



COST Action TU1203



Relation between Quality of life and Safety in high-rise housing

Łódź, Poland

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Łódź: Relation between Quality of life and Safety in high-rise housing

Contents

Foreword	iii
What is COST?	iii
Executive summary	vi
Acknowledgements	vii
Authorship	vii
Introduction	1
1. Context & Background	2
Relation between Quality of life and Safety	2
High-rise district: Widzew	5
Level of crime in Widzew	6
The sense of safety in Widzew	6
2. Action undertaken	10
Quality of life and CPTED analysis	10
4. Conclusion	15
Appendix 1	16
Reference materials	16
Appendix 2	19
Key contacts for further information	19

Foreword

What is COST?

COST – European Cooperation in Science and Technology - is an intergovernmental framework aimed at facilitating the collaboration and networking of scientists and researchers at European level. It was established in 1971 by 19 member countries and currently includes 35 member countries across Europe, and Israel as a cooperating state. COST funds pan-European, bottom-up networks of scientists and researchers across all science and technology fields. These networks, called 'COST Actions', promote international coordination of national-funded research. By fostering the networking of researchers at an international level, COST enables break-through scientific developments leading to new concepts and products, thereby contributing to strengthening Europe's research and innovation capacities. COST's mission focuses in particular on: building capacity by connecting high quality scientific communities throughout Europe and worldwide; Providing networking opportunities for early career investigators; Increasing the impact of research on policy makers, regulatory bodies and national decision makers as well as the private sector. Through its inclusiveness, COST supports the integration of research communities, leverages national research investments and addresses issues of global relevance. Every year thousands of European scientists benefit from being involved in COST Actions, allowing the pooling of national research funding to achieve common goals. As a precursor of advanced multidisciplinary research, COST anticipates and complements the activities of EU Framework Programs, constituting a "bridge" towards the scientific communities of emerging countries.

In particular, COST Actions are also open to participation by non-European scientists coming from neighbour countries (for example Albania, Algeria, Armenia, Azerbaijan, Belarus, Egypt, Georgia, Jordan, Lebanon, Libya, Moldova, Montenegro, Morocco, the Palestinian Authority, Russia, Syria, Tunisia and Ukraine) and from a number of international partner countries. COST's budget for networking activities has traditionally been provided by successive EU RTD Framework Programs. COST is currently executed by the European Science Foundation (ESF) through the COST Office on a mandate by the European Commission, and the framework is governed by a Committee of Senior Officials (CSO) representing all its 35 member countries. More information about COST is available at

www.cost.eu

COST action TU1203: Crime Prevention through Urban Design and Planning (CP-UDP)

The focus of COST Action TU1203 is Crime Prevention through Urban Design and Planning (CP-UDP). The Action was chaired by Professor Clara Cardia of the Polytechnic University of Milan, Italy. Clara Cardia completely unexpectedly died April 30th 2015. From then on Dr. Umberto Nicolini of LABQUS Milan chaired the COST action.

The Action comprises country representatives from European countries and some partnership countries. The countries presently involved are: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, FYR of Macedonia, Germany, Greece, Hungary, Ireland, Israel, Italy, Lithuania, Netherlands, Poland, Portugal, Romania, Serbia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. Its objective is to make a substantial advancement towards the goal of building "safe cities". Studies have proved that there is a correlation between the structure and organization of urban space and crime: new criminological theory supports this point of view. The Justice and Home Affairs Council of the EU has underlined that crime prevention through design and planning is a successful and effective strategy for crime prevention and needs to be supported. Despite this, new projects are being implemented all over Europe without considering safety criteria, creating urban areas where crime and fear of crime make life difficult. The Action develops new knowledge and innovative approaches putting together theoretical thinking and practical experience. Thus the scientific program forecasts to work simultaneously on one hand on the innovative approaches deriving from research and experts, on the other hand on the know-how acquired through best practical experience. It brings together, value and disseminate the local research and experiences of participating countries, thus contributing to building a body of European expertise in the field of CP-UDP. It also uses its wide network to promote awareness, hoping that at the end of the Action more countries and decision bodies will be aware of the importance of incorporating crime prevention principles in planning decisions and projects.

From the Chair and the Core Group

The activity of COST Action TU1203 is organized along two main courses: producing innovative thinking in CP-UDP on one hand; and consolidating and diffusing existing knowledge on the other.

- The Action achieves the first course - innovative thinking - through working groups and invited experts which will develop new issues of environmental crime prevention, such as theories, private public partnerships, new technologies, new partnerships between police and planners, new implication of local authorities etc.
- It approaches the second course mainly through case studies located in different European cities. Each of the case studies focuses on aspects that are of major importance for the Action, and were organized by the hosting city with the support of the Action Core Group.
- The dissemination goal is considered of crucial importance and it is achieved, starting from the first year, by building networks of communication at international as well as the national levels. These networks are used for diffusing step by step the knowledge acquired by the Action.

➤ In order to make the results of the thematic working groups and the case studies immediately available to the Cost TU 1203 community and to the larger network it has been decided to produce a series of booklets, which develop the approached subject in short and synthetic form and are conceived so s to be easily readable to persons coming from different backgrounds. This booklet in thus one in a series.

See for the most recent information on this COST-action TU 1203: <http://costtu1203.eu> and http://www.cost.eu/domains_actions/tud/Actions/TU1203



Clara Cardia (chair) COST meeting Jerusalem May 2014

Executive summary

The social context in Polish high-rise neighbourhoods varies from one in Western Europe. This typology is not associated with social housing and the ownership of the dwellings is mixed. Moreover nearly half of the population of Poland lives in this type of real estates. Sociological research shows the subjective quality of life is descent. Nevertheless they are still considered a rather poor place to live and there are various aspects that need to be improved. Widzew is a typical example of the lay out of a 70's and 80's concrete high-rise housing area. Many similar developments have been built during communist era in the Eastern Europe. Lots of social and urban problems meet in Widzew. There are many degenerated buildings, while new developments intrude the existing environment, obstructing social and urban structure.

The authors have conducted sociological surveys and field observations to measure the subjective quality of life. After analysing the data several problems appeared, such as: lack of maintenance, poor quality of public space, the sense of insecurity, lack of social cohesion. The main scientific question is if and how the CPTED method can address those issues. We want to address major problems found in the social research by a combination of the CPTED solutions.

The necessity to apply the CPTED analysis in the quasi-public space is clearly noticeable. It is this space that is often perceived by the inhabitants as dangerous. It appears that it can be easily assessed via four criterions – visibility, accessibility, territoriality and attractivity.

The idea is to compare the findings of a sociological survey on quality of life with the results of space analysis based on the CPTED method. This study might bring general recommendations for high-rise neighbourhoods in Eastern Europe.

Acknowledgements

Authorship

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Introduction

The urban concept of large housing estates derives from an intellectual trend created by the designers associated with CIAM (Congrès International d'Architecture Moderne). The designers proposed a new urban model in opposition to the 19th century city plan. To put it simply, the model amends the structure of the building development on two levels: on both the level of the city and the district. In the city it separates functions (housing, commerce, industrial, etc.) and ascribes them to separate zones (zoning). On the scale of the district (neighbourhood) it loosens the urban structure and connects the vast public space with the surrounding greenery. Moreover, traffic is highly separated from pedestrians. The districts that are created constitute a composition of numerous repetitive elements within a large area.

Unfortunately, the Polish urban structure of the districts diverges from CIAM's initial principles; it is distorted by the ideology of real socialism and the centrally planned economy (cf. Basista 2001). During this period, the inefficiency of the Polish economy resulted in sub-standard workmanship. At present, the high percentage of large housing estate areas are governed by post-socialist housing associations. The city authorities perceive these areas as private property and leave the urban renewal initiative to the given housing association. In practice, the redevelopment is minimized to technical modernization of buildings.

The social context in Polish high-rise housing varies from those in other western countries. The majority of dwellings are not typical of social housing districts. Moreover, the ownership is mixed – private, cooperative, council-owned. Nearly half of the population of Poland lives in these types of buildings as they constitute 46% of housing; nevertheless these are still considered a poor place to live. While the sociological research shows the quality of life is decent, various aspects still need improvement. The authors have conducted social surveys and field observations to measure the subjective quality of life. After analyzing the data several problems appeared, such as: the lack of maintenance, the poor quality of public space, the sense of insecurity in certain places, the lack of social cohesion.

It appears that the following thinking pattern can be constructed: the quality of life – the sense of safety – the creation of a safe space. Thus, these constitute the research issues raised in this article. The subject of the authors' interest and the aim of the article is to compare the sense of safety of the inhabitants of high-rise housing estates, conceptualized as the sense of safety, or the threat-free, in selected areas, with an objective space analysis using the CPTED method. The sense of safety is treated as one of the components of the quality of life. The second purpose of the text is associated with it – it involves showing the relation between the quality of life and the sense of safety as categories which are subjectively created by people. Frequently, these subjective feelings have nothing in common with facts – police statistics and the specialists' conclusions regarding space. It is confirmed by the research conducted in Łódź by S. Mordwa (2003, 2010, 2011a, 2011b, 2013).

It is worth mentioning that similar studies have been conducted also in other cities. The researchers of the Jagiellonian University took part in an international project – the Crime Prevention Carousel. The Polish section of the studies was concerned with another housing estate – Prądnik Czerwony in Cracow (*Crime Prevention in High-Rise Housing*, Lukas, T. (2007). These studies dealt solely with the sense of safety in the public spaces of large housing estates. The research presented below focuses mainly on the quality of life in all spaces used by the inhabitants of the high-rise housing estates.

1. Context & Background

Relation between Quality of life and Safety

The quality of life has become a universal notion. The research on the quality of life and the scientific interest therein is part of numerous academic disciplines, such as, among others, sociology, psychology, economy, geography, medical sciences or social gerontology. The quality of life is part of a wide group of notions that have no sole, final, completed, satisfactory definition that is agreed upon by the social researchers. It is due to several reasons, including the wide range of this notion and ascribing meanings to it depending on the established paradigm. The cause and effect relation of this notion with the categories of social development, social change, prosperity and time is also important.

Conducting research on the subject of quality of life is a result of, among others, the necessity to determine its initial state in order to improve life conditions. Therefore, the analysis of the citizens' quality of life is essential, as it constitutes a criterion for the rationality of economic processes and the country's economic policy. The scientific interest in these issues is also connected to the advantages and risks of the progress of civilization. Not only is the financial status analyzed, but also the emotional, mental, spiritual and moral state of humans who both make use of the benefits of civilization and suffer from the unfavourable consequences of the social and economic development (e.g. environmental pollution, new social pathologies).

The interest in the issue of quality of life dates back to the 1950s, when the standard of living in local urban communities began to be monitored in the United States. It was then that the material components of prosperity were first measured, while the level of life was gauged via the index of the gross domestic product per citizen. Although the index created a compound image of the standard of life, it only viewed quality of life from the somewhat narrow perspective of economic development. The pioneering research on the subjective aspect of the quality of life among Americans was conducted in the 1960s by Campbell, who attempted to measure psychological welfare and its determinants on the basis of the subjective assessment of the subjects and their life experiences.

The scientific interest in the notion of quality of life grew astoundingly fast. The practical studies conducted differed from each other because of diverse theoretical concepts, research issues and purposes. These projects can be divided into four groups, based on the methods used to measure quality of life (table 1).

The type of the project	The description of the project/the measurements
Quality of Life Indicators Projects	The analysis of the level of living using both the so-called "hard" statistical data based on official information, and the "soft" indicators, that is data based on public opinion questionnaires.
Sustainable Indicators Projects	Monitoring the changes in the level of living and predicting the directions of these changes including the balance that should exist between the natural environment, the technology used to control the nature, the economic conditions and the social environment. Crucial in these projects are both the statistical measures and the results of surveys.
Benchmark Projects	The projects take into account the aspects of life of local communities, which are directly linked to the assumed purposes of the development; the crucial research task is to determine whether the changes go in the predicted direction. The measures based on the official statistical data are of greater importance in the analyses.
Neighbourhood Projects	The projects represent a research issue narrowed down to the description of the level of living within a few of its key aspects, such as social exclusion, safety or the level of crime risk. These projects use almost solely statistical measures, without conducting surveys.

Table 1. The methods of measuring the quality of life
Source: Jabkowski P., Kilarska A., 2013

As mentioned, it is difficult to present a single, complete definition of the quality of life. Romney (2002) stated that there is a countless number of definitions thereof, while Faden and Leplege (2002) noticed that the notion of quality of life observed from the perspective of multiple schools has many things in common. Chibnall and Tait (1999) described the concept as elusive. More importantly, the social sciences focus on the quality of life in its universal meaning (Baumann 2006).

In this article, within the short review of the definitions of the quality of life, attention has been paid to those most general in nature as well as the group with the list of disciplines and the aspects of life taken into consideration when measuring the quality of life. The general definitions are identifiable with the global ones as they regard the notion of well-being and concern human subjective satisfaction with life as a whole (e.g. life satisfaction, auspiciousness). The definition of the quality of life by Ben-Chieh Liu (1970) has been recognized as remarkably general and open – it constitutes a collection of needs, the fulfilment of which makes people happy. In this definition, the set of values including the quality of life is practically endless. The definitions which specifically designate a list of notions determining a good or bad life, both on the material (prosperity, poverty) and the non-material level (welfare, discontent) are constructed slightly different.

The term used by WHO (World Health Organisation) can be considered an example of the second group definition, according to which the quality of life is an individual perception of one's own position in life while taking into account the cultural conditions, personal values connected with one's own goals, expectations, norms and problems. It is influenced, in a complex way, by physical health, mental state, the level of independence, personal relationships and environmental features important to a given person. Therefore, this notion concerns the subjective assessment of one's own life rooted in the cultural and social context, and cannot be identified with "health status", "life satisfaction" or "well-being" (Rapley 2003: 50; all the quotations in this article are rendered by an interpreter Ms. D. Kielan). The quality of life is also presented as a subjective category in the definition by M. Wallden: "the quality of life for an individual is both subjective and normative, and it is determined by the range within which an individual can fulfil his/her needs and plans. [...] A significant aspect of the quality of life constitutes the conditions of living. In case of an individual, these conditions comprise the physical and cultural surroundings (environment), the means at one's disposal and the social odds of fulfilling the needs and plans" (Wallden after Wallis 1976: 137). A similar way of thinking appears to be present in numerous other definitions. For example, Björn Enquist states that: "The quality of life is a degree to which an individual can achieve a sense of safety and self-worth and maximize his/her own intellectual, mental and physical possibilities to achieve his purposes" (cf. Woźniak 2005: 114).

In the definitions of quality of life the emphasis on the fulfilment of needs is rather obvious, since a human being has the right to live well, honestly and affluently, he/she has to have all he needs, be healthy and respected, love and be loved. Safety doubtlessly plays an important role among those needs. To refer to A. Maslow's theory of needs – the need for safety is one of the basic categories of needs identified as comfort, peace and the lack of fear. The lack of its fulfilment destabilizes human and social group behaviour. The need for safety can be treated as a value, therefore it can be understood as an axiological category, comprising all that is precious, desirable and what constitutes a purpose of human aspirations (Encyklopedia..., 2007). According to J. Tischner (1982) values are an important element of human social life – they allow us to distinguish between the important and the indifferent, the good and the bad, the safe and the dangerous. Therefore, they enable the avoidance of many threats while the safety itself, as a state valued by man, constitutes something invaluable, a purpose of his actions.

The safety of an individual comprises two main components, the objective state (when there are no threats) and the subjective state (when an individual is convinced there are no threats). The sense of safety (with both components) is achieved when the individual's life situation (objective and subjective) is not at risk of deteriorating in the aspects considered important by the individual. In that respect, the sense of safety concerns not only the aspects associated with crime, but also others, such as: financial, health and social security, etc. The sense of safety is also determined by the level of fulfilment of current needs (no risk of becoming a victim of a crime) and the existing bases of their fulfilment in the future. The state of safety is considered a state free of threats, which both originate in the actions of individuals (these threats are easier to prevent) and appear regardless of them (Jabkowski and Kilarska 2013).

Therefore, the sense of safety is defined as being able to feel non-threatened. If this crucial human need is unfulfilled, it may prevent the proper functioning of an individual in the society. This understanding makes it possible to treat the sense of safety as the feeling of assurance that the institutions meant to secure safety will work efficiently. However, in a modern understanding of prevention, the concept of demanding attitudes is more often abandoned, emphasizing that the country and its institutions can guarantee only

the bare minimum of safety. Anything beyond this minimum depends on the level of activeness, the reserves and the ability to self-organize (non-institutionalized, e.g. within a neighbourhood, or institutionalized, e.g. an NGO organization) in order to improve safety via the citizens' activities for their neighbourhood community or the community of their city. The term "sense of safety" is multidimensional: it includes social safety (the feeling of closeness and love, social ties, family connections, etc.), financial/social security (work, income level, living conditions, the possibility of financial support, etc.), health security (health level, mental state, etc.), safety on the level of the environment (environmental pollution, environmental threats, etc.), and international safety (terrorism, globalization risks). In the article, attention was paid not only to the so-called traditional sense of safety, that is the one connected with criminal activities (Jabkowski, Kilarska 2013). Some aspects of other dimensions of the sense of safety were also taken into account.

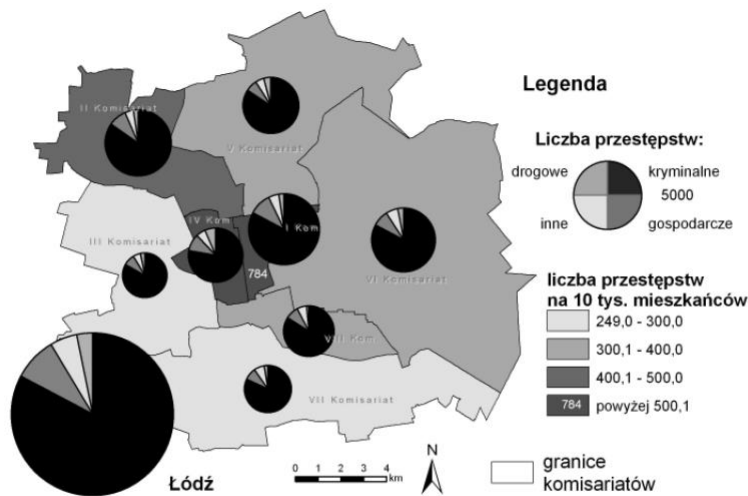
High-rise district: Widzew

Widzew is a typical example of the concrete high-rise housing area from the 70's and 80's. Many similar developments have been built during the communist era in the Eastern European countries. Lots of social and urban problems converge in Widzew. There are many deteriorated buildings, while new developments intrude on the existing environment, changing the social and urban structures.

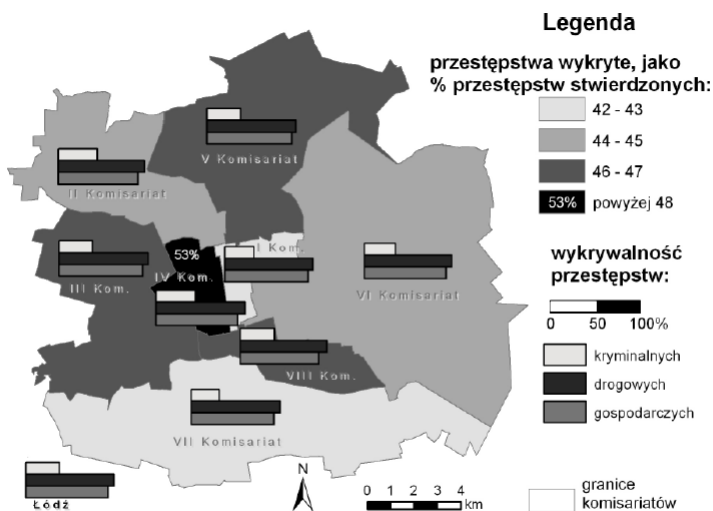
Most of the development of Widzew, one of the youngest districts in Lodz, was build in the 70's and 80's of last century. The entire area subject to the management of the housing cooperative called "Bawełna" (Polish: Cotton). The cooperative was responsible for carrying out investment in this area, and then managing the neighborhood until 1991. Then as a result of changes in Poland system "Bawełna" was divided into three separate cooperatives: SM Bolesława Chrobrego, SM Stefana Batorego and SM. Mieszka I. SM them. During the construction of the housing estate Widzew an artificial hill was mound from earth and debris coming from the earthworks. At the beginning a new stadium and sports center the sports club "Widzew" was planned. In the 80's the idea was abandoned, this idea was dismissed. Part of the area assigned for the club was used for the construction of more housing, the remaining part was turned into a park "Górka Widzewska". In 2001-2005 a new, gated community was introduced in this area. The quality of the development is a bit higher than the older buildings.

The neighborhood consists of 264 multi-family buildings and 130 being mixed use. Most of the buildings are low to up to 5 storeys, only 20% are high usually 12 storey buildings (Szafrńska 2012). Buildings built in communist times create simple urban layouts. Newer, built after the Polish political transformation have their own courtyards and create a smaller semi-open public spaces. They are also smaller, build to human scale. That makes the space more livable and increases the activity of the inhabitants.

Level of crime in Widzew



Rys. 4.2. Natężenie i struktura liczby przestępstw w Łodzi według komisariatów w latach 2006–2010 (źródło: oprac. własne)



Rys. 4.4. Wykrywalność przestępstw w Łodzi według komisariatów w latach 2006–2010 (źródło: oprac. własne)

The sense of safety in Widzew

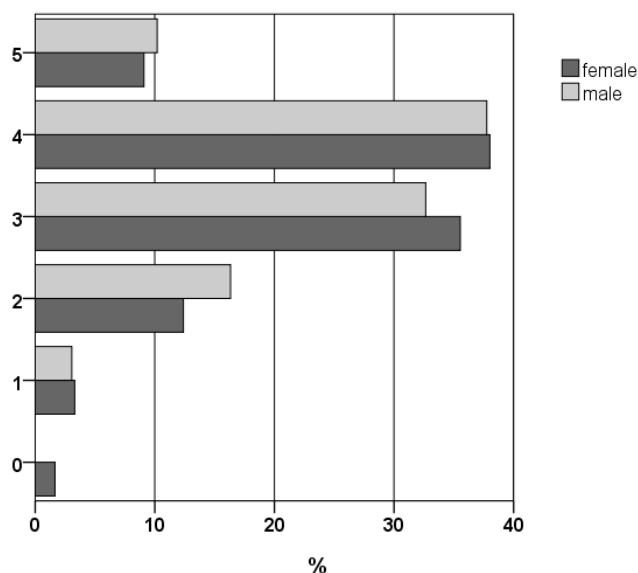
Empirical research, i.e. self-administered questionnaires, regarding the quality of life in housing estates were conducted [1] in 2008 [2]. Their scope encompassed all housing estates in Łódź. However, for the purposes of this article a selection has been made, focusing on the data from Widzew. The number of surveys conducted in 2008 amounts to 1032, including 220 in the researched area. It needs to be emphasized that the purpose of the research was to assess the quality of life among the inhabitants of the

housing estates. The study was not dedicated solely to safety, and the issues associated with it were included in the questionnaire as variables regarding the quality of life.

It has been assumed that life in a housing estate goes on in three types of spaces neighbouring with each other – private space, quasi-public space and public space. All types of space can be associated with specific places. Private space encompasses the apartment. It has certain fixed characteristics. It is ours and separated from the rest of the world – with walls, windows and doors, unable to be crossed without the knowledge of the dweller. Otherwise, a crime occurs. A quasi-public space can be accessed not only by the inhabitants of the housing estate, but also other, specific, people – neighbours whose apartments are located within the same housing estate, administrators, postmen, etc. Others who appear in this space are treated as strangers who can be considered a threat and disturb the sense of safety. This zone definitely includes the corridor outside the apartment, the staircase, the attic, the elevator and the cellar. The latter can be considered a borderline space, private and quasi-public at the same time. The cellars in housing estates are divided into boxes that belong to the apartment owners. It has been assumed, for the research purposes, that the outside space comprises areas such as lands in front of the building, nearby playgrounds and car parks.

A quota sampling has been performed on the basis of data such as age and gender. An actual demographic structure was generally preserved. The participants of the study in Widzew included 55.3% of women and 44.7% of men, with the average age of 42.71 years. The overrepresentation of women is ostensible, since Łódź is a city with the highest female sex ratio among the largest Polish cities. The age average corresponds with the age average in the city (with only those above eighteen years old taken into account). More than half of the respondents were married (58%), almost 29% were single, nearly 10% were widowed while only 3.2% were divorced. Two thirds of the respondents had an education no higher than a secondary one. At the same time the percentage of respondents with an MA degree was quite high – 18.3%. A statistical relationship between age and education status was observed – the older the person, the lower the education. However, a positive correlation exists between the respondent age and the duration of living in Widzew. The average length of living in the district amounts to almost 19 years.

It has already been mentioned that the research tool has been constructed to assess the quality of life of the residents of housing estates and the questions on the sense of safety were indicators of this quality. However, questions about the safety were also indirect. The direct question asked to assess the level of safety in the housing estate district (public space). On the scale of 0 (no sense of safety) to 5 (maximum sense of safety), the arithmetic mean of the respondents' answers amounted to 3.35, and the mode to 4. A slight relationship between the sense of safety and age can also be observed (the older people are, the lower the sense of safety), similarly with gender (on the basis of Cramér's V) – cf. fig. 1



.Fig. 1. The sense of safety in the place of residence (scale of 0 to 5) and the respondents' gender
source: personal elaboration on the basis of questionnaire surveys

The sense of safety in one's own apartment – unsurprisingly – was assessed very high – as 4.46 on the scale of 0 to 5. In the control question the average was even higher – 4.62. There were also queries about other spaces. The highest average outside of the apartment was obtained by the corridor by the apartment (the quasi-public space) and, surprisingly, a playground (table 2) which is a public space and, therefore, at a considerable distance from the safety of one's apartment. The attic and cellar were considered least safe, as, it seems, they are the most rarely visited.

The query associated with the public space asked about places to be avoided. The respondents most frequently enumerated: shops and their surroundings (22.4%), communication routes (passageways, streets – 17.9%) as well as parks, greeneries and recreation areas (16.8%).

The indirect questions about the feelings of safety were supplementary to the direct questions. Those included, for example, the question about the feeling of belonging to a given community of inhabitants – the question asked whether a given place is "our" or "no one's". "Our" can be considered "familiar", therefore safe. It turned out that the answers did not exactly tally with the average assessments of safety. For example, the cellar, with an average sense of safety of 3.16 was "our" for more than 74% of respondents.

The type of space	Place	The average assessment of safety	„Our“
Private	apartment	4,62	X
Quasi-public	attic	2,55	61,1
	cellar	3,16	74,1
	the corridor by the apartment	4,19	94,9
	staircase	4,05	87,3
	elevator	3,62	73,0

Public	in front of the building	3,66	63,6
	Playground	4,14	65,6
	car park	3,61	56,3

Fig. 2. Table The average assessments of safety (scale of 0 to 5) and the percentage of respondents describing the given space as "our". source: personal elaboration on the basis of questionnaire surveys

Women appeared more likely to fear attics and cellars. The inhabitants of old housing estates have fewer fears regarding attics, while the inhabitants of lower buildings fear cellars less. Other variables do not influence the sense of safety. An elevator is an interesting place to interpret in that context. On the one hand, it constitutes a kind of a route, therefore – a space which connects the place outside the apartment with the area in front of the building, both considered safer than the elevator itself. On the other hand, this closed and cramped space has no windows and, consequently, no possibility of an individual seeing the route or the destination. The negative feelings therefore may stem from several reasons. It has already been mentioned that these are extremely small spaces, with users being forced to encounter each other. On the basis of E.T. Hall's terminology (1966) it can be observed that not only an individual's close personal space is invaded, but on numerous occasions also the intimate space. Furthermore, there is no real possibility of choosing the "travel companion". An individual is therefore locked in, not unlike his or her own apartment – separated from the outside with walls and doors, but not in control of what happens inside and who is allowed in. Additionally, in an elevator, similarly to the cellar, there is no escape route. One cannot see the surroundings clearly, with the light source being always artificial – as if existing outside of the biological time.

2. Action undertaken

Quality of life and CPTED analysis

A. The quality of life and safety

The subject of the authors' interest is to compare the sense of safety of the inhabitants of high-rise housing estates, conceptualized as the sense of safety, or the threat-free, in selected areas, with an objective space analysis using the CPTED method. The sense of safety is treated as one of the components of the quality of life. The second purpose of the text is associated with it – it involves showing the relation between the quality of life and the sense of safety as categories which are subjectively created by people. Frequently, these subjective feelings have nothing in common with facts – police statistics and the specialists' conclusions regarding space. It is confirmed by the research conducted in Łódź by S. Mordwa (2003, 2010, 2011a, 2011b, 2013).

B. The space analysis using the CPTED method

The ideas of Jane Jacobs from her book *Death and Life of Great American Cities* were adopted from across the Atlantic Ocean. Particularly in the UK and the Netherlands since the late 80's planners have been working on instruments improving the quality of life for both the existing neighbourhoods as well as the new ones. A programme "Secured by Design" was established in Britain in the early 90's by the police and the Home Office. The Dutch police developed a strategy based on a pattern of various spatial environments where the safety and security aspects could be implemented. By using Christopher Alexander's *Pattern Language* (1977) the book "Police Label Secure Housing" (Politiekeurmerk Veilig Wonen®, Korthals Altes, HJ, Woldendorp T. et al., 1994) improved the cooperation and the communication of crime prevention experts and urban planners. The experiment started in the Police district of Hollands-Midden and was implemented nationwide in 1998 (Zwam et al, 1998).

The Dutch approach incorporated the broad theoretical basis. Using *Pattern Language* can be seen as a design protocol for planning practitioners. It consists of approx. 250 patterns, corresponding with both physical and social aspects.

The eight criteria used in "The Police Label" were defined by Van der Voordt and Van Wegen in their *Socially Secured Design Checklist* (TU Delft 1990). In 2008 the criteria were reduced to four and adopted in the CPTED manual *Sociaal Veilig Ontwerp en Beheer* (Luten, Woldendorp, et al., 2008).

The criteria of improving natural surveillance, natural access control, territorial reinforcement and maintenance and management will be used in this case to show that improving public space can decrease crime (mainly burglaries, car-related crimes, thefts, vandalisms, nuisances) and fear of crime in the high-rise area of Widzew.

A great intervention in the buildings' structure is currently not an option. We will look at the landscape to use the four criteria developed by CPTED and show opportunities to improve the inhabitants' environment.

A CPTED approach research, based on a three-day fieldwork in various neighbourhoods in Widzew, might be valid for other places in Poland as well as across Central and Eastern Europe.

The authors have conducted social surveys and field observations to measure the subjective quality of life. After analysing the data several problems appeared such as: lack of maintenance, poor quality of public space, sense of insecurity in certain places, lack of social cohesion.

C. Outcome & impact

Natural surveillance (visibility)

- ✚ In Widzew we found that several parks were lighted during night time. Routes where you don't want to support people to walk during evening hours, because pedestrians and cyclists are out of sight of houses at the fringes of the park. Lighting parks fakes safety. Making a separate day and night routes is the best solution for a friendly use of the environment. The night route should be located within sight of dwellings and should include lampposts with light bulbs at the level of 4 metres, and the use of white (led) light; that's the distance that you can distinct faces and good or bad intentions of fellow-users of the public realm.
- ✚ The gable walls have no windows, so there are no "eyes in the streets" in critical public spaces, logical from the point of view of insolation, but not from the CPTED-point of view.
- ✚ Lack of visibility: some trees in the green areas obscure the streetlamp light. the position of light sources should be taken into consideration in an early design phase.



Figure 3. It's better not to light a night route where social control is absent. Alternative solution is needed

Natural access control (accessibility)

- ✚ In Zarzew paths forbidden for cars are designed as if they were meant for cars. The following point support this statement.
- ✚ The lampposts are around 8 m high, the height more appropriate for traffic than for pedestrians/cyclists;
- ✚ There are anti-parking objects everywhere – strange, since the given street is already not meant for cars.
- ✚ Black asphalt: car-friendly material.
- ✚ The litter containers are at the entrance of the pedestrian lane; this stimulates the use of cars instead of showing that an individual is entering a pedestrian area.
- ✚ Accessibility in the changing use of road infrastructure: too small passages for cyclists and pedestrians may cause aggression.



Figure 4. A carefree road shouldn't stimulate car to enter the area.

Territorial reinforcement

- ✚ Fences around new blocks form some kind of a gated community. The public/private space is defined; but low hedges could form a second enclosure and contribute to the improvement of the quality of life by increasing biodiversity as well

- Creating ownership: three generations of high-rise next to each other do not constitute social cohesion per definition: periphery green fields could be used for creating new meeting spaces for neighbors. By starting up Place making projects; inhabitants could get involved with their environment.
- Transformator boxes are set up as solids in public space: from four sides someone with bad intentions can show up: A possible measure in the future: transformator boxes will be adopted in new building blocks.
- Illegal gardening (Guerilla gardening) – still present and functioning as a sign of alternative ownership: Housing corporations: stimulating Welcome In My Backyard (WIMBY)!



Figure 5. Hedges as natural territorial reinforcement: good for biodiversity as well!

Maintenance and Management (Attractivity)

- ↘ Landscape architecture does not seem to exist in public space: there is no order to the layout of plants, shrubs, bushes and trees.
- ↘ Badly maintained greenery (bushes) on the main pedestrian route to the station of Widzew may invoke the feelings of discomfort and anxiety (“The area is not a place for women at night”)
- ↘ “Thinking out of the box” solutions are needed. Legalizing the colonized green yard can generate a positive spin-off for ownership and people’s involvement in planning their environment.



Figure 6. Legalize the colonized green yard when people feel responsible for their environment!

4. Conclusion

It appears that even at this point certain conclusions can be made. Above all, the necessity to apply the CPTED analysis in the quasi-public space is clearly noticeable. It is this space that is often perceived by the inhabitants as dangerous. It appears that it can be easily accessed via four criteria – visibility, accessibility, territoriality and attractiveness. A time factor also needs to be taken into consideration in the studies – be it a day or a season.

What is surprising is the similarity of conclusions from the field observations and the attitudes of the inhabitants of high-rise housing estates. On the other hand, a clear difference between what is subjectively perceived and really existing is observable, confirming the necessity of conducting social research and inhabitants' participation in shaping their own space. The human focused place planning during the socialist era was not perceived as an important factor of space creation, which makes such actions even more crucial now. It can be considered a significant aspect of building a social capital in high-rise housing estates which, as a consequence, raises the quality of life of local communities.

It has already been mentioned that radical modifications in places such as high-rise housing estates are not easy. However, a part of the proposed solutions is easy to implement, for example, turning off the lights in the park. Others require educating both the inhabitants of the area and the area managers. Some proposals, although requiring financial input, can be implemented alongside the necessary renovations, for example. But the real profit has to be found when landscape architects and urban planners amongst CPTED-experts in cooperation with inhabitants of the high-rise area redefine the public realm..

Appendix 1

Reference materials

B. Other case study materials

[1] The research in 2008 was conducted by a team consisting of: Anna Janiszewska, Ewa Klima, Agnieszka Rochmińska and the students of geography at the University of Łódź. In the 2014 research they were joined by Lidia Groeger and the students of various subjects of the Faculty of Geographical Sciences of the University of Łódź.

[2] Currently, the preparations for the next round of research are in progress, they are scheduled for the autumn of 2015.

C. Websites

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www.cpted.net

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<http://www.cpted.or.kr/>

<http://cptedontario.ca/>

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