Students' residential decision-making processes in the UK: considering the "green" factors?

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Abstract

Over the last two decades, student accommodation have been intensely developed in the United Kingdom (UK) to match the growing demand initiated by profound changes regarding the functioning of the higher education (HE) system in order to widen its participation. There has been a diversification of the types of accommodation that have been supplied to students, in part, tied to the increasing numbers of students in Higher Education Institutions (HEIs). The student demand for housing has intensified, which has compelled accommodation providers to adjust their products to the circumstances. the growing diversity of student housing choices has produced spatial socio- economic tensions. Beyond socio-economic discrepancies, the variety of student housing supply has created environmental gaps. Hitherto unexplored in academic debates, the sustainability characteristics of student accommodation vary geographically. For instance, the environmental linkages embedded in the dynamics between the supply and demand for student housing have been overlooked in the academic debate. The study of the social, economic, and environmental intersects between the student housing supply and demand is central in this research. Based on a statistical analysis of data collected through an online-survey (1,125 responses), this paper examines the diversity of motives integrated in students' residential decision-making processes and explores student's residential pathways according to socio-economic and demographic features. The paper also showcases the energy ratings of housing occupied by student households in the university town of Loughborough (England). Finally, the paper demonstrates that students do not considered environmental factors when selecting an accommodation.

Keywords: student housing; residential motives; dwelling profiles; students; energy performance; Loughborough.

Introduction

Over the last two decades, student accommodation have been intensely developed in the United Kingdom (UK) to match the growing demand initiated by profound changes regarding the functioning of the higher education (HE) system in order to widen its participation (Machin and Vignoles, 2006). This new orientation has been gradually set in order to cope with processes of worldwide globalization. It was instigated by the launch of the Bologna Process (1999) and the Lisbon European Council (2000), a series of ambitious reforms that have been set in motion aiming to make Europe: "the most competitive and dynamic knowledge-based economy in the world, capable of sustaining growth with more and better jobs and greater social cohesion"

(European Council, 2000). HE and an educated workforce have a pivotal role to play in this transition. Consequently, since the 1980s, the number of students enrolled in higher education institutions (HEIs) has expanded (Universities UK, 2013). Between 2000 and 2012, the student population has increased approximately three times faster than the overall UK population (ONS, 2013). There were 2,343,275 students enrolled in HE for the academic year 2017/18, as many as in 2012/13 (HESA, 2018), and representing an expansion of 17% since 2000. In the UK, there has been a plethora of academic debates devoted to student accommodation (e.g. Chatterton, 1999; Rugg *et al*., 2000, 2002; Smith, 2005; Allinson, 2006; Hubbard, 2008, 2009; Munro *et al*., 2009; Kinton *et al*., 2016).

As the student demand for housing has intensified, there has been a diversification of the types of accommodation that have been supplied to students over the last two decades, in part, tied to the increasing numbers of students in Higher Education Institutions (HEIs). The range of student accommodation includes: University halls of residence (Uni halls), Purpose-Built Student Accommodation (PBSA), and House in Multiple Occupation (HMO). In essence, students have the power to select a specific type of accommodation that will meet his/her personal requirements. On-campus housing do not have the capacity to provide bedspaces to all students. With about one-third of the student population residing within university halls of residence or PBSA (NUS, 2019), the enlarging student demand is mainly oriented towards the 'traditional' private rented sector (PRS). Students have increasingly moved into terrace houses, physically and administratively converted into HMOs. The urban transformation of a neighborhood produced by the high presence of students, termed 'studentification[1]' (Smith, 2002), has been at the heart of local community groups' discontentment across the country (National HMO Lobby, 2008). The shortfall of university provided dwellings has generated the emergence of a crop of buy-to-let landlords, many of them failing to offer decent housing conditions to their tenants (Inman, 2014). The shift of students' distribution into the PRS may indicate that institution maintained accommodation is no longer the first residential choice for the majority of students. The evolution of students' residential expectations has coincided with unfolding processes of studentification, observed in some areas of British university towns/cities such as Loughborough (see Kinton, 2013), Birmingham (cf. Allinson, 2006), and Brighton (e.g. Smith and Holt, 2007).

[1] Coined to define the "influx of students within privately-rented accommodation in particular neighbourhoods" (Smith, 2005: 73), studentification is now widely featured in academic and media discourses.

To counter the unfolding of studentification processes in various UK university towns and cities, municipalities have notably encouraged the development of PBSA by commercial providers from the mid-2000s (Munro and Livingston, 2011). Aiming to revitalise brownfield sites, the proliferation of PBSA provides a sizeable number of additional bedspaces for students. This type of accommodation has been targeted towards the most-affluent students by private providers, as is evident from the high rent costs and the luxurious amenities and comfort supplied to the residents (Alamel, 2015). Alongside this, the growing diversity of student housing choices has produced spatial socio- economic tensions. For instance, students with limited resources have restricted options available; many might consider staying at a parental home or residing in cheap and over-crowded HMOs. Contrarily, the wealthiest students can choose from a vast array of possibilities. Beyond these socio-economic discrepancies, the variety of student housing supply has created environmental gaps. Hitherto unexplored in academic debates, the sustainability characteristics of student accommodation vary geographically. The PRS and its old terraces are seemingly less energy efficient than the newest university halls of residence or PBSA. Overall, to date, the environmental linkages embedded in the dynamics between the supply and demand for student housing have been overlooked in the academic debate. Producing diverse and complex student geographies, the study of these interrelationships is primordial to the advancement of understanding sustainability issues in the student housing sector. Therefore, this paper is essential to the evaluation of the environmental impacts on student residential geographies. Examining the diverse residential attributes involved in the student residential decision-making processes are crucial in order to re-adjust the supply and demand in the market. As well, policy making could certainly benefit from the understanding of student residential preferences on the market.

Thus, as students' residential strategies and negotiations with local housing markets are transformed (Kinton *et al*., 2016; Rugg *et al*., 2002; Sage *et al*., 2012), new research questions are emerging within 'student geographies' (Smith, 2009). For instance, Holton and Riley's (2013: 69) call for a re-assessment of the student mobilities debate within human geography: "Future research would do well to pay attention not only to how students make decisions on their choice of residence, but also how this changes through the course of their study". This paper aims to provide a better understanding of student's residential motives, using the case study of Loughborough (UK), and to determine the extent for which environmental motives are included in the residential decision-making process. The paper is structured as follow: the first section reviews the literature on housing selection and distinguishes the specificities of the

student population as housing choosers; the second part presents the methodology employed in the paper; the third section presents the empirical results of students' residential trajectories by year of study; it is then followed by students' residential motives according to their year of study; the fifth part of this paper compares students' residential distribution based on their citizenships (UK vs. international students); the sixth section examines students' residential rationales by the dwelling profiles and its energy performance rating; the last part concludes this article.

Housing Choice and Triggers for Moving

A substantial number of publications have examined residential choices at the individual level (De Jong and Fawcett, 1981; Lindberg *et al*., 1992; Floor and Van Kempen, 1997) as well as at the household level (Molin *et al*., 1999; Coulter *et al*., 2012; Rérat *et al*., 2015). However, the decision-making processes of students have yet not been investigated. The examination of the socio-economic and sustainability mechanisms embedded in students' housing choice could deepen the understanding of young people residential mobility over the HE time span. This would participate in the elaboration of new directions to the geographical scholarships, as encouraged by Coulter *et al*. (2015). Prior finding an accommodation, a *sine qua non* for mobility, the intention to move has to be triggered. Deutschman (1972) considered six main reasons motivating a household or an individual to move:

- household type (e.g. stage in life)
- change in number of persons in household during time increment considered
- the type of present residence (e.g. own or rent)
- the matchup of environment with household type (e.g. place utility)
- employment opportunities
- changes in environment

Notwithstanding, all these motives do not necessarily apply to the HE residential context. The element the most appropriate to the student residential decision-making is related to the place utility, a measure of the (un-)attractiveness of a residential area as perceived by the prospective individuals. Bible and Brown (1980) argued that the concept of place utility contributed significantly to understanding the migration decision. Additionally, student housing career is accentuated by the short time span in which students have to re-evaluate their housing

satisfaction in order to trigger or not the move. Indeed, students' residential preferences are rapidly evolving, notably amongst undergraduate students. The student life course, generally comprised of 3 to 5 years, is somewhat comparable to a life course due to the frequency of opportunities to change residence:

> "The temporal context of residential preference can be conceptualized in terms of age or life cycle. Values change over the life course, and these changes are presumably reflected in changes in residential preference." (Lindberg *et al*., 1992)

Student housing market also differentiates itself from the general housing market due to the popularity of the 'first come, first serve' basis. In the case of Loughborough University (LU), the organisation of 'Housing Bazaar', generally in December, allows students to meet with landlords and letting agents to discuss housing opportunities. NUS' report (2019) suggests that 57% of students living in the PRS started to look for their new housing by December of the previous year. Although it is considered that the change of residence is often associated with the hampering of individual's functioning in society (cf. Mulder, 1996), the residential shift from institution maintained accommodation to the PRS offers students with greater opportunities to acquire a new capital (e.g. housing search, housing negotiations, and more responsibilities within the household). On the one hand, students' desire to expand the buoyant pool of social relations developed in halls of residence into the PRS is unique (Christie *et al*., 2002). On the other hand, the high residential density in halls of residence could affect students' intention to move to a less crowded property/area. Defined as 'crowding', meaning a high number of persons per property, this concept is also associated with higher mobility (Mulder, 1993). Finally, as Mulder (1996: 210) espoused: "decisions to move are rational decisions". The pursuing of student lifestyles and the shaping of individual's identity (see Smith and Holt, 2007) are constant trigger to students' evaluation of their housing situation. The production of social relations through the housing setting is pivotal in the constitution of student residential pathway, accentuated by the development of studentification processes in local neighbourhoods.

Methodology

Loughborough, the student town *par excellence*

An East-Midlands university-town of 63,000 inhabitants (in 2013), Loughborough differentiates itself from the UK HE context. For instance, the 2% decrease of student numbers

at LU between 2009/10 and 2013/14 has been four times lower than the national level. Approximately 25% of the total town population is comprised of students. The presence of students in Loughborough is deemed visible and important. First, Hubbard (2008) reflects on the noteworthy economic benefits at the local level caused by the presence of the institution. Notably, student basic expenditure (i.e. housing, food, drink, and services) are estimated to support several hundreds of jobs around town. Second, using 2001 Census data, Hubbard (*ibid*.) ranks the Storer ward of Loughborough as the 8th most studentified wards in England and Wales. This ranking indicates that significant studentification processes in the town have been unfolding in Loughborough for a relatively long period of time. Hubbard (2009) also emphasises on the 'strong sporting culture' at LU and the need for students to live near the sport facilities as a significant motive in students' residential decision-making processes. Students are offered the choice of 16 halls of residence, of which 7 are catered and 9 are self-catered. Amongst the self-catered halls, 3 are managed by service providers that have a partnership with the university. Overall, about 5,000 students live on-campus. Lastly, the segmentation of Loughborough's student housing and the social transformations associated to it have been intensely researched through investigations about processes of (de)studentification (see Hubbard, 2008; Smith, 2008; Kinton *et al*., 2016), as well as the continued growth of PBSA off-campus (Hubbard, 2009). Such scientific attention has made Loughborough a very unique case study for gaining better insights of the urban changes tide to students' presence in town.

The Loughborough Students Accommodation Survey (LSAS)

Based on a doctoral research, the data presented in this paper were collected in 2013. An online survey, entitled the Loughborough Students Accommodation Survey (LSAS), was created, using Bristol Online Survey (BOS) (now known as Online Surveys). Employing an online survey as a main quantitative data collection method goes hand in hand with the assumption that the targeted population has a sufficient computer and Internet knowledge so the completion of the survey is faultless (Dillman and Bowker, 2001). In this particular case, the student population was deemed to be familiarised with online polls and other type of questionnaires. This suggests that the likelihood of students prematurely terminating the survey due to an absence of computer skills was restricted. The survey was composed of 49 questions in diverse formats: close-ended (e.g. dichotomous and multiple-choice questions, and the Likert response scale) and open-ended questions (i.e. to specify a response). The questions had to do with students' housing context, residential motives, financial conditions, environmental

aspirations, and social interactions. This survey was endorsed by the Loughborough Students Union (LSU), which was responsible to distribute the survey to the 15,460 students enrolled.

A total of 1,125 questionnaires were filled out by LU students, of which 851 were fully completed, accounting for 7% of the total student population. 660 participants were identified with their exact year of study. According to studies on that matter (e.g. Bourque and Fielder, 2003; Van Selm and Jankowski, 2006), such levels of response rates are deemed low. For surveys with similar length (i.e. under 20 minutes), a 30% response rate is considered as standard. Yet, the sample size is significant and robus. As a comparison, the National Union of Students (NUS) collected 2,237 responses for the 3rd edition of its UK-wide survey, 'Homes for Fit' (2019). Amongst the participants identified with their year of study, 21% were in 1st year undergraduate (n=140), 25% in 2nd year undergraduate (n=165), 25% in their 3rd year and more of undergraduate studies (n=185), 10% were enrolled in postgraduate taught courses (i.e. Masters) (n=69) and finally, 15% were postgraduate research students (i.e. PhD) (n=102).

Collecting Energy Performance Certificates (EPCs)

Finally, the collection of students' addresses allowed the obtaining, or the verification in some cases, of the EPC score of students' dwellings. The data was retrieved from the Domestic Energy performance Certificate Register's website (https://www.epcregister.com/) and originated from the Department for Communities and Local Government (DCLG). These findings produced crucial information, such as the overall energy performance of the dwelling. In case of incomplete addresses (e.g. only the postcode or the street name), EPCs for the whole street or postcode[2] were downloaded and the SAP's average score was designated as the approved rating of the student's accommodation. In total, 407 EPCs were downloaded from the website.

Residential Patterns and Year of Study

Prior to the emergence of student geographies in the late-2000s, research examining the relationship between transition to adulthood and student housing was relatively scarce (cf. Kenyon, 1999; Christie *et al.*, 2002; Holdsworth, 2006). The individual's age and year of study, which are strongly correlated, constitute the initial triggering of student residential pathway (see Morgan and McDowell, 1979; Ford *et al.*, 2002). Figure 1 shows the 'classic' residential pattern of students. The chart denotes the progressive residential shift from Uni halls to HMOs

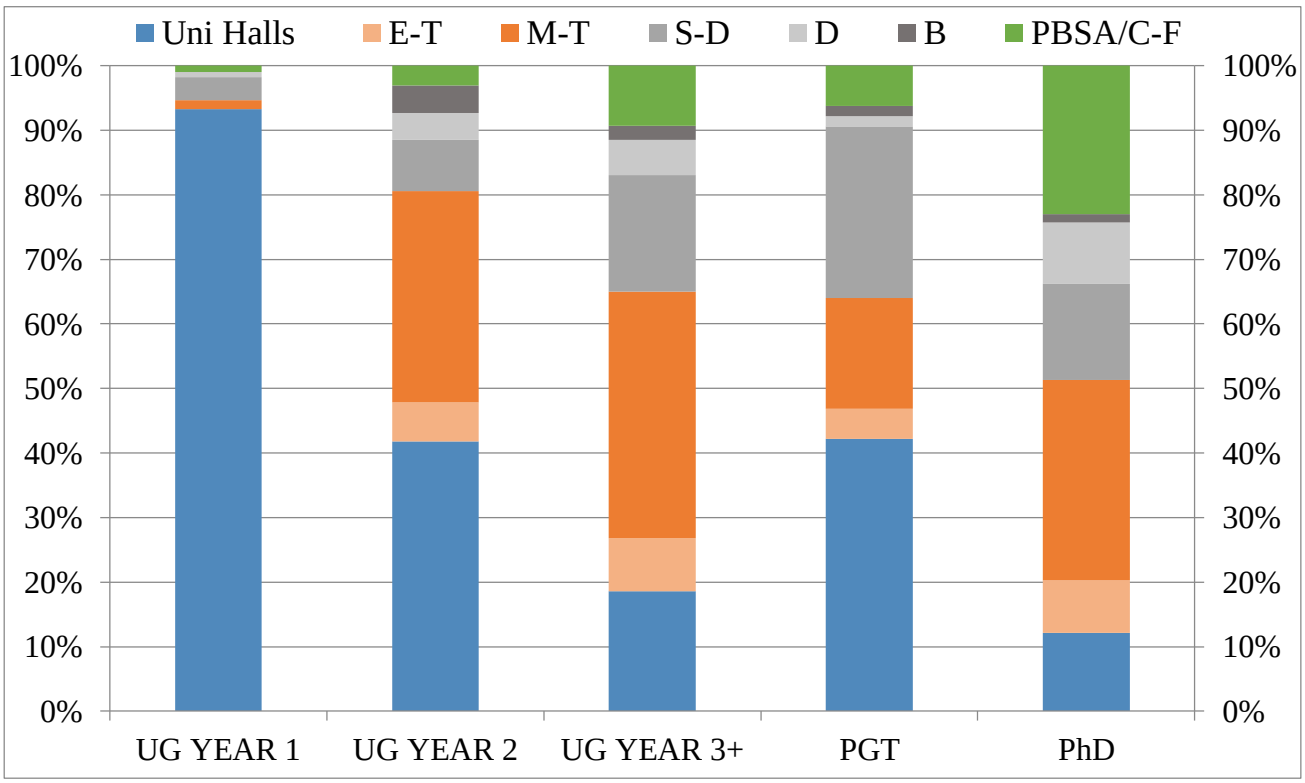
[2] In the UK, a postcode unit comprise a district formed of a street or even sometimes just one side of the street, which was often the case for the postcodes distribution in Loughborough.

amongst UG (i.e. undergraduate) students. HMOs encapsulate end-terrace (ET), mid-terrace (MT), detached (D) and semi-detached (S-D) houses as well as bungalows (B). PBSA/CF (for converted flats) represent another housing category. 94% of UG Year 1 candidates occupy university owned/maintained accommodation. The decline of UG Year 2 and Year 3+ populations in Uni halls, with respectively 42% and 19% of students, to the profit of the PRS, confirms the production of the traditional student pathway. The ritual nature of living in Uni halls for the new HE entrants is hence confirmed in Figure 1. This housing domination is not a mere coincidence. According to Christie *et al*. (2002: 314), the presence of freshers on campus is nurtured by HEIs:

> "Many universities seek to make available places in halls of residences or other university-controlled accommodation, particularly for young, 1st-year students."

Being no exception to this housing policy strategy, LU guarantees to provide bedspaces available for all new UG Year 1 students. Undeniably, this partakes to attract freshers in one of the 16 university halls of residence, although some other significant elements are engaged in the residential choice mechanisms (see Figure 2). The benefits for students to start their residential careers in HEI accommodation have long been established (e.g. Brothers and Hatch, 1971; Chatterton, 1999; Rugg *et al*., 2004).

Figure 1 – Residential Distribution by Year of Study



Forged by the profuse opportunities for social interactions, the fabrication of students' social and cultural identity is intensified in Uni halls. The 'hall experience' defines the spirit of a residential *entre-soi* in which steps towards adulthood are learned and accomplished collectively. This 'coping strategy' (cf. Smith and Holt, 2007) facilitates the transition from the parental/guardian home to studenthood, where anxiety and home-sickness can occur. Yet, opportunities to move from campus to the PRS emerge essentially by the end of the first or second year (Rugg *et al*., 2004). Students willing to escape the institutional control over the 'living together' rules move off-campus (Bromley, 2006). The PRS also welcomes students whose applications to live on-campus have been declined, mostly due to the provisional shortage in beds.

Students' residential motives by year of study

In the LSAS, students were asked to rate the importance of 14 motives from "very important" to "not at all important" in their decision to reside in their current accommodation. These 14 motives were then encapsulated in 5 main categories. Hereby is the composition of these categories:

- Location attributes: proximity to campus, proximity to city centre, proximity to leisure/fitness activities.
- Aesthetic attributes: visual appeal/aesthetic of the area, safety/low crime of the area. facilities of area (pubs, shops, etc.).
- Economic attributes: cost of housing, energy/utility bills included in the rent cost.
- Housing Tenure attributes: good housing condition/quality, the availability date of the housing, the rental contract length, parking availability.
- Social attributes: desire of living independently, living with friends.

The figures below (2 to 6) show the importance ratings of residential motives by LU students according to their year of study.

Figure 2 - Residential Motives Year 1 (N=141)

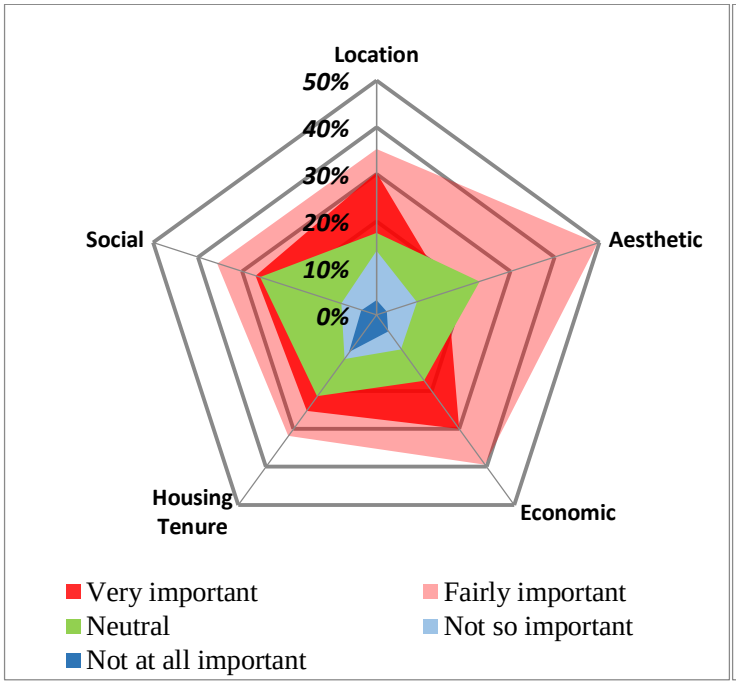


Figure 3 - Residential Motives Year 2 (N=164)

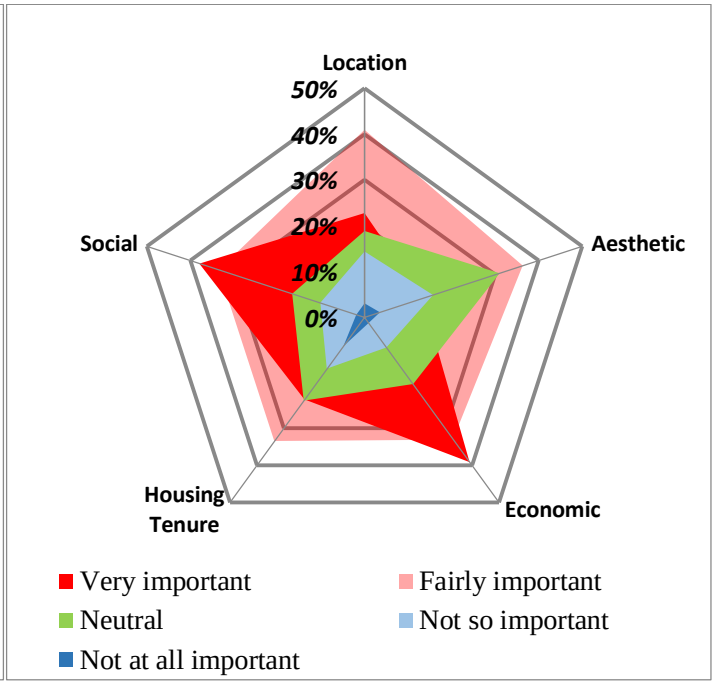


Figure 4 - Residential Motives Year 3+ (N=184)

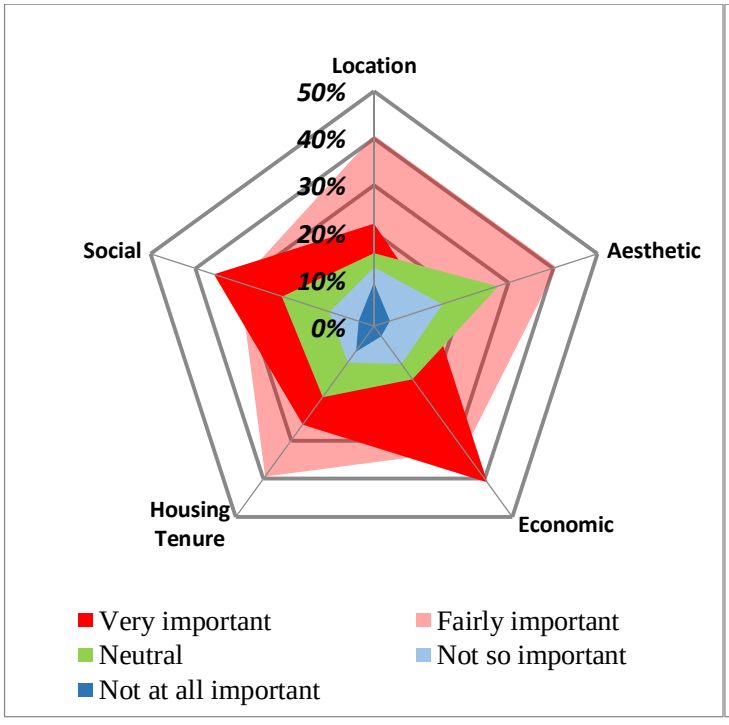


Figure 5 - Residential Motives Postgraduate Taught Students (N=69)

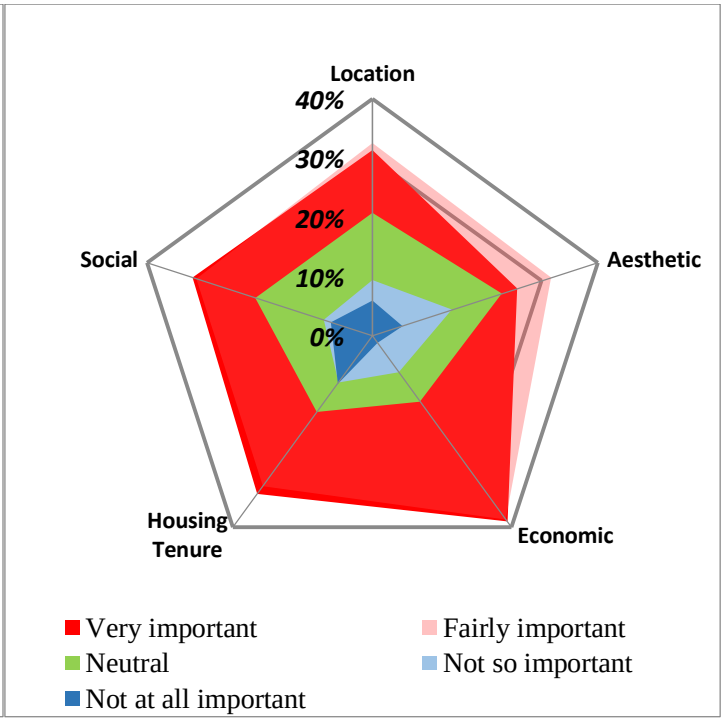
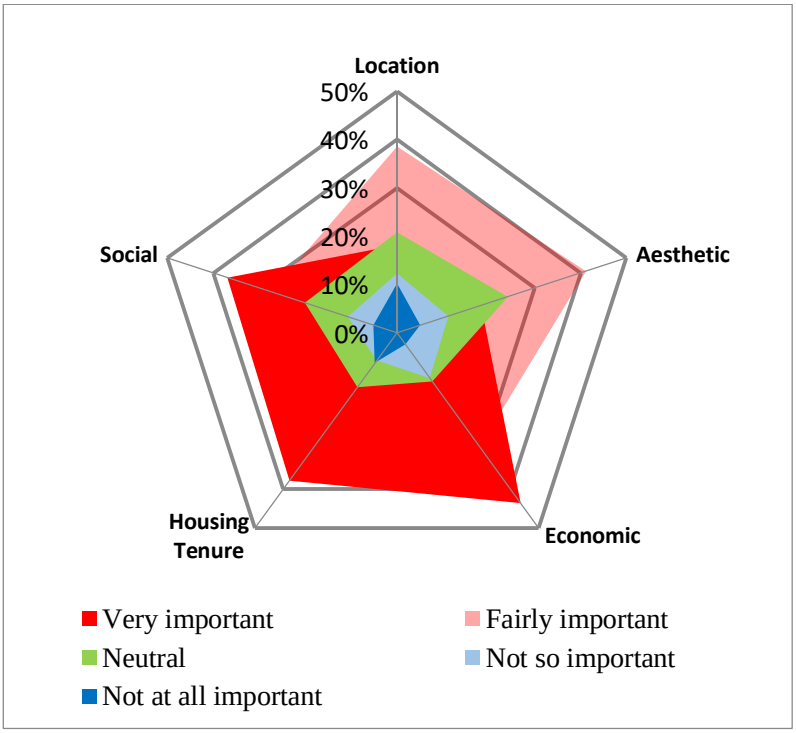


Figure 6 - Residential Motives Postgraduate Research Students (N=103)



The NUS (2019) reports that the most important residential criteria for prospective students in the PRS are: cost of rent, location and convenience, and property condition. This research demonstrates that residential motives strongly vary according to students' year of study. LSAS' participants were unanimous regarding the spatial convenience of having the accommodation and lecture buildings on the same site: 97% of domestic UG Year 1 students rated the proximity to campus as 'very important' and 'fairly important' in their housing selection. Thus, living in halls of residence appears to be the *sine qua non* for new HE entrants.

The selection of the on-campus accommodation incorporates diverse motivations. First, the hypothesis that parents/guardians had, to some extent, influenced the choice of Uni halls during interviewees' fresher year was rejected. Respondents stated that they took the decision of what halls of residence to live in by themselves. Then, the survey analysis revealed that 94% of student assessed the quality/condition of the building itself as 'very important' and 'fairly important'. On the other hand, the housing cost was not perceived as a prominent influence, at least for most individuals. Therefore, the location of the halls on campus, the building's physical appearance, and the catering type are the key drivers in the housing selection processes of halls' residents.

The choice of the Uni hall in UG Year 1 is momentous as it will create a pool of social interactions and opportunities for the new residents. The quality of relationships and friendships

established by a fresher with his/her peers has proven to be momentous in students' housing trajectory. 94% of UG Year 2 candidates who shifted from Uni Halls to the PRS cited that living with friends was 'very important' and 'fairly important'. This characteristic is as equally decisive as to live in proximity to campus. Overall, UG Year 2 students were 86% likely to state that living with friends was an essential factor of residing in their current accommodation. The 42% of students who had decided to stay in Uni halls did it for two chief reasons. The first is the convenience to live in proximity to lecture buildings, as indicated by 95% of respondents. The second one is related to being surrounded by friends. Amongst UG students in years 2 and 3+, the possibility to live with friends is highly important. The literature has noted that living with friends and the degrees of autonomy and freedom, are crucial factors in the decision-making processes (cf. Bromley, 2006; Munro and Livingston, 2011). These rationales are confirmed in this paper.

Thus, the extent of friendships stands out to be powerful leverage that can concurrently provoke students to move into the PRS, and also retain them in halls of residence for an additional year. The shift from on-campus accommodation to the PRS is even more accentuated in the UG Year 3+ population. UG students in year 2 also strongly considered the economic attributes, notably by selecting a housing with a rent cost lesser than their previous year in Uni halls. Besides the requisite motive of living with friends, UG Year 3+ students are 90% and 89% to consider the proximity to campus, and the housing condition/quality to be respectively 'very important' and 'fairly important'.

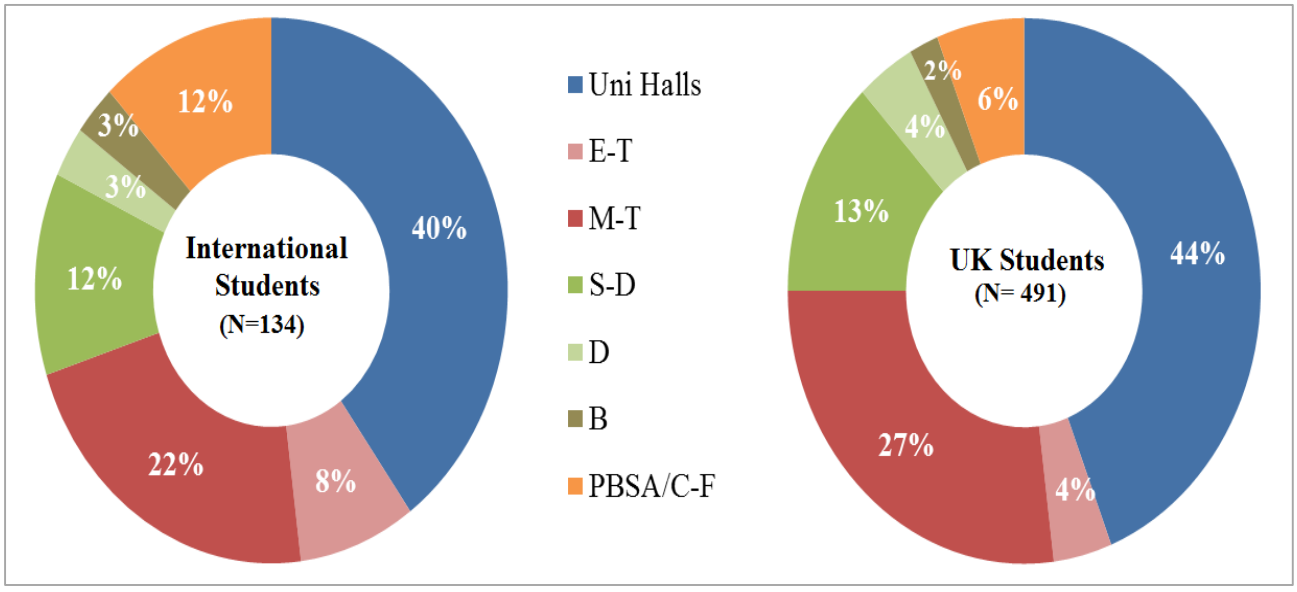
Lastly, the housing selection of postgraduate students (PGT and PhD) is considered. PGT students (most of them being enrolled in a Masters programme) are residentially well distributed: 45% in Uni Halls, 42% in the PRS, and 7% in PBSA (see Figure 1). The length of the programme (i.e. one year) and the abundant supply of on-campus bedspaces available attract them to Uni Halls. It is also interesting to remark that half of individuals in the local housing market have moved in S-D properties. This makes PGT candidates the second most represented group, after UG Year 3+ students, in this dwelling type. Residents in the PRS praised the rent cost as being the top residential motivation to live in their current housing: the entire sample rated as 'very important' and 'fairly important'. Additionally, they seem a bit more flexible regarding the proximity to campus compared to PGT Uni halls residents. As for PhD students, 65% of them reside in the PRS, predominantly in M-T properties, 23% in PBSA/C-F, and 12% in Uni Halls. It should be stressed that within PhD residents, there is a notable share of home-owners (14%) and 17% of PhD participants revealed to be living in a one-person household.

Students living in the PRS gain experience and awareness for their next move(s) in the housing market. Rugg *et al*. (2004: 27) espouse that "students gained a 'social education' in renting". Furthermore, the creation of a social cohesion and the shaping of an individual lifestyle compose the prevailing apparatus in living on-campus, especially for the freshers (see Christie *et al.*, 2002). Hence, if it is strongly recognised in the literature that most entrants to university reside on campus, the PRS has the distinctive features of absorbing the expansion of student numbers as well as arousing strong residential interests.

Residential Distribution: UK vs. International Students

This section reflects on the housing type selected according to whether survey respondents are UK or international students. The latter includes all non-UK respondents (e.g. EU and non-EU citizens). Due to the great variety of nationalities in the LSAS, a cross-comparison within the sample of international individuals was deemed ineffective. Figure 7 presents the breakdown of housing distribution by nationality category. One can distinguish the limited variations existing in housing choices between UK and international students. Their residential situation in the PRS is equivalent. The most notable discrepancy is situated in the PBSA/C-F market segment, with the share of international students being twice greater than for UK individuals. Meeting difficulties to attract UK citizens, private halls' developers and operators strongly rely on their marketing strategy to bring international students in their properties. To illustrate this assertion, the website of Waterways, a PBSA development owned by Unite, is fully available in Mandarin. Such cultural distinctions could lead to unintentional segregation processes as observed in Melbourne by Fincher and Shaw (2009).

Figure 7 – Residential Distribution of UK and International Students



The analysis of the LSAS has highlighted strong dissimilarities in students' residential motives. The most significant relates to the weight of the housing cost in selecting their accommodation. This variable is carefully considered by domestic students, 35% and 43%, stating it to be, respectively, 'fairly important' and 'very important' in choosing their current housing. With regards to international students, the rent value does not appear to be preponderant as 49% assessed it as 'fairly important' but only 1% deemed it to be 'very important'. This can imply that non-UK students are willing to pay a higher rent. By aggregating the scores as 'very important' and 'fairly important,' UK participants have two residential attributes beyond 90% of importance (i.e. proximity to campus and housing condition/quality). These two motives are the most influential in their selection processes; the third and fourth highest scores being the rent cost (78%) and living with friends (75%). The significance bestowed upon the proximity to campus and housing condition/quality suggests that UK students have some certainties, and as a consequence, an assured knowledge about the student housing market. Another argument can be attributed to the strong presence of freshers: 87% are UK citizens and amidst them, 95% live in Uni halls on-campus.

The other group, international respondents, expressed greater caution, which might indicate their unfamiliarity with the accommodation provisions. With respectively 87% and 85%, the housing condition/quality and proximity to campus embody the most crucial residential criteria. Living in a decent property in the vicinity of (or on) LU campus consists of pivotal components for UK and non-UK individuals housing selection processes. Besides, 57% of international students rated the proximity to campus as 'very important'. In third position of the motivation ranking, 70% of students admitted that having the utility bills included in the rent cost was a decisive factor in their decision-making processes.

Differences in accommodation choices and motivations also emerge as the nationality variable is linked to the level of study. Unlike the UG population mainly constituted of domestic people (88%), the postgraduate population fairly combines UK candidates and international students (56%). The PGT population is characterised by a domination of international students (63%). Appealed by the short length of a Masters degree (one year) compared to abroad (in general 2 years), non-UK students have, however, the hindrance of being less familiar with the local housing market than their UK peers, especially if they obtained their UG degree overseas. On the one hand, Uni halls appear to be a cautious and secure residential choice. 60% of international PGT students have opted to live in halls of residence and amongst them, 46% live in ones that are located off-campus, such as Harry French and Forest Court. International PGT

students living in Uni Halls were almost unanimous about the extreme importance of residing on-campus. The spatiality between housing and lecture buildings is highly regarded. On the other hand, one third of international students occupy PRS properties (S-D and M-T, 10% each), and less than 10% reside in PBSA. In contrast to the residential distribution of international Masters candidates, nearly all national PGT students lived in the PRS (84%). The most influential motive was the housing cost, assessed as 'very important' by 75% of the respondents.

Approximately half of the doctoral population is composed of international participants. Although some discrepancies in the residential choices were expected, the results indicate, *au contraire*, that UK and non-UK PhD students have a very similar housing distribution. It is formed by a solid presence in the PRS (circa 60-65%), around 23% in PBSA/C-F, and approximately 12% in Uni Halls. Unlike the PGT scheme, the length of doctoral study programmes (usually from 3 to 5 years) provides PhD students with more time and opportunities to become familiar with the accommodation supply. Whether the candidates are UK or non-UK citizens, they hold similar knowledge of resources in the housing supply. This explains the solid similarities in housing motivations between the two nationality groups. Thus, UK and international respondents have varying residential criteria. One of the main reasons is the lack of knowledge of foreign students about the spatiality and functioning of the accommodation market. Their housing selection can sometimes be carried out via Internet and through abstruse mechanisms.

Hence, two social characteristics have been recognised as probable influential factors in housing selection processes: student's year of study and his/her nationality (i.e. UK vs. International students). On the one hand, it has been recognised that students' follow a residential pathway in accordance to their year of study, and the spatial knowledge and residential experiences accumulated over time. In particular, Smith and Holt (2007) and Hubbard (2009) have emphasised that the age/year of study are a salient component in students' housing spatiality, nurtured by a diversity of residential motives, which reflects shaping lifestyles. On the other hand, domestic students have at their disposal greater housing choices such as living at parental home (see Holdsworth, 2006) compared to international students who are more likely to have a limited knowledge of the local housing environment and residential opportunities. Additionally, the shaping of students' new identities through housing choices is seemingly stronger for national students than for foreign students (cf. Smith and Hubbard, 2014).

Dwelling Profiles and Energy Efficiency: Considered or Ignored in Student Residential Choices?

This section presents the importance of housing criteria embedded in students' residential choices by the type of dwelling occupied by the respondents as well as the energy performances of these buildings. Most of the residential buildings in the survey were selected according to their definition specified in the English Housing Survey (EHS) (DCLG, 2014):

- End-terrace (E-T) house is a house attached to one other house only in a block where at least one house is attached to two or more other houses.
- Mid-terrace (M-T) house is a house attached to two other houses in a block.
- Semi-detached (S-D) house consists of a house that is attached to just one other in a block of two.
- Detached (D) house is a house where none of the habitable structure is joined to another building (other than garages, outhouses etc.).
- Bungalow (B) consists of a house with all of the habitable accommodation on one floor. This excludes chalet bungalows and bungalows with habitable loft conversions, which are treated as houses.

In the PRS, LU students are distributed as following : 45% live in a M-T house (n=179), 22% in S-D (n=87), 10% in E-T (n=38), 7% in D (n=29), 4% in B (n=14), and 12% in PBSA/C-F (n=49).

With 78% of students occupying M-T dwellings located in the Golden Triangle (see Figure 9), it takes, on average, 14 minutes to walk to their classrooms. This is reflected by the residential motives of these inhabitants, who highly valued the location of their accommodation as one of the most crucial element in their decisions. Indeed, the proximity to campus was regarded as 'fairly important' for half of the residents and 'very important' for 38%. Concurrently, occupants of M-T houses cited the proximity to the town centre to be 'very important' and 'fairly important,' 24% and 57%, respectively.

Students living in E-T properties highly praised their residential proximity to campus over their proximity to the town centre in their motives to reside in their current housing. Indeed, the former was weighed as 'fairly important' and 'very important' by respectively 34% and 51% of the residents. Regarding the latter, it was assessed as 'fairly important' by 49% of residents and 'very important' by 23% of them.

Students living in S-D properties were almost unanimous: the proximity to campus was assessed 'very important' and 'fairly important' for respectively 46% and 42% of them. On the other hand, the proximity to the town centre appeared to be less imperative: 45% deemed it as

‘fairly important’ but only 11% as ‘very important’. One-fifth of these respondents considered it as ‘not so important’ in their residential motives.

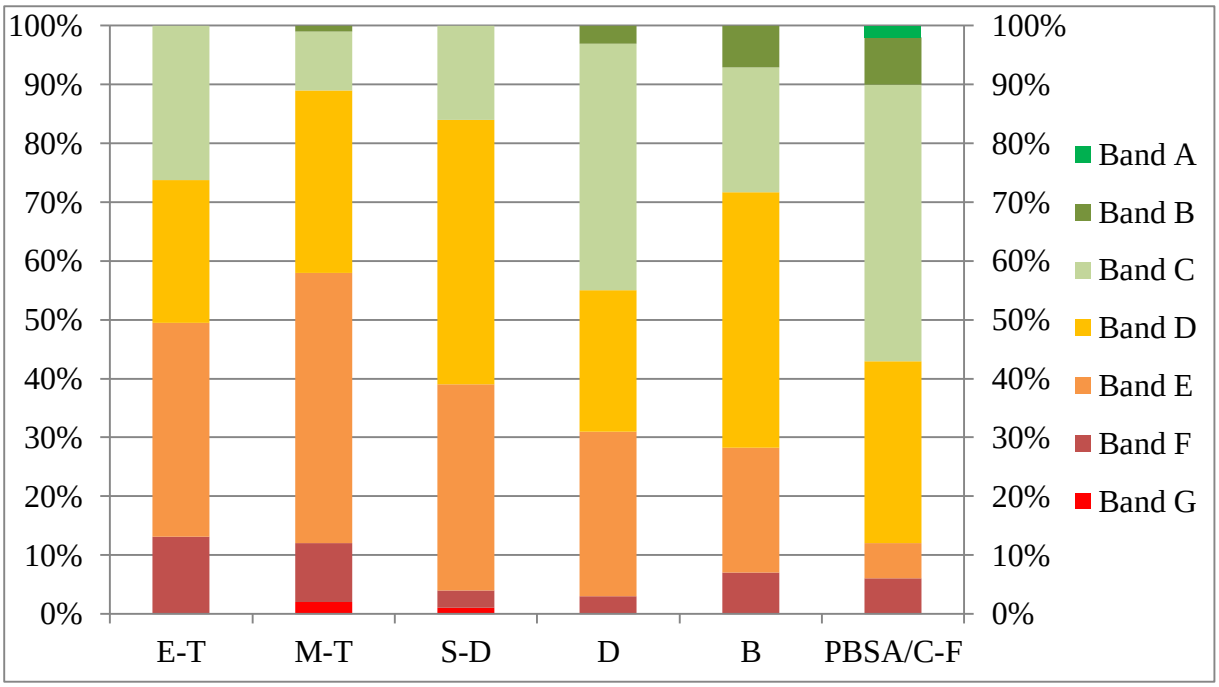
All students in D properties equally rated the proximity to campus as ‘fairly important’ and ‘very important,’ which designates the most consistent views shared by the student population in the LSAS. Conversely, living in the heart of town is assessed as ‘fairly important’ for 55% of occupants of D houses, and only 10% stated it was ‘very important’. Furthermore, one-quarter of the sample weighed this residential motive as ‘not so important,’ which can qualify it as secondary.

Thus, it can be argued that the location of the dwelling to campus and to town centre is salient in student residential decision-making processes, regardless the housing profiles.

It has been clearly demonstrated that most new entrants at LU reside in one of the halls of residence. Regarding the selection of the housing type, UG Year 2 and 3+ students seemed to not make any distinction whether a house is terraced or detached. Detached (D) properties can, on average, host six residents. This makes it the dwelling with the highest number of bedspaces, which is of great importance if students aim to live with a large number of friends. All in all, because of the abundant supply of mid-terrace (M-T) HMOs, individuals are more inclined to reside in this housing type. This is the case for 33% and 38% of UG Year 2 and Year 3+ students, respectively. Besides, half of UG Year 2 and Year 3+ students are aware of what an EPC, significant indicator of the building’s energy efficiency, consists of. It does not, however, influence their residential choices.

An EPC allows the display of the energy performance of a dwelling put on the market, either for rent or for sell. The Standard Assessment Procedure (SAP) is the UK methodology used to measure the energy rating of residential buildings. The SAP symbolises the national barometer of dwellings’ energy efficiency. Properties rated Band A encompass the most energy efficient dwellings whereas buildings rated Band G are extremely inefficient and providing very low-living conditions. Figure 8 showcases the inequalities in energy efficiency across several types of student dwellings’ profiles.

Figure 8 – SAP Bands by Dwelling Types



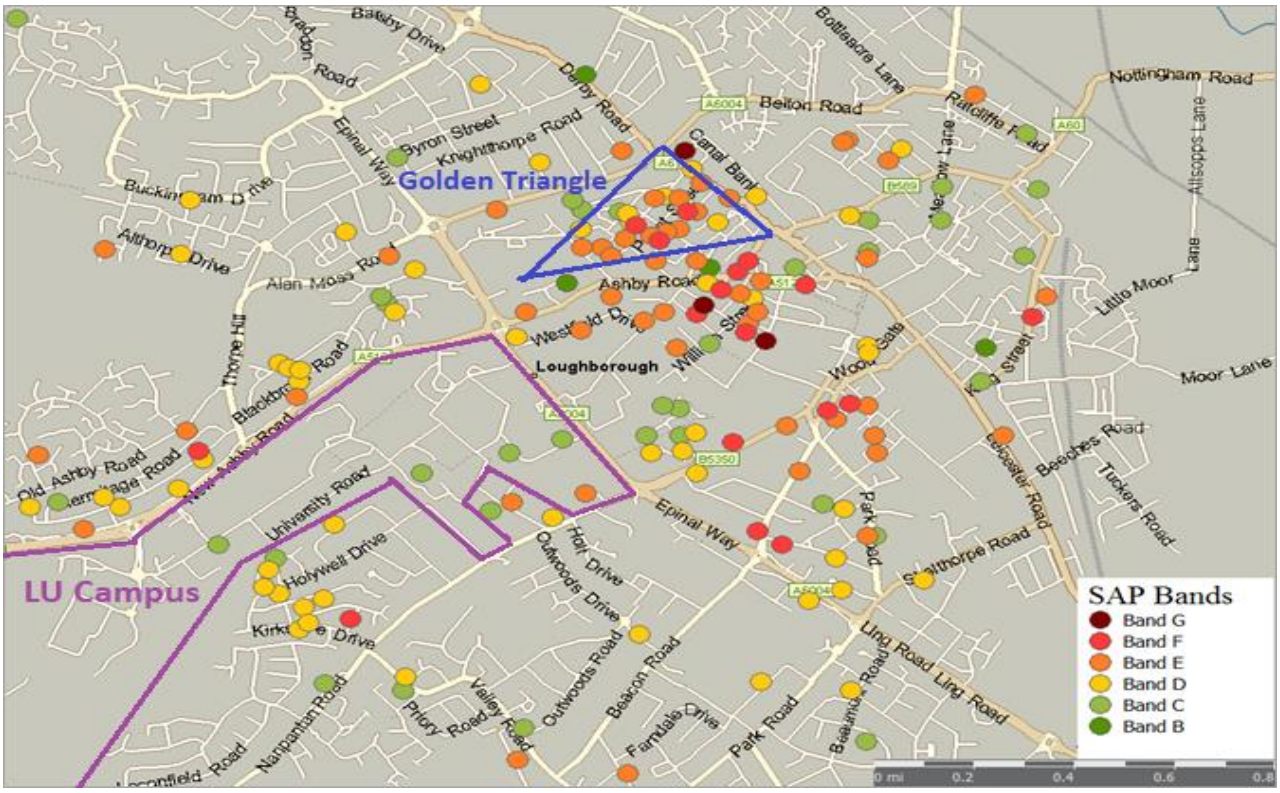
The first observation to make relates to the limited presence of Bands A to C (illustrated by green colours) in most housing types, except for D properties and PBSA/C-F. Consequently, the less energy efficient classes (symbolised by orange colours for Bands D and E, and by red tints for Bands F and G) predominate for the other houses. Epitomising the student accommodation in the PRS, terrace properties are also known for often being of restricted quality. The chart displays that Band E is the dominant SAP category for E-T and M-T houses, accounting, respectively, for 36% and 46%. Simultaneously, these two dwelling types have the highest share of Band F, 13% for E-T and 10% for M-T properties, and the latter also includes accommodation rated Band G (2%). Seemingly, their average SAP score is situated well-below the SDT's mean: 53 (SD= 12) for M-T houses and 54 (SD= 14) for E-T buildings. D and S-D accommodation are characterised diversely; Band C qualifies 42% of D houses and 16% of S-D properties. Inversely, the proportion of dwellings assessed Band D is more significant in S-D (45%) than in D houses (24%). The average SAP score for S-D is 57 (SD= 11) and 62 (SD= 12) for detached habitations. Albeit its limited sample size, bungalows possess a SAP distribution similar to the detached one. With 57% of its population comprised within Band A and Band C, PBSA/C-F has the highest mean score 68 (SD= 14). The building's construction period appears to be an influent factor of the energy quality rating of the accommodation.

There are no discrepancies with regards to the SAP score between individuals who know what an EPC is and those that do not. The extensive provision of energy inefficient housing in

the PRS does not create many opportunities for residents to live in high quality accommodation. Reflecting this assessment, UG Year 2 and Year 3+ respondents who strongly valued the housing condition/quality in their residential motivations occupy dwellings with similar energy performance ratings than respondents that neglected this motive. Consequently, it is fair to assume that the PRS in Loughborough shows severe sustainability incompatibilities in regard to students' residential criteria. It is also pivotal to stress that individuals' needs and preferences are tangled in interplays of constraints, trade-offs, and agreements. One person's opinions are embedded in a collective decision-making mechanism. This unconventional housing choice perspective differs from other housing approaches noted in the literature (cf. Lindberg *et al*., 1988; Mulder, 1996; Rérat, 2012), due to the formation of a household by several students.

Throughout the university town, properties with high and low energy ratings are unequally distributed, as depicted in Figure 9. It shows that in studentified areas such as the Golden Triangle, dwellings are often rated Bands E and F. The presence of housing assessed Band C and above is scarce, which indicates that most students reside in low-energy efficient buildings in these areas. Properties rated Bands C and B are spread out in various parts of town such as the Kingfisher area near campus, the eastern part of the town, as well as in the outskirts of Loughborough. A concentration of accommodation rated Band D is distinguishable in the vicinity of campus. Notwithstanding the geographical distribution of low-energy efficient dwellings is heterogeneous, studentified streets within the Golden Triangle area are mainly compounded of energy inefficient accommodation.

Figure 9 – The Dominant SAP Band by Postcode



Finally, the limited impact of monthly housing price also applies to the energy performance of the dwelling. The assumption that properties with an expensive rent cost meet the most stringent sustainability requirements, epitomised by a high SAP score, was rejected. The absence of relationship between the two variables emphasises that residents in buildings rated with a SAP score of 80 have similar rent expenses to individuals living in properties rated SAP 40. Besides, it reinforces the structural inequalities persisting in the student residential market. Consequently, they could lead HMO landlords to disregard the retrofitting of their properties as the profits earned through the rent are very limited.

Conclusion

The unfolding of a student residential pathway, intensely commented in the literature (e.g. Kenyon, 1999; Ford *et al*., 2002), has been reiterated within this paper. It has become a ground rule for new HE entrants to start on their housing career in university halls of residence. In addition, the regimented nature of living in university halls of residence considered in in this article concurs with Hubbard's (2009) assertions. The research has demonstrated that students follow a residential pathway epitomised by the shift from university maintained properties to the PRS in their second and final year of UG studies. The apprenticeship of adulthood operating in university halls of residence is consequential for the proceeding of students' housing career.

Indeed, the opportunities for social interactions in halls of residence create solid social bonds, which are paramount in the residential decision-making of students. The findings also show that students highly prioritise the housing location and its condition/quality in their decision making processes. Yet the opportunity to live with friends is fundamental in the motivation to move into HMOs. The temptations of UG Year 2 and 3+ students to 'experience residency in a house,' galvanised by a stronger desire to exercise autonomy, correspond to the observations made by Smith and Holt (2007). Moving into the PRS is strongly driven by the robustness of existing social networks. Indeed, it has been verified that UG students would trigger a residential shift to HMOs based on a collective rather than a personal decision. Thus, this consolidates findings in the existing literature: "Who to live with seemed to be the first, most important, part of the decision about moving into private accommodation." (Christie *et al*., 2002: 218). Therefore, education spaces and experiences should not only be restrained as a platform for young people to become 'apprentice migrants' (Smith *et al*., 2014), but also as a rudimentary stage for 'apprentice residents'

As well, this paper has highlighted several incompatibilities between the accommodation provided to students and what they actually prefer. These discrepancies were blatant when comparing the residential distribution and aspirations between UK and international residents. One of the most resounding outcomes is the limited residential interest expressed by domestic students for PBSA. This finding confronts Hubbard's (2009: 1920) comment: "Purpose-built development may well reduce overconcentration of HMOs, and help solve some problems of studentification". On the one hand, PBSA's high levels of unpopularity have pushed UK students away from this accommodation option. Students' persisting preference to live in HMOs suggests that studentification processes are more likely to linger on within targeted Loughborough's neighbourhoods. Moreover, this statement tempers the sturdiness of destudentification processes noted by Kinton *et al*. (2016), although the creation of voids, linked to an oversupply of housing, should still be considered. As well, the case study of Loughborough has served to illustrate the sustainability discrepancies of the dwelling stock and the diversity of student demand in an environment tied down to processes of studentification. There may be opportunities to conduct comparable studies in other settings in the UK or elsewhere.

On the other hand, international students show no apparent aversion for PBSA, as indicated by the share of non-UK residents in PBSA being twice more than for domestic students. This unbalanced residential interest poses some questions related to the

commercialisation strategies operated by PBSA providers. Thus, this begs the question: to what amplitude the emphatic commercialisation towards non-UK students by PBSA providers participates in the development of social and spatial exclusion processes?
Overall, this research concurs with Kinton's findings (2013) that student residential preferences and choices are essential in the dynamic of the student housing market.

Finally, this paper has outlined sustainability inequalities in the housing stock, exemplified by the SAP rating of dwellings. Newly built developments such as university halls of residence or PBSA are more energy efficient than most PRS properties, particularly terrace houses. Nonetheless, discrepancies between rent cost and housing condition/quality are limited. This implies that accommodation's sustainability characteristics are not yet regarded as a decisive component in the housing provision.

To conclude, this paper advocates that studies on student residential geographies should, henceforth, espouse a sustainability dimension. Student geography is a 'breeding ground' of theoretical concepts that should be investigated. Alterations in student housing demand can have remarkable effects on building provision. If, in the future, sustainability criteria are more considered by students in their residential decision-making processes, will that encourage HMOs landlords to refurbish their property? Hence, the entanglement of sustainable development and student housing has engaged a plethora of research avenues.

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