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The ‘gown’ unconcerned with the town? Residential satisfaction of university students living in off-campus private accommodation

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The ‘gown’ unconcerned with the town? Residential satisfaction of university students living in off-campus private accommodation

This paper aims to extend the understanding of residential satisfaction determinants of students living in off-campus private accommodation and thus contribute to the studentification debate. Our study is based on an original dataset derived from a survey conducted among students in Lodz, Poland and Turin, Italy. Using the ordered logit model, we tested the impact of neighbourhood and accommodation attributes, as well as personal and household characteristics, on students’ residential satisfaction. Our findings show that owning the property has the most significant effect on students’ residential satisfaction. Moreover, this satisfaction increases when student accommodation is affordable, located in a building of pleasant appearance, and in a neighbourhood well connected by public transportation and with a student atmosphere. In light of these findings, we claim that students’ residential satisfaction is not determined by most neighbourhood attributes; therefore, a wide range of neighbourhoods are potentially ‘studentifiable’.

Keywords: residential satisfaction; student accommodation; studentification; town and gown; higher education; ordered logit model

Introduction

Never before have so many people been enrolled in higher education institutions (HEIs) as in the 21st century. Consequently, student demand for off-campus private accommodation is booming (Chatterton, 2010). Briefly put, in the age of higher education (HE) massification, students are ‘pushed’ towards private rentals due to the inadequate public supply of halls of residence, traditionally provided by HEIs or public authorities. Therefore, student accommodation is nowadays one of the rapidly growing housing market niches (Mulhearn & Franco, 2018; Revington & August, 2020).

The student accommodation issue is widely discussed not only because of its current market size but also because of its multidimensional impact on urban

neighbourhoods and its intra-urban dynamics. More specifically, off-campus accommodation used by students is reported to concentrate in particular urban areas. Such concentration is known as studentification, and it usually leads to the economic, physical, social and cultural changes of neighbourhoods (Smith, 2005). However, studentification geographies in cities can change substantially relatively quickly (Kinton et al., 2016; Sage et al., 2011). Thus, students should be perceived as an exceptionally mobile population when it comes to their places of residence.

Considered in this light, there is a need to understand the forces that shape student residential geographies in university cities. One way to gain such an understanding is to examine what determines the residential satisfaction of students living off-campus. Indeed, individuals desire satisfactory accommodation, and the level of residential satisfaction is their basis for looking for residential alternatives (Lu, 1999). Consequently, the concept of residential satisfaction is relevant for studentification and destudentification research, as the dynamics of student inflows to and outflows from urban neighbourhoods for residential purposes are their foundation. Following this reasoning, knowledge about the drivers of students' residential satisfaction might help urban policymakers anticipate in which neighbourhoods studentification might emerge.

However, despite the sizeable literature on student off-campus private accommodation and studentification, awareness of students' residential satisfaction drivers in this context is still relatively scant. Therefore, in this paper, we aim to identify the factors of residential satisfaction among students living off-campus. To these ends, we provide a comparative analysis of two student populations from Lodz, Poland and Turin, Italy. Following the methodology of residential satisfaction measurement, we test the effects of accommodation attributes, neighbourhood attributes, as well as the effects

of personal and household characteristics. However, we focus on the effects of neighbourhood attributes on students' residential satisfaction because we have found this issue neglected in the prior research.

We begin with a review of the literature devoted to the student accommodation market, studentification and students' residential behaviour. Next, we move to an overview of the applied methodology. In the following section, we explore and compare the residential satisfaction of Lodz and Turin students and its determinants. Finally, we discuss our findings.

The literature

The rise of private student accommodation

Two decades ago, research on student accommodation was scarce (Rugg *et al.*, 2002). However, since then, researchers have paid much attention to the youth flocking to university cities, and this interest was more than justified. Never before have so many people been enrolled in HEIs as in the 21st century. The massification of HE is one of the most vivid expressions of the economic transition from an industrial to a knowledge economy (Moos *et al.*, 2019; Sokołowicz, 2019). It is also noteworthy that the drivers of the rush towards HEIs were education democratising policies, growing social aspirations and young adults' lifestyle changes (Smith & Holt, 2007). Although these forces might differ across countries, the rise of the student population has substantially impacted university cities worldwide.

Scholars' interest in students focuses mostly on understanding their role as tenants in cities hosting HEIs. Within the substantial increase in literature on students as urban populations, the topic of student accommodation has remained the most frequently studied (Nakazawa, 2017). This research strand comes from the booming

student demand for off-campus private accommodation that is being recorded globally nowadays. In many cities, the student rush towards private accommodation is a consequence of the lack of residential alternatives (Chatterton, 2010).

As Munro and Livingston (2012, p. 1682) noticed, 'The efficiency with which the private rented sector responded to the demands of the growing student populations is striking'. It is not a surprise, as students have become a sizable and lucrative group of tenants. However, the market response might reveal local idiosyncrasies. It was initially argued that a group of students renting accommodation together can be economically more powerful than many traditional households, and that the conversion of housing stock into student housing can be relatively cheap because of students' low expectations (Rugg et al., 2002). Therefore, the first market reaction to booming student demand is usually expressed by the inexpensive recommodification of existing housing for students' purposes (Smith, 2005). However, this pattern seems to be changing due to the recent growth in students' expectations towards accommodation, pushing landlords to upgrade properties (Kinton et al., 2018). Moreover, professional developers now recognise the student market niche, exemplified by investments called purpose-built student accommodation (PBSA). Such facilities resemble traditional halls of residence because of the many shared facilities, but they often provide a higher standard, offer more private rooms, and are located in city centres (Hubbard, 2009). Furthermore, in some countries, another market trend has been revealed. Namely, students' parents purchasing apartments for them to share with peers or strangers on a commercial basis (Grabkowska & Frankowski, 2016; Murzyn-Kupisz & Szmytkowska, 2015).

The phenomenon of studentification

Student off-campus private accommodation, regardless of its form, is widely discussed not only because of its rise but also because of the impacts it has on cities. Housing used

by students tends to (over)concentrate in particular urban areas, and this phenomenon is labelled studentification. According to Smith (2005), who first conceptualised this term, studentification describes neighbourhoods experiencing an inflow of students for residential purposes and these areas' consequent physical, economic, social and cultural changes.

In the initial phase of the debate, studentification was described as a 'parochial expression' of gentrification in peripheral cities. However, today, studentification is viewed as a global phenomenon and a common manifestation of contemporary capitalist urbanisation (Revington & August, 2020). This argument seems justified in light of the worldwide evidence on studentification. More precisely, the literature on students' impacts on urban neighbourhoods and housing markets originated from the UK (Allinson, 2006; Hubbard, 2008, 2009; Sage *et al.*, 2011, 2012, 2013; Smith, 2005, 2008; Smith & Holt, 2007; Smith & Hubbard, 2014) and Ireland (Kenna, 2011). More studies followed from continental Europe (Fabula *et al.*, 2017; Garmendia *et al.*, 2012; Grabkowska & Frankowski, 2016; Kotus *et al.*, 2018; Murzyn-Kupisz & Szmytkowska, 2015; Miessner, 2021), as well as from Africa (Ackermann & Visser, 2016), Asia (He, 2015), the Americas (Moos *et al.*, 2019; Prada, 2019; Revington & August, 2020; Revington *et al.*, 2020), and Australia (Ruming & Dowling, 2017).

The general view is that studentification transforms the housing tenure structure: owner-occupancy shrinks and tenancy grows as a result of housing recommodification following the demand of the 'transient' student population. Consequently, studentification often leads to the displacement of non-student households. In critical settings, when the share of students living in a neighbourhood is considerable, it might be perceived as a 'student ghetto' (Allinson, 2006; Munro & Livingston, 2012; Smith, 2005). In many cases, studentification is blamed for neighbourhood downgrading. This

view is based on the observations that the inflow of students into a neighbourhood leads to visual deterioration and disorder, despite the concomitant inflation of property prices and rent increases (Smith, 2005). However, other contributions show that studentification should not be exclusively linked to unfavourable changes because it might lead to upgraded housing (Kinton *et al.*, 2018), neighbourhood revitalisation and repopulation (Allinson, 2006; Buzar *et al.*, 2007), or the establishment of leisure and entertainment venues that serve the students (He, 2015; Prada, 2019). Meanwhile, Smith & Holt (2007) presented a systematic review of potential studentification impacts. In short, although the effects of studentification, whether harmful or beneficial, differ among cities and neighbourhoods, they result from students' residential (over)concentration in urban space.

What prior research demonstrates is that students are exceptionally mobile populations when it comes to their geographies of residence within cities. Indeed, neighbourhoods can be 'studentified' in just a matter of years (Sage *et al.*, 2011), and they might then experience a pattern of 'destudentification' at a similarly rapid pace (Kinton *et al.*, 2016).

Therefore, considering the global occurrence of studentification, its dynamics and its multidimensional impact, we should become cognizant of the factors that shape its intra-urban geographies. Therefore, we attempt to deepen the knowledge about one of the underpinnings of studentification, namely students' residential satisfaction, because it determines their residential mobility and choices. To these ends, we next discuss the potential factors that drive students' residential satisfaction in light of the existing literature.

Towards the understanding of students' residential satisfaction

Residential satisfaction among students living in off-campus private accommodation remains an almost untouched topic despite the considerable increase in the studentification literature. Besides the works of Thomsen & Eikemo (2010) and Moore *et al.* (2019), who focused directly on students' residential satisfaction, although with limited attention to neighbourhood attributes, most researchers to date have analysed only the related issues, namely students' preferences towards accommodation and the intra-urban geographies of student housing. Therefore, we draw most inspirations from these literature streams for the conceptualisation of our study.

Our motivation to focus on students' residential satisfaction lies in the fact that such an analysis might deepen the knowledge about students' residential behaviour. More specifically, studies into residential satisfaction provide insights into residential mobility and, in particular, decisions of willingness to stay in or move out from a dwelling or neighbourhood (Lu, 1999). Briefly put, residential satisfaction depends on the congruence of the actual residential situation with the desired situation (Boschman, 2018). Consequently, the incongruence between the current and the desired residential needs creates stress or dissatisfaction, which might lead to migration and a change of dwelling or neighbourhood (Lu, 1999). In this respect, the concept of residential satisfaction allows us to elaborate on the drivers of students' residential mobility, which seems to be of crucial importance in the case of studentification and its geographies.

The residential concentration of students evidenced in cities globally suggests that they prefer some neighbourhoods more than others (Allinson, 2006). A large share of students rent private, off-campus accommodation close to their HEIs' facilities (Allinson, 2006; Garmendia *et al.*, 2012; Rugg *et al.*, 2002). Thus, the neighbourhoods that experience studentification are often those surrounding HEI infrastructure (Ackermann & Visser, 2016; Garmendia *et al.*, 2012; Grabkowska & Frankowski, 2016;

Prada, 2019; Sage *et al.*, 2011). Students live there among 'people like them', in 'student areas', where non-student residents have a marginal role (Munro *et al.*, 2009; Smith & Holt, 2007; Smith & Hubbard, 2014). Therefore, what seems to matter from the students' perspective in such neighbourhoods is not just the ease of reaching the educational facilities, but also their student 'fibre'. In short, the concentration of people of the same age and with similar lifestyles allows them to achieve their student identities, although it also gets them used to living in homogenous societies (Smith and Holt, 2007). In this context, scholars refer to the 'town and gown' framework, common in the Anglo-American culture (Brockliss, 2000), to describe the phenomenon of the spatial separation of students, who are part of the 'gown', from the other urban populations, namely the 'town'. This background leads us to the expectation that satisfaction from the proximity to an HEI's facilities and the neighbourhood's student atmosphere has strong positive effects on students' overall residential satisfaction (ORS) (Hypothesis 1).

On the other hand, where students live in cities might not only be tied to the educational infrastructure geographies. Intriguingly, some studies have highlighted the growing willingness of students (or particular cohorts) to live in central areas of cities (Allinson, 2006; Buzar *et al.*, 2007; Hubbard, 2009; Mulhearn & Franco, 2018), where they can use more leisure and entertainment opportunities, and that are sometimes associated with bohemian lifestyles (Woldoff *et al.*, 2011). Furthermore, students might appreciate urban revitalisation projects and welcome living in the 'fancy', gentrifying neighbourhoods (Fabula *et al.*, 2017). Therefore, we expect to find that proximity to the city centre or to consumer amenities will positively affect being satisfied with the students' ORS (Hypothesis 2).

Meanwhile, some researchers have noticed that students' residential choices are generally not determined by physical distances (Verhetsel et al., 2017), e.g. to educational facilities or consumer amenities, because they can overcome these distances. What matters is public transportation links because they 'ease the process of moving around the city' (Allinson, 2006, p. 86). It leads us to expect that students' satisfaction with public transport accessibility is the neighbourhood attribute that has a positive effect on their ORS (Hypothesis 3).

The prior research into student accommodation also suggests that they have specific preferences regarding accommodation attributes. For instance, Rugg *et al.* (2002) noted that students accept rather spartan accommodation and that the key criterion in the residential choice is the price because of their limited financial resources. Their sensitivity to accommodation price and affordability has also been highlighted in some newer contributions (i.e. Grabkowska & Frankowski, 2016; Kotus *et al.*, 2018). Therefore, for decades, a common student strategy regarding the high costs of accommodation has been co-residence with their peers. However, more recently, living with members of other social groups has also become popular due to the spread of flat-sharing (Steinführer & Haase, 2009). In contrast, there are more recent suggestions that the ongoing, consumption-oriented changes of studenthood have led to a rise in students' expectations of accommodation and its quality (Chatterton, 2010; Kinton *et al.*, 2018; Moore *et al.*, 2019). One of its most intriguing facets is the growing student demand for not only numerous facilities but also privacy (Verhetsel *et al.*, 2017). Thus, the deeply established pattern of co-residence seems to be partially substituted nowadays by living alone in smaller and more expensive but private apartments for individual rent (Miessner, 2021). Considered in this light, we expect that

living alone has a higher positive effect on students' ORS than affordability (Hypothesis 4).

Similarly, following the contributions indicating the increased expectations regarding the residential environment (Chatterton, 2010; Fabula *et al.*, 2017; Kinton *et al.*, 2018; Moore *et al.*, 2019), we also think that satisfaction with the appearance of both the building and the neighbourhood becomes more important, thus positively impacting their ORS (Hypothesis 5).

Considering the broader socio-economic trends, there are grounds to think that housing tenure might be an important issue for students, although the prior studentification literature has not covered this topic much. Students are usually described as tenants accessing private accommodation through tenancy, as they are not yet economically powerful enough to own a property. However, owner-occupancy has become a widespread symbol of a successful neoliberal lifestyle, and it is the dominant tenure type in many European countries, among them Poland and Italy. Simultaneously, however, the current generation of young people faces numerous barriers towards property ownership, preventing them from following this 'normalised' housing tenure pattern (McKee, 2012). Therefore, although only a marginal share of students might already be owner-occupiers, we expect that accommodation ownership is a tenure type with the highest positive effect on their ORS (Hypothesis 6).

Finally, aside from the generalisations mentioned above, sub-populations of students might differ in their experience of navigating the local housing markets and knowledge about the geographies of the university city. Thus, they might be more or less able to match their residential needs with the available accommodation options, and consequently, be more or less residentially satisfied. Firstly, the distinction between local and non-local students seems useful to understand the students' residential

satisfaction. More precisely, local students, who have lived in the university city for years before starting HE there, might better understand the city's geographies and housing market. Thus, they might have a competitive advantage in looking for satisfactory accommodation compared to their non-local peers, who need some time to get acquainted with the city (Smith, 2005). Secondly, Kinton *et al.* (2018) comment that students at the upper level of HE are usually more experienced in renting off-campus accommodation. This might support their residential choices and make it easier to find accommodation suited to their preferences. In sum, we expect that being a local or graduate student, or having prior experience of renting accommodation, positively impacts their ORS (Hypothesis 7).

Data and methods

A comparative perspective

Despite the increase in studentification research, the vast share of the evidence comes from single case studies of particular cities or neighbourhoods, which sometimes leads to contradictory findings and limits them to these geographical units. Simultaneously, comparative urbanism demonstrates that today, in the age of global processes touching cities across countries, it is possible to widen our understanding of urban phenomena through international comparative urban studies (Robinson, 2007). Considered in this light, the worldwide reach of HE expansion and the consequent rise of housing markets suggest the employment of a comparative formula to analyse student accommodation problems in various university cities simultaneously. Addressing this empirical challenge, we examine the residential satisfaction of students living off-campus in two second-tier European cities, namely Lodz, Poland and Turin, Italy.

The data analysed in this paper come from wider research into the spatial and economic issues of student populations on Lodz and Turin. Both cities are of similar population size and have several similarities, based upon which they were chosen for the comparative study. In essence, Lodz and Turin were the archetypical industrial metropolises of Poland and Italy, respectively, which went through economic decline at the end of the 20th century. However, the shrinkage of industrial production led them towards economic reinvention (Caruso *et al.*, 2019; Ponzini & Santangelo, 2018; Author *et al.*, 2020). Nowadays, HE is one of the most prominent sectors of their economies (Mangione, 2019; Author, 2020), which is reflected by the statistics on student enrolments. More specifically, there were approximately 50,000 full-time students enrolled in public HEIs in Lodz in 2017 (Statistics Poland) and approximately 94,000 in Turin (OSSREG). Therefore, students are important subpopulations of these two cities as well as actors in these two housing markets. Nevertheless, we expected the differences between Lodz and Turin's built environments and socio-cultural contexts to shed light on possible variations in the students' residential satisfaction and its determinants.

The datasets

The original datasets were collected through survey research conducted among representative samples of full-time students enrolled in all public HEIs operating in Lodz (University, Technical University, Medical University, Art Academy, Music Academy, and Film School) and Turin (University, Technical University, and Music Academy). The quota sampling approach was designed to achieve student distribution of two key characteristics: the education level and assignment to the HEIs' departments. This approach ensured the participation of students of different curriculums, urban

geographies and lifestyles. The quotas were set to match the samples to the student population distributions revealed in the data obtained from the HEIs in each city.

International students were excluded intentionally, as they have unique consumer and residential behaviour, and they face different market circumstances when compared with their domestic peers (Collins, 2010; Fang & van Liempt, 2020). Therefore, the samples covered only domestic students, Polish or Italian, respectively. However, for analytical purposes, we differentiate domestic students as local or non-local to determine who lived in Lodz or Turin before starting HE and who migrated to these cities for this purpose.

In total, 1059 students in Lodz and 1042 in Turin correctly completed the questionnaires in front of the interviewers at the HEIs' facilities between March 2017 and February 2018. The questionnaires were of the same, standardised content in each city to make the data comparable. Given the aim of our analysis, we filtered the original dataset and kept only the records of students who lived away from their parents in off-campus private accommodation. Therefore, the final dataset consisted of 437 students in Lodz and 470 in Turin, residentially dispersed across the neighbourhoods of both cities.

Measuring residential satisfaction

Studies into residential satisfaction assume that households consume urban space through occupying a residential unit and using urban amenities in the surrounding area, thereby gaining some degree of satisfaction with residential life (Galster, 2001). Therefore, empirical measurement of the overall residential satisfaction (ORS) includes dwelling satisfaction, as well as neighbourhood satisfaction (Lu, 1999). At the same time, personal and household characteristics need to be controlled (Lu, 1999; Permentier *et al.*, 2011). Following these methodological requirements, we divided our

analytical variables into three categories: accommodation (dwelling) attributes (A), neighbourhood attributes (N), and personal and household characteristics (PH).

Our approach is unique in that we focus on the students' residential satisfaction as individuals. More precisely, we asked students questions regarding their individual perception of residential satisfaction even if they shared accommodation with other people. Therefore, our approach contrasts with studies in which one respondent assesses residential satisfaction on behalf of the entire household.

We focus mainly on neighbourhood attributes, as they have been neglected in the literature on students' residential satisfaction. In doing this, we follow Galster's (2011, p. 2112) understanding of the neighbourhood, which he defines as 'a bundle of spatially based attributes associated with clusters of residences, sometimes in conjunction with other land uses'. We allowed our respondents to self-define their neighbourhoods, and we did not impose on them any neighbourhood spatialities, which is a recommended and common research practice (Amerigo & Aragones, 1997; McGirr *et al.*, 2015). At the same time, recognising the variety of neighbourhood attributes that are potentially significant for student residential purposes, we provided a comprehensive list for the respondents to assess. We asked students to assess their satisfaction with the neighbourhood's appearance, safety, public transportation accessibility and student atmosphere, as well as proximities to their HEI's facilities, the city centre, friends, workplace, and to a variety of consumer amenities (i.e. music or dance clubs, pubs or cafés, restaurants, cultural and sports facilities, and shopping facilities of different types).

Aside from that, our study included accommodation attributes, such as type, ownership, affordability and price, as well as the appearance of the building. Finally, we deal with the students' personal and household characteristics, such as their hometown,

level of education, residential experience and gender. We also investigate their living arrangements, asking with whom they share the accommodation. On the whole, the comprehensive set of variables provides us with the necessary basis to verify our hypotheses, as well as to control the possible local peculiarities of Lodz and Turin.

Theoretical and empirical discussions on residential satisfaction state that an analysis of subjective rather than objective data on residential life provides a more accurate measurement (Permentier *et al.*, 2011; Jones & Dantzler, 2020). Briefly put, residential satisfaction is subjective, because people have differentiated needs, expectations, aspirations and residential experiences. Moreover, people tend to compare their dwellings and neighbourhoods with those of other people (Lu, 1999), and in particular, with those of their social strata (Thomsen & Eikemo, 2010). Drawing upon these findings, we focus on a strictly defined population and measure their subjective residential satisfaction using a 5-point Likert scale (1 – Very dissatisfied, 2 – Dissatisfied, 3 – Neither dissatisfied nor satisfied, 4 – Satisfied, 5 – Very satisfied). We use the same scale to measure satisfaction with the accommodation and neighbourhood attributes, while we control personal and household attributes using categorical variables.

To model the influence of the determinants mentioned above on the students' level of residential satisfaction, we adopted an ordered logistic regression (OLR). In this ordinal logistic model eq. (1) and (2), the outcome variable (Y) has five levels. The OLR is expressed in the logit form and estimates the probability of being at or below a specific outcome level, given a collection of explanatory variables (Agresti, 1996; Liu & Koirala, 2012). For the sake of explanation, we used symbols rather than actual variable names (1):

$$ln\,(Y_j^{'} = logit[\pi(x)]) = \; ln\left(\frac{\pi(x)}{1-\pi(x)}\right) = \alpha_j + \left(-\beta_1 X_1 - \beta_2 X_2 - \cdots - \beta_p X_p\right), \qquad (1)$$

where: $\pi_j(x) = \pi(Y \leq j \mid x_1, x_2, \ldots, x_p)$ is the probability of being at or below category j, j =1, 2, …, $J-1$, α_j are the cut (threshold) points (when there are j categories, the OLR estimates J-1 cut points) and $\beta_1, \beta_2, \ldots, \beta_p$ are the logit coefficients. This model assumes that the logit coefficient of any predictor is independent of the categories, i.e. the coefficients for the underlying binary models are the same across all cut points. The cut coefficients are not usually interpreted. They simply represent the intercepts, specifically, the point (in terms of a logit) where the dependent variable might be predicted into the higher categories (Agresti, 2002).

The coefficients and cut points are estimated using maximum likelihood (Long & Freese, 2006). The OLR model (1) is also known as the proportional-odds model because the odds ratio of the event is independent of the j-th category. The odds ratio is assumed to be constant for all categories. To estimate the odds of being at or below the j-th category, we have rewritten the OLR model (1) in the following form (2):

$$logit\left[\pi(x_1, x_2, \ldots, x_p)\right] = ln\left(\frac{\pi(Y \leq j|x_1,x_2,\ldots,x_p}{\pi(Y>j|x_1,x_2,\ldots,x_p}\right) = \frac{1}{1+exp\left(\alpha_j+(-\beta_1X_1-\beta_2X_2-\cdots-\beta_pX_p)\right)} =$$

$$= \alpha_j + (-\beta_1X_1 - \beta_2X_2 - \cdots - \beta_pX_p) \quad (2).$$

To check the robustness of the results, we conducted several statistical tests. We applied a chi-square test to specify the difference between the -2 log-likelihood for the baseline model, without any explanatory variables, and the final model, with all the explanatory variables (Powers & Xie, 2008). Moreover, we used Pearson's chi-square statistic to test whether the observed data are consistent with the fitted model (Agresti, 2002). To summarize the proportion of variance in the outcome that can be accounted for by the explanatory variables, the pseudo R^2 statistic was also provided (Fagerland & Hosmer, 2017). Finally, we applied the Brant and parallel lines tests to assess the equal

logit slope or the proportional odds assumption. These tests estimate coefficients for underlying binary logistic regressions and provide the chi-square test statistics for each predictor and the overall model (Liao, 1994). We used the IBM SPSS Statistics 20 and StataIC 11 software to estimate the parameters of the OLR.

Results

Students' characteristics and residential environments

Table 1 shows that the shares of undergraduate and graduate students in our sample are comparable between Lodz and Turin. In both cities, nearly 60% of our respondents were undergraduates (studying for bachelor's degrees, or their equivalent in respect of the Bologna system), while nearly 40% were graduate students (studying for master's degrees or their equivalents). In the group of Turin students, the number of women marginally exceeded the number of men, while among Lodz students, women accounted for 68.2%.

[Table 1 about here]

The vast majority of the respondents in Lodz and Turin were domestic, but non-local students (80.1% and 97.5%, respectively), which means that they had not lived in these cities before starting HE there. It is an expected pattern, as many local students take advantage of the opportunity to live with their parents if they continue their education in their hometowns. However, leaving the parental environment while studying in the hometown was visibly more common in Lodz than in Turin, as 19.9% of our respondents in Lodz were local students versus only 2.5% in Turin.

Further investigation of students' living arrangements provides intriguing patterns. Namely, half of the respondents in Lodz and Turin who lived off-campus shared their accommodation with friends (47.1% and 50.0%, respectively). In the group

of Lodz respondents, 26.8% lived with a partner or children, while only 5.1% of students from Turin reported a living arrangement of this type. Aside from that, 35.8% of students from Turin shared their accommodation with strangers in contrast to Lodz, where it was reported in 17.6% of cases. Very similar shares of Polish and Italian students lived alone (11.9% and 11.5%, respectively).

Furthermore, the dataset reveals the nature of the accommodation markets in both cities. Namely, 96.6% of students in Lodz and 93.0% in Turin rented houses or flats (or rooms within them). Marginal shares of our respondents, who were domestic students, declared that they lived in PBSA facilities. Although such facilities operate in Lodz and Turin, they are quite recent phenomena, and they seem to target mostly international students, i.e. those purposely excluded from our sampling procedure. In other words, in both cities, our respondents used predominantly 'traditional' housing stock (re)commodified for their purposes.

Therefore, questions can also be raised about the ownership of these properties. In the majority of cases (75.7% in Lodz and 82.8% in Turin), students rented accommodation from entities or people other than their parents or friends. Hence, we assume that the majority of the relations between students and accommodation owners were market-based. Moreover, a similar distribution of students in both cities declared that they owned the accommodation they used (5.7% and 4.9%, respectively).

A remarkable difference between Lodz and Turin was noted in the accommodation price. Students in Lodz spent an average of EUR 182 per month on their accommodation, while students in Turin paid approximately 634 EUR. This observation is understandable due to the differences in price levels between Poland and Italy.

Finally, the majority of the students (50.8% in Lodz and 64.6% in Turin) had rented other accommodation before moving to the residence where they were living at the time of the survey. Therefore, they had some prior residential experience to learn their respective housing markets and to search for satisfactory accommodation.

Students' residential satisfaction and its determinants

Considering the assumptions adopted for the analysis, we collected information about the ORS (measured on a Likert scale) of our respondents. Figure 1 presents the frequency of Lodz and Turin students' ORS, and it indicates that most of them were satisfied with their accommodation (among both student populations, the median satisfaction values were 4). In Lodz, 89.0% of respondents, as well as 79.8% of Turin students, were satisfied or very satisfied with their place of residence. However, it should be emphasised that 8.2% of Lodz students were neither dissatisfied nor satisfied, while in Turin, this share of students was almost double (14.7%). Finally, the minority of students in both cities declared that they were dissatisfied or very dissatisfied (in total, 2.8% and 4.06%, respectively). The variance of the ORS was therefore limited.

[Figure 1 about here]

Like with the ORS measurement, students were asked to assess their satisfaction with accommodation and neighbourhood attributes using the same Likert scale. Table 2 shows the results. The median values of the assessed accommodation attributes (accommodation affordability and building's appearance) were the same among both student populations. Nevertheless, the satisfaction level with neighbourhood attributes presents a different picture. Twelve variables in Lodz and seven in Turin scored median values of 4 (satisfied). However, seven variables relating to neighbourhood attributes in Lodz, and nine variables in Turin scored median values of 3 (neither dissatisfied nor

satisfied). Among both populations, no satisfaction variable scored median values lower than 3, while one scored a median value of 5 (solely in Turin).

[Table 2 about here]

Students in both cities were satisfied with accommodation affordability, building appearance, public transportation accessibility, proximity to train or bus stations, their HEI's facilities, the city centre, green or recreational areas, everyday shopping facilities, as well as neighbourhood's safety and appearance. At the same time, both student populations were neither dissatisfied nor satisfied with the proximity to workplaces, music or dance clubs, cultural facilities, sports facilities, and neighbourhood student atmosphere. However, the collected data reveal that the level of satisfaction with particular neighbourhood attributes differed between the Lodz and Turin students. More precisely, Lodz respondents declared a higher level of satisfaction concerning the proximity of pubs or cafés, restaurants, shopping centres or malls, as well as proximity to friends. However, Turin students were more satisfied with the accessibility of public transport.

To identify the statistically significant determinants of students' ORS and to keep the evidence from Lodz and Turin comparable, we created two separate OLR models for both cities. In doing so, we followed the same set of procedures when creating each one. Table 3 presents the preliminary and final OLR estimations of residential satisfaction of Lodz and Turin students, respectively.

[Table 3 about here]

Starting with the preliminary estimations, we applied the chi-square and rho Spearman correlation tests (Kendall & Gibbons, 1990) of independence (for significance level α=0.05) to examine the association between the students' ORS and the set of variables presented in Tables 1 & 2. We also applied the variance inflation

factor (VIF) to check the multicollinearity (Daoud, 2017). The final OLR models, both for Lodz and Turin, were appropriately chosen based on the above-mentioned fitting statistics, correlations among predictor variables and the accuracy of the classification results.

The outcomes of the analysis indicate that the level of ORS of Lodz students is influenced by the following factors: the student owning the property, the student's parents owning the property, accommodation affordability, independent living, accessibility of public transportation, the building's appearance, and the neighbourhood's student atmosphere (Table 3). If the student owns the accommodation, the satisfaction level is likely to increase three times more than if it was the property of another entity (exp(1.14) = 3.11, by 211%). On the other hand, if the parents own the accommodation, the odds of being (very) satisfied increase twofold (exp(0.73) = 2.07, by 107%) compared to ownership by another person or entity. Moreover, raising the satisfaction with accommodation affordability by one unit increases the chance of increasing residential satisfaction by 96%. Furthermore, an increase in satisfaction based on the appearance of the building increases the chance of achieving a higher level of residential satisfaction by 86%. Living alone has approximately two times higher odds (exp(0.65) = 1.90, by 90%) of being (very) satisfied compared to sharing the accommodation. Finally, raising the level of satisfaction with the accessibility of public transportation as well as with the neighbourhood's student atmosphere increases the ORS level by approximately 50%.

In a similar vein, the following factors influenced the ORS level reported by Turin students: being the owner of the accommodation, renting a house/flat or room within it, satisfaction with the building's appearance, accommodation affordability, satisfaction with the accessibility of public transportation, and satisfaction with the

neighbourhood's student atmosphere. The results of the analysis indicate that the most significant factor that exhibits the greatest impact on the increase in the ORS level of the Turin students is being the owner of the accommodation. It raises the chances of increasing the residential satisfaction tenfold compared to when the property is owned by people or entities other than the respondents themselves (exp(2.49)=10.2, by 902%). Furthermore, renting a house/flat or room within it increases the students' sense of satisfaction by nearly 400% compared to living in the other off-campus private accommodation types. The increase in satisfaction with both the building's appearance and accommodation affordability raises the chance of experiencing a higher level of residential satisfaction by 114% and 87%, respectively. Additionally, residential satisfaction increases by 55% as satisfaction with the accessibility of public transportation grows. Ultimately, an increase in satisfaction with the neighbourhood's student atmosphere raises the chance of achieving a higher level of residential satisfaction by 25%.

On the whole, we find many similarities in the ORS determinants among Lodz and Turin students despite the contextual differences between these two cities. The applied OLRs produced robust results. The Pearson's chi-square and pseudo R^2 statistics indicate that Lodz and Turin models provided a good fit, while the assumptions of the Brant and parallel lines tests are satisfactory. Moreover, the models demonstrated fairly high prediction accuracy (78% and 75%) for all categories of the students' ORS (Table 3).

Discussion

Neighbourhood attributes

In our analysis, we aimed mainly to verify the relationship between the ORS of students living in off-campus private accommodation and their satisfaction with the diversified set of neighbourhood attributes. One way to think about this relationship was our expectation expressed in Hypothesis 1, i.e. that satisfaction with the proximity to an HEI's facilities and the student atmosphere of the neighbourhood have strong positive effects on students' ORS. In this reasoning, we followed the prior literature, which shows that students used to live all together in the neighbourhoods surrounding the educational infrastructure. Although we do not find a statistically significant relationship between the ORS and the satisfaction with the proximity to an HEI's facilities, our analysis provides solid evidence that satisfaction with the neighbourhood's student atmosphere impacts the students' ORS significantly. Hence, we find only partial support for Hypothesis 1. However, this evidence proves a crucial element of the studentification debate, namely that students welcome living among people like themselves (Allinson, 2006), in 'student areas' (Smith & Hubbard, 2014). Therefore, it strengthens the belief that such a preference might lead to students' residential concentration in urban space and particular neighbourhoods becoming 'student ghettos' (Smith, 2005).

Secondly, we followed the suggestions that students are becoming more oriented towards consumption opportunities when making their residential decisions. Therefore, as expressed by Hypothesis 2, we expected that satisfaction with the proximity to the city centre or consumer amenities has a positive effect on students' ORS. However, our evidence shows that the ORS among Lodz and Turin students is not significantly dependent on any of them. Thus, we do not confirm Hypothesis 2.

Nonetheless, we find a statistically significant relationship between the students' ORS and their satisfaction with public transport accessibility in the neighbourhoods they inhabit, confirming Hypothesis 3. This finding suggests that neighbourhoods distant from their places of education or entertainment and leisure can, in fact, satisfy their residential needs by offering proper public transport opportunities. However, caution should be exercised in transferring this finding to other cases. As Lodz and Turin are larger than many archetypical university cities, for students, the ease of navigating these cities using public transportation might be more important than for students elsewhere.

The verification of Hypotheses 1, 2 and 3 shows collectively that students are unconcerned with most neighbourhood attributes. More specifically, their ORS increases with their satisfaction with the neighbourhood's student atmosphere and public transportation accessibility, but it is indifferent to neighbourhood attributes such as proximity to educational facilities, the city centre or various consumer amenities. Following this reasoning, in light of our evidence, a wide range of neighbourhoods can residentially satisfy students, so they seem 'studentifiable'. Therefore, it seems possible to adjust the geographies of studentification: local authorities can turn students' relative indifference to neighbourhoods into a policy to (re)shape students' residential geographies while considering the local needs. More precisely, municipalities facing the problem of a too high concentration of student accommodation in particular neighbourhoods might try to establish planning, housing and transportation policies aimed at students' residential dispersion. Although it has already been reported to be troublesome (Hubbard, 2008), it seems achievable (Revington *et al.*, 2020). On the flip side, a 'studentifying' policy towards student accommodation concentration might be

established in cities facing the problem of neighbourhood shrinkage; a focus on attracting students might be a way to repopulate them (Mulhearn & Franco, 2018).

Accommodation attributes

We also controlled the effects that accommodation attributes have on students' ORS. We started by formulating Hypothesis 4, with the expectation that living alone has a higher positive effect on students' ORS than affordability. We followed the recent literature, which emphasises that students expect more privacy from their accommodation (Verhetsel et al., 2017) and that some are ready to pay higher rents for such an opportunity (Miessner, 2021). In our evidence, the effect of individual living on residential satisfaction is visible only in Lodz; moreover, its statistical significance is slightly lower than that of satisfaction with accommodation affordability. At the same time, our results from both cities show clearly that students' ORS significantly increases with their satisfaction with accommodation affordability. In sum, we do not find support to confirm Hypothesis 4. Therefore, there are grounds to think that the issue of accommodation affordability still matters for students. In this respect, nowadays, in times of the ongoing commodification and financialisation of student housing (Revington & August, 2020), its affordability should deserve the attention of local policymakers and HEI authorities.

Next, in Hypothesis 5, we expected that students' satisfaction with the appearance of both the building and the neighbourhood they inhabit positively impacts their ORS. Our evidence shows that Lodz and Turin students' ORS is significantly dependent on their satisfaction with the appearance of the building they use. This is in contrast to some of the negative impacts associated with studentification, namely students being accused of disorder, and in particular, the visual deterioration of the properties they use (Hubbard, 2008). Therefore, our evidence might indicate the

aestheticization of students' preferences towards the residential environment. However, at the same time, we do not find a statistically significant relationship between students' ORS and their satisfaction with the neighbourhood's appearance. In other words, our respondents seem to be residentially satisfied when the building they inhabit looks good, but the appearance of its surroundings is irrelevant for their residential satisfaction. Therefore, although we cannot fully confirm Hypothesis 5, we find additional support for our prior argument that Lodz and Turin students are generally unconcerned with the neighbourhood attributes.

An intriguing result of our study is the strong evidence from both cities that supports Hypothesis 6, i.e. that students owning the accommodation is the housing tenure with the highest positive effect on their ORS. It is also the variable with the highest impact on students' ORS among all variables included in our analysis; this finding confirms the prior insights of Thomsen & Eikemo (2010). Aside from that, parents owning the accommodation also increases students' ORS, but less significantly and only in Lodz. Looking for possible explanations of the owner-occupancy effect on students' ORS, we might refer to the nature of the housing markets in Poland and Italy, where homeownership is a normalised socio-economic pattern. Thus, it might work here as a desirable path for young people to get on the property ladder. Some property developers constructing apartment buildings in Lodz already target the student population and their parents with a dedicated offer of apartments for purchase. The option to purchase a studio apartment (often available via a mortgage) is advertised as an alternative to paying rent to a landlord. Therefore, to some extent, student owner-occupancy might change the normalised role of students as tenants in the housing markets in university cities. In this respect, further research could address the potential reach and impacts of this phenomenon.

Personal characteristics

Finally, we raised the issue of the effects of the students' personal characteristics on their ORS in Hypothesis 7, i.e. that being a local or graduate (master) student, or having prior experience of renting accommodation, positively impacts the ORS. However, our evidence does not allow such a conclusion. Thus, despite possibly learning about residential needs and preferences over the years and having a better understanding of the local urban settings, which we associated with these personal characteristics, they do not necessarily lead to an increase in residential satisfaction among the students.

Conclusions

This paper contributes to the studentification debate by focusing on students' residential satisfaction, thus on the factor that impacts their residential behaviour and mobility. More precisely, the paper identifies the determinants of students' residential satisfaction with particular attention paid to neighbourhood attributes. Because the debate on student accommodation is of global reach and sometimes leads to contradictory statements, we employed original datasets of comprehensive variables taken from a survey conducted among students in Lodz, Poland and Turin, Italy.

Our analysis shows the value of looking beyond national contexts in studentification research because we reveal numerous similarities in students' ORS determinants between the two samples. In this regard, owner-occupancy has the most significant effect on our respondents' residential satisfaction. Moreover, this satisfaction increases when student accommodation is affordable, located in a building of pleasant appearance, and in a neighbourhood well connected by public transportation and with a student atmosphere. Briefly put, students, considered here as the 'gown', welcome living among their peers and enjoy public transportation accessibility, but they are unconcerned with other attributes of the neighbourhoods, i.e. the 'town'. This finding

suggests that a wide range of neighbourhoods in Lodz and Turin, but perhaps also in other university cities, are potentially 'studentifiable'. Therefore, student housing and studentification should not be expected to emerge solely in urban areas that surround HEIs' infrastructure.

As the student off-campus private accommodation market expands, policymaking that addresses this phenomenon should gain in importance. In this regard, threefold policy implications can be drawn from our study. First, the identified indifference of students' ORS to many neighbourhood attributes can be used by planning, housing or transportation policies in (re)shaping student residential geographies, e.g. deciding whether they will aim to increase or decrease student concentrations in urban space. Secondly, in light of our evidence, accommodation affordability still matters for students. Therefore, nowadays, in times of housing commodification and financialisation, the provision of affordable student accommodation should deserve attention from municipal and HEI authorities. Finally, our finding of students' ORS increase with owner-occupancy can be further illuminated by policymakers and scholars to help understand the potential reach and impacts of students becoming owner-occupiers rather than acting as tenants.

In closing, we should note that the research presented in this paper was conducted before the COVID-19 outbreak. The pandemic might change residential preferences and expectations, including those of students. Therefore, further research on student housing in general, and students' residential satisfaction in particular, is warranted.

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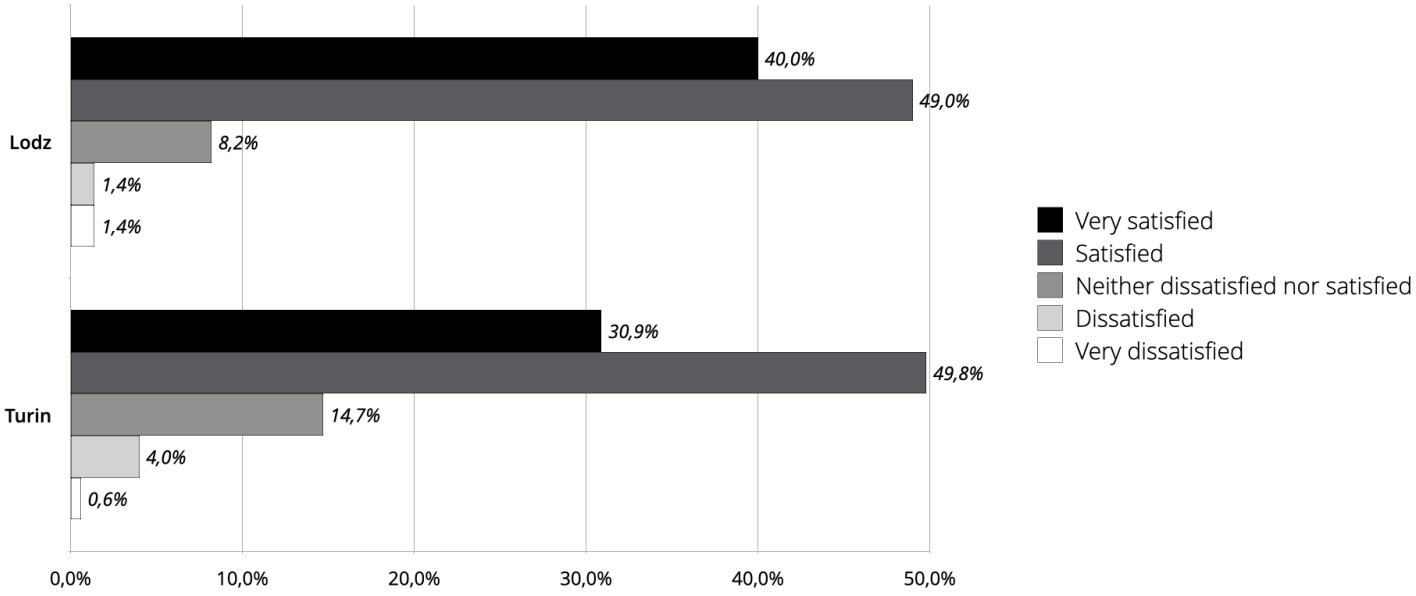
Lodz
40,0%
49,0%
8,2%
1,4%
1,4%
Turin
30,9%
49,8%
14,7%
4,0%
0,6%
0,0%
10,0%
20,0%
30,0%
40,0%
50,0%
Very satisfied
Satisfied
Neither dissatisfied nor satisfied
Dissatisfied
Very dissatisfied

Table 1. Descriptive statistics of potential determinants of students' residential satisfaction: Personal and household characteristics (PH) and Accommodation attributes (A)

Variable label	Variable category	Variable name	Variable attributes	Lodz	Turin
			Categorical variables	Percent	
X_1	PH	Hometown	1 = Local	19.9	2.5
			0 = Non-local	80.1	97.5
X_2	PH	Education level	1 = Undergraduate (Bachelor's programme or equivalent)	57.4	58.3
			0 = Graduate (Master's programme or equivalent)	42.6	41.7
X_3	PH	Residential experience	1 = Experienced	50.8	64.6
			0 = Non-experienced	49.2	35.4
X_4	PH	Gender	1 = Female	68.2	52.0
			0 = Male	31.8	48.0
X_5	PH	Sharing accommodation with partner or children	1 = Yes	26.8	5.1
			0 = No	73.2	94.9
X_6	PH	Sharing accommodation with friends	1 = Yes	47.1	50.0
			0 = No	52.9	50.0
X_7	PH	Sharing accommodation with strangers	1 = Yes	17.6	35.8
			0 = No	82.4	64.2

X_8	PH	Living alone	1 = Yes	11.9	11.5
			0 = No	88.1	88.5
X_9	A	Accommodation ownership (tenure type)	1 = Owned by student (owner-occupancy)	5.7	4.9
			2 = Owned by student's parents	9.2	4.5
			3 = Owned by student's friends	9.4	7.8
			4 = Owned by other people or entities	75.7	82.8
X_{10}	A	Accommodation type	1 = PBSA	1.8	5.8
			2 = House/Flat or room within it	96.6	93.0
			3 = Other	1.6	1.2
			Numerical variables	Average	
X_{11}	A	Accommodation price per month	Lodz - PLN converted to EUR Turin - EUR	182	634

Source: Own elaboration; N_{Lodz}=437, N_{Turin}=470.

Table 2. Descriptive statistics of potential determinants of students' residential satisfaction: Satisfaction with Accommodation (A) and Neighbourhood (N) attributes

Variable label	Variable category	Variable name	Variable attributes	Lodz	Turin
			Ordinal variables	Median	
X_{12}	A	Accommodation affordability	Satisfaction: 1 – Very dissatisfied 2 – Dissatisfied 3 – Neither dissatisfied nor satisfied 4 – Satisfied 5 – Very satisfied	4	4
X_{13}	A	Building's appearance		4	4
X_{14}	N	Proximity to HEI's facilities		4	4
X_{15}	N	Public transportation accessibility		4	5
X_{16}	N	Proximity to train or bus stations		4	4
X_{17}	N	Proximity to workplace		3	3
X_{18}	N	Proximity to city centre		4	4
X_{19}	N	Proximity to music or dance clubs		3	3
X_{20}	N	Proximity to pubs or cafés		4	3
X_{21}	N	Proximity to restaurants		4	3
X_{22}	N	Proximity to cultural facilities		3	3
X_{23}	N	Proximity to sports facilities		3	3
X_{24}	N	Proximity to green or recreational areas		4	4

X_{25}	N	Proximity to everyday shopping facilities		4	4
X_{26}	N	Proximity to shopping centres or malls		4	3
X_{27}	N	Proximity to friends		4	3
X_{28}	N	Neighbourhood's student atmosphere		3	3
X_{29}	N	Neighbourhood's safety		4	4
X_{30}	N	Neighbourhood's appearance		4	4

Source: Own elaboration; N_{Lodz}=437, N_{Turin}=470.

Table 3. Results of the OLR modelling of Lodz and Turin students' residential satisfaction (preliminary and final models)

City		**Lodz**				**Turin**			
Model		Preliminary model		Final model		Preliminary model		Final model	
Variables		Coeff.	Odds ratios	Coeff.	Odds ratios	Coeff.	Odds ratios	Coeff.	Odds ratios
Hometown	[X_1=1]	-0.11	0.89	-	-	-0.48	0.62	-	-
	[X_1=0]	0[a]		-	-	0[a]		-	-
Education level	[X_2=1]	-0.19	0.83	-	-	0.48	1.62	-	-
	[X_2=0]	0[a]		-	-	0[a]		-	-
Residential experience	[X_3=1]	-0.06	0.94	-	-	0.16	1.17	-	-
	[X_3=0]	0[a]		-	-	0[a]		-	-
Gender	[X_4=1]	-0.17	0.85	-	-	-0.19	0.83	-	-
	[X_4=0]	0[a]		-	-	0[a]		-	-
Sharing accommodation with partner or children	[X_5=1]	0.33	1.39	-	-	1.01	2.75	-	-
	[X_5=0]	0[a]		-	-	0[a]		-	-
Sharing accommodation with friends	[X_6=1]	0.47	1.61	-	-	1.06	2.90	-	-
	[X_6=0]	0[a]		-	-	0[a]		-	-
Sharing accommodation with strangers	[X_7=1]	0.18	1.95	-	-	1.31	3.70	-	-
	[X_7=0]	0[a]		-	-	0[a]		-	-
Living alone	[X_8=1]	1.69**	3.22	0.65**	1.90	1.52	4.58		
	[X_8=0]	0[a]		0[a]		0[a]			
Accommodation ownership	[X_9=1]	1.37**	3.93	1.14**	3.11	2.63***	13.92	2.49***	10.2
	[X_9=2]	1.15**	3.14	0.73**	2.07	1.04	2.82	0.48	-
	[X_9=3]	0.68	1.97	0.53	-	0.14	1.15	0.2	-
	[X_9=4]	0[a]	-	0[a]	-	0[a]	-	0[a]	-
Accommodation type	[X_{10}=1]	0.69	1.99	-	-	1.59	10.42	1.41	-
	[X_{10}=2]	0.52	1.68	-	-	2.55**	12.76	1.60**	4.05
	[X_{10}=3]	0[a]	-	-	-	0[a]	-	0[a]	-

Accommodation price per month	X_{11}	0.0003	1.00	-	-	0.0001	1.00	-	-
Accommodation affordability	X_{12}	0.60**	1.82	0.67***	1.96	0.68***	1.97	0.63***	1.87
Building's appearance	X_{13}	0.55**	1.73	0.62***	1.86	0.71**	2.04	0.76***	2.14
Proximity to HEI's facilities	X_{14}	0.22	1.25	-	-	0.06	1.07	-	-
Public transportation accessibility	X_{15}	0.31**	1.36	0.40***	1.48	0.34**	1.41	0.45***	1.55
Proximity to train or bus stations	X_{16}	0.02	1.02	-	-	-0.08	0.93	-	-
Proximity to workplace	X_{17}	-0.04	0.96	-	-	-0.05	0.96	-	-
Proximity to city centre	X_{18}	-0.04	0.96	-	-	-0.04	0.96	-	-
Proximity to music or dance clubs	X_{19}	-0.06	0.95	-	-	-0.08	0.93	-	-
Proximity to pubs or cafés	X_{20}	0.29	1.34	-	-	-0.05	0.95	-	-
Proximity to restaurants	X_{21}	-0.11	0.90	-	-	-0.05	0.96	-	-
Proximity to cultural facilities	X_{22}	0.11	1.12	-	-	0.20	1.22	-	-
Proximity to sports facilities	X_{23}	0.04	1.04	-	-	0.15	1.16	-	-
Proximity to green or recreational areas	X_{24}	-0.22	0.80	-	-	0.14	1.15	-	-
Proximity to everyday shopping facilities	X_{25}	0.16	1.17	-	-	-0.21	0.81	-	-
Proximity to shopping centres or malls	X_{26}	-0.01	0.99	-	-	-0.06	0.94	-	-
Proximity to friends	X_{27}	0.04	1.04	-	-	0.05	1.05	-	-
Neighbourhood's student atmosphere	X_{28}	0.23**	1.25	0.37***	1.44	0.13**	1.14	0.23***	1.25

Neighbourhood's safety	X_{29}	0.03	1.03	-	-	0.07	1.07	-	-
Neighbourhood's appearance	X_{30}	0.27	1.31	-	-	0.32	1.38	-	-
Test of parallel lines, χ^2 (df)		106.9 (99)		34.49 (24)		117.09 (99)		25.49 (27)	
Brant test, χ^2 (df)		25.13 (23)		16.19 (18)		13.45 (26)		8.21 (21)	
Chi-square, χ^2(df)		146.55***(33)		132.57*** (8)		154.02*** (33)		158.66*** (9)	
Model Fit Pearson's chi-square, χ^2 (df)		19.22 (1667)		13.20 (936)		12.77 (1427)		22.02 (843)	
Model Fit Nagelkerke (Pseudo R^2)		0.33		0.42		0.32		0.35	
Number of correct classified cases, n (%)		268 (63%)		338 (78%)		277 (60%)		351 (75%)	
Sample size, N		437				470			

Note: the level of significance α=0.01***; α=0.05**; 0^a – means reference value (the reference category was determined as the last category for each independent variable, and the interpretations were made accordingly); Coeff. – coefficient; Link function: Logit; df–degrees of freedom; Y – the dependent variable measured using a 5-point Likert scale (1 – Very dissatisfied, 2 – Dissatisfied, 3 – Neither dissatisfied nor satisfied, 4 – Satisfied, 5 – Very satisfied); The values of cut points to ordered logit regression are not shown here. The tables of correlation and VIF are available on request.

Source: own elaboration.