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# Belonging, The Physical Space of the University Campus and How it is Perceived by Students: A Quantitative Analysis Among a Diverse Student Group

Hilda Mary Mulrooney
Kingston University, London

Alison Faith Kelly
Kingston University, London

The physical space of campus may influence student belonging. Quantitative data were collected using a bespoke questionnaire among a diverse group of students at a post-92 UK university. A total of 635 students, primarily female, undergraduate and of diverse ethnicity participated. Overall sense of belonging and agreement that campus space was important were high, with no differences by study or demographic characteristics. The main functions identified were academic or social, as were the spaces students considered most important. Gender and ethnicity differences in the extent to which the campus matched expectations were seen.

## Introduction

The university campus has the potential to bring together disparate groups of people thereby encouraging integration (Andersson et al, 2012), but campus space is not necessarily experienced in the same way by all groups, which may inadvertently disadvantage some (Hopkins, 2011). The physical space of the university campus impacts upon student belonging and their ease of interaction (Samura, 2018). University campus space is a contested issue; it is a product of social relations (McGonigle & Starke, 2016), shaping the production of knowledge, student experience, politics and power relationships (Hopkins, 2011; Holton & Riley, 2013). Practices of belonging are inherently exclusionary, and how space is used and negotiated denotes the claims of different groups (Mee & Wright, 2009; Treuthardt & Välimaa, 2008). In this way 'belonging' is both geographical and spatial (Carruthers Thomas, 2016). The campus space in UK post-92 institutions often constitutes a motley collection of inherited buildings of differing quality and design (Temple, 2007), repurposed as funds allow. However, total annual capital expenditure in the sector has now exceeded £3.5 billion for the entire campus estate for the first time (AUDE, 2019) and many institutions have invested in the construction of new statement buildings (Morris et al, 2016; Rawlinson, 2019).

The micro-environment of the classrooms, lecture theatres and laboratories and the types of learning opportunities these offer to students often predominate in discussions about learning spaces. There is no doubt that their design impacts on the teaching and learning that occurs within them (Smith, 2017; Granito & Santana, 2016; Jamieson et al, 2000). However, these micro-environments do not exist within a vacuum and the wider institutional space, both within and external to the buildings, also impacts on student learning (Band, 2012). The ideal campus is one which allows learning to occur in all spaces, not just the formal learning spaces (McGregor, 2004). The physical space of the campus contributes to the development of social and learning relationships and to feelings of belonging; it is not neutral (Samura, 2018). Sociocultural theory as outlined by Vygotsky (1978) suggests that students construct knowledge through their interactions with materials, each other and academics. This social component in adjustment to the higher education environment, improves the intrinsic motivation of students (Deci & Ryan, 2008). A feeling of belonging contributes to enhanced student attainment and retention and hence educational outcomes (Strayhorn, 2012; Hausman et al, 2009; Freeman et al, 2007). This may vary by demographic characteristics and non-traditional students may find developing a sense of belonging more difficult. This includes those who are first in family (Waite, 2013; Wainwright & Marandet, 2010; O'Shea, 2015, 2016), mature (Reay, 2008), commuter or studying part time (Southall et al, 2016). Non-traditional students now make up a substantial proportion of undergraduate students in the UK; 57% female, 11% aged >25 years, 14% with known disability & 22% of Black and minority ethnicity (BAME) in 2018/19 (HESA, 2020). Post-92 universities in the UK typically attract a greater proportion of non-traditional students. Nonetheless, the extent to which the campus meets the needs

Hilda Mary Mulrooney is Associate Professor of Nutrition, Kingston University London.

Alison Faith Kelly is Associate Professor of Microbiology, Kingston University London.

of this diverse student population, with potentially disparate needs, is unclear.

This project explored student opinion among a diverse undergraduate population as to the main purposes of campus space for them personally, their opinions of the physical space on a post-92 campus and whether it matched their ideal, and whether and how this related to their sense of belonging.

## Methods

### *Questionnaire*

A bespoke questionnaire was developed in two parts. The first part collected demographic data (age, gender, ethnicity, disability status) and study characteristics (mode, year & course of study, campus, commuting status & living circumstances). The second part collected information on personal sense of belonging and opinions about the university campus and its' functions. Participants rated their personal sense of belonging, the extent to which the current campus space worked for them and the extent to which the current campus matched their ideal campus using Likert rating scales (from 1, 'yes very important' to 5, 'no not at all important'). Whether campus space mattered for students was also assessed using a 10-point Likert rating scale (from 0, 'not at all' to 10, 'could not be improved'). Participants identified the main functions of campus and which spaces they used most by choosing from a list of options (ticking as many options as they wished). In both cases respondents could add additional options if appropriate. Finally, respondents were asked to rank a series of statements about different campus areas in order of importance (from 1, 'least important' to 12, 'most important'). Where they considered statements of equal value, they could use the same rankings.

Questionnaires were administered face-to-face in large undergraduate modules common across several degree pathways in the main university campus (one of four). Ethics approval for the study was granted by the Faculty Research Ethics Committee. Data were collected between November 2019 and March 2020.

### *Qualitative data collection*

Additional qualitative data were collected from questionnaire completers using open text boxes.

### *Data analysis*

Data were entered into an Excel spreadsheet and coded for analysis. Quantitative data for questions which used Likert rating scales were analyzed for differences by demographic characteristics (such as age, gender, ethnicity) and study characteristics (e.g. mode & level of study and commuting status) using Kruskal Wallis tests with post-hoc Dunn's analysis. In all cases $p<0.05$ adjusted for Bonferroni was used. The main functions of campus and the spaces with which students most interacted were collated and descriptive statistics generated.

## Results

A total of 635 students completed questionnaires, either partially or fully (any incomplete responses are indicated in tables). The majority were female and aged 18-21 years, with just under 22% aged 22-25 years. Almost 1/3 were Asian, with good representation from both white and black students. A small proportion of students declared a disability. Just over half of participants travelled >6 miles to campus, and the most common travel time to campus was 60-90 mins (22.5%), closely followed by 0-15 mins (21.1%). Public transport was most commonly used (46.1%), followed by mixed methods of transport (25.2%). Almost two thirds of respondents lived in private accommodation with family. Demographic characteristics of respondents are shown in Table 1.

Most questionnaire participants studied fulltime, and the majority of respondents were level 4 and 5 undergraduates from the largest university campus site (88%, data not shown). Study characteristics are shown in Table 2.

### *Belonging at the university*

Participants were asked to rate their own personal sense of belonging at the university, using Likert rating scales from 0 ('not at all') to 10 ('entirely at home'). Ratings of 1 to 3 were considered low; 4 to 6 medium and 7 to 9 as high. There were no differences by demographic (age, gender, ethnicity, disability status) or study characteristics (level or mode of study, campus or commuting status) on perceptions of belonging to the university, and overall personal sense of belonging was reasonably high (median 7.0, mode 8.0). Full responses for sense of belonging are shown in Table 3 and results of statistical analysis in Table 5.

### *Does campus space matter?*

Whether or not campus space mattered was rated using Likert rating scales from 1 ('yes, very important') to 5 ('no, not at all important'). A score of 3 was neutral ('neither important nor unimportant'). Scores of 1 and 2 were combined for the 'Yes' category, and scores of 4 and 5 combined for the 'No' category. Respondents were asked about the extent to which the campus space worked for them using Likert rating scales from 0 ('not at all') to 10 ('could not be improved'). Ratings of 1 to 3 were considered low; 4 to 6 medium and 7 to 9 as high. Data were analyzed by

demographic and study characteristics for each individual rating and by category (low, medium and high).

Almost 94% of respondents agreed that campus space mattered; with mode and median scores both 1.0 (equivalent to 'yes, very important') (Table 4). No differences to this rating were found by demographic (age, gender, ethnicity, disability) or study characteristics (level, mode, commuting status or campus). Results of statistical analysis are shown in Table 5.

In terms of whether the current campus space worked for them, almost 46% of participants indicated a medium level of agreement and 34% a high level of agreement, with no participants suggesting it could not be improved. However, gender differences in the extent to which campus space worked were apparent ($\chi^2$ 10.74, df 3, p=0.013) with females rating it slightly higher than males (357.88 vs. 304.16 respectively; p=0.007 after Bonferroni adjustment). For both genders the median score was 7.0 and the mode was 8.0 (5-7 indicated medium and 8-10 indicated high levels of agreement that the campus space worked). No other significant differences were seen. Forty percent of respondents felt that the current campus matched their ideal, with an additional 37.8% indicating moderate levels of agreement with this statement. Gender ($\chi^2$ 18.66, df 3, p=0.000) and ethnic differences ($\chi^2$ 18.54, df 5, p=0.002) were seen. Females rated the degree of match between the actual and ideal campus significantly lower than males (average rank 299.74 vs. 371.21; p=0.000 after Bonferroni adjustment). White students rated it significantly higher than Asian students (average rank 357.46 vs. 292.56; p=0.01). No other significant differences were seen. Results of statistical analysis are shown in Table 5.

The scores for whether the campus space worked and whether it matched their ideal was tested for correlation using Spearmans' correlation. A moderate correlation of 0.591, p=0.00 was obtained.

Reasons for a mismatch between the current and ideal campus were given by 366 participants who indicated different levels of mismatch. This represented feedback from 57.6% of the overall participants. In all, 495 comments which fell into 8 major identifiable themes were provided. The most common themes were space (n=312, 63%) and facilities (n=48, 9.7%).

Within each theme a number of subthemes were also identified, the most common of which are shown in Table 6.

### *What are the main functions of the university campus?*

Participants were asked to indicate the main purposes of a university campus for them and could choose multiple options as well as add their own. In all 3568 choices were made. The most important function of a campus was identified by participants as 'learn', followed by 'meet people', 'read', 'think' and 'eat'. The least important was 'store things'. Response frequencies and any differences by demographic or study characteristics for the top 4 and lowest rated choices are shown in Table 7. 'Be creative' and 'explore' were chosen by approximately 10% of participants, while approximately 4% each chose 'be quiet', 'dream' and 'worship' (data not shown).

Participants were asked to rank the importance of different attributes of the university physical space to them, from 1 ('least important') to 12 ('most important'). Where they felt different facilities were equally important, they could rate them equally. The top four median rankings are shown in Table 8. The most highly ranked area was the library, followed by the laboratory facilities. Quality of large lecture theatres and café/canteen facilities were jointly rated third. The lowest ranking (median 3) was given to bike parking (data not shown).

## Discussion

### *Belonging and campus space*

Personal sense of belonging mattered to these participants, and they also had a reasonably high sense of belonging at their institution. This matters since belonging is recognized as an important influence on student motivation, retention and attainment (Thomas, 2012). Although others have suggested that it may be more difficult for non-traditional students such as mature, commuter or first-in-family students to settle into higher education (Reay, 2008; Wainwright & Marandet, 2010; Waite, 2013; O'Shea, 2015, 2016; Southall et al, 2016), in this study neither demographic factors nor study characteristics affected personal sense of belonging (Tables 3 & 5). Similarly, campus space was recognized as important to belonging to all subgroups within this study (Tables 4 & 5). However, gender differences were seen with regard to the current campus across the sample. Females were significantly more likely to find that the campus worked for them although they were less likely to find that it matched their ideal, a somewhat pragmatic approach. Asian students were also less likely to match the current campus with their ideal than other ethnicities. Others have shown differences in perceptions of campus by gender and ethnicity, but usually in relation to racial climate and perceptions rather than the direct physical space (Nelson Laird & Niskodé-Dossett, 2010; Johnson et al, 2007). Gender differences in use of space for collaborative or active learning have been shown previously, with males participating in such activities less than females (Kinzie et al, 2007). If females participate more in such activities, the provision of space considered suitable for these activities may have been considered to be less adequate in females

than males in our study, helping to explain some of the variance observed. How the environment is viewed and whether it is perceived to be supportive of the academic and social needs of students influences their level of satisfaction and their involvement in active and collaborative learning (Kuh et al, 2006), in turn affecting their personal development and learning (Hu and Kuh, 2003a, b). It may be that aspects of the physical space mediate aspects of the educational interface, where factors about the individual student and the institution combine, and student engagement in learning occurs (Kahu & Nelson, 2018). So what reasons were given by our participants for the mismatch between the current and ideal campus?

Major reasons given related to the nature of the campus space and the facilities available. Sixty three percent of comments highlighted space and 9.7% facilities (Table 6). Crowding on campus was highlighted as a negative influence in relation to learning, study, eating and social spaces, all of which are related and will be discussed in turn.

## *Crowding*

Crowded spaces have been suggested by some to hinder opportunities for conversation and reduce sense of belonging (Samura, 2018), but the same space is not experienced in the same way by everyone; for some, crowded campus spaces especially those areas where seating is provided, are preferred for socializing (Abu-Ghazzeh, 1999). Students may manipulate spaces and use them to achieve the level of interaction or seclusion they wish to achieve. Therefore, it is suggested that factors impacting upon pedestrian flow in crowded areas (particularly outdoors) should be examined to ensure they support social interactions and friendship formations (Al-Hamoud & Abu-Obeid, 2003). In our study, outdoor space was not ranked highly by participants, perhaps because the campus is a city one with limited outdoor space available but crowding and lack of adequate space were clearly issues for many of our participants.

## *Eating & social spaces*

More than 10% of comments made by our participants related to the canteens and the need for more eating spaces. Communal eating has been shown to impact on wellbeing and to facilitate the development of social bonding (Dunbar, 2017), which contributes to a sense of belonging (Ahn & Davis, 2019). In addition, social spaces themselves were highlighted in 20.8% of comments related to space. Part of a successful transition to higher education and the development of a secure learner identity is the establishment of positive relationships with peers and academic staff (Kahu & Nelson, 2018; Read et al, 2018). Social aspects of belonging may be mediated by membership of sports and other clubs, undertaking voluntary or enrichment activities and presence on campus outside of contact hours (Mee & Wright, 2009), but it may not be equally possible for all students to take advantage of these opportunities. Friendship at university does more than provide a sense of social belonging (Buote et al, 2007); it enhances wellbeing (Stanton et al, 2016; Picton et al, 2017) which positively impacts upon engagement and success. How physical space is constructed also impacts upon the ease with which relationships may be developed and the establishment of learning communities outside the classroom (Zhao & Kuh, 2004); whether and how student identities evolve, since they develop within the context of social activities, learning environments and friendship networks (Holton & Riley, 2016). This link between space and how it may influence interactions with each other is something which students themselves recognize (Cooper & Fry, 2020).

## *Functions of the campus*

Participants identified that the major functions of the campus from their perspectives were to learn, to meet people, to read, think and eat (Table 7). It is unsurprising that 'learning' and 'meeting people' were rated so highly since they are related. The development of relationships with peers and academic staff has been shown to be central to the development of a secure learning identity (Chatterton, 1999; Brooks, 2003; Reay et al, 2010; Holton & Riley, 2016); while learning new concepts, students learn better when they can engage with each other (Young et al, 2017). In this context it is notable that the most important physical attributes identified by these participants were a combination of learning spaces (large lecture theatres, laboratories), social spaces (cafes, canteens) and spaces which combined the two (the library) (Table 8). This mixed functionality of the physical space is pragmatic on a crowded campus, and the evolution of libraries from silent spaces of study and scholarship into communal spaces of collaboration and teamwork represents an example of such mixed functionality. But beyond that it has wider importance in facilitating student integration and belonging, in turn influencing learning. 'Belonging' has been shown to include four domains: academic & social engagement, surroundings and personal space (Ahn & Davis, 2019), linking the spaces of the institution, the development of social and academic relationships, and feeling at home in the institution. While access to 'social ambience' within learning spaces such as the library is important to students (Crook & Mitchell, 2012), this evolution is not without difficulties; facilitating social interactions within learning spaces may negatively impact on the learning experiences of some (Young et al, 2017). How the physical space should be configured to best align dual

functions which work well in tandem needs careful consideration. Impressive new campus buildings are not necessarily viewed positively by all of their users (Jamieson et al, 2000; CABE, 2005). In our study from the student perspective, the functionality of the campus rather than the outward appearance was most important; having access to enough of the sorts of spaces and facilities that they needed.

Ideally the design of new learning spaces should be led by pedagogic theory (Band, 2012). New and impressive buildings give an impression of an institution and the opportunities and facilities it offers (CABE, 2005), but they do not operate in a vacuum and the totality of the campus and the different spaces it comprises all have the potential to influence campus users. Student communities are constructed from a 'geography of places', campus spaces which are student friendly and facilitate interactions (Crang, 1998). So-called 'geographies of encounter' between different groups on the campus are affected by structural and organizational features which result in different experiences for different groups (Andersson et al, 2012). Spatial cues signpost users to the appropriate or acceptable use of space (Samura, 2018). Given the diversity of many higher education student bodies, the contribution of campus space and space management to the experiences of student groups is needed (Hopkins, 2011). Bearing in mind that universities reflect wider issues such as sustainability and community integration, the design of the campus may limit or even reduce the extent to which this can occur.

The design of the physical space on campus is not neutral; careful thought and design are needed to ensure that it is fit for the future, is flexible and can be used for different purposes and that it enhances motivation and learning opportunities (JISC, 2006, 2015; Temple, 2007). Campus space is socially constructed meaning that it can be adapted to better encourage interaction and enhance belonging (Samura, 2018), but the views of users should ideally be taken into account before doing so.

This project demonstrates that both campus space and belonging, are recognized as important in a large diverse sample of undergraduate students. The difficulties of navigating a crowded campus as well as the need for opportunities to socialize were highlighted by participants. These relate not just to social relationships but also to academic concerns. Ensuring that the student voice is heard and that if necessary, the campus space is modified to provide spatial cues which encourage interaction, socializing and belonging to connect students, is likely to affect engagement and potentially achievement.

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# Appendix

**Table 1.** Demographic characteristics of student questionnaire respondents, expressed as numbers (%)

| | | | | | |
|---|---|---|---|---|---|
| *Gender* | | | | | |
| **Male** | **Female** | | **Other** | | **Prefer not to say (PNS)** |
| 161 (25.4) | 465 (73.2) | | 5 (0.8) | | 4 (0.6) |
| *Age*[1] | | | | | |
| **18-21 years** | **22-25 years** | | **26-29 years** | | **≥30 years** |
| 424 (66.8) | 138 (21.7) | | 26 (4.1) | | 40 (6.3) |
| *Ethnicity* | | | | | |
| **White** | **Black** | **Asian** | **Mixed** | **Other** | **PNS** |
| 168 (26.5) | 135 (21.3) | 200 (31.5) | 40 (6.3) | 66 (10.4) | 26 (4.1) |
| *Disability* | | | | | |
| **Yes** | | **No** | | **PNS** | |
| 37 (5.8) | | 566 (89.1) | | 32 (5.0) | |
| *Distance from campus*[2] | | | | | |
| **0-2miles** | **2-4 miles** | | **4-6 miles** | | **>6 miles** |
| 186 (29.3) | 47 (7.4) | | 58 (9.1) | | 322 (50.7) |
| *Accommodation*[2] | | | | | |
| **Halls of residence off campus** | **Halls of residence on campus** | | **Private with other students** | | **Private with family** |
| 65 (10.2) | 36 (5.7) | | 120 (18.9) | | 394 (62.0) |
| *Travel time to campus*[2] | | | | | |
| **0-15 mins** | **15-30 mins** | **30-60 mins** | **60-90 mins** | **90-120 mins** | **>120 mins** |
| 134 (21.1) | 94 (14.8) | 84 (13.2) | 143 (22.5) | 125 (19.7) | 50 (7.9) |
| *Travel mode to university*[2] | | | | | |
| **Uni bus** | **Walk** | **Cycle** | **Public transport** | **Drive** | **Mixed** |
| 44 (6.9) | 95 (15.0) | 5 (0.8) | 293 (46.1) | 35 (5.5) | 160 (25.2) |

[1]Seven participants preferred not to state age (1.1%)
[2]Twenty two participants preferred not to state distance from campus (3.5%). Twenty (3.1%) preferred not to state their accommodation type; 5 (0.8%) preferred not to state their travel time, and 3 (0.5%) their mode of travel.

**Table 2**. Study characteristics of student questionnaire respondents, expressed as numbers (%)

| *Mode of study*[1] | | | | | |
|---|---|---|---|---|---|
| **Full time** | | | **Part time** | | |
| 627 (98.7) | | | 7 (1.1) | | |
| *Level of study* | | | | | |
| **Level 3** | **Level 4** | **Level 5** | **Level 6** | **Postgraduate** | **PNS** |
| 101 (15.9) | 187 (29.4) | 159 (25.0) | 110 (17.3) | 69 (10.9) | 9 (1.4) |
| [1]One participant (0.2%) preferred not to state their mode of study. | | | | | |

**Table 3**. 'How much do you feel that you personally belong at this university?'. Student questionnaire responses expressed as numbers (%)

| *Personal sense of belonging* | | | | | |
|---|---|---|---|---|---|
| **Not at all** | **Low (score 1-3)** | **Medium Score 4-6)** | **High (score 7-9)** | **Totally at home** | **PNS** |
| 8 (1.3) | 55 (8.7) | 271 (42.7) | 250 (39.3) | 35 (5.5) | 16 (2.5) |

**Table 4**. 'Does campus space matter? To what extent does the current campus space work for you? To what extent does the current match your ideal campus?'. Student questionnaire responses, expressed as numbers (%)

| *Does campus space matter?* | | | | | |
|---|---|---|---|---|---|
| **Yes** | **Neither yes nor no** | **No** | **PNS** | | |
| 594 (93.6) | 26 (4.1) | 6 (1.0) | 9 (1.4) | | |
| *To what extent does the university space work for you?* | | | | | |
| **Not at all** | **Low** | **Medium** | **High** | **Could not be improved** | **PNS** |
| 12 (1.9) | 77 (12.1) | 290 (45.7) | 217 (34.2) | 0 (0.0) | 23 (3.6) |
| *To what extent does your campus match your ideal?* | | | | | |
| **Not at all** | **Low** | **Medium** | **High** | **Totally matches** | **PNS** |
| 8 (1.3) | 54 (8.5) | 230 (37.8) | 254 (40.0) | 40 (6.3) | 39 (6.1) |

**Table 5.** Detailed results of statistical analysis of demographic and study characteristics for questions relating to belonging and the university campus space. Data are expressed as Kruskal Wallis tests with posthoc Dunn's analysis with Bonferroni adjustment

| | *How much do you feel you personally belong at the university?* | *Does campus space matter?* | *To what extent does the university space work for you?* | *To what extent does your campus match your ideal?* |
|---|---|---|---|---|
| **Age** | H (4)=2.503, p=0.644 | H (4)=6.192, p=0.185 | H (4)=3.912, p=0.418 | H (4)=1.457, p=0.834 |
| **Gender** | H (3)=4.141, p=0.247 | H (3)=1.433, p=0.698 | **H (3)=10.743, p=0.013. Posthoc: Females vs males p=0.007. Average rank females 304.16; average rank males 357.88** | **H (3)=18.656, p=0.000. Posthoc: females vs males p=0.000. Average rank females 299.74; average rank males 371.21** |
| **Ethnicity** | H (5)=9.235, p=0.100 | H (5)=3.931, p=0.559 | **H (4)=15.495, p=0.008. Posthoc: Other ethnicity vs white p=0.032. Average rank other ethnicity 269.98; average rank white 350.95** | **H (5)=18.543, p=0.002. Posthoc: Asian vs. white p=0.010. Average rank Asian 292.50; average rank white 357.46** |
| **Disability** | H (2)=2.347, p=0.309 | H (2)=1.290, p=0.525 | H (2)=1.739, p=0.419 | H (2)=1.314, 0.518 |
| **Level of study** | H (5)=3.402, p=0.638 | H (5)=10.032, p=0.074 | H (5)=3.904, p=0.563 | H (5)=8.891, p=0.113 |
| **Mode of study** | H (2)=2.100, p=0.350 | H (2)=0.948, p=0.623 | H (2)=1.848, p=0.397 | H (2)=3.459, p=0.177 |
| **Distance from campus** | H (4)=3.612, p=0.461 | H (4)=3.449, p=0.486 | **H (4)=12.292, p=0.015. PNS vs 0-2 miles p=0,013; PNS vs 4-6 miles p=0.022; PNS vs. >6 miles p=0.008. Average rank PNS 180.95; average rank 0-2 miles 322.66; average rank 4-6 miles 329.99; average rank >6 miles 325.42** | H (4)=3.603, p=0.462 |
| **Travel time to campus** | H (6) =11.995, p=0.062 | H (6)=4.337, p=0.631 | H (6)=15.840, p=0.015; NS post Bonferroni adjustment | H (6)=10.463, p=0.106 |
| **Accommodation type** | H (4)=2.898, p=0.575 | H (4)=3.442, p=0.487 | H (4)=8.489, p=0.075 | H (4)=1.654, p=0.799 |

**Table 6:** Most common subthemes identified for the most common themes (space & facilities). Data expressed as numbers (%) with illustrative comments from participant feedback.

| *Theme* | *Main subthemes* | *Number (%)* | *Illustrative comments* |
|---|---|---|---|
| **Space (n=312, 63.0%)** | Social space, relaxing space | 65 (20.8) | *'More socialising areas'. 'More spaces to relax & meet new people'. '…more open spaces to just sit* |
| | Campus space | 46 (14.7) | *'Need bigger campus'.* |
| | Study space | 46 (14.7) | *'Areas to study with friends'. 'Bigger space for independent learning. Individual study rooms'.* |
| | Canteen/eating space | 33 (10.6) | *'Bigger cafes'. 'Need more space to eat'.* |
| | Bigger library | 29 (9.3) | *'Extend the library, more light, more space'* |
| | Storage space/lockers | 28 (9.0) | *'Make lockers available so people who commute can store their things if needed'.* |
| | Green/ outdoors space | 16 (5.1) | *'Green spaces outside with benches & tables'. 'Grass, trees, a nice place to sit and study without it being concrete'.* |
| | Bigger Students Union | 12 (3.8) | *'A bigger student space (union room)'.* |
| **Facilities (n=48, 9.7%)** | Improve décor/colours/modernise | 13 (27.1) | *'More colour, main building lacks warmth. Too sterile, hospitalesque' (sic)* |
| | General need of improvement | 13 (27.1) | *'A new refurbished building with better facilities'.* |
| | Computer/IT | 4 (8.4) | *'…better laptop facilities….possibly another form of storage network'.* |
| | Better library facilities | 4 (8.4) | *'A library that is easy to access books and has silence'.* |

**Table 7.** The main purposes of the university campus according to student questionnaire responses. Responses are indicated as numbers (% of total responses, n=3568)

| *Purpose* | *Responses* | *Significant differences* |
|---|---|---|
| **Learn** | 550 (15.4) | There were no differences in ranking by demographic or study characteristics. |
| **Meet people** | 494 (13.8) | Only gender significantly affected this with 'other' rating it significantly lower than either males (196.811, SE 59.971, p=0.006) or females (181.624, SE 59.378, p=0.013). |
| **Read** | 482 (12.9) | The only factors affecting this significantly were campus and level of study. Level 3 students ranked this significantly lower than either level 6 (-58.585, SE 18.727, p=0.026), or postgraduate students (-65.696, SE 21.224, p=0.029). The science campus ranked it significantly higher than the Arts campus (187.289, SE 41.333, p=0.000). |
| **Think** | 411 (11.5) | This was affected only by disability status. Those with a disability rated it significantly higher than those without (65.753, SE 25.764, p=0.032). |
| **Eat** | 370 (10.4) | There were no significant differences by demographics or study characteristics. |
| **Store things** | 111 (3.1) | This was affected by ethnicity, with white students ranking it significantly lower than either Asian (-40.595, SE 12.630, P=0.02) or 'other' students (-62.194, SE 17.532, p=0.006), and black students ranking it significantly lower than 'other' students (-60.934, SE 18.126. P=0.012). |

**Table 8.** Relative importance of university physical attributes to students

| *University attribute* | *Median* | *Differences in ranking by demographic and study characteristics* |
|---|---|---|
| **The library** | **9** | No differences to rating by demographic or study characteristics found |
| **The laboratory facilities** | **8** | Only differences by mode of study seen. Full time students rated the labs significantly higher than part time students (320.8 vs. 147.2; 173.123, SE 69.247, p=0.037) |
| **Quality of large lecture theatres** | **7** | No differences to rating by demographic or study characteristics found |
| **University cafes & canteens** | **7** | A difference by mode of study was found, with full time students rating cafes and canteens significantly higher than part time students (320.3 vs. 153.9; 166.411, SE 69.392, p=0.049) |