OLSZTYN ECONOMIC JOURNAL
2021, 16(2), 169–180
ISSN 1897-2721 e-ISSN 2083-4675 DOI: 10.31648/oej.7823

ORIGINAL PAPER

HOUSING SITUATION OF STUDENTS DURING THE COVID-19 PANDEMIC – A CASE STUDY FROM POLAND AND PORTUGAL

Małgorzata Grzywińska-Rąpca
Faculty of Economic Sciences
University of Warmia and Mazury in Olsztyn
ORCID: https://orcid.org/0000-0003-2088-2795
e-mail: malgo@uwm.edu.pl

Nelson Duarte
School of Management and Technology
Polytechnic of Porto
ORCID: https://orcid.org/0000-0002-4156-7922
e-mail: nduarte@estg.ipp.pt

Marcin Janusz
Faculty of Economic Sciences
University of Warmia and Mazury in Olsztyn
ORCID: https://orcid.org/0000-0002-4652-6898
e-mail: marcin.janusz@uwm.edu.pl

JEL Classification: D14, E21, G51.

K e y w o r d s: housing conditions, living conditions, shopping behaviour, pandemic, COVID-19.

A b s t r a c t

The occurrence of the first illnesses of the inhabitants of Poland and Portugal caused decision-makers to introduce many changes in the functioning of economic units in various areas. This document aims to answer the questions of whether the changes related to the occurrence of COVID-19 had a significant impact on the housing situation of students by answering two questions: (1) How has the pandemic affected the change in the form of residence? (2) What changes in the provisions of the contract do students expect after returning to the full-time form? The empirical study was conducted based on data obtained from a survey. The research was conducted in May and June 2021 on a sample of 599 students at the University of Warmia and Mazury in Olsztyn and the School of Technology and Management of Porto Polytechnic in Portugal. The analysis related to the

How to cite: Grzywińska-Rąpca, M., Duarte, N., & Janusz, M. (2021). Housing Situation of Students During the COVID-19 Pandemic – a Case Study from Poland and Portugal. *Olsztyn Economic Journal*, *16*(2), 169-180. https://doi.org/10.31648/oej.7823.

determination of statistically significant interdependencies of socio-demographic characteristics of respondents with their attitudes, and a multidimensional method of comparative analysis was used, known as correspondence analysis. As a method of recording data in the analysis of correspondence, the Burt matrix was used. The result of the statistical analysis was the identification of structural relationships between variables and objects (respondents). The results showed different behaviours related to housing conditions in Poland and Portugal. Polish students, due to the epidemiological situation, were mostly forced to change their place of residence, which was usually associated with returning to their family home. This trend was not observed for students in Portugal (median response: Housing had not been affected in any way by the pandemic).

SYTUACJA MIESZKANIOWA STUDENTÓW PODCZAS PANDEMII COVID-19 – STUDIUM PRZYPADKU POLSKI I PORTUGALII

Małgorzata Grzywińska-Rąpca
Wydział Nauk Ekonomicznych
Uniwersytet Warmińsko-Mazurski w Olsztynie

Nelson Duarte
Szkoła Zarządzania i Technologii
Politechnika w Porto

Marcin Janusz
Wydział Nauk Ekonomicznych
Uniwersytet Warmińsko-Mazurski w Olsztynie

Kody JEL: D14, E21, G51.

S ł o w a k l u c z o w e: warunki mieszkaniowe, warunki życia, zachowania zakupowe, pandemia, COVID-19.

A b s t r a k t

Pierwsze zachorowania mieszkańców każdego kraju spowodowało wprowadzenie przez decydentów wielu zmian w różnych obszarach funkcjonowania jednostek gospodarczych. Celem pracy było rozstrzygnięcie, czy zmiany związane z wystąpieniem COVID-19 mają istotny wpływ na sytuację mieszkaniową studentów na podstawie ich odpowiedzi na dwa pytania: (1) Jak pandemia wpłynęła na zmianę formy zamieszkania? (2) Jakich zmian w zapisach umowy oczekują studenci po powrocie do formy stacjonarnej? Badanie empiryczne przeprowadzono na podstawie danych uzyskanych z ankiety. Badania przeprowadzono w maju i czerwcu 2021 roku na próbie 599 studentów Uniwersytetu Warmińsko-Mazurskiego w Olsztynie oraz School of Technology and Management of Porto Polytechnic in Portugal. Do analizy związanej z określeniem statystycznie istotnych współzależności cech społeczno-demograficznych respondentów z ich postawami wykorzystano wielowymiarową metodę analizy porównawczej – analizę korespondencyjną. Jako metodę zapisu danych w analizie korespondencji zastosowano macierz Burta. Wynikiem analizy statystycznej była identyfikacja zależności strukturalnych między zmiennymi a obiektami (respondentami). Wyniki pokazały różne zachowania związane z warunkami mieszkaniowymi w Polsce i Portugalii. Polscy studenci, ze względu na sytuację epidemiologiczną, byli w większości zmuszeni do zmiany miejsca zamieszkania, co zwykle wiązało się z powrotem do rodzinnego domu. Tendencji tej nie zaobserwowano w przypadku studentów w Portugalii (mediana odpowiedzi: pandemia w żaden sposób nie wpłynęła na mieszkalnictwo).

Introduction

The emergence of a new reality caused by the coronavirus caused several changes, both at the individual level and in society in general. Initially, all government activities were aimed at improving and preparing the health service. Nevertheless, it was expected that the need for isolation, changing the work system to an online model, and government restrictions aimed at the lowest possible spread of COVID-19, would greatly affect changes in the living conditions of every citizen (Słaby, 2011, p. 127; Borys, 2008, p. 130; Panek, 2015, p. 56; Kisiel & Woźnialis, 2021, p. 23; Budowski *et al.*, 2016, p. 1048; Grzywińska-Rąpca, 2021, p. 950; Tran *et al.*, 2020, p. 2; Epifanio *et al.*, 2021, p. 2).

Both in Poland and Portugal, the key date of the beginning of changes as a result of the first COVID-19 cases was the beginning of March 2020. At that time, most state and educational institutions, as well as some enterprises were forced to work remotely. The Portuguese school considered for this study is located in the first city affected by the pandemic in Portugal. In fact, in this city, schools went into lockdown one week previous to the remaining cities in Portugal. After some time, policymakers started to prepare and carried out intensive activities aimed at minimizing economic damage while taking measures to reduce the number of coronavirus cases.

Students are a specific but essential part of the residential real estate market. Taking up higher education often involves a change of place of residence. This is not only the case for people from small and medium-sized towns and rural environments. After all, educational migrations (McGill, 2013, p. 170; Grabowska, 2013, p. 115; Rokita-Poskart, 2017, p. 88; Kuźniar & Cyran, 2020, p. 42) can be transnational, transforming the demographic structure of both the receiving and sending areas. One of the consequences of such a process may be a "brain drain" (Docquier, 2012, p. 681), pushing young people out of areas with lower socio-economic potential to centres that are, according to F. Perroux's concept, poles of growth (Dyjach, 2013, p. 51). In addition, students can undoubtedly be included in the group of "young adults" (Arnett, 2000, p. 472) who are taking the first steps towards becoming independent.

One of the manifestations of this process is the independence of residence. In the case of students, moving to cities that are academic centers involves the choice of form and method of residence. This choice is dictated primarily by the possibility of satisfying social and living needs, the level of social infrastructure in the area and the price of real estate (Źróbek-Różańska 2018, p. 110). Retrospectively, the original place of accommodation for students were student dormitories (Zasina, 2018, p. 72). Living in a dormitory was associated with a relatively low rental price, favourable location and cohabitation with a peer group. Both in Poland and Portugal, along with the development of higher education and the increase in the number of students, interest in renting apartments on the secondary market grew (Nykiel, 2012, p. 99; Barbosa, 2018, p. 23;

Janusz, 2016, p. 375). The number of units for rent was a response to the reported demand, constituting an important part of the market in cities where higher education institutions are located. The most desirable were usually resources located in the immediate vicinity of the university. In general, the development of the rental housing market is a positive phenomenon, because according to M. Cesarski (2013, p. 125) it boosts the economy based on the "multiplier effect".

Along with the economic development and the growing standard of living of citizens, the interest in renting an apartment during higher education grew. This was supported by a higher standard of the resource and the possibility of choosing roommates, or having an exclusive apartment. This state of affairs is confirmed by the data contained in the report "Students on the real estate market" from 2020, where 52% of respondents declared renting an apartment during their studies. Naturally, one of the possibilities of independence was to buy an apartment, but this was the domain of a small portion of the students. According to the findings of the above-mentioned report, about 7% of students declared that they owned their own real estate. On the other hand, 14% of Polish students lived in the dormitory. From the Portuguese side, even not being possible to identify similar research, it is possible to realize from several web publications, that only 10% of the students can get a place in a dormitory (Barbosa, 2018, p. 26; Lusa, 2018).

In the literature, the housing situation of students was the subject of studies in the context of their impact on urban space; hence, among others concepts, the idea of studentification appeared (Smith, 2005, p. 79; 2002, p. 15; Nakazawa, 2017). It has been proven that the formation of districts in which there is an increasing number of students living causes a re-evaluation of real estate transaction prices in these locations (Revington *et al.*, 2018, p. 191; Revington & August, 2020, p. 860). Thomsen and Eikemo (2010) surveyed Norwegian students on satisfaction with occupied properties. In the case of a large number of apartments for rent, satisfaction with a particular resource can be a determinant of its long-term settlement. The results of the study have also indicated that the form of lease/ownership, i.e. cohabitation of several people or independent living, is equally important. McBride (2017, p. 194) and Romero (2017, p. 158) have described how the student real estate market will change, primarily as a result of distance education. After the pandemic period, Sotomayor *et al.* (2022, p. 18) pointed out problems related to finding suitable prices and locations of student properties in large urban centers.

The pandemic and the related restrictions in the form of the need for remote learning, among others, have forced numerous changes in the real estate market. They have an impact on both tenants and owners of premises. For the former, it was a time of making strategic decisions related to the way of living, while for the latter it was necessary to renegotiate lease agreements and probable losses caused by the lack of interest in the resource in the event of a persistent pandemic.

Methodological assumptions

The empirical study aimed to determine the impact of the epidemiological situation on changes in students' housing conditions. The study was conducted using the survey method, and the use of this form of measurement was determined by the possibility of its implementation during lectures, while yet ensuring the anonymity of students completing the questionnaire. The research instrument was a standardized survey questionnaire.

The research was conducted in May and June 2021 on a sample of 599 students of the University of Warmia and Mazury in Olsztyn and the School of Technology and Management (Porto Polytechnic) in Portugal. It was estimated that for this period, the great basic macroeconomic indicators would indicate that the crisis caused by the COVID-19 epidemic may be the cause of many adverse changes in various areas of life. It can therefore be assumed that the date of the study is an appropriate term for analyses allowing the diagnosis of student behaviour regarding changes in the housing market and changes in shopping behaviour. The aim of this study was to identify the housing changes and purchasing behaviours, during COVID-19, of respondents participating in the survey.

Based on the data set obtained from the survey, the frequency of occurrence of specific response variants and the socio-demographic structure of respondents were determined, which is presented in the next chapter. For the analysis related to the determination of statistically significant interdependencies of socio-demographic characteristics of respondents with their attitudes, a multidimensional method of comparative analysis was used, which was a correspondence analysis. According to Stanimir (2005, p. 35), the analysis of correspondence in the literature is also referred to as the analysis of correspondence or the analysis of connections. As part of the correspondence analysis procedure, the expected numbers are determined in order to check the independence of the characteristics. In the case when the expected abundances are significantly different from the observed ones, we are describing the dependence of features. If the empirical value of the statistic χ^2 is less than or equal to the critical value χ^2_α there is no basis for rejecting the null hypothesis, and it must be stated that the features are independent. When the value χ^2 is greater than the critical value χ^2_α grounds for rejecting the null hypothesis exist, and it must be stated that there is a dependence of features. At the same time, the analysis aims to lose as little information as possible about the relationships between the points set for the rows and columns. These points indicate the relationship between the characteristics of the respondents and the analyzed variables. (Stanimir, 2005, p. 47; Andersen, 1994, p. 180; Andersen *et al.*, 2020, p. 450).

Correspondence analysis is a method that belongs to the multidimensional group. It examines the coexistence of two or more features describing the objects. When considering more than one feature, multivariate analysis is used through the Burt matrix, a complex marker matrix, a multivariate emergency analysis

or a combined fail array (Greenacre, 2007, p. 298). This study used the Burt matrix, which, according to Stanimir (2005, p. 51), is the most commonly used method of data recording in correspondence analysis. The main goal of the correspondence analysis was to find structural relationships between variables and objects (respondents).

Characteristics of respondents

The group of respondents was homogeneous in terms of age. It consisted of adults who were not yet 24 years old. Among the Polish respondents, the majority were women (72%) (Fig. 1).

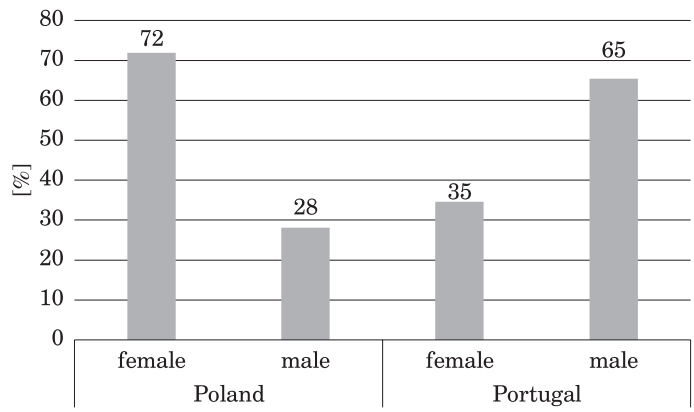

Fig. 1. Structure of respondents
Source: own study based on the results of the survey.

Among Portuguese students, the most popular form of residence before the pandemic was the family home. This might be explained since the institution where the survey was applied is located in a small city distanced 60 km from Porto (which is the second-largest city in Portugal). The group that indicated this option of response accounted for 27.30% of Portuguese students (Tab. 1).

A survey of students from Poland and Portugal shows that the COVID-19 pandemic, despite various housing inconveniences, did not increase housing fees. Such answers were given by a group of 28.60% of respondents from Portugal and as many as 46.79% of students from Poland. The figure resulting from the Polish students, may be due to the fact that almost 41% of students in Poland (from the group participating in the study) returned to their family home and housing fees were distributed among all family members. There was no difference in the answers to the question related to housing expectations after returning

Table 1

Summary of the frequency of responses regarding the form of residence and students' expectations regarding housing conditions after returning to the form of stationary learning

Specification	Portugal	%	Poland	%
Form of residence before the pandemic	family home (with parents)	27.30	apartment in a rented room in a student house/apartment	19.87
Impact of the COVID-19 pandemic on the housing situation	had no influence (I am living in the same place)	32.30	return to the family home (leaving the student house/rented apartment/room)	40.44
Impact of the COVID-19 pandemic on housing fees	same as before the pandemic	28.60	same as before the pandemic	46.79
Expectations of housing conditions after returning to the form of stationary learning	identical or similar to pre-pandemic conditions	20.70	identical or similar to pre-pandemic conditions	45.56
Expected provisions in lease agreements for flats of houses/flats as a result of the COVID-19 pandemic	refund of part of the monthly fee for the apartment (in the case of an incomplete month related to sudden events)	7.50	shorter notice period	14.74

Source: own study based on the results of the survey.

to full-time learning. Both students from Poland and Portugal indicated that they expect conditions identical or similar to those in which they lived before the pandemic.

The subject of the analysis of the obtained data as a result of the survey was to identify the relationships between the characteristics of the respondent (gender and nationality) and the opinions of respondents in the scope of the proposed options for answering the question: how the pandemic affected the form of residence. Verification of the claim that there is a difference between the change in the form of residence and the gender and nationality of the respondent requires the formulation and consideration of the following hypotheses:

H0: the opinion on the impact of the pandemic on the form of residence does not depend on the gender and nationality of the respondent, and

H1: the opinion on the impact of the pandemic on the form of residence depends on the gender and nationality of the respondent.

In order to validate that the necessary statistics for the verification of hypotheses have been determined χ^2, the critical area, the level of significance and the critical value were evaluated. The obtained values allowed the rejection of the null hypothesis in favour of the alternative hypothesis. Therefore a two-dimensional perception map was obtained showing the relationship between the features adopted for analysis. The occurrence of the COVID-19 pandemic and the change of the form of teaching to remote (both in Poland and Portugal)

caused a change in the students' place of residence. The conducted analysis of correspondence related to the determination of the χ^2 value (total $\chi^2 = 173.578$; $df = 9$; $p = 0.000$) and the critical value together with singular values and the percentage of inertia allowed to present the relationship in a two-dimensional space. The first dimension allows the reproduction of 98.32% of total inertia (inertia), and the second 1.08% (Fig. 2).

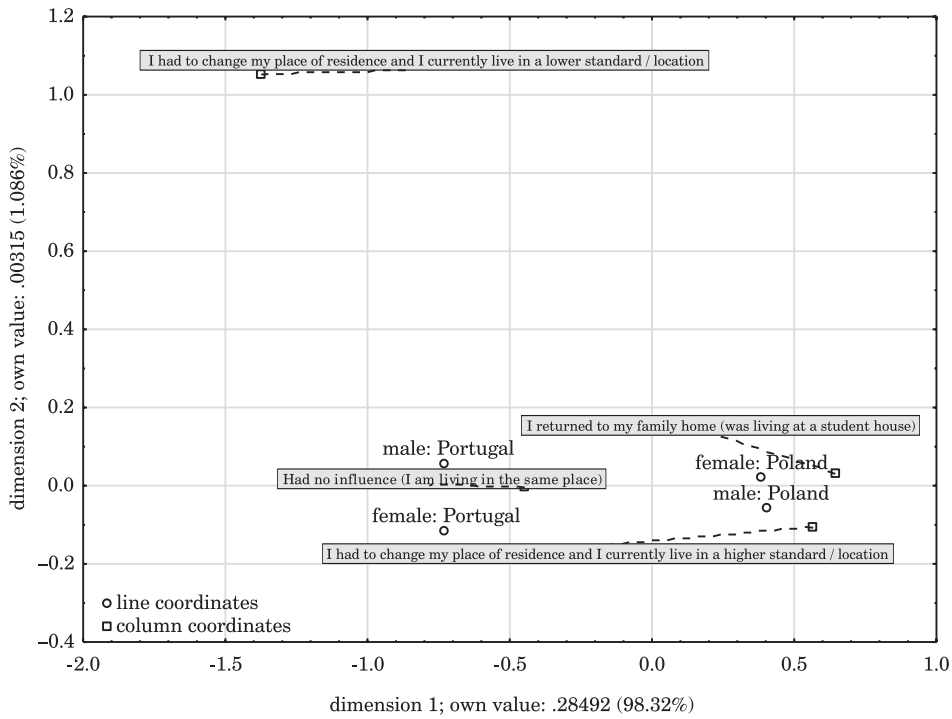

Fig. 2. Presentation of respondents' dependencies on the impact of the pandemic on housing conditions depending on gender and nationality

Source: own study.

The points representing the coordinates of rows and columns indicate a correlation between the variant of respondents' opinions on the impact of the pandemic on housing conditions with regard to gender and nationality. A typical response representing students from Portugal (both male and female) was: "the pandemic did not affect the change of residence". In the case of Polish students, the typical answers from students living in a dormitory were: "I returned to the family home"; while for students renting a dwelling, the typical answer was: "changing the place of residence in order to increase the standard".

The subject of another analysis was to demonstrate the interdependence between the determination of the impact of the pandemic and the amount of housing fees, by gender and nationality of respondents. The conducted analysis of correspondence was related to the determination of value χ^2 (total χ^2=237,259; df=18; p=0.000) and critical value. This data, together with singular values and the percentage of inertia, allowed the presentation of relationships in two-dimensional space. The first dimension allows the reproduction of 94.82% of total inertia (inertia), and the second 5.12% (Fig. 3).

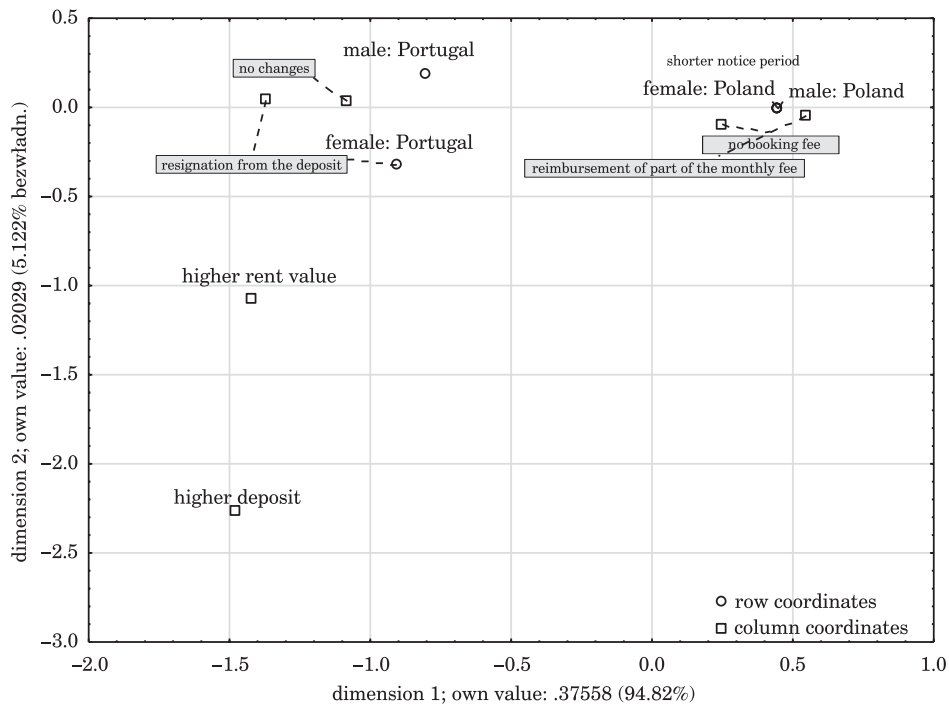

Fig. 3. Presentation of the dependence of the impact of the pandemic on the amount of housing fees, taking into account the gender and nationality of respondents

Source: own study.

In the group of students participating in the study, two relationships are visible (Fig. 3). The faction represented by students living in Portugal expects the rental agreement to include provisions related to the lack of a deposit. A group of respondents represented by students living in Poland showed expectations of reimbursement of part of the fees.

Conclusions

The occurrence of the COVID-19 pandemic has caused numerous, most often unfavorable, changes in many areas of life. Conducting a study on the assessment of changes in the housing conditions of students in Poland and Portugal during the pandemic was aimed at showing differences in the changes in their situation. The results of the analysis of the responses representing students in the two selected countries (Poland and Portugal) have shown similar behavior related to housing conditions. Both Polish and Portuguese students have shown similar expectations regarding housing conditions after returning to full-time education (median answer: they expect housing conditions identical or similar after returning to university in a stationary form) and did not notice the impact of the COVID-19 pandemic on housing fees. Polish students, due to the epidemiological situation, were mostly forced to change their place of residence, which was usually associated with returning to their family home. This trend was not observed for students in Portugal (median response: Housing has not been affected in any way by the pandemic).

Translated by Authors
Proofreading by Michael Thoene

References

Andersen, E.B. (1994). *The Statistical Analysis of Categorical Data*. Berlin, Heidelberg, New York, London, Paris, Tokyo, Hong Kong, Barcelona, Budapest: Springer-Verlag. http://dx.doi.org/10.1007/978-3-642-78817-8.

Andersen, K.G., Rambaut, A., Lipkin, W.I., Holmes, E.C., & Garry, R.F. (2020). The proximal origin of SARS-CoV-2. *Nature Medicine*, *26*(4), 450-452. http://dx.doi.org/10.1038/s41591-020-0820-9.

Arnett, J.J. (2000). Emerging Adulthood A Theory of Development From the Late Teens through the Twenties. *American Psychologist*, *55*(5), 469-480. http://dx.doi.org/10.1037/0003-066X.55.5.469.

Barbosa, S. (2018). *Alojamento Universitário - Universidade do Minho.* Coordination by S. Capela, J. Silva. Associação Académica da universidade do Minho. Retrieved from https://www.placeme.pt/ClientAssets/2726/html/EstudoAlojamento.pdf.

Borys, T. (2008). Propozycja siedmiu typologii jakości życia (The Proposal of Seven Typologies of Life Quality. Research). *Prace Naukowe Akademii Ekonomicznej we Wroclawiu*, *22*, 125-134.

Borys, T. (2015). Typologia jakości życia i pomiar statystyczny. *Wiadomości Statystyczne. The Polish Statistician*, *60*(7), 1-18.

Budowski, M., Schief, S., & Sieber, R. (2016). Precariousness and quality of life – a qualitative perspective on quality of life of households in precarious prosperity in Switzerland and Spain. *Applied Research in Quality of Life*, *11*(4), 1035-1058. http://dx.doi.org/10.1007/s11482-015-9418-7.

Cesarski, M. (2013). *Polityka mieszkaniowa w Polsce w pracach naukowych 1918-2010. Dokonania i wpływ polskiej szkoły badań*. Warszawa: Oficyna Wydawnicza SGH.

Docquier, F., & Rapoport H. (2012). Globalization, Brain Drain, and Development. *Journal of Economic Literature*, *50*(3), 681-730. http://dx.doi.org/10.1257/jel.50.3.681.

Dyjach, K. (2013). Teorie rozwoju regionalnego wobec zróżnicowań międzyregionalnych. *Annales Universitatis Mariae Curie-Skłodowska*, Sectio H, *XLVII*(1), 49-59.

Epifanio, M.S., Andrei, F., Mancini, G., Agostini, F., Piombo, M.A., Spicuzza, V., & La Grutta, S. (2021). The impact of COVID-19 pandemic and lockdown measures on quality of life among Italian general population. *Journal of Clinical Medicine*, *10*(2), 2-19. http://dx.doi.org/10.3390/jcm10020289.

Grabowska, M. (2013). Migracja edukacyjna polskich studentów na tle trendów światowych. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania*, *32*(2), *Problemy współczesnej ekonomii*, 113-123.

Greenacre, M. (2000). Correspondence Analysis of Square Asymmetric Matrices. *Applied Statistics*, *49*(3), 297-310.

Greenacre, M. (2007). *Correspondence Analysis in Practice, Interdisciplinary Statistics*. Boca Raton, London, New York: Chapman & Hall/CRC, imprint of the Taylor & Francis Group, LLC.

Grzywińska-Rąpca, M. (2021). Economic Welfare and Subjective Assessments of Financial Situation of European Households. *European Research Studies Journal*, *24*(2), 948-968, http://dx.doi.org/10.35808/ersj/2166.

Janusz, M. (2016). The housing situation of young married couples in Olsztyn. *Olsztyn Economic Journal*, *11*(4), 371-383.

Kisiel, R., & Woźnialis, G. (2021). Selected benefits and threats arising from internet use by households and enterprises in Poland with respect to the COVID-19 pandemic. *Olsztyn Economic Journal*, *16*(1), 17-28.

Kuźniar, W., & Cyran, K. (2020). Selected Aspects of the Residential Property Market in the Context of Creating a City Image (an Example from Rzeszów). *Olsztyn Economic Journal*, *15*(1), 39-52.

Lusa (2018). *Ensino Superior: Lisboa com 30% de alunos deslocados mas só 9,2% têm residências universitárias*. Retrieved from https://www.dn.pt/lusa/ensino-superior-lisboa-com-30-de-alunos-deslocados-mas-so-92-tem-residencias-universitarias-9820443.html.

McBride, Y. (2017). Future of student housing: meeting emerging student needs. *On the Horizon*, *25*(3), 190-196. https://doi.org/10.1108/OTH-05-2017-0026.

McGill, J. (2013). International Student Migration: Outcomes and Implications. *Journal of International Students*, *3*(2), 167-181.

Nakazawa, T. (2017). Expanding the scope of studentification studies. *Geography Compass*, *11*(1). https://doi.org/10.1111/gec3.12300.

Nykiel, L. (2012). Mieszkania na wynajem jako warunek rozwoju rynku mieszkaniowego (Apartment for Rent as a Condition for Residential Market Development). *Studia i Materiały Towarzystwa Naukowego Nieruchomości* (*Studies and Materials of the Polish Real Estate Scientific Society*), *20*(3), 95-110.

Panek, T. (2015). Jakość życia gospodarstw domowych w Polsce w układzie wojewódzkim. *Zeszyty Naukowe Instytutu Statystyki i Demografii SGH*, *46*, 2-111.

Rokita-Poskart, D. (2017). Migracje edukacyjne i ich demograficzne konsekwencje dla ośrodka akademickiego. *Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, *309*, 86-94.

Revington, N., & August, M. (2020). Making a market for itself: The emergent financialization of student housing in Canada. *Environment and Planning A: Economy and Space*, *52*(5), 856-877. http://dx.doi.org/10.1177/0308518X19884577.

Revington, N., Moos, M., Henry, J., & Haider R. (2020) The urban dormitory: planning, studentification, and the construction of an off-campus student housing market. *International Planning Studies*, *25*(2), 189-205, http://dx.doi.org/10.1080/13563475.2018.1552565.

Romero, M. (2017). The future of student life: living. *On the Horizon*, *25*(3), 157-160. https://doi.org/10.1108/OTH-05-2017-0020.

Słaby, T. (2011). Nowe propozycje w badaniach jakości życia. *Studia i Prace Kolegium Zarządzania i Finansów SGH*, *108*, 125-136.

Smith, D.P. (2002). Patterns and processes of studentification in Leeds. *Regional Review*, *12*(1), 14-16.

Smith, D.P. (2005). *Studentification: The gentrification factory?* In R. Atkinson & G. Bridge (Eds.). *Gentrification in global context: The new urban cosmopolitanism*. London: Routledge.

Sotomayor, L., Tarhan, D., Vieta, M., McCartney, S., & Mas, A. (2022). When students are house-poor: Urban universities, student marginality, and the hidden curriculum of student housing. *Cities*, *124*, 103572. https://doi.org/10.1016/j.cities.2022.103572.

Stanimir, A. (2005). *Analiza korespondencji jako narzędzie do badania zjawisk ekonomicznych* (*Correspondence Analysis as a Tool for the Study Economic Factors*). SSRN. Retrieved from https://ssrn.com/abstract=2577229.

Studenci na rynku nieruchomości. Raport 2020. (2020). Warszawa: Centrum AMRON i Związek Banków Polskich..

Thomsen, J., & Eikemo, T.A. (2010). Aspects of student housing satisfaction: a quantitative study. *Housing and the Built Environment*, *25*, 273-293. https://doi.org/10.1007/s10901-010-9188-3.

Tran, B.X., Nguyen, H.T., Le, H.T., Latkin, C.A., Pham, H.Q., Vu, L.G., & Ho, R.C. (2020). Impact of COVID-19 on economic well-being and quality of life of the Vietnamese during the National social distancing. *Frontiers in Psychology*, *11*. http://dx.doi.org/10.3389/fpsyg.2020.565153.

Zasina, J. (2018). W kierunku studentyfikacji? Zakwaterowanie studenckie w polskich miastach akademickich. *Gospodarka w Praktyce i Teorii*, *48*(3), 69-84. https://doi.org/10.18778/1429-3730.48.06.

Źróbek-Różańska, A. (2018). Over a Million Student Tenants in Poland. *Analysis of Preferences, Real Estate Management and Valuation*, *26*(2), 104-113. http://dx.doi.org/10.2478/remav-2018-0020.