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Demand Characteristic of Private Student Housing and Its Implication on Sustainable Urban Growth Management

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Abstract: *The effect of university campus on its surrounding has attracted the attention of scholars recently. Instead of causing a phenomenon namely studentification, the student-led gentrification, it may also increase competitiveness in the local housing market. The growth of student housing has to be managed, to ensure that the effect of student housing to the campus surrounding area does not hamper the sustainability of urban development. Therefore, it is important to understand the demand characteristics of student housing within a locality, as a basis to formulate a proper policy to manage the growth of student housing. This research uses Sleman Regency in Yogyakarta, a middle-sized city in Indonesia, as a case study area. As a host for more than 100 public and private Higher Education Institutions, the demand for private student housing is considered as high in this area. By utilizing Hedonic Price Model (HPM), this research may reveal several characteristics of student housing in the case study area. Despite facilities provided by the building owner, such as room furniture and air conditioner are considered as important for the renters, the model result shows that the distance from the student housing to the campus is regarded as not statistically significant. Facing the challenge on managing urban growth, this research may alert local government in the case study area to put more attention on managing the private student housing growth.*

Keywords: Student housing, Hedonic Price Model, Growth Management

1. Introduction

The effect of university campus on its surrounding area has attracted the attention of scholars recently. University campus is considered as a generator of urban physical growth (Munggiarti, A.; Buchori, 2015; Pua, Marshel; Rogi, Octavianus A.H.; Sembel, n.d.; Tumbelaka, Vanessa; Kindangen, Jefrey I.; Rengkung, 2019). Its presence may influence the land use on its surrounding area (Jolivet et al., 2022; Revington et al., 2023). The existence of a university campus is also often related to a shift on demographic structure on its surrounding area, which lead into a phenomenon named as studentification; a student-led gentrification (Gu & Smith, 2020; Revington et al., 2023). In a larger extent, the presence of university campus in a city has been considered to increase the competition in the local housing market as a whole due to the increasing demand of land for housing (Chang, 2017a; Miessner, 2021)

The main objective of this research is to reveal the demand characteristics of student housing and provide several discussions regarding its possible effect on sustainable urban growth development. Considering its impact to its surrounding area and in a larger extent, to the urban land market, it is important to understand the characteristic of the student housing market itself. There is an increasing pressure for local government to manage the growth of student housing worldwide due its consequences to the urban development (Abubakar Ghani et al., 2016; Saitluanga & Hmangaihzela, 2022). By demonstrating the demand characteristics of student housing and its possible effect on sustainable urban growth development, this research would like to sum up more understanding to the body of literature regarding the preference of student housing and shed a light to the need of local government intervention on managing the growth of student housing.

This research paper provides Sleman Regency in Yogyakarta, Indonesia, as a case study. It provides an interesting example regarding the growth of student housing. Sleman Regency is adjacent to Yogyakarta, a medium-sized city in Indonesia. Even though Yogyakarta is more prominent as the city of education in Indonesia, in fact, it is Sleman that hosts more than 100 public and private Higher Education Institutions. Unsurprisingly, the number of Higher Education Institutions in Sleman Regency is in line with the number of demands for student housing. The demand of student housing in Sleman is considered as high, which results into the increment of property rent price from time to time.

By revealing the demand characteristic of student housing in Sleman, this research would like to contribute on the policy making process, especially on how to manage the sustainability of physical growth in Sleman Regency. Sleman, as the periphery of Yogyakarta Conurbation Area, is facing the pressure of urban expansion, which leads to several problems, especially regarding the basic infrastructure and public service provision. The high demand of student housing, if it is not well-managed, may sum up to other problems in the peri-urban area. Understanding the demand characteristic of student housing in Sleman is expected to help the policy maker to manage its growth and minimize its impact on the Sleman peri-urban area.

2. Literature Review

a. Student Housing and Determinant of Student Housing Rent Price

Student housing issue has gained more attention due to the increasing number of people who get the opportunity to pursue degree at the Higher Education Institutions (HEI). Student housing itself can be defined as housing unit where student live during the period when they study, either in university or college (Abubakar Ghani et al., 2016). The terms of student housing may come into several forms, for instances student hall or college, rented house, rented apartment, and rented room (Fields, 2011). In general, student housing could be distinguished into two types based on its location, which are on-campus student housing and off-campus student housing. While on-campus student housing is mostly provided by a Higher Education Institution, the off-campus student housing is mostly managed by private landlords or developer (Gu & Smith, 2020).

The discussion regarding student housing is important, mainly because student housing, in similarity with other housing segments, may influence the social-economic condition of its occupants (Abubakar Ghani et al., 2016). A good quality of student housing would have effect on student's social life and, more important, to their academic performances (Lederer et al., 2021; Nijënstein et al., 2015; Thomsen & Eikemo, 2010).

In some aspects, student housing could not be extremely distinguished from family housing. Availability of basic facilities, such as kitchen, bathroom, and bedroom, is the shared characteristics for both student and family housing (Abubakar Ghani et al., 2016). However, there are several characteristics that makes student housing different from family housing. First is regarding the supportive or supplementary facilities and services. Facilities, such as mattress, high speed internet connection, air conditioner, kitchen tools, and common room, are regarding as important for student housing segments (Abubakar Ghani et al., 2016; Fields et al., 2013; Pradana et al., 2019). Second is regarding its location. Previous studies have demonstrated that student housing located in proximity with campus is more preferrable (Chang, 2017b; Charbonneau et al., 2006; Fields et al., 2013; Pradana et al., 2019; Yilmaz et al., 2022). Student housing itself is commonly clustered in the area surrounding a campus. Living close to campus will save transportation cost and commuting time to the campus.

Those two main characteristics have been proven to be important factors on determining student housing demand. The Hedonic Price Model (HPM) approach is the most frequently used approach to reveal what kind of student housing attributes those are highly valued by its occupants (Chang, 2017b; Fields et al., 2013). Most previous researches highlighted the importance of proximity to the campus. Meanwhile, the type of facilities highly valued for the student housing property may vary across different context. Most common facilities those are highly valued consist of wireless internet connection (Wi-Fi), private bathroom, air conditioner, and kitchen equipment (Abubakar Ghani et al., 2016).

b. Implication of student housing growth on urban development

Another reason that makes discussion regarding student housing important is due to its effect to its surrounding area. Even though the indirect effect of university presence could give benefit to the society as a whole, its direct effect is often manifested locally (Charbonneau et al., 2006). The presence of university campus in an area could bring either positive or negative effect. Several previous works have demonstrated the connection between university campus and studentification phenomena (Gu & Smith, 2020; Revington et al., 2023). Defined as socio-demographic change in an area resulted from the influx of student population, studentification often leads into displacement of the lower-income household (Jolivet et al., 2022; Revington et al., 2023). To some extent, the effect of studentification is similar with gentrification, which may result into valorization of abandoned properties (Charbonneau et al., 2006)and displacement of the lower-income households who previously occupy the studentified area.
The student housing growth has also been said to take effect on the local housing market. It may increase competition for housing, especially in the campus surrounding area (Chang, 2017b; Hochstenbach et al., 2021). Since student is often seen as having more economic power, the property owner in the campus surrounding area often hike up rent prices when the demand of student housing increase (Miessner, 2021). Several studies also highlighted the effect of student housing growth that may increase competition in the local housing market. It is the low-income households previously occupy area in proximity to campus that mostly burdened by the increasing competition in the local housing market.

3. Method

a. Research Approach

This research utilizes a co-variance case study approach by utilizing a HPM model to reveal the demand characteristic of student housing in Sleman Regency. As a kind of case-study approach, co-variance approach is used to make inference on the causality of the dependent

and independent variable (Blatter & Blume, 2008). The distinct characteristic of co-variance approach compare with a larger quantitative study is that the result must be explained in a specific context. This means that the aim of co-variance approach is not to build a generalization, but it is more to shed a light to the possibility of generalization, either for the larger population or for the typical case somewhere else (Blatter & Blume, 2008; Verschuren, Piet; Dooreward, 2010).

Meanwhile, a Hedonic Price Model (HPM) is a model introduced by Rosen to reveal what factors determine the value of a property (Rosen, 1974; Rosiers & Thériault, 2006; Zhang & Wang, 2013). It may reveal preference of a property, where each attribute of a property could be evaluated to determine its contribution to the property selling or rent prices (Hussain et al., 2019). The value of property, either selling price or rent price, reflects the equilibrium of demand and supply over a property. Since the property value is characterized as demand-driven, the agreed market value of a property is more reflecting the demand itself rather than its supply. The property value is determined by several implicit factors, such as its architectural structure, traffic condition, and neighborhood characteristics (Liu et al., 2022). The model itself is based on Ordinary Least Square (OLS) regression, where property rent price is treated as dependent variable (Y) while its implicit factors are treated as independent or explanatory variable (X).

b. Data Collection Method

Data for this research was obtained through a survey conducted to students in Sleman Regency by using online questionnaire. The questions in the questionnaire itself were distinguished by the type of housing where the respondents reside, which are private rented room, rented house, boarding house, and living together with their family or relatives. Since the HPM model is only applicable for properties which have similar characteristics, only responses from the respondent who live in a private rented room that would be used in this research. The responses from respondents who live in rented house were omitted because the number of responses itself are inadequate to be modelled.

At the beginning, an online questionnaire was shared to the student population in the case study area. The number of samples is determined using Raosoft Sample Calculator with 95% level of confidence. The sample size calculation resulted into 387 samples needed for this research. Therefore, 387 respondents were targeted to fill the questionnaire. The respondents were selected proportionally based on the number of students in 103 public and private Higher Education Institutions in the case study area. Among 300 responses to the online questionnaire, there are 135 responses from respondents who live in private rented room. All of those responses are complete, which means that all information regarding the rented property could be gathered from the responses. Information needed for the modelling, such as the facilities provided by the property owner, the number of public amenities within a walking distance from each property, its monthly rent price, building name or address, are available for each response. The building name or address is then geocoded to obtain its coordinate point and transform the data from the response into a spatial data. Based on the spatial data, the information of distance from the property where the respondent lives and the university campus where the respondent study could be obtained. The distance itself is denoted as the Euclidean distance or the shortest distance between each building to the user's campus.

c. Model Specification

The HPM in this research is utilized to reveal what is the dominant factor that influencing student housing demand in the case study area. As it has been explained, the property rent price may reflect the demand over a property. Meanwhile, its characteristics, both physical and location, are considered as determinant factors of property rent price. This research uses student housing rent price data to represent property value variable in the model, while property characteristics are represented by the availability of facility and amenity provided in the property, and its Euclidean distance from the campus. This model also incorporates student income as a predicting variable that may influence the decision to choose student housing property.

The HPM in this research is formulated as follows:

$$Y = a + b1X1 + b2X2 + b3X3 + e$$

Where Y is the rent price of the student housing property, a is constant or intercept point of each variable, b is coefficient for each variable, X1 is the vector of the physical characteristics which consist of facilities provided in each property, X2 is the student's income factor, X3 is the Euclidean distance from each property to the campus where the user studies, and e is the model residual.

4. Results and Discussions

a. Respondent Characteristics

As afore mentioned, the data used for the modelling is a data set of students who resides in private rented room. The respondents who reside in private rented mostly come from the province outside Yogyakarta. Most of respondents are coming from other provinces in Java and Bali/Nusa Tenggara. Nearly half of the total number of the respondents are student of Public University in Yogyakarta, including the most notable Public University in Yogyakarta which is Universitas Gadjah Mada. The others are respondents who study in several private universities in Yogyakarta. The questionnaire also records the data regarding student's monthly income. Interestingly, the majority of the respondents mentioned that their monthly income is below Rp. 2.000.000,00. Only around 13% of the respondents mentioned that their monthly income is more than Rp. 2.000.000,00. This number means that most of the respondents spend for average 50% of their monthly income to pay the room rent.
The respondent characteristics based on their place of origin, place of study, and monthly allowance are depicted in the table below.

Table 1: Respondents Characteristics

Variable	Numbers	Percentage
Place of Origin		
Jawa	39	29%
Kalimantan	16	12%
Sumatera	20	15%
Bali/Nusa Tenggara	39	29%
Sulawesi	11	8%
Maluku/Papua	10	7%
Place of Study		
Universitas Gadjah Mada	24	18%

Universitas Islam Indonesia	21	16%
Other Public University	18	13%
Other Private University	72	53%
Monthly Income		
<Rp. 2.000.000	118	87%
Rp. 2.000.001-Rp. 4.000.000	12	9%
Rp. 4.000.001-Rp. 6.000.000	3	2%
>Rp. 6.000.000	2	1%
Number of Respondents	135	

b. Modelling Result

This research is utilized HPM Model which is based on Ordinary Least Square (OLS) Regression. The dependent variable of this model is the monthly rent of the private rented room, while the independent variable consists of the facilities provided by the building owner in each room, i.e., private bathroom, air conditioner (AC), and furniture, student's monthly income, and distance of each building to the Campus where the students study. Due to the problem of normality test after running the first model, the dependent variable was then transformed into its Natural Logarithm form (Ln).
The model summary is shown as follows.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.657[a]	.432	.408	.35568	1.825

The modelling result has the value of Adjusted R Square equal to 0,408. This means that the variable utilized in the model may explain 40,8% of the variation of the dependent variable. The adjusted R square value is not high enough, which means there are almost 60% of the variation in the dependent variable that could not be explained by the model. This could be improved in the next research to reveal other variables that may influence the private rented room rent cost. However, from the simultan test result, the model has F Value equal to 17,660 with the Sig. value equal to 0.000. Because the Sig. value is below 0,05, which is the significance level used in this research, it can be concluded that simultaneously all independent variables utilized in the model has significant impact on the dependent variable.

When it comes to observe each independent variables impact on the dependent variable, it could be seen that among those variables used in the model, only two variables that have sig. value more than 0.05. Those variables are the availability of air conditioner (AC) in each room and the distance from each building to the user's campus. Other variables have sig. value less than 0.05, which means that except AC and distance variable, all independent variables have influence on the dependent variable.

Table 3: OLS Regression Results

Variables	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**
	B	**Std.Error**	**Beta**		
(Constant)	12.8.18946	.073		174.955	.000
Private Bathroom	.323	.075	.348	4.318	.000
Air Conditioner (AC)	.189	.099	.149	1.906	.059

Furnished	.211	.071	.228	2.965	.004
Student's Monthly Income	9.925E-008	.000	.218	2.884	.005
Distance from Campus	-.011	.021	-.039	-.545	.586

The model has been tested based on Gauss-Markov classical assumption to examine the robustness of the model. The model residual has been tested for its normality, resulted into the Kolmogorov-Smirnov value of 0.065. This means that the model residual fit the first Gauss-Markov assumption, which states that a good model has to have residual that is normally distributed. The test of Variance Inflation Factor (VIF) for each variable in the model is also resulted into VIF value lower than 10, which means that every variable in the model does not have multi-collinearity problem. The model itself has a Durbin-Watson value of 1.825. After comparing with the Durbin-Watson table, it could be concluded that the model does not have auto-correlation problem, either positively or negatively. Finally, a Glejser Test has been used to examine whether the problem has a heteroscedasticity or not. By running a regression test with the absolute value of the model residual is treated as dependent variable, the Glejser Test result shows that the model does not have the problem of heteroscedasticity. Therefore, the model used in this research is fit with the Gauss-Markov classical assumption and the model itself could be considered as a robust model.

c. Discussion

As it was shown by previous research, the facilities of the student housing play important role on determining the willingness to pay for the rent (Amole, 2009; La Roche et al., 2010; Revington & August, 2020). More facilities provided by the building management, more the users are willing to pay the rent. However, this research shows that not all kind of facilities may have influence on the willingness to pay for the rent. Only the availability of private bathroom in each room (Private Bathroom) and whether the room is furnished or not that become variable with significant influence on the willingness to pay for the rent. Both variables have positive sign on the coefficient, which means that the renters are willing to pay higher for the rent if the room is equipped with private bathroom and furnished.

Meanwhile the sig. value of the availability of Air Conditioner (AC) Variable is slightly above 0.05. This means that this variable has not significant influence on the property rent under 0.05 significance level. However, similar with other facilities attributes, this variable also has positive sign on its coefficient. This means that the room which is equipped with air conditioner will make the renters willing to pay higher rent despite it is not statistically significant.

Students monthly allowance or income variable also has sig. value less than 0.05. It confirms the rent characteristics of property, where the user's income is an important factor on the willingness to pay over a property. As it was mentioned by Evans, user's income is the limitation for the user decision on choosing a property to be bought or rented (Evans, 2004). The modelling result in this research support the classic theory on property rent by demonstrating the significancy of student's monthly income variable on the student housing rent.

An interesting result from the model is that the distance from the respondent's campus is not a significant factor on the property rent. This variable has sig. value far beyond 0.05. Despite of negative sign on its coefficient, the model shows that the distance from the rented property to respondent's campus is not statistically significant on the rent price. It is on contrary with the result of previous research, which demonstrated that the distance of the rented property to the

place where the student study is considered as an important factor on choosing student housing (Fields et al., 2013; Revington & August, 2020).

d. Implication of the Finding on the Sustainable Urban Growth Management in the Case Study Area

This research would like to contribute both practically and theoretically to the demand characteristics of student housing. As the modelling result has shown, the availability of facilities and student monthly income become two most important factors on student housing selection. Meanwhile, distance to the campus is regarded as less important in the model. The model result may have several implications, considering the context of the case study area.

Firstly, as the model has shown, student housing properties equipped with amenities are more desirable. This research result highlights the importance of supplementary facilities on the demand of student housing property. As stated by previous research, the availability of supplementary facilities distinguishes student housing property with family property (Abubakar Ghani et al., 2016; Pradana et al., 2019). The importance of such facilities is also highlighted in several previous research, as it may influence the livelihood quality of the tenant (Amole, 2009; Pradana et al., 2019; Ulyani et al., 2015).

Student housing property equipped with facilities, such as room furniture, private bathroom, and Wi-fi thus more preferrable by student housing market in the case study area. This research thus may inform developer and policy maker regarding what type of facilities are valued high in the context of student house provision. However, despite consumers of student house tend to value high the availability of supplementary facilities and services, provider of student house has to consider the financial capacity of the prospective consumer. Adding more supplementary facilities and services has the potentiality to increase the rent. Since majority of students do not come from high-income family, which is reflected by the respondent's monthly income, increase on student house rent due to the betterment of the property will raise the issue of affordability in the student house segment.

The issue of property quality and student housing affordability have to become a concern for the local government in the case study area. The local government could take some learning points from the case of Goettingen, where the student housing property rent price hike without any property improvement due to increasing on the property demand (Miessner, 2021). Under the condition where the number of students increasing time to time, it is important for the local government to always monitor the quality of the student housing property in the case study area to ensure that student who pursue their degree in the case study area could live in a conducive environment during their study.

Secondly, the model result shows that distance is not highly valued by the respondents on selecting student housing property. The variable of distance to campus has negative sign, which can confirm the importance of distance to campus as it is highlighted from previous research. However, it is not statistically significant. This means that the proximity of the student housing property to campus is not considered as important in the model result.

As this research finding may imply, the local government must be alerted to the consequences of the student housing demand characteristics in the case study area. Student housing, in form of rented room, would not always be located on proximity to the university campus. This may increase the demand of land for developing student housing property in the whole region. Since the provision of student housing may increase the competitiveness in the land and housing

market in a region (Zhong et al., 2018), the effect of the dispersed characteristic of student housing location has to be anticipated. It must be considered that the competition in the land and housing market is not only occurred for the specific market segmentation. If it is not well managed, the competition in the land and housing market in the case study area would limit access to land and housing for the whole population in the long run.

Moreover, because student may opt to live far from their place of study, it would increase the needs of commuting for student to their place of study. The respondents participated in the online questionnaire mentions the ownership of private vehicles. Most respondents mention that they would prefer to use private vehicle rather than walk to the campus or public transportation mode to reach their place of study. In a more concrete term, the dispersed location of student housing would burden the traffic in the region. This is because the case study area does not have a good public transportation system and the dependency on private vehicle is high.

As there is a growing attention towards the mode of commuting for the Higher Education students and considering the effect of their commuting pattern to its larger extent (Ribeiro & Fonseca, 2022; Saitluanga & Hmangaihzela, 2022), this research result also demonstrate the demand to manage the growth of student housing to reduce the need of commuting for the higher education students in the case study area. Managing the growth of student housing would not only reduce the competitiveness of the housing market on the case study area. Moreover, it would also lead into more sustainable way of commuting for the higher education student in the case study area.

4. Conclusion

This research has demonstrated the most influential factors on determining the willingness to pay over private rented room of student housing. Among variables considered, the availability of private bathroom and air-conditioned room is considered important on student housing demand in the case study area. Another factor is student income, which limits the ability of student to pay for rent. Meanwhile, distance from campus is not considered as an important factor on the demand of student housing in the case study area. Facing the challenge on managing urban growth, this research may alert local government in the case study area to put more attention on managing the private student housing growth. Since the distance to campus is not considered as an important factor on the decision of choosing student housing, this trend may put a bigger pressure to the local housing market. While the student housing could be developed everywhere within the localities, it may sum up competition over land for housing in the local housing market. Moreover, it would also potentially burden the local transportation system, because the use of private vehicle is more preferrable for the higher education student in the case study area to commute from their place of living to their place of study. Further intervention is therefore needed, to manage the growth of student housing in the case study area. This public sector intervention may come in several policy, such as (1) monitor the quality and rent price of student housing, to ensure the affordability and physical quality of student housing due to the importance of student housing quality on student socio-economic and academic performance, (2) managing the growth of student housing, to minimize its effect on the local housing market, and (3) providing reliable public transportation system, to minimize the private vehicle dependency among university student in the case study area.

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References

Abubakar Ghani, Z., Suleiman, N., & Onn Malaysia, H. (2016). Theoretical Underpinning for Understanding Student Housing. *Journal of Environment and Earth Science*, *6*(1), 163–176. https://www.iiste.org/Journals/index.php/JEES/article/view/28409

Amole, D. (2009). Residential satisfaction in students ' housing. *Journal of Environmental Psychology*, *29*, 76–85. https://doi.org/10.1016/j.jenvp.2008.05.006

Blatter, J., & Blume, T. (2008). In search of co-variance, causal mechanisms or congruence? Towards a plural understanding of case studies. *Swiss Political Science Review*, *14*(2), 315–356. https://doi.org/10.1002/j.1662-6370.2008.tb00105.x

Chang, Z. (2017a). Non-local Students, Housing Demand and Rental Impact: Evidence from Mainland Students in Hong Kong. *International Real Estate Review*, *20*(4), 525–548.

Chang, Z. (2017b). Non-local Students , Housing Demand and Rental Impact : Evidence from Mainland Students in Hong Kong. *International Real Estate Review*, *20*(4), 525–548.

Charbonneau, P., Johnson, L. C., & Andrey, J. (2006). Characteristics of university student housing and implications for urban development in mid-sized cities. *Canadian Journal of Urban Research*, *15*(2), 278–300.

Evans, A. W. (2004). Land Values, Rents and Demand. In *Economics, Real Estate, and the Supply of Land* (pp. 11–29). Blackwell Publishing.

Fields, T. J. (2011). A Hedonic Model for Off-Campus Student Housing: The Value of Location, Location, Location [Ball State University]. In *Ball State University*. http://ctic-cita.es/fileadmin/redactores/Explora/Tecnica_valoriz_ANICE.pdf%0Ahttp://bvssan.incap.org.gt/local/file/T469.pdf%0Ahttps://dspace.ups.edu.ec/bitstream/123456789/1586/15/UPS-CT002019.pdf%0Ahttp://www.bdigital.unal.edu.co/6259/%0Ahttp://onlinelibrary.wil

Fields, T. J., Earhart, C., Liu, T., & Campbell, H. (2013). A Hedonic Model for Off-Campus Student Housing: The Value of Proximity to Campus. *Housing and Society*, *40*(1), 39–58. https://doi.org/10.1080/08882746.2013.11430608

Gu, H., & Smith, D. P. (2020). 'Living off the campus': urban geographies of change and studentification in Beijing, China. *Urban Geography*, *41*(2), 205–224. https://doi.org/10.1080/02723638.2019.1659071

Hochstenbach, C., Wind, B., & Arundel, R. (2021). Resurgent landlordism in a student city: urban dynamics of private rental growth. *Urban Geography*, *42*(6), 769–791. https://doi.org/10.1080/02723638.2020.1741974

Hussain, T., Abbas, J., Wei, Z., & Nurunnabi, M. (2019). The effect of sustainable urban planning and slum disamenity on the value of neighboring residential property: Application of the hedonic pricing model in rent price appraisal. *Sustainability (Switzerland)*, *11*(4), 1–20. https://doi.org/10.3390/su11041144

Jolivet, V., Reiser, C., Baumann, Y., & Gonzalès, R. (2022). Before displacement: studentification, campus-led gentrification and rental market transformation in a multiethnic neighborhood (Parc-Extension, Montréal). *Urban Geography*, *April 2023*,

1–20. https://doi.org/10.1080/02723638.2022.2073150

La Roche, C. R., Flanigan, M. A., & Copeland, P. K. (2010). Student Housing : Trends , Preferences And Needs. *Contemporary Issues In Education Research*, *3*(10), 45–50.

Lederer, A. M., Hoban, M. T., Lipson, S. K., Zhou, S., & Eisenberg, D. (2021). More Than Inconvenienced: The Unique Needs of U.S. College Students During the COVID-19 Pandemic. *Health Education and Behavior*, *48*(1), 14–19. https://doi.org/10.1177/1090198120969372

Liu, G., Zhao, J., Wu, H., & Zhuang, T. (2022). Spatial Pattern of the Determinants for the Private Housing Rental Prices in Highly Dense Populated Chinese Cities—Case of Chongqing. *Land*, *11*(12). https://doi.org/10.3390/land11122299

Miessner, M. (2021). Studentification in Germany: How investors generate profits from student tenants in Goettingen and the impacts on urban segregation. *European Urban and Regional Studies*, *28*(2), 133–154. https://doi.org/10.1177/0969776420934850

Munggiarti, A.; Buchori, I. (2015). Pengaruh Keberadaan Perguruan Tinggi Terhadap Perubahan Morfologi Kawasan Sekitarnya. *Geoplanning*, *2*(1), 51–68.

Nijënstein, S., Haans, A., Kemperman, A. D. A. M., & Borgers, A. W. J. (2015). Beyond demographics: human value orientation as a predictor of heterogeneity in student housing preferences. *Journal of Housing and the Built Environment*, *30*(2), 199–217. https://doi.org/10.1007/s10901-014-9402-9

Pradana, P. J., Setijanti, P., & Septanti, D. (2019). Boarding House Preferences by Middle Up Class Students in Surabaya. *International Journal of Engineering Research and Advanced Technology*, *05*(02), 38–45. https://doi.org/10.31695/ijerat.2019.3379

Pua, Marshel; Rogi, Octavianus A.H.; Sembel, A. (n.d.). *Pengaruh Keberadaan Kampus UNSRAT Terhadap Perubahan Pemanfaatan Lahan di Kelurahan Bahu dan Kelurahan Kleak Manado*.

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

Revington, N., Zwick, A., Hartt, M., & Schlosser, J. (2023). Universities and urban social structure: gentrification, studentification, and youthification in five United States legacy cities. *Urban Geography*, *44*(1), 83–104. https://doi.org/10.1080/02723638.2021.1985306

Ribeiro, P. J. G., & Fonseca, F. (2022). Students' home-university commuting patterns: A shift towards more sustainable modes of transport. *Case Studies on Transport Policy*, *10*(2), 954–964. https://doi.org/10.1016/j.cstp.2022.03.009

Rosen, S. (1974). Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition. *Journal of Political Economy*, 34–55.

Rosiers, F. Des, & Thériault, M. (2006). *Mass Appraisal, Hedonic Price Modelling and Urban Externalities: Understanding Property Value Shaping Processes By Advances in Mass Appraisal Methods Seminar*,.

Saitluanga, B. L., & Hmangaihzela, L. (2022). Transport Mode Choice Among Off-Campus Students in a Hilly Environment: the Case of Aizawl, India. *Transport Problems*, *17*(3), 163–172. https://doi.org/10.20858/tp.2022.17.3.14

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

Tumbelaka, Vanessa; Kindangen, Jefrey I.; Rengkung, J. (2019). Morfologi Kawasan Permukiman Akibat Keberadaan Kampus Universitas Sam Ratulangi di Kelurahan Bahu dan Kleak. *Spasial*, *6*(1), 59–67.

Ulyani, N., Najib, M., Aini, N., & Akhavan, A. (2015). Living in On- campus Student Housing : Students ' behavioural intentions a nd students ' personal attainments. *Procedia - Social and Behavioral Sciences*, *170*, 494–503. https://doi.org/10.1016/j.sbspro.2015.01.052

Verschuren, Piet; Dooreward, H. (2010). Research Strategies. In *Designing a Research Project* (pp. 155–186). Eleven International Publishing.

Yilmaz, O., Talavera, O., & Jia, J. Y. (2022). Rental Market Liquidity, Seasonality, and Distance to Universities. *International Journal of the Economics of Business*, *29*(2), 223–239. https://doi.org/10.1080/13571516.2022.2033078

Zhang, M., & Wang, L. (2013). Research in Transportation Economics The impacts of mass transit on land development in China : The case of Beijing. *Research in Transportation Economics*, *40*(1), 124–133. https://doi.org/10.1016/j.retrec.2012.06.039

Zhong, R., Zhao, W., Zou, Y., & Mason, R. J. (2018). University Campuses and Housing Markets: Evidence from Nanjing. *Professional Geographer*, *70*(2), 175–185. https://doi.org/10.1080/00330124.2017.1325750