



The Housing Satisfaction of Polish Households and Its Determinants

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Abstract: *The level of satisfaction that households have with their housing is important for people to function properly, as it largely determines their life satisfaction. Housing satisfaction is a multidimensional concept that can be defined, measured, and analysed in various ways. The aim of the article is to identify the housing satisfaction of Polish households in terms of living space, housing standard, and housing expenses, and to identify the main determinants of housing satisfaction. Factors that have a major impact on housing satisfaction are classified based on a literature review. The sources of Poles' housing satisfaction are identified using ordered logistic regression. This article is one of the first attempts to analyse housing satisfaction in a post-socialist Central and Eastern European economy.*

Keywords: housing satisfaction, Poland, housing market, ordered logit model



Introduction

Housing satisfaction is crucial for the quality of life. It is widely believed that there is a correlation between housing satisfaction and the general well-being of an individual (Tomaszewski and Perales 2014: 183). Nowadays, research on housing satisfaction is gaining importance due to the role it plays in planning processes, housing policy assessment, and the efficiency of housing systems (Abidin et al. 2019; Lux 2005). Although housing satisfaction has been the subject of numerous studies (e.g. Aigbavboa and Thwala 2018), it has been poorly explored in Central European countries and in Poland in particular (Matel 2020). Alongside Bulgaria and Hungary, Poland is among the countries with poor quality housing (Soaita and Dewilde 2017). With a ratio of 379 dwellings per 1,000 inhabitants (as of 2017), it ranks penultimate among EU countries. The number of dwellings needed in Poland to reach the average EU-28 level in terms of the number of dwellings per inhabitants as of 2016 was estimated at over 2 million (HRER 2018). However, in comparison with EU countries, the situation of Polish households is more favourable in terms of the housing cost burden (Kucharska-Stasiak et al. 2020). The aim of the article is: to measure the housing satisfaction of Polish households in terms of living space, housing standard, and housing expenses, and to identify the factors that determine the level of housing satisfaction. A systematic literature review was used to identify the factors that determine households' housing satisfaction and ordered logistic regression allowed us to quantify their importance.

Housing satisfaction and its determinants

Housing satisfaction remains a very complex and multidimensional concept. The definitions presented in the literature depict housing satisfaction broadly. The concept of housing satisfaction considers the sources and mechanisms that shape housing satisfaction. On the one hand, it takes into account material factors and their impact on the final outcome, which is the level of satisfaction felt by households. On the other hand, it takes into account the sphere of human psychology, the state of emotions, and the comparative processes employed by individuals based on their experience and recognised values. It seeks to identify regularities and dependencies between the material and mental spheres.

Satisfaction can be defined as: '*a process of evaluation between what was gained or received and what was expected*' (Abidin et al. 2019). Housing satisfaction cannot be reduced just to satisfaction with the characteristics of a dwelling, as it is about more than satisfaction with brick and mortar (Coates et al. 2015). At issue is the level of human satisfaction with one's living conditions, which is influenced by both external elements, which result from the environment and neighbourhood a person is in, and internal elements, i.e. related to the features of a given flat or house. It includes a combination of elements that together create a housing system that is the source of a positive emotional attitude to a given place. Satisfaction is a subjective concept, meaning that it is a subjective response to an objective environment.

The theories of satisfaction most frequently mentioned in the literature include the housing needs theory (Rossi 1955), housing deficit theory, psychological construct theory (Abidin et al. 2019; Mohit and Raja 2014), assimilation theory (Morris and Winter 1978), contrast theory, assimilation–contrast theory, negativity theory, and the expectancy disconfirmation paradigm



(Aigbavboa and Thwala 2018). These theories are aimed at a multi-threaded characterisation of housing satisfaction and are an indication of its main sources.

In the numerous publications that verify the determinants of housing satisfaction, there are many approaches to their classification, one of which is the qualitative approach. The housing situation of households is defined by the quality of the dwelling, the quality of its immediate surroundings, and the quality of the urban space (Aigbavboa and Thwala 2018). Another popular typology distinguishes three groups of factors (Kabisch et al. 2021; Zeng et al. 2021):

- (1) the physical and legal features of the dwelling;
- (2) the environmental and social attributes of the dwelling's surroundings;
- (3) the socio-economic characteristics of households and their members.

The importance of these three groups of factors in shaping households' housing satisfaction is presented in Table 1.

Table 1: Determinants of housing satisfaction (HS) in empirical studies

Determinants of HS	Indicator	Studies	Main Findings
Physical and legal attributes of the dwelling	The area of the dwelling	(Ren and Folmer 2017; Wang and Wang 2016)	A larger living area per person not only better meets basic physical needs but also psychological ones. The size of the dwelling positively affects HS.
	The number of rooms	(Balestra and Sultan 2013; Ibem and Amole 2013)	The number of rooms, including the number of bedrooms, bathrooms, and living rooms, is a statistically significant stimulant of HS.
	The legal title to the property (tenure status)	(Elsinga and Hoecksra 2005; Wang and Wang 2019; Díaz-Serrano et al. 2009; Rossi and Weber 1996)	Some analyses confirm a positive relationship between housing ownership and subjective well-being, while others show no such relationship.
	Housing deprivation	(Milic and Zohu 2018; Balestra and Sultan 2013)	The higher the level of housing deprivation, the less satisfied the households are.
Environmental and social attributes of the dwelling's surroundings	Public facilities, infrastructure	(Ren and Folmer 2017; Li et al. 2019)	Residents highly value proximity to local shops and public facilities such as transport, schools, healthcare.
	Quiet, greenery, cleanliness, and safety	(Li et al. 2019; Nguyen et al. 2018; Matel 2020)	These are key factors that positively affect residents' satisfaction.
	The degree of urbanisation	(Grigolon et al. 2014)	People often prefer and choose locations with lower population densities.
	Social ties	(Lovejoy et al. 2010)	Attractive and safe neighbourhoods, as well as social interactions, increase households' HS.
Socio-economic characteristics of households and their members	Age	(Nguyen et al. 2018; Van Praag et al. 2003; Lee and Park 2010)	The significance of age as a determinant of HS is ambiguous. Some studies have found that older residents are less satisfied with housing than younger residents. Others prove the opposite.
	Gender	(Van Praag and Ferrer-i-Carbonell 2004; Ren and Folmer 2017; Nguyen et al. 2018)	Some studies confirm the statistical significance between gender and HS, while others do not. Women are generally more satisfied with their homes than men.
	Education	(Ren and Folmer 2017; Nguyen et al. 2018)	There are no unequivocal research results regarding the impact of education on the level of HS.
	Household income	(Balestra and Sultan 2013; Vera-Toscano and Ateca-Amestoy 2008)	Higher-income households can be expected to be more satisfied with their housing situation. Some studies confirm this thesis, while others confirm an inverse relationship.
	Household size	(Balestra and Sultan 2013; Ren and Folmer 2017)	Families with children are less satisfied with their housing conditions than those without children.
	Financial availability of housing	(Burke and Ralston 2003; Balestra and Sultan 2013)	The lack of affordable housing creates significant difficulties for many low-income households to meet their housing needs and has clear negative implications for their welfare.

Source: own study.



In addition to the factors presented above, housing satisfaction is also influenced by the nature and instruments of housing policy, both at the central and local level, and by cultural and behavioural factors (Thomsen and Eikemo 2010; Zeng et al. 2021). These, however, are not the subject of a broader analysis here given the assumptions and purpose of this article.

Data and methods

The level and the main determinants of the housing satisfaction of Polish households were examined using data from a questionnaire survey conducted using the CAWI method in February 2020. The research covered a sample of 885 Polish inhabitants. In the framework of this study, housing satisfaction was examined on three levels:

- (1) Satisfaction with the living space – the respondents’ assessment of the available housing space and how much it meets their needs and expectations;
- (2) Satisfaction with the housing standard – the respondents’ opinion about the quality parameters of the residential real estate they occupy;
- (3) Satisfaction with the housing expenses incurred – the respondents’ assessment of the costs related to their housing consumption and housing-cost burden.

To assess housing satisfaction in the survey, a 4-point scale was used: 1– dissatisfied; 2 – rather satisfied; 3 – satisfied; 4 – very satisfied (in a small number of cases the housing situation was assessed ambiguously, so these cases were omitted from the research). Ordered logistic regression was used to identify the factors that are essential in shaping households’ perceived housing satisfaction:

$$y_i^* = x_i' \beta + \varepsilon_i \quad (1)$$

where:

y_i^* – the respondent’s level of housing satisfaction;

x_i' – vector of explanatory variables;

β – structural parameters;

ε_i – random component.

The selection of variables explaining the level of housing satisfaction refers to the three main groups of factors distinguished in the literature and broken down into the physical and legal features of the dwelling, environmental features, and the households’ socio-economic features. A detailed list of explanatory variables is presented in Table 2.



Table 2: Characteristics of the explanatory variables

Variable	Description
Age	The respondent's age
Gender	A binary variable taking the value of 0 for male and 1 for female
Education: Primary (reference variable) Vocational Secondary Tertiary	Binary variables taking the value of 1 for a given level of education and 0 otherwise
Marital status: Never married (reference variable) Married or cohabiting Divorced or separated Widow	Binary variables taking the value of 1 for a given level of marital status and 0 otherwise
Children	A binary variable with the value of 0 for childless households and 1 for households with children
Size of household	The number of people in the household
Place of residence: Countryside (reference variable) Town50 (<50,000 of inhabitants) Town100 (50-100,000 inhabitants) Town200 (100-200,000 inhabitants) Town200+ (>200,000 inhabitants)	Binary variables taking the value of 1 for households with a specific category of residence and 0 otherwise
Mobility	Household spatial mobility, defined as the frequency of changing the place of residence in the last ten years
Form of employment: Unemployment (reference variable) Undeclared employment Employment Business Retirement and disability pension	Binary variables taking the value of 1 for households with a specific category of income source and 0 otherwise
Income	Average monthly net income of the household in thous. PLN
Housing status: Rent-free Rent at reduced price Rent at market price Ownership (reference variable)	Form of satisfying housing needs: binary variables with a value of 1 for a given housing status and 0 otherwise
Living space	Usable floor area of the residential property in sq. m
Housing unit: Flat (reference variable) House	Type of occupied residential property: binary variables taking the value of 1 for a given type of property and 0 otherwise

Source: Authors'.



Ordered logit models were estimated using the maximum likelihood method with STATA 16.0. In addition to the main statistics for assessing the quality of the models, the proportional odds assumption was also verified in each case using the Wolfe-Gould test (Wolfe and Gould 1998) and the Brandt test (Brant 1990). The test results confirmed the validity of using ordered models.

Results and discussion

The households surveyed in most cases described their housing situation as ‘rather satisfied’ and ‘satisfied’. There are, however, noticeable differences in the assessments of the individual areas of satisfaction. The lowest level of satisfaction was found in relation to the housing expenses incurred by households, and it was also in this case that a significant percentage of negative assessments was recorded (21.5% of responses). Respondents rated their satisfaction with the available space and housing standard higher (see Figure 1). It is difficult to clearly explain the reasons for the higher satisfaction with the space and standard of apartments, although one should remember that the housing situation of Poles in the post-war period was worse than in Western Europe. Since then, while the quality of housing stock has gradually improved, it is still lower than in Western countries. The slight but systematic improvement in the quality of housing may be reflected in the respondents’ opinions as satisfaction given the reference point of poor quality housing in the past.

Figure 1: Respondents’ housing satisfaction



Source: Authors.

The estimated logit models made it possible to verify which explanatory variables significantly influenced the households’ perceived level of satisfaction (see Table 3).



Table 3: Determinants of housing satisfaction in Polish households

Variable	Satisfaction with the living space		Satisfaction with the housing standard		Satisfaction with housing expenses	
	Estimate	OR ^a	Estimate	OR ^a	Estimate	OR ^a
Age	-0.0480*	0.9531	-0.0780***	0.9250	-0.0472	0.9539
Age ²	0.0006**	1.0006	0.0008**	1.0008	0.0004	1.0004
Gender	0.2342*	1.2639	0.1975	1.2183	0.1669	1.1816
Married	-0.0213	0.9789	-0.0010	0.9990	0.2215	1.2480
Divorced	0.5228	1.6869	0.5789*	1.7840	0.6861**	1.9860
Widow	0.0612	1.0631	0.0999	1.1051	-0.0271	0.9732
Children	-0.3176*	0.7279	-0.4475***	0.6392	-0.0350	0.9656
Size of household	-0.0923*	0.9118	-0.0604	0.9414	-0.0259	0.9744
Vocational	-0.1475	0.8628	0.3035	1.3546	0.1457	1.1568
Secondary	-0.0162	0.9839	0.3060	1.3580	0.0628	1.0648
Tertiary	0.1032	1.1087	0.4600	1.5841	0.2870	1.3325
Town50	-0.0923	0.9113	-0.1905	0.8266	-0.3709**	0.6893
Town100	-0.0888	0.9150	0.0766	1.0796	-0.4501*	0.6376
Town200	-0.1370	0.8719	0.0895	1.0936	0.0584	1.0601
Town200+	-0.3270	0.7211	-0.1439	0.8660	-0.2540	0.7757
Mobility	-0.0488	0.9523	0.0894	1.0935	0.1608**	1.1744
Undeclared empl.	-0.1067	0.8988	-0.7632	0.4662	0.3456	1.4128
Employment	0.2776	1.3199	0.0733	1.0761	0.3532*	1.4236
Business	0.6008*	1.8236	0.4602	1.5844	0.5956*	1.8141
Retirement	0.6836**	1.9801	0.2174	1.2429	0.5260**	1.6921
Income	0.1079***	1.1139	0.1241***	1.1322	0.0999***	1.1050
Rent-free	-0.3544	0.7016	-0.1728	0.8413	0.1774	1.1941
Rent at reduced price	-0.9275***	0.3956	-0.9615***	0.3823	-0.8055***	0.4469
Rent at market price	0.2883	1.3342	-0.1406	0.8688	-0.2376	0.7885
Living space	0.0141***	1.0142	0.0124***	1.0125	0.0044***	1.0044
House	-0.5603***	0.5710	-0.5481***	0.5781	0.1399	1.1502
Number of obs.	885		885		885	
LR chi ²	235.44***		213.82***		123.59***	
Pseudo R ² :						
Cox and Snell	0.234		0.215		0.130	
Nagelkerke	0.251		0.232		0.142	
McFadden	0.100		0.094		0.056	

OR^a – odds ratio; significance level: * 10%; ** 5% and *** 1%

Source: Authors.



The personal characteristics of respondents that have a significant impact on the level of housing satisfaction (except for satisfaction with housing expenses) include their age. However, the relationship is not linear. Satisfaction decreases with age and reaches its lowest level in the 40-48 age group, after which it shows an upward trend for older people. It can be concluded that young people initially do not define their situation as difficult, possibly because they have help from their parents or live with them. Later, when young people enter the market on their own, their satisfaction decreases, usually because of financial barriers. Older people define their satisfaction as high, possibly because they have achieved housing status they desired.

Only in relation to the available living space does gender seem to determine perceived satisfaction. According to the estimates, the odds of a higher level of satisfaction are 26.39% greater for women than for men. The marital status of the respondents can be seen as a predictor of housing satisfaction to a limited extent. Only people who are divorced or separated assess their living conditions noticeably more favourably. Their odds of being satisfied with the housing standard and housing expenses are 78.4% and 98.6% higher, respectively, compared to people who never married. The level of housing satisfaction generally decreases with the number of people in the household (by 8.82% with each additional member) and for families with children (by 27.21% for living space and by 36.08% for housing standard). This is probably related to the comfort of everyday living, the amount of freedom, and sense of privacy, which are very limited, especially in overcrowded dwellings.

Education and the place of permanent residence are not factors that significantly influence the respondents' housing satisfaction. Only in relation to housing expenses do respondents living in small and medium-sized towns declare lower satisfaction than those living in rural areas.

The mobility of households is of explanatory importance mainly for satisfaction with housing expenses. People with greater spatial and occupational mobility, as a rule, also tend to prefer more flexible ways of meeting their housing needs. Thus, they are able to more effectively adjust the scope and costs of housing services to their changing expectations.

The sources and amount of net income have a stimulating effect on housing satisfaction. The odds of higher satisfaction are generally greater for retired households and those running a business (by 69.2%–98.0% and 81.4%–82.4%, respectively). Also, an increase in net income by 1000 PLN raises the odds of higher satisfaction by 10.5%–13.22%.

Noticeably lower satisfaction is declared by tenants of municipal flats. Compared to homeowners, their chances of higher satisfaction with the space and standard of their housing and their housing expenses are 60.44%, 61.77%, and 55.31% lower, respectively. These dwellings are generally not adapted to the needs of tenants. Moreover, the poor technical condition and low standard of these dwellings means that they do not constitute an equivalent alternative to ownership or market rental. The strong sense of dissatisfaction among tenants of these dwellings may also result from the poor management of municipal real estate, which is limited to the sphere of administration and carrying out necessary repairs to keep the buildings in a condition that does not threaten the safety of tenants. This is a clear signal to local authorities of the ineffectiveness of the implemented housing policy.

The size and type of residential real estate occupied are significant predictors of satisfaction. Each additional 1 m² of living space increases the chances of higher satisfaction by between 0.44% and 1.42%. Surprisingly, users of single-family homes declared a lower level of satisfaction with the available space and housing standard than users of flats in multi-unit



buildings. This is likely related to re-urbanisation. Currently, people are returning to city centres from the suburbs to improve housing satisfaction in terms of, for example, better access to health care, culture, and education and lower travel costs.

Our research confirmed the complex nature of households' housing satisfaction and the lack of a universal set of factors determining housing satisfaction. In Poland, despite unfavourable housing conditions, the level of housing satisfaction was rated as high. The households surveyed assessed their satisfaction with their housing space and housing standard higher than their satisfaction with housing expenses. This is all the more surprising as statistical data show that the housing situation of Polish households is among the worst in Europe in terms of space and standard, while the share of housing expenditures in relation to income is among the lowest.

This paradox can be explained by the historical background. After World War II, the country experienced a significant housing deficit. Therefore, dwellings were built with a small floor area and to a low standard. The housing needs of households were limited and the goal was to have a roof over one's head. The quality gap was barely felt. A low rent policy was commonly used. The structure of household expenditure shows that the share of expenditures on tobacco and alcohol was higher in the 1980s than the share spent on fees for housing services. In the minds of many household members, a sense of entitlement to cheap housing has persisted. Also, contemporary economic and financial constraints mean that people cannot adjust quickly their housing situation to life cycle changes, and this causes a long-term dissonance between people's needs and their actual housing choices. It can be assumed that in most cases people have to adjust their needs and expectations to housing reality instead of remaining dissatisfied. This confirms the role of experience: those who experienced disadvantages in the past have lower expectations (Coates et. al. 2015).

Conclusion

Housing satisfaction is a complex subject of research because of the numerous factors that determine it, and because of its subjective and dynamic nature. Our research shows that Polish households are mostly positive about their housing situation, although they indicate a higher level of satisfaction with the standard and size of their dwellings. Among the factors that determine housing satisfaction adopted in the analysis, the respondents' income, housing status, and the size of the dwellings they occupy are the most important. Meanwhile, age, gender, marital status, and employment had an impact on selected aspects of satisfaction surveyed. Contrary to the results of many previous studies, we confirmed that education had no significant statistical effect on differentiating the level of housing satisfaction in any of the areas studied.

The research also indicates the need to take a broader view of housing satisfaction. Correctly quantifying the level of housing satisfaction is an important diagnosis and a reference point for designing a housing policy. Knowing the main determinants of satisfaction, it is possible to take measures to raise the standard of housing services and to apply the kind of housing policy instruments that will reduce the problem of the housing exclusion of economically weak households.



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