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**Defining the quality of urban life:
Which factors should be considered?**

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Abstract

In 2010 the World Health Organisation dedicated the World Health Day to urbanization and health, highlighting the impacts of urban living on physical and mental health. This is because it is increasingly acknowledged that cities face various problems that undermine the quality of urban life, e.g. social inequalities, urban crime, poor environment, and traffic congestion. Despite this fact, cities continue to play a vital role in development, as they offer higher education, specialized services and jobs. When it comes to an assessment of the living conditions and well-being in cities, economic indices have failed to capture the aforementioned contradiction of urban life. A concept able to monitor the multidimensional nature of cities seems to be the “quality of urban life” (QOUL).

The multidimensionality of the QOUL concept reflects the variety of the examined dimensions, but also the range of the different uses of the term. Many different approaches of this concept can be found not only between papers of different disciplines (health sciences, social sciences or planning), but also in the context of the same scientific field. Thus, although there has recently been a remarkable number of comparative studies and papers concerning the evaluation of QOUL in different cities, the factors taken into account are far from being standard.

In part, this is because the constituents of the QOUL depend on rather subjective factors, such as culture and tradition in the examined places. However, for a given place and a specific period there can be an agreement concerning the factors which determine the QOUL. This will allow for relative research to be comparable and better interpretable.

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This paper starts with an analysis of the standard approaches of the concept “quality of urban life” as they can be found in the relative scientific literature. It continues with the analysis of the factors which determine the QOUL in societies, focusing in cities. The criteria taken into account for the measurement of the QOUL in the evaluation of cities and the city rankings are also examined. Finally, a range of factors which can be used as a standard set when examining the QOUL in European cities is proposed.

Keywords: quality of urban life, urban development, European cities, evaluation criteria, city rankings

1. INTRODUCTION

The term 'quality of life' (QOL) is used worldwide to describe the general well-being of societies and people. QOL is widely used in different contexts as it includes a concept which is, or is meant to be, the direct or indirect objective of policies, researches and public investments. However the QOL concept remains mainly theoretical as it contains a large element of subjectivity and thus it is difficult for it to be treated as a measurable dimension. For these reasons, both the definition and the adequate measurement of QOL in a given society still remains inefficient (Costanza et al., 2008).

Recently, there has been an increasing interest in the evaluation of the QOL on different spatial levels, reflected in academic research and various reports. However, the scientific research about the QOL is characterized by the lack of a common theoretical framework, which results in a significant variety of different approaches (Diener and Suh, 1997; Verlet and Devos, 2009).

In the case of cities, the measurement of the QOL holds a significant research interest for more than one reason. Urbanisation is an ongoing phenomenon with 50% of the world's population and 70% of the European population already concentrated in cities. Thus, cities play a vital role in economic growth and regional development as they offer employment, higher education and specialised services whilst being centres of innovation and technology. At the same time, however, cities struggle for social cohesion and environmental sustainability, since serious contemporary problems, like social inequality, environmental degradation, crime, etc., are traditionally considered to accompany urban life (European Commission, 2009). In addition, the high quality of the urban environment and of the overall quality of urban life (QOUL) seem able to drive development, through the attraction of a working force and of enterprises, enhancing the competitiveness of cities in the general modern economic scenario (Hall, 1995; Gospodini, 2002).

For the above reasons, there has recently been an increased amount of comparative studies and scientific papers concerning the evaluation of the QOL in cities, including a significant number of city rankings based on the QOUL. But the determining factors taken as criteria in these studies are far from being standard. They are rather a subject of investigation included in the methodological approach of every study. Very often, economic indicators outshine all other criteria for evaluating well-being in cities. This approach, however, is very restrictive, since such indicators have been proved inadequate in expressing the real needs, preferences

and priorities of citizens (Costanza et al., 2008; Verlet and Devos, 2009). Given these restrictions, there have been methods for the assessment of the QOL based on the subjective evaluation which people can make regarding their own lives. In this case new restrictions are raised, due to the very subjectivity of the method: every single person perceives the content of the QOL concept differently and thus defines its determinants differently (Szalai, 1980; Dalkey, 2002). Partly, this happens because defining 'quality of life' depends on entirely subjective factors, including culture and tradition in the places under scrutiny.

On the other hand, despite differences concerning the usage and the content of the QOL term, most people would agree that urban crime and air pollution downgrade the QOL (Mercer, 2011). Therefore, we assume that in given spatial unities (e.g. Europe) and for specific time periods, there can be some agreement concerning the most significant factors which determine the QOL in cities. The establishment of a standard set of factors will help relevant research and related reports to be directly comparable and more open to interpretation.

The structure of this paper is as follows. Section 1 investigates the determinants of QOL at the personal level. Section 2 focus on the factors which retain their importance when regarded in a societal context. The determinants of QOL is the subject of Section 3, where a new set of ten general factors for the evaluation of QOL in European cities is presented. Section 4 contains the main conclusions of the paper.

2. QUALITY OF LIFE ON A PERSONAL LEVEL (SUBJECTIVE WELL-BEING)

The QOL in a city or a societal group in general cannot be considered as the average QOL of all citizens. Even in cities where the QOL of individuals is relatively high, this cannot guarantee that the city's overall quality of living is high too. There are many factors which determine QOL on a personal level which are not transferable on a societal one (e.g. the state of an individual's health). On the other hand, there are also important factors which have been showed to influence the QOL in a given place, which do not necessarily constitute a specific determinant of a person's QOL (e.g. weather and climate). However, despite this mismatch between the personal and societal factors, the examination of the QOL on a personal level is a required starting point for ascertaining the determinants of the QOL in cities.

In this section we review the main determinants of an individual's QOL as they appear in literature. It is useful to note that in literature, the term QOL when it refers to individuals is mostly used in relation to the health sciences. In the context of socio-economic sciences, 'subjective well-being' is mostly used to describe an individual's QOL. In this paper we use

the same term for both instances as we approach the personal level first before considering the societal and then the spatial levels.

The first attempt to record (and measure) QOL widely was probably the 'Comparative Welfare for Scandinavia', which was elaborated in 1972 using evaluation criteria for the following factors: income, housing, political attitudes, social relationships, uniqueness, personal interest, health, education and satisfaction with life. The index system structured on the above factors was based on the distinction of three main sectors of life, viewed through the lens of humanistic psychology as defined at the time: loving, having and being (Allardt, 1986; Erikson and Uusitalo, 1986; Veenhoven, 2000). Since then, many researchers have proposed different sets of criteria for the evaluation of a person's QOL, modifying or amplifying the above considerations (Cummins, 1996; Diener and Lucas, 2000; Dalkey, 2002; Verlet and Devos, 2009).

Verlet and Devos investigate subjective well-being through the subjective evaluation of the notion of satisfaction with life, according to the following domains: satisfaction as human beings, satisfaction with the life in society, current professional situation, financial situation at home, life at home, the neighbourhood and the local government. The researchers also examine current satisfaction in comparison with that of the recent past, highlighting the importance of personal continuity and development (Verlet and Devos, 2009). In their paper, Verlet and Devos present an interesting approach to the question 'what is the relative significance of each QOL determinant?'. Using a series of different recorded factors as independent variables, the authors attempt to specify the level of importance of each factor. They conclude that some issues which are traditionally considered to have a significant influence when examining the QOL, both at societal level (e.g. the structure of the social capital) and at a personal level (e.g. political attitudes) do not seem to significantly affect subjective well-being. On the contrary, other factors which are not always taken into consideration were found to be relatively important. Table 1 summarises the five factors with the highest explanatory value for three different scales of subjective well-being, according to Verlet and Devos.

Table 1. Overview of the factors with the highest explanatory value for personal QOL

<i>Satisfaction with Life Scale</i>	<i>General Life Satisfaction</i>	<i>Happiness</i>
Social Integration	Social Integration	Social Integration
Self-esteem	Self-esteem	Satisfaction with neighbourhood
State of health	Satisfaction with	Self-esteem

(compared to peer groups)	neighbourhood	
Comparison to the beginning of occupational life	Comparison to the beginning of occupational life	State of health (compared to peer groups)
Comparison to parents situation	State of health (compared to peer groups)	Comparison to the beginning of occupational life

Source: (Verlet and Devos, 2009)

The World Health Organisation, acknowledging the increasing need to establish a QOL measurement with intra-cultural validity, developed WHOQOL: a pilot project elaborated in 15 research centres worldwide, which led to the identification of 6 broad domains and 26 items which determine the quality of a person's life. These items are summarised in WHOQOL-100 and provide a tool for the measurement of personal QOL, as considered through the lens of health sciences (see Table 2).

Table 2. Life domains and items which determine the QOL according to the WHO.

<i>Domain</i>	<i>Facets incorporated within domains</i>
	Overall Quality of Life and General Health
1. <i>Physical health</i>	Energy and fatigue Pain and discomfort Sleep and rest
2. <i>Psychological</i>	Bodily image and appearance Negative feelings Positive feelings Self-esteem Thinking, learning, memory and concentration
3. <i>Level of Independence</i>	Mobility Activities of daily living Dependence on medicinal substances and medical aids Work capacity
4. <i>Social Relations</i>	Personal relationships Social support Sexual activity
5. <i>Environment</i>	Financial resources Freedom, physical safety and security Health and social care: accessibility and quality Home environment Opportunities for acquiring new information and skills Participation in and opportunities for recreation/leisure Physical environment (pollution/noise/traffic/climate) transport
6. <i>Spirituality</i>	Religion Personal beliefs

Source: World Health Organisation, 2004 (own elaboration)

The conclusions of the 'Second European Quality of Life Survey' are also particularly interesting. This survey assesses subjective well-being in all EU countries. It is elaborated by the *European Foundation for the Improvement of Living and Working Conditions* and it investigates the QOL in Europe through the 'Satisfaction with Life Scale' approach. In this survey the interviewees besides evaluating their satisfaction with life (and other relative indices, like happiness, optimism for the future or their emotional well-being) also record various personal, social and financial data which describe their status. In this way, those facets of everyday and social life which determine people's well-being emerge. Table 3 summarises the factors for QOL at a personal level which were highlighted in this way.

Table 3. Factors which influence an individual's QOL as they emerge from the 'Second European Quality of Life Survey'

<i>Order of significance</i>	<i>Life Domain</i>	<i>Relative Facets</i>
1	Financial status	Income Material well-being/lifestyle deprivation Employment
2	Health	Age Health status/disability Social support
3	Employment status	Employment Unemployment Retirement
4	Education	Education Level
5	Marital status	Marriage Divorce Widowhood
6	Practical/moral support	Family Friends Institutions
7	Public Services	Quality of services Accessibility

Source: 'Second European Quality of Life Survey', 2010 (own elaboration)

Table 4 presents the data that resulted from gathering and sorting the main variables which appear in the literature to determine an individual's QOL. The second column shows the main general factors that can be formulated by the various variables, while the third column shows some important variables that appear in literature to be significant QOL determinants but can be included in the general factors of column 2.

Table 4. Determining factors for the QOL of an individual

<i>s/n</i>	<i>Main QOL Factors</i>	<i>Facets incorporated in main factors</i>
1	Physical health	Energy, absence of pain
2	Mental health and psychology	Positive feelings, trust in myself
3	Happiness, self-esteem, self-actualisation	Emotional well-being, spiritual well-being, challenges, prestige
4	Family environment and personal relationships	Marital status, giving and earning love and tenderness, understanding and solidarity
5	Social relationships and friendship	Friends, being needed, interpersonal relationships, understanding and solidarity
6	Income	Material well-being, financial sources
7	Employment	Productivity, unemployment, Satisfaction with one's job
8	Education and lifelong learning	Level of education, personal development
9	Distinctive time and Leisure	Recreation, humour, relaxation, leisure opportunities
10	Security and tranquility	
11	Freedom and variety of options	Challenges, capabilities
12	Social Inclusion	Position in the community or society, social participation
	Factors concerning the wider environment	Satisfaction with the neighbourhood, housing, natural environment, political situation, public services, etc.

The factors which concern the environment of an individual, such as satisfaction with the neighbourhood, the quality of the natural environment or the political situation in the place of residence, have a strong social dimension and influence personal QOL through the individual's social inclusion.

One of the main determinants of a person's QOL is the income factor, as it is the most prominent and well studied. So far scientific research has concluded with inadequate and sometimes contradictory evidence concerning the contribution of income to subjective well-being. There is research which indicates that economic factors relate to the QOL with a loose and ambiguous relationship, while other research provides evidence of a strong and clear link (Hankiss, 1981). Recent studies have proved that a positive relationship between income and subjective well-being exists, but is only valid up to a certain level of annual income, above which higher income does not contribute further to the QOL. Kahneman and Deaton have set this upper level to be 75,000 USD (about 60,000 euros). Beyond this amount the individual's QOL seem to depend on other factors, like leisure, good health, relationships with friends and family, etc. (Kahneman and Deaton, 2010).

When examining subjective well-being, the matter of income relates closely to two significant life domains which also play a vital role in a person's QOL: employment and leisure. As far as employment status is concerned, all researchers agree that unemployment directly downgrades subjective well-being, causing overwhelming pressure on the person's psychology and leading to social exclusion (Fryer and Payne, 1984; Dooley and Catalano, 1988; Fryer, 1992; Haworth, 1997).

On the other hand, the significance of leisure as a life domain for subjective well-being has recently begun to be acknowledged. An important issue highlighted in the literature concerns the continuing conflict between work and leisure time, which usually turns against the latter and has negative consequences on an individual's health (both physical and psychological) and happiness (Lane, 1995; Iso-Ahola, 1997; Fear and Denniss, 2010). Despite this ongoing contradiction, leisure is gradually being recognised as a significant criterion for the QOL in societies with a high level of development. It is also viewed as a measure for personal freedom, participation in social life and the overall well-being of citizens (Zarotis et al., 2008).

3. SOCIETAL QUALITY OF LIFE AND THE ROLE OF POLICIES

As already mentioned, societal QOL is not the average QOL of the people who constitute the society. The QOL at societal level has rather to do with the capabilities and chances offered to society members in order to obtain a good personal QOL. Starting from the main QOL factors illustrated in Table 4, we can say that societies which cultivate these factors and favour their development are characterised by a high QOL.

The level of achievement of these factors, both on a personal and a societal level, largely depends on institutions and social structures. Social research has so far proved that there is a strong and systematic relationship between an individual's personality and the social structures that support the person and drive their socialisation. More specifically, the socio-economic situation has been proved to involve an individual's attitudes and values, including self-esteem (which contributes enormously to happiness) and general satisfaction with life (Inkeles and Diamond, 1980).

According to Inkeles, society sets the context for personal development: the level of development of the society can give each individual either an advantage or a disadvantage for

personal development, at least compared to that which would have been expected by only examining the individual's personal characteristics and status (education, income, employment, etc.). This context seems to be independent of the dominant culture, which also plays a role in the formation of an individual's personality (Inkeles, 1997).

Although the effects of societal systems on individuals have mainly been proved by research concerning different countries, they refer to the existing relation between social structures and the context of personal well-being in general. Thus, those conclusions can also be transferred to other spatial levels.

Another issue which relates to the link between social structures and subjective well-being of individuals and communities concerns the role of political institutions. It has been proved that democratic institutions have beneficial impacts at both a socio-political and a personal level. This is to be expected, since the highest the capability for direct political participation (e.g. through elections and referendums) means a higher number of policies reflect the preferences of voters. However, this is not the only factor. Citizens of places where democratic institutions are well developed declare more happiness than others. The higher happiness scores relate to the satisfaction obtained by actual participation in the political procedure and not simply to favourable outcomes (Frey and Stutzer, 2000).

If social structures and institutions are important for the individual and societal QOL, the question is to what extent decision makers and local governments can contribute through their policies to a higher level of subjective well-being.

Although personal QOL relates mostly to factors which concern private life, policies affect the context of everyday life, formulating the conditions in which subjective well-being and happiness can blossom (Verlet and Devos, 2009). Our environment directly impacts on all domains of life, even those which seem clearly private. A person's relationship with their family and friends is usually rated very highly when subjective well-being is evaluated. Although this domain seems strictly private, it is influenced by the leisure and recreation resources of the community (e.g. the city), the efficiency of transportation (which involves leisure time), social infrastructures, etc. The same happens with health status, employment and all other factors of personal QOL which are all influenced by infrastructures to varying degrees.

The role of policies is acknowledged in the 'Second European Quality of Life Survey', which highlights the need for adopting efficient strategies to bolster important issues for the QOL, such as good health. Emphasis is given to the need for interventions towards improving the

emotional well-being of people who need it, and decreasing economic vulnerability. In general, the 'Second European Quality of Life Survey' emphasises the focus on improving the living conditions of the most disadvantaged rather than raising the average standard of living. However, the latter is also important for poorer countries, especially in the current era of economic crisis.

4. QUALITY OF URBAN LIFE

The city is probably the social and spatial unit which has been investigated more extensively as far as the QOL is concerned. In broader spatial units, other indices are usually preferred, such as the living standard or the Index of Human Development.

Among the criteria which are normally used in QOL-evaluating studies, the factors which are considered to be axiomatic are notable, as they clearly relate to the individual's QOL factors and everybody would agree their importance. Thus, when QOUL is examined 'traditional' issues like crime, poverty, social exclusion, loss of identity, environmental degradation and congestion, come to the fore, along with other less obvious issues like the quality and accessibility of public space (Blomquist, 2006).

Having examined the factors of personal QOL, we can tell which are the socio-economic characteristics of the urban population that should act as target points for urban planning and policies. To make this clear, let's consider the issue of health, which is highlighted as a significant determinant for subjective well-being. Although most epidemiologists would agree that low rates of chronic diseases in a city may not be a coincidence, these rates cannot serve as determinants for a city's performance when the QOUL is assessed. In this case, quality, sufficiency and accessibility of health services should first be evaluated.

In this context we attempt a 'translation' of the personal QOL factors to QOUL characteristics. This analysis leads to the QOUL factors of Table 5.

Table 5. Quality of Urban Life items as they emerge from the analysis of individual factors

<i>QOUL Items</i>	<i>Main QOL factors, according to Table 4</i>
Health services	12
Urban green spaces/recreation areas	1,2,9
Quality of urban environment	1,2
Employment opportunities, employment structure	3,7
Family and marital status indices	4

Social networks	5
Income, income distribution	6
Unemployment	7
Level of education	8,3
Leisure resources, humour and recreation	9,11
Crime	10
Social inequalities , social exclusion	12

Besides the above items, literature refers to issues with a less obvious relationship to the QOL factors and a less significant (but existing) impact on the QOUL. One of these issues concerns the level of efficiency of public services, which is highlighted in the 'Second European Quality of Life Survey' as an important determinant for satisfaction with life, especially for the less privileged (European Foundation for the Improvement of Living and Working Conditions, 2010).

Quality and accessibility of public space is also mentioned as an index for the quality of public life in a city and, thus, as a critical factor for the QOUL in general (Beck, 2009; Miller, 2009; Minton, 2009; Budruk et al., 2011; U.N. Human Settlements Programme, 2011). A high quality of urban landscape and public spaces also attracts enterprises and tourists, reinforcing the city's image, which also in turn influences the QOUL in an interactive way (Gospodini, 2002).

An important issue relating to the above concerns urban green spaces, whose role vis-a-vis the QOUL has extensively been proved by many researchers. There is a plethora of references for the documentation of the positive relationship between green spaces and the QOL in cities. Most of them originate from health sciences (Henwood, 2003; Morris, 2003; Pretty et al., 2005) but references from urban economics (Crompton, 2005; Mansfield et al., 2005; Arvanitidis et al 2009), Urban Planning (Swanwick et al., 2003; Wooley, 2003; Lake et al., 2010) and Environmental Disciplines (Bird, 2007; Ridder, 2004) can also be found.

Circulation conditions and accessibility of urban spaces and services also contribute to the formation of QOUL, since they can limit the number of alternatives and capabilities a city can offer (e.g. for housing, employment and leisure), while they also influence the time balance and everyday life of the citizens (Cramer et al., 2004; Nuvollati, 2009). Accessibility depends largely on the city's expansion and population which have also been examined, along with the city growth, as QOUL factors with contradictory results (Royuela, 2009 and 2011).

Less obvious factors which have also been mentioned as criteria for QOUL include the weather (Cheshire and Magrini, 2006), the accessibility of public spaces particularly for

disabled people, and the social infrastructures for vulnerable groups (European Foundation for the Improvement of Living and Working Conditions, 2010).

Other factors, like the monitoring security systems (e.g. CCTV) in public spaces, the number of police forces, the number of churches and the participation rate of people in church services, are used in some city rankings as evaluating criteria (e.g. Conway Data, 2006); however they are particularly controversial and lack theoretical evidence.

Finally, there some important criteria for the comparative evaluation of the QOUL which are normally not applicable when comparing European cities. These include electricity networks, accessibility to potable water, infant mortality and illiteracy.

Based on the above findings, we have produced a set of twelve general categories of factors determining the QOUL in Europe. These categories are summarised in Table 6.

Table 6. General categories of QOUL determinants for European cities

<i>Economic Environment</i> Employment opportunities, employment structure, average income and income distribution, living costs, etc.	<i>Social Environment</i> Crime, social inequalities, social exclusion, networks and infrastructures
<i>Natural Environment</i> Air quality, water resources, waste management, suburban natural environment, accessibility to areas of natural beauty, weather and climate	<i>Built environment</i> Building density, housing conditions, public monumental buildings, building stock, neighborhoods, etc.
<i>Urban and suburban green spaces</i> Total area and rate per resident, condition, allocation, accessibility, usage, etc.	<i>Public spaces –Public buildings</i> Area, quality, condition and maintenance, accessibility, visiting rates, etc.
<i>Culture - Leisure</i> Cultural resources, tourism infrastructures, recreation areas, leisure activities, entertainment capabilities, cultural life, available choices	<i>Demographic data</i> Marital and family status of adults, age rates, level of education
<i>Education</i> Education units, quality and maintenance, attendance per education level, private schools, etc.	<i>Health care</i> Health services, accessibility, social welfare for the disadvantaged, etc.
<i>Democratic Institutions</i> Democratic regime, election of local government, voting rates, etc.	<i>Traffic and transportation</i> Traffic conditions, parking spaces, efficiency of public transportation and

	level of transportation services, accessibility of districts
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The next steps for research include the refinement of those general factors into indices for assessing the QOUL and the investigation of the relative importance of each factor.

5. CONCLUSIONS AND RESEARCH PERSPECTIVES

Current cities are characterised by an ongoing concentration of people who are asked to use a limited set of resources, commodities and services. Since personal and societal well-being increasingly concerns the international scientific community, the Quality of Urban Life (QOUL) should also be investigated.

Although most urban problems are common around the world, it is obvious that in different spatial and cultural entities different issues constitute the critical factors of QOUL. Better comprehension of, and a more effective approach towards, these issues can help to more efficiently upgrade the QOL in the cities of each cultural entity (e.g. Europe), since many of the critical issues that cities have to contend with in different spatial units cannot be generalised.

In any case, the examination of QOL at a personal level (which has been extensively investigated and incorporates the significant contribution of health sciences and psychology) provides the necessary theoretical background for the evaluation criteria of QOUL to be sufficiently documented. Through this theoretical approach, the continuing significance of QOL factors like health, income, employment, leisure, social networks and security are highlighted.

Besides those issues, there are other factors which also play an important role in configuring the QOL in the city, since they involve the domain of subjective well-being. The quality of the urban environment, urban green spaces, recreation resources and public spaces are among those factors.

In this paper, as well as a discussion of the relevant issues, a set of twelve general factors for assessing the QOL in European cities has been presented. The specialisation of these criteria through the selection and/or the formation of suitable indices could lead to the development of a new index system for monitoring and evaluating the QOUL in Europe. This system would allow for the comparison both between different cities and between different time periods. In this context, the relevant significance of each factor constitutes an important issue for investigation.

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