems, . . .  
 4 Health  8 Others \_\_\_\_\_  DK (v213)

**35. Do you believe that the income of your family is adequate to the demands of your family?**

- 1 Completely adequate (*go to 38*)  3 Partially inadequate  DK (v214)  
 2 Partially adequate  4 Completely inadequate

**36. Can you indicate the monthly sum that could be added to your income in order to satisfy your family needs?**

- 1 0–250 Euros  
 2 251–500 Euros  
 3 501–1000 Euros  
 4 Over 1000 Euros  DK (v215)

**37. Comparing the financial situation of your family at the present time with that of the past year, you believe that it is:**

- 1 Bettered  2 unchanged  3 worsened  DK (v216)

**38. Using a score from 0 (at all) to 10 (completely) can you tell how much are you satisfied for your quality of life?**

- 0  1  2  3  4  5  6  7  8  9  10  DK (v217)

**39. and in comparison with one year ago?**

- 1 better than  2 the same as  3 worse than  DK (v218)

**3. INDIVIDUAL DATA**

**40. Educational qualification:**

- ① No one
  - ② Elementary certificate
  - ③ Second level certificate
  - ④ General Certificate of Education (with no university admittance)
  - ⑤ General Certificate of Education (with university admittance)
  - ⑥ Post-GCE Diploma
  - ⑦ First level degree
  - ⑧ Degree
  - ⑨ Doctorate
- (v219)

**41. Your professional condition If 1, go to 43, others: go to 44.**

- ① Employed
  - ② Unemployed in search of a new job
  - ③ Unemployed in search of the first job
  - ④ The job will begin in the near future
  - ⑤ House working
  - ⑥ Student
  - ⑦ Retired
  - ⑧ Unfit for work / invalid
  - ⑨ Military / social service
  - ⑩ Other \_\_\_\_\_
- (v220)

**42. You are**

- ① Full time employed
  - ② Part time employed
- (v221)

**43. Which is your professional position?**

- ① Subordinate
    - ①① Manager
    - ①② Official
    - ①③ Employee / staff / clerk
    - ①④ Worker or similar
    - ①⑤ Apprentice
    - ①⑥ At-domicile worker
  - ② Autonomous
    - ②① Contractor
    - ②② Autonomous professional
    - ②③ Autonomous worker
    - ②④ Partner of a cooperative society
    - ②⑤ Cooperating with family firm
- (v222)

**For all respondents**

Would you accept to be re-interviewed? If so, would you like to indicate the phone number for the new possible contact?

- |        |                               |        |      |                          |        |                               |
|--------|-------------------------------|--------|------|--------------------------|--------|-------------------------------|
| Home   | <input type="text" value=""/> | (v223) | Time | <input type="checkbox"/> | (v224) | ① from 8.00 to 9.00 a.m.      |
| Mobile | <input type="text" value=""/> | (v225) | Time | <input type="checkbox"/> | (v226) | ② from 9.00 a.m. to 1.00 p.m. |
| Work   | <input type="text" value=""/> | (v227) | Time | <input type="checkbox"/> | (v228) | ③ from 1.00 to 3.00 p.m.      |
| Other  | <input type="text" value=""/> | (v227) | Time | <input type="checkbox"/> | (v230) | ④ from 3.00 to 6.00 p.m.      |
|        |                               |        |      |                          |        | ⑤ from 6.00 to 9.00 p.m.      |
|        |                               |        |      |                          |        | ⑥ from 9.00 to 10.00 p.m.     |

