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Contemporary Housing Environment of Poland. Dwelling Attributes Assessment

Introduction

In the age of globalisation, the urban space is becoming standardised with a similar array of problems occurring in many different countries. The heterogeneous urban structure of European towns, which have their antecedents in the Middle Ages, has evolved over hundreds of years. Globalisation and its drive for standardised designs seem to have brought the evolutionary process to standstill. The corollary is a very different type of housing environment to those experienced in the past that incorporated vernacular solutions to social need and climatic adaptation. This new housing environment can be classified by location criteria, building categories (housing complexes) and analysed on the basis of user's satisfaction in various estate type categories. Poland presents a rich case housing research. Situated in Central Europe, Poland has experienced strong political, economic and social ties with its border countries, which is reflected in its spatial development. Housing demand in Poland is still very high. A significant number of households do not own or use a separate dwelling and the housing standards for buildings constructed before the World War II and in the post-war period to 1990 have been poor. And this problem has been further deteriorating because of lack of expenditure on building maintenance and infrastructure. The systemic changes and economic transformation that began 25 years ago brought rapid change with a significant increase in housing development. For this reason, Poland represents a *macro-case-study* for researching residents' level of satisfaction.

The word *living* is taken to mean the use of the dwelling and the environment. This includes psychological, social, economic and aesthetic aspects of architectural together with the housing estate (complex), urban form and spatial locale.

The key elements of the dwelling construct are the type of dwelling, the number of rooms, monthly costs, and tenure. And the type of neighbourhood, the frequency of public transport, and travel time to activity places other than the residence itself are important in the locational construct (Dieleman, 2001). The housing environment can be so separated into three areas, each based on the relationship between the space and its user. First, there is the urban scale attribute of the public space in the housing estate (complex). Second, the semi-public space character at the neighbourhood level; and,

third, there is the private space being the interior of the flat where the inhabitants have the greatest ability to change (Czarnecki, Siemiński, 2004).

Residents evaluate each scale of the housing environment and choose the new dwelling more satisfactory comparing to the previous one. Besides the more “traditional” variables, such as age and income, more “modern” variables like household composition, participation in the labour market, and the number of wage earners should then be taken into consideration as the factors determining the dwelling choice (Boumeester, 1996). It can be assumed that the future progress in technologies will modify residents’ housing environment evaluation, because it will strongly influence people’s lifestyles (Jansen, 2012).

The most significant part of the housing environment for the inhabitants is the dwelling, particularly the interior layout. People can easily furnish their home, implement individual design ideas and make changes according to their personal fashion preferences. That is why the design, layout and finish of a dwelling are the most important attributes for a household when deciding on the choice of a new home. In this paper, residents’ dwelling attributes assessment will be reported.¹

Occupied floor areas of Polish dwellings

It is necessary to evaluate the survey dwelling characteristics in relation to respondents and occupied floor areas. All occupied area categories were covered by respondents in the survey (Fig. 1).

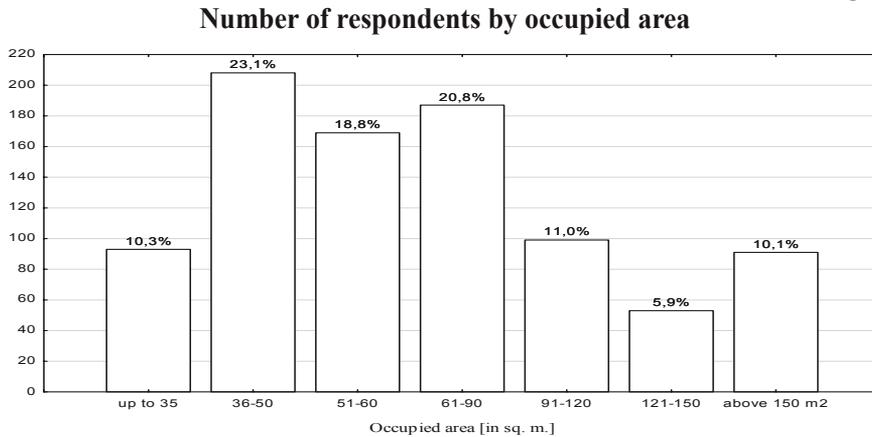
The respondents, who own or occupy dwellings up to 60 sq. m, represented 52.2% of the survey sample with 27% living in relatively large apartments (over 90 sq. m.). This includes those occupying single-family houses.

While the size of occupied dwelling areas correlates closely with the number of household members, there are many families who live in small apartments in comparison to the family life cycle (Fig. 2, below). Of interest to note is that 40% of the 2+2 and 32% of the 2+3 life cycle groups occupy apartments smaller than 60 sq. m.

And the percentage of inhabitants using a large dwelling area is the highest in the life cycle groups 2+2 and 2+3. Not surprisingly this correlates closely with the level of wealth.

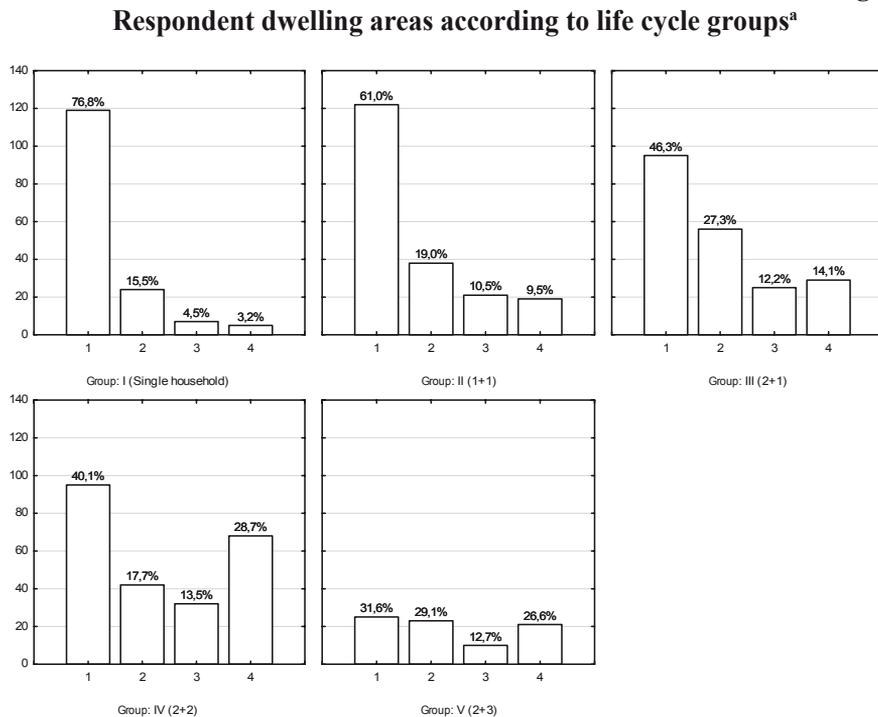
¹ A study of residents’ housing environment assessment is based on the survey undertaken in 2011 for the selected Polish cities. Four categories of cities were identified for that research: first is Warsaw, the country’s capital, the second category includes big cities (above 500 thousands inhabitants) represented by Wrocław and Kraków. Third are medium-sized cities that offer a good accessibility to services and have good investment potential. The final category is the Katowice agglomeration, being the largest post-industrial region in Poland with the population of 6 million. The above selection of cities and regions in the above-mentioned survey allows the collation of data sets providing the basis for measurement of housing conditions characteristics.

Figure 1



Source: Based on the survey results.

Figure 2



^a For each Group I to V floor area categories the percentages shown add up to 100%.

Legend:

Floor area (in sq. m.): 1. Up to 60; 2. 60-90; 3. 90-120; 4. Above 120

Source: Based on the survey results.

Dwelling standard evaluation

Dwelling standards are based on functionality, size and internal comfort (heating, daylight, acoustic properties). These standards are closely aligned with services and facilities, such as the basement, laundry and storage areas for single-family houses and multi-family buildings. Respondents also expect high quality materials and good design (Table 1).

The level of satisfaction by respondents on the selected attributes of their dwellings types were generally positive, although the categories of dwelling size and functionality produced the most varied results ranging from average to very good. The highest ratings were recorded for the wall height and daylight illumination attributes for living rooms and kitchens, which were good to very good. The level of design and quality of materials and acoustic characteristics attributes were rated as average to good (See attribute 8, Table 1). What these statistics show is that a significant number of respondents believe functionality, dwelling size, thermal comfort, acoustics and design quality need to be improved.

Table 1

Evaluation of the selected attributes related to the dwelling standard

No.	Attributes		Standard assessment				
			Very good	Good	Average	Bad	Very bad
1.	Functionality - usability and efficiency		25.8	40.1	19.7	3.3	1.1
2.	Size of dwelling		25.0	34.2	22.8	6.5	1.5
3.	Wall height		25.9	46.3	14.6	3.0	0.2
4.	Daylight illumination	Living rooms	36.8	36.8	13.3	3.0	0.4
5.		Kitchen	34.2	34.2	12.3	6.3	2.9
6.	Thermal comfort of the home - heating, ventilation, air conditioning		22.1	35.2	23.8	6.1	2.8
7.	Acoustic insulation: Quiet and comfortable flats		14.9	29.1	28.8	12.7	4.5
8.	Good design and quality of materials		16.4	26.8	32.8	10.9	3.1

Source: Based on the survey results.

Around 73.3% of respondents were satisfied with the functionality of their dwellings, rating this category as very good and good, while 21.9% rated it as average. Similarly 65.8% of respondents assessed positively the size of their dwelling with ratings of attributes ranging between very good and good. There is a strong correlation between respondents who assessed the functionality of the dwelling as very good, good or average, and the assessment of the dwelling size as very good, good or aver-

age. And the functionality of small dwellings, below 60 sq. m., was assessed as good or average. Larger flats were assessed by respondents as more functional, especially those with floor areas above 90 sq. m. Occupants of the smallest dwellings (up to 35 sq. m.) generally rated the floor area as medium or bad; there were some occupants who gave positive opinions as well. Again larger flats were given more favourable evaluations by respondents, the best being where floor areas are above 90 sq. m. (Fig. 3).

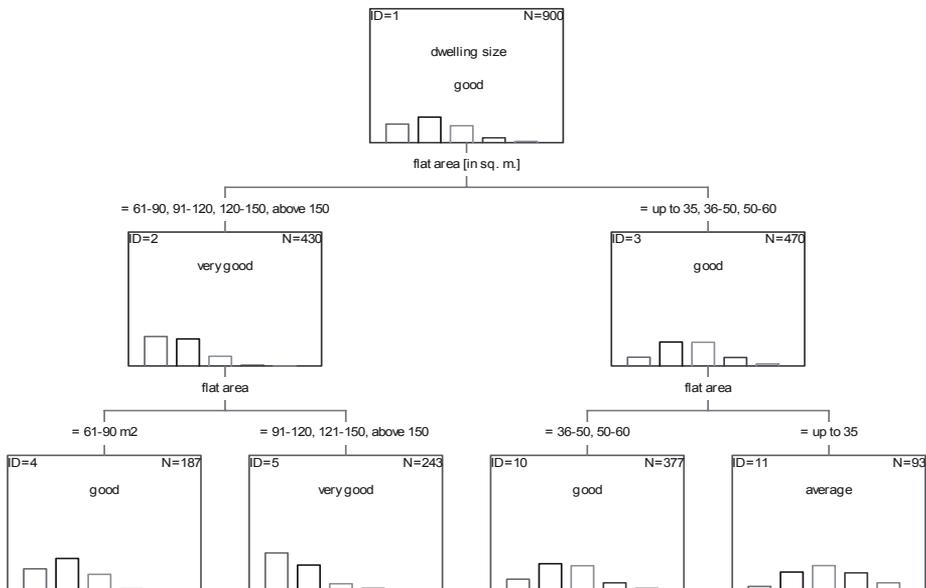
Assessments of daylight illumination in living areas, kitchens and thermal comfort positively correlate with functionality and floor area. Respondents believed acoustic comfort depended on the dwelling size rating highly single-family houses and apartments constructed after 1990.

There is a noteworthy relationship between the level of satisfaction connected with design and equipment quality and dwelling size in various types of buildings. The most satisfied respondents were among the owners/users of the flats and houses above 60 sq. m. floor areas constructed after 1990 when the building standards improved.

While medium and small-sized dwellings with similar floor areas can be arranged in different ways, their functionality is generally the same. The most important factor with respect to similarity of functional dispositions in the international style inherit-

Figure 3

The level of acceptance of the dwelling size (floor area)



Source: Based on the survey results.

ance arose when architectural solutions started to answer new social demands and urban lifestyles. In the late 1920s, modern housing design standards had been widely accepted by Polish architects. Modern flats divide the living area into two parts: the day-time part consisting usually of a living-room, kitchen, hall, WC, and the night-time part consisting of bedrooms and a bathroom. The common area of housing designs is usually situated close to the entrance. And the private, if the flat size allows, is usually in front of the apartment. This spatial layout of a flat is still in use today because of legal regulations which enforce this standard: for example, every apartment must have a living room (bigger than 18 sq. m.) and the minimum size of the bedroom is 12 sq. m. for a double bedroom and 9 sq. m. for a single bedroom. Kitchens can be open layouts connected to the living room, but only when there is no gas installation.

As indicated above, if people buy a flat in the secondary market they usually change the internal layout of their flats by moving partition walls rearranging installations in kitchens and bathrooms. Such changes are less likely in prefabricated buildings than flats constructed in traditional ways. In buildings constructed after 1990, developers often sell flats without any partition walls allowing the layout and installation arrangement to be prepared individually according to buyer's preferences. Any such changes must always respect the regulations applying to the installations.

Room types in the dwelling

Participants of the survey were asked to state the number of room types in their dwelling. The purpose was to present the functional arrangement of the flat and to determine the most popular living space arrangements in Polish homes. In flats or single-family houses, 17 possible uses of rooms were selected. Respondents were also asked to identify the types of rooms in their dwelling/house and how many of these room types they use. The research results show the most popular use of the flat area in contemporary Polish dwelling and single-family house (Table 2).

As indicated above, the average floor area in detached houses is usually larger than the floor areas in dwellings situated in multi-family houses. Also significant difference can be observed in the functional arrangement of the **day-time use** living space in single-family and multi-family houses. For multi-family houses, 80.8% of households use a separated kitchen and 67.5% of the single-family houses have a single separated kitchen, and in 5.1% of these house types there are two separated kitchens. The kitchen connected with the living room exists in 16.6% of the dwellings and in 31.8% of the single-family house type. Multi-family houses usually do not have a separate dining room (only 7.2% of respondents declared a separate dining room), whereas in 35% of single-family houses there is such a room. Living rooms also can serve as bedrooms for one or two persons in both types of homes. Single-family houses users (12%) indicate they have more than one living room.

Table 2

Room type per dwelling

No.	Room type	No. (%)	Yes (%)		
			No. of room types		
			1	2	3 +
Day-time use					
1.	Kitchen connected with the living room	78.5	21.2	0.3	-
2.	Separate kitchen	21.7	76.7	1.6	-
3.	Separate dining room	84.2	15.7	0.1	-
4.	Guest living room	48.7	49.2	1.7	0.4
5.	Separate WC	57.8	37.2	4.3	0.7
6.	Utility room/pantry	71.6	25.1	3.0	0.3
7.	Living room with sleeping for 1-2 persons	48.0	44.9	5.1	2.0
Night-time use					
8.	Bedroom 2-persons	40.7	48.3	8.9	2.1
9.	Child's room 1-bed	67.5	20.8	10.0	1.7
10.	Child's room 2-bed	84.6	13.4	2.0	-
11.	Room with one bed (single room)	67.7	22.8	7.1	2.4
12.	Separate dressing room	78.8	19.7	1.3	0.2
13.	Bathroom	6.9	78.7	11.8	2.7
14.	Built-in wardrobes	68.4	22.6	6.3	2.7
Additional rooms					
15.	Hobby room	93.2	6.4	0.4	-
16.	Study	89.0	10.6	0.4	-

Source: Based on the survey results.

The **night-time use** of the dwelling (single-family house) consists of bedrooms for adults and children, a bathroom, built-in wardrobes (or/and a dressing room). Inhabitants of single-family houses declare the use of one bedroom for 2 persons (55.5%) or more than one in case of 26.3% respondents. Only one half, 49.5%, of dwellings in multi-family houses has a separate bedroom for 2 persons. Because of the limited floor area in 45.2% of dwellings it is only one such a room. The number of children's rooms and single rooms is strongly connected with the floor area, but even occupying small flats families try to arrange a separate room for the child. Rooms for two children appear both in single family houses and in flats in multi-family buildings but in smaller dwellings it is a necessity, in bigger – a choice. Occupants using larger floor areas usually arrange a separate dressing room. The popular substitute of the

dressings room is a built-in wardrobe. Occupants of the discussed building types use one or more built-in-wardrobes in the arrangement of their living space. A greater part of dwellings and single-family houses is fitted in the bathroom (93.1%); this percentage, lower than 100, indicates the number of flats using bathroom commonly, with the other flat (flats). Such situation can be found in single-family houses (3.7%) occupied by two households, e.g. parents and their adult child with family. The households usually use then own separated floors. Bathrooms are situated in the commonly used areas of old tenant houses and buildings situated in XIX c. workers' estates; 8.3% of respondents indicated such situation.

The use of rooms strongly correlates with the type of building and associated floor areas. The findings show that the smaller is floor area, the occupants have fewer possibilities to arrange their flat. Less flexible are dwellings in prefabricated buildings where even the partition walls create a part of the construction system. Small floor area means also a multi-use of some rooms. In conditions of floor area limitations, occupants try to retain a separate kitchen and, if possible, a bedroom for two adults and bedrooms for children. If it is not accessible, the living room holds a function of the bedroom for adults and of the dining room. The solutions of flat arrangement are in most cases very traditional. The findings show that more appreciated is the separation of selected functions (even when the dwelling size is small) than the aesthetic value of not-divided space of the flat. A good example would be the kitchen connected with the guest living room, not popular among respondents, even when it could create better sense of space, provide a more comfortable floor area and save the space serving for communication in the dwelling.

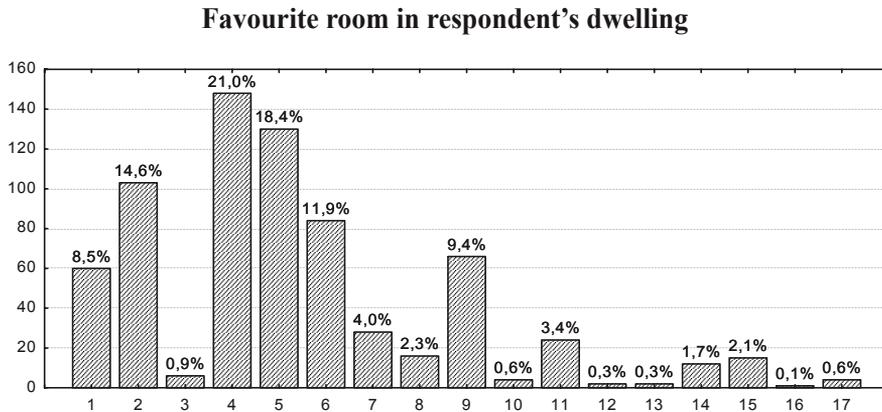
Favourite rooms in the dwelling

Respondents were asked to indicate one favourite room in their dwelling (Fig. 4). The results show the nature of the family lifestyle in Poland. The most appreciated are main rooms of the day-time use: living room and kitchen where the family can spend time together. What is interesting, even when it serves as a bedroom, the living room is considered as the best place at home. The high position in ranking of the bedroom for two persons and the single room shows that respondents are searching for their own private space. It is easy to explain such results: a major part of households prepare the main meal at home; there is also the custom of organising common family dinners on weekends, also at home. The kitchen and living room in Polish dwellings are thus very intensively used. Younger singles and couples, professionally active, do not maintain traditional family lifestyle, but they obviously take part in family meetings at their parents and relatives.

Both flats in multi-family houses and detached houses have some additional spaces connected with the living space. Facilities accessible for flats differ from those

in single-family houses. There are usually basements or storage boxes, an attic and a dryer in the commonly used space in multi-family houses. A low percentage of respondents have in the commonly used spaces in the building a storage for bicycles and prams, a laundry and a garage. Only few of respondents have the premises for social activities - club for the residents of the building. In the buildings constructed in the last 20 years, the standard of facilities has not grown. Developers offer to the buyers of flats storage boxes and garages in new housing complexes, but they sell them for additional, relatively high price. They try to limit the floor area and the functional programme of the commonly used spaces, especially in the estates of lower or medium level of prices per one sq. m. to generate higher profit. Such situation doesn't favour the neighbourly relationships and the social capital creating.

Figure 4



Legend: Types of rooms

- | | |
|--|------------------------------------|
| 1. Kitchen connected with the living room | 9. Room with one bed (single room) |
| 2. Separate kitchen | 10. Separate dressing room |
| 3. Separate dining room | 11. Bathroom |
| 4. Guest living room | 12. Separate WC |
| 5. Living room with sleeping for 1-2 persons | 13. Utility room/pantry |
| 6. Bedroom 2-persons | 14. Hobby room |
| 7. Child's room 1-bed | 15. Study |
| 8. Child's room 2-bed | 16. Built-in wardrobes |

Source: Based on the survey results.

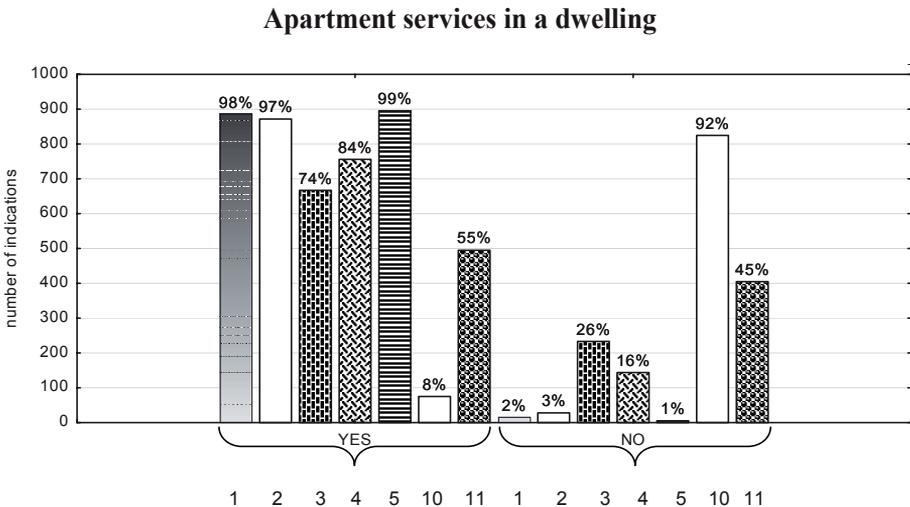
The findings show that the facilities in single-family houses are not as often as suspected. The results presented above show that the functional programme of the Polish single-family house is not very rich. It is easy to understand in case of build-

ings constructed up to the 1990s: a limited floor area, poor choice of technologies and materials. Conditions have changed in last 20 years and the functional programme of detached house should have evaluated and, of course, it has happened. However, one must remember that the strongest motivations to build (or purchase) a single-family house in Poland are the need to enlarge the floor area, to gain the easier access to the nature and the independence (absence of neighbours). It is all the time too expensive for the average buyer or builder to establish and enrich the functional programme of a single-family house with the additional living facilities.

Accessibility to services in Polish homes

The next important component of the dwelling standard assessed by respondents was the set of dwelling services. In the light of research, almost all of the households living in the cities use the water supply, sewerage and electricity (Fig. 5). City inhabitants have the gas installation (84%). The access to communal installation of hot running water has 74% of flats (houses). Also the communal central heating services are

Figure 5



Legend: Services

- 1. Water supply
- 2. Sewerage
- 3. Hot running water
- 4. Gas
- 5. Electricity
- 10. Air conditioning
- 11. Central heating – communal

Source: Based on the survey results.

used by 55% of city inhabitants examined in the survey. It is necessary to underline that the communal central heating is available for more apartments, but its price may be not competitive in comparison to other types of heating (e.g. individual central heating furnace with the solar system, fireplace with the installation of heat distribution, a modern type of Norwegian stove). In newly established houses after 1990, all types of fireplaces are very popular as well as solar systems heating the house and producing warm water. In Polish climate, during early spring and early autumn time, when the temperatures oscillate between 5 and 15 centigrade, people often use only the fireplace to heat their houses. In such case they avoid switching on the central heating for the entire area of the house. Individual installations of water and sewerage are also implemented when the house is situated out of the city services. The air conditioning uses only 8% of the respondents, it is not necessary in a temperate climate when the thermal insulation in the building is properly performed.

Conclusions

More than half of the respondents own a dwelling with an area of 60 m². Among them are representatives of all types of households, but as many as 40% of the families of four and more members. The two types of households: 2+2 and 2+3 utilise the highest percentage of large homes, including single-family homes.

On the basis of the results, there can be observed a relationship between the surface dwelling, the layout and uses of the living space. The spatial disposition of dwelling depends primarily on the number of household members, but is also related to cultural factors and local lifestyles. They influence human's behaviour and habits related to new technologies. Nowadays, new technologies bring a significant change in the dwelling space use. The working place doesn't require as much space as before: all the necessary devices (e.g. computer) are getting smaller and serve both for work and entertainment. All members of the household can spend time together in the same room performing different activities: working, listening to music, watching movies, not disturbing one another. In this context it is easy to understand that favourite rooms in the dwelling are the living room and kitchen, where the family can spend time together. In smaller flats dwellings, the largest room serves as the dining room, living room and bedroom. Regardless of the utilised area, households prefer a separate kitchen and strive to separate bedrooms for parents and children (or other family members). With the increase in housing area's enrichment programme is running, but it does not change the concept of the spatial arrangement.

Among the selected attributes relevant to the housing standard, there were evaluated three important groups of characteristics: size and functional dwelling layout, specifications (ventilation, lighting, heating, acoustic properties and amount of space), and aesthetic values. Evaluation of the functional properties correlates strongly with the

assessment of the surface: the more satisfying user area of the dwelling, the better the system is evaluated as functional. The higher the level of acceptance of the dwelling and its functional arrangement, the higher the evaluation of its other features. However, even in these dwellings, where space and functional layout were negatively evaluated, the evaluation of the rest of attributes was at least average. Specifications received polarised reviews. Top rated was flat's standard lighting and ventilation, slightly worse acoustic comfort. Compared to the previously described features the weakest ratings were received by equipment and aesthetics (average ratings dominance), which is also an expression of the degree of use of the latest solutions in the field of design.

Housing conditions are closely related to housing preferences. Improving housing conditions, which is one of the most important aspirations of Polish households, means an increase in the standard of living understood as a conglomeration of characteristics of a dwelling and its environment. The level of dwelling attributes importance for Polish consumers in the nearest future will depend on the strongest meg-trends: innovations and sustainability.

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Abstract

This study examines housing conditions in Poland. Housing is an important part of the quality of life in the contemporary society. Dwellings satisfy not only personal needs but are also security, shelter and social status.

The issues concerned with housing needs and preferences are multidisciplinary. They attract researchers from many disciplines, namely - economics, sociology, psy-

chology, urban planning and architecture (Stachura, 2009). This paper looks at the rapidly changing housing environment in Poland with respect to the current housing conditions and their implications for the future innovative consumption.

An important aspect of studies into occupancy standards is how to determine architectural attributes of housing space relating to the size, proportions, functional layout and appropriate technological solutions. This subjective assessment will expand the existing knowledge of life styles, cultural conditions of occupants and psychographic relations of occupants and their perception of occupancy space.

Key words: housing conditions, dwelling attributes, residents' satisfaction, housing standard.

JEL codes: R31

Współczesne środowisko mieszkaniowe Polski. Ocena atrybutów mieszkania

Streszczenie

Studium poświęcono badaniu warunków mieszkaniowych w Polsce. Gospodarka mieszkaniowa jest ważną częścią jakości życia współczesnego społeczeństwa. Mieszkania zaspokajają nie tylko potrzeby osobiste, lecz stanowią również bezpieczeństwo, schronienie i status społeczny.

Kwestie związane z potrzebami mieszkaniowymi i preferencjami są wielodyscyplinarne. Przyciągają badaczy z wielu dyscyplin, mianowicie ekonomiki, socjologii, psychologii, urbanistyki i architektury (Stachura, 2009). Opracowanie przedstawia bardzo szybko zmieniające się środowisko mieszkaniowe w Polsce z punktu widzenia bieżących warunków mieszkaniowych i ich implikacji dla przyszłej innowacyjnej konsumpcji.

Ważnym aspektem badań nad warunkami mieszkaniowymi jest to, w jaki sposób określić architektoniczne atrybuty przestrzeni mieszkalnej związane z wielkością, proporcjami, rozkładem funkcjonalnym i odpowiednimi rozwiązaniami technologicznymi. Ta subiektywna ocena poszerzy istniejącą wiedzę o stylach życia, warunkach kulturowych lokatorów oraz psychograficznych relacjach lokatorów i ich percepcji przestrzeni mieszkalnej.

Słowa kluczowe: warunki mieszkaniowe, atrybuty mieszkania, zadowolenie mieszkańców, standard mieszkaniowy.

Kody JEL: R31