Study Location Preferences of Students Post-COVID-19

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Abstract

In the past few decades, the way we perceive and utilise space has changed due to technological advancement and societal changes. During the COVID-19 pandemic, this was accelerated, leading to an increase in remote work. This also affected students who had to implement alternative spatial practices when conducting their school-related tasks. This is an important research topic as it is still unclear how this prevails post-COVID-19 and thus leads to questions on how universities and third parties should adjust to meet student needs. To gain more insights on the topic this research aims to answer the following research question:

How do students utilise first, second and third places for school-related tasks post-COVID-19 and why?

To do this first concepts such as remote work and first, second and third places are defined, as well as exploring a selection of spatial qualities of learning spaces that may affect the location preferences of students. Secondly, the type of tasks students need to conduct and the most frequently used study locations of students are determined through means of a focus group. With this information, a survey was conducted which helped determine a divide in student preference for watching lectures at home or at their university. It also revealed a preference for working on individual tasks at home and on group tasks at university buildings. These preferences were then further explored through means of interviews. These interviews helped confirm expectations based on the literature review done and also provided new insights. Some of the most important aspects regarding location preference amongst students that were concluded were flexibility, motivation, and social interaction.

Introduction

A change in perception of how space can be utilised in relation to the emergence of increasing technological advancements is a concept that has been around for a while now. Toffler's book *The Third Wave*, which theorises about how digital technology will play a role in removing spatial boundaries, is an example of a study that dates back to the 1980s (Toffler, 1980). This phenomenon has been increasingly prevalent in the workforce with an increase in remote workers and the emergence of digital nomads (Popovici & Popovici, 2020). According to Popovici & Popovici (2020, p.469), there were "*an average of 5,4% of employed persons in the EU working from home on a regular basis in 2019*". This trend was immensely accelerated due to the emergence of COVID-19 in late 2019. During the most restrictive period of the COVID-19 pandemic, many people were forced to work remotely, causing people to reassess the relationship between space and work. A unique group of people facing similar issues were students. Due to COVID-19 restrictions, students became more mobile and technology dependent. These qualities are similar to those appointed to so-called digital nomads (Reichenberger, 2018). Nash et al. (2021) expand a bit on the different challenges digital nomads experience while searching for appropriate workplaces for specific tasks. A large proportion of these challenges are also applicable to students such as finding places with a stable internet connection or somewhere that is quiet enough to concentrate or even finding ways to interact more with fellow students (Brachtl et al., 2023: Xie et al., 2020). However, being forced to search for alternative study locations may have also led many students to discover new possibilities and advantages of non-location-specific education. As stated by Xie et al. (2020) this has led to a new normal, but how does this new normal look post-COVID-19?

This new normal has only just started and therefore leaves a lot to still be discovered. It is not yet fully clear what the impact of COVID-19 has been on how students perceive space and how these perceptions translate into spatial and societal changes concerning higher education. Collecting more insights into this topic could help universities re-engage with students and possibly make some changes to enhance both productivity and student well-being. On top of this, it could provide external forces with opportunities to set up third locations that are well suited to student needs. In an attempt to gain more knowledge on this new normal, this research aims to answer the following research question:

How do students utilise first, second and third places for school-related tasks post-COVID-19 and why?

To answer this question, this research first aims to define the key concepts involved by conducting an extensive review of the available literature, which can be found in the theoretical framework. Important concepts this research intends to investigate are the types of tasks students need to conduct and the relationship these tasks have to spatial qualities places possess. This investigation shall be done by collecting primary data through both quantitative and qualitative research. The methods by which this will have been done can be found in the methodology. Following this, the results of the research will be presented. Finally, by combining the collected primary and secondary data this research hopes to gain conclusive insights into how students perceive and utilise different study locations post-COVID-19, which will be presented in the conclusion. Afterwards, the discussion will put forth a reflection on the research done as well as make suggestions for future research.

Theoretical Framework

Before diving into this research's methodology, key concepts will be defined, discussed and presented in a conceptual model. These findings will be used to lay the foundations of this research, as well as acting as a starting point for the development of the instruments used for collecting primary data. After all main concepts have been considered, the expectations/hypothesis will be put forth.

The first key concept, which is briefly mentioned in the introduction, is working remotely. This concept goes by many names and many different definitions. However, for this research, the definition given by the European Foundation for the Improvement of Living and Working Conditions for teleworking will be used and is as follows: *"a form of organising and/or performing work, using information technology, in the context of an employment contract/relationship, where work that could be performed at the employer's premises is carried out away from those premises on a regular basis*." (Eurofound, 2021). When taken to more extreme measures this concept is often defined as digital nomadism. This is a concept that this research will not go into depth about, but will use as a tool for collecting supporting literature.

During the COVID-19 pandemic, students had to adopt remote study methods as they were unable to use university facilities. This shift allowed them to explore alternative study locations and utilize digital means for their work. Although students have previously engaged in studying outside of the university, the pandemic elevated the extent to which remote studying was required. This included attending lectures, conducting research, and collaborating on group projects online. While this presented challenges, it also brought forth advantages and new possibilities. Therefore, existing research on remote work can be partially applied to the student context. The pandemic experience has undoubtedly influenced students' perspectives on space, altering their perception and utilization of different locations (Aristovnik, 2020; Xie et al., 2020).

The three types of locations this research differentiates between are first, second and third locations. According to Firdaus and Fuad (2021), space can be divided into three realms: domestic, productive and social. These realms coincide with first, second and third places: "*first place as domestic space, second place as productive space, and third place as social space*" (Firdaus & Fuad, 2021, p.2). The characteristics of these places are discussed more in-depth in Ray Oldenburg's book "The Great Good Place" published in 1989. Oldenburg (1989) characterises the first place as the location where one lives and engages in private activities. In this place, people have the strongest sense of control. It is the most intimate of the three locations. The second place is characterised as a formal location where one is expected to fulfil responsibilities concerning work or school. Finally, the third place is the most diverse of the three and can often be linked to all locations other than home or work/school (Oldenburg 1989). However, Oldenburg (1989) has assigned third places multiple key characteristics such as being accessible, informal and social. According to Oldenburg (1989), third places are essential for building social connections, promoting a sense of belonging, and fostering a vibrant, healthy community. Examples of third places are cafes, pubs/bars, parks, libraries and community centres.

The primary focus of this research is to identify connections between students' choice of study location and the specific tasks they need to accomplish. Additionally, students will be asked to describe the spatial attributes of their preferred study locations that influenced their decision to work on a particular task there. When exploring the spatial qualities that may influence students' study location preferences, various dimensions come into play.

In the first chapter of a collection of short articles on learning spaces, Oblinger (2006) briefly describes how a range of aspects can influence the effectiveness of learning spaces. She mentions aspects such as comfort, motivational and inspirational effects of space, lighting and temperature and social possibilities. Later on in the book, these aspects are further expanded on, such as in chapter 2, “Challenging Traditional Assumptions and Rethinking Learning Spaces”. In this chapter Van Note Chism (2006) expands more on the design of space in relation to effective learning. She explains how based on space psychology, cognitive theory and the specific needs of the student demographic, key aspects are important to incorporate into the design of learning space. These aspects include incorporating flexibility, comfort, sensory stimulation, and technological support. These articles examine how certain aspects can improve the design of university facilities, however, they also provide insights into how the design of alternative settings could potentially make them effective or ineffective learning spaces.

Beyond the physical design of space, there are a variety of aspects that contribute to meeting the needs of students and that influence the experience of studying that students have. By using Adlerfer’s Theory of motivation (1969), Ahmad et al. (2022) present three important aspects that play a role in fulfilling student needs. These include flexibility, study-life balance and study performance. According to Ahmad et al. (2022), students experienced positive benefits from studying from home due to the flexibility it provides. This includes saving time and money on commuting and being able to work on their own schedule. Concerning study-life balance, students found studying from home provided them with more time to conduct both their study-related tasks and household-related tasks. When considering study performance students claimed this was supported by the comfort of their own home as well as their connection to a steady internet connection.

However, students noted that third locations often lacked these benefits. Furthermore, students emphasized the significant role of their relationship with lecturers, including their attitude and the materials they provide, in their ability to study successfully from home. On top of this none of the prior mentioned benefits seem to significantly improve the experienced productivity or stress of students. Thus despite the mentioned benefits, students still found studying from home less conducive compared to a regular classroom setting (Ahmad et al., 2022). This is supported by Gysbers et al. (2011) who found that students often attended live lectures despite having online options, partly due to a sense of obligation and habit, but also because they genuinely enjoyed attending lectures. This enjoyment can be attributed to lectures being a favourable learning environment, contributing to student discipline, and fulfilling emotional or communal aspects of the university experience. Gysbers et al. (2011) also highlighted that students appreciate the advantages of both physical and online resources, as they serve different purposes.

Finally, in a study by French & Kennedy (2017) on the value of lectures, the social benefits of lectures are put forth. They state that: "*Attending lectures provides students with an important opportunity to make connections and build relationships with peers. It also transforms the act of learning into a collective experience that can facilitate a shared communal understanding among students."* (French, S. & Kennedy, G., 2017, p.12).

The links between these different concepts have been compiled into a conceptual model as can be seen in *Figure 1*. The model shows how together spatial qualities, remote work possibilities and the type of task determine how students perceive and utilise first, second and third places.

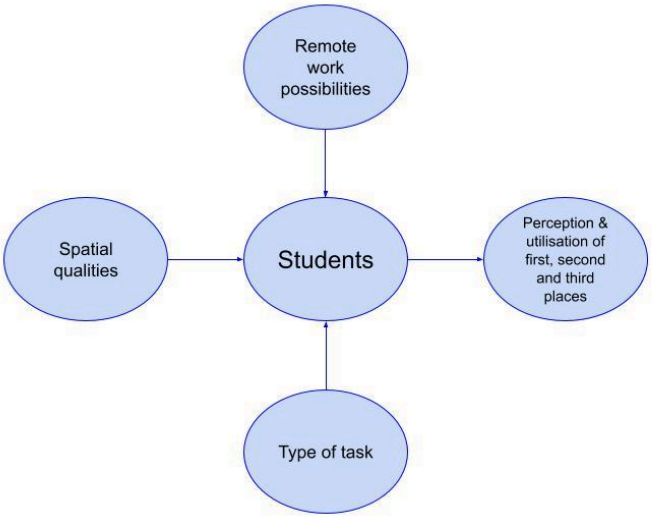


Figure 1: Conceptual model. Source: Author

E**xpectations**

Based on the literature it is expected that students will have adapted to more non-traditional forms of education post-COVID-19 leading to unique spatial practices when concerning study habits (Aristovnik et al., 2020; Brachtl et al., 2023; Xie et al., 2020). It is also expected that these spatial practices will be determined by the type of tasks students need to conduct as these have a strong effect on the spatial qualities a location must comply with (Nash et al., 2021). As first, second and third places all possess significantly different spatial qualities it is expected that students will have significantly different preferences for conducting different tasks in each of these locations (Oldenburg, 1989). These expectations form the basis of the null hypothesis for the quantitative research:

"There is no significant association between the preferred study location selected for task A and the preferred study location selected for task B."

Based on these expectations, it is anticipated that this hypothesis will be rejected in the course of the research.

Methodology

In this section, the data collection instruments used for collecting primary data will be presented, as well as the questions each instrument aims to answer and the target groups selected. The data has been collected in three steps. First, a focus group was formed, then a survey was sent out and finally, multiple interviews were conducted. All primary data collected in this research has been collected from students following one of the following bachelor courses at the Rijksuniversiteit Groningen: Academic training primary school teacher, Artificial Intelligence, Data Science and Society, Human Geography and Planning, Global Responsibility & Leadership, Pedagogical Sciences, Liberal Arts and Sciences, Psychology, Religious Studies, Sociology and Spatial Planning and Design. These studies have been selected as they are all categorised by the Rijksuniversiteit Groningen as behavioural and social sciences and thus are expected to consist of somewhat similar tasks.

The first research step taken was the formation of a focus group consisting of 5 fellow students following one of the previously mentioned courses. This provides the opportunity to collect directional information for which a small number of responses should be sufficient. The first aim of the focus group was to determine which university-related tasks are most common among students from the previously mentioned studies. Furthermore, the focus group intended to find out which places are frequently used by these students for conducting such tasks. The participants were contacted through WhatsApp by means of convenience sampling and were invited to participate in a short 15-30 minute discussion on the topic of university and space. Most participants indicated to prefer an online setting, thus a meeting was set up via Google Meet. The focus group guide can be found in Appendix 1. At the start of the focus group spoken consent was collected from the participants concerning ethical principles and their rights, this included permission to record the focus group. Once the focus group had been concluded the collected data was transcribed and coded to conduct a thematic analysis. In this case, there was no pre-defined code tree and codes were created based on the frequency of themes mentioned. How these themes were determined is further explained in the results. The created code tree can be found in Appendix 2.

After completing the first research step, the determined tasks and locations were used to create a survey using Qualtrics. The setup of this survey can be found in Appendix 3. This method was selected as it gives direct insights into how students prefer to utilise certain locations. Responses were collected from the previously mentioned target group by sharing the survey in study-related group chats via WhatsApp. After collecting data from 69 respondents, SPSS was used to acquire descriptive statistics. This was done by analysing frequency tables concerning the characteristics gender, study, study year, living situation and age. This research then intended to use SPSS to conduct a Chi-squared test to determine whether or not a relationship could be found between the type of tasks students need to conduct and the location they prefer to conduct them. During the research process, several issues arose, necessitating slight adjustments in the method of analysis. First of all, when producing a handmade cross tabulation of the results the expected values for selecting third locations was less than 5 leading to a switch from a Chi-square test to a Fisher's exact test. Secondly, due to the set-up of the survey, a direct analysis of the correlation between task and location was not possible and was therefore replaced by an analysis of the correlation between location preferences for individual tasks. This means the null hypothesis changed from: “There is no significant association between preferred study location and the type of

task performed", to: "There is no significant association between the preferred study location selected for task A and the preferred study location selected for task B". While slightly different this new analysis still allowed for valuable insights into the effect tasks have on location preference. After adjusting and confirming the new null hypothesis, six contingency tables were created using SPSS. These six tables are based on the combination possibilities of the four different tasks researched and are as follows:

- Watching lectures compared to individual studies
- Watching lectures compared to group work
- Watching lectures compared to software-based work
- Individual studies compared to group work
- Individual studies compared to software-based work
- Group work compared to software-based work

After creating the contingency tables the Fisher exact test was run on each table, with an accepted level of significance set at 0.05**.** Based on this accepted level of significance the tests were either deemed significant or insignificant, allowing the research to reject the null hypothesis or not. Based on this conclusions could be drawn on the influence of the type of task on the location preferences of the students.

Finally, to better understand why students prefer certain locations over others when it comes to conducting different types of university-related tasks, a small number of interviews were conducted with the previously mentioned target group. The participants were recruited through means of purposive sampling via WhatsApp and were selected based on the requirement that they followed different courses. The interview type selected was a semi-structured interview of which the interview guide can be found in Appendix 4. The interviewees were informed of the ethical principles and their rights prior to the interviews and were asked for verbal consent to record the interviews at the start of each interview. The interviews were conducted at various locations and lasted between 15 and 25 minutes. To analyse the interviews, they were first transcribed and then coded by hand in order to conduct a thematic analysis of the spatial elements mentioned. The code tree utilised for the thematic analysis was constructed through an inductive approach, in which the most frequently mentioned themes were used as the basis for its creation and can be found in Appendix 5.

To ensure ethical conduct during the research process, the study will adhere to the five principles outlined in the Netherlands Code of Conduct for Research Integrity (KNAW, et al., 2018): honesty, scrupulousness, transparency, independence, and responsibility. These principles will be translated into specific ethical measures implemented throughout the quantitative and qualitative research. Firstly, transparency will be maintained by providing participants with comprehensive information about the researcher, the research topic, and the purpose of the interviews or survey. Secondly, participants will be informed that their involvement is voluntary, and they have the right to withdraw from the study at any time without consequence. Lastly, confidentiality will be ensured to protect the privacy and anonymity of participants.

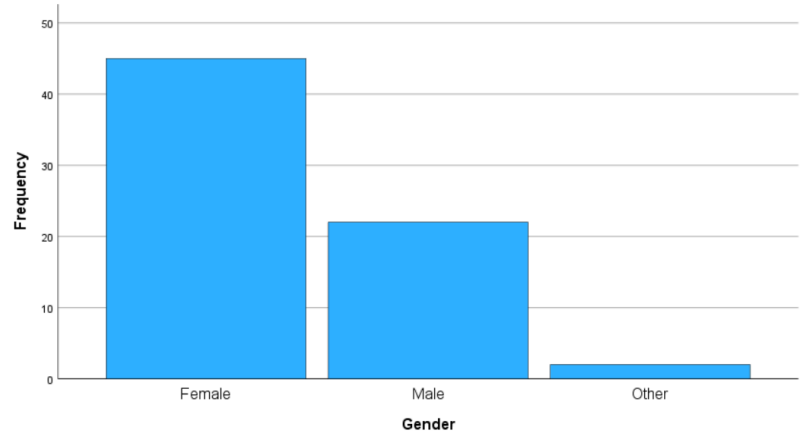
Results

A focus group was formed as the initial step in collecting primary data, aiming to identify the prevalent university-related tasks and frequently used locations of students. The first step to doing so was highlighting all text related to either university-related tasks or study locations and adding these to separate groups. Based on the text highlighted for university-related tasks it was deemed important to divide the data found into tasks with or without a set location. Tasks with a set location included tasks such as exams, lab work, internships, fieldwork and guided workgroups. As students don't have a choice on where they conduct these tasks they will be left out of the survey. Continuing with the non-location-based tasks, these were then divided into dependent or independent tasks. For this research dependent tasks are categorised as tasks led by the university such as lectures and independent tasks are categorised as tasks you can conduct on your own or as a group such as projects, papers, presentations, exam preparation or computer practicals. However, as computer practicals often require unique skills and tools this task will be presented separately during the survey. Finally, the latter-mentioned category of tasks has been divided between tasks you must conduct on your own and tasks you must conduct as a group. Most of the previously mentioned tasks can fall into either category depending on the situation.

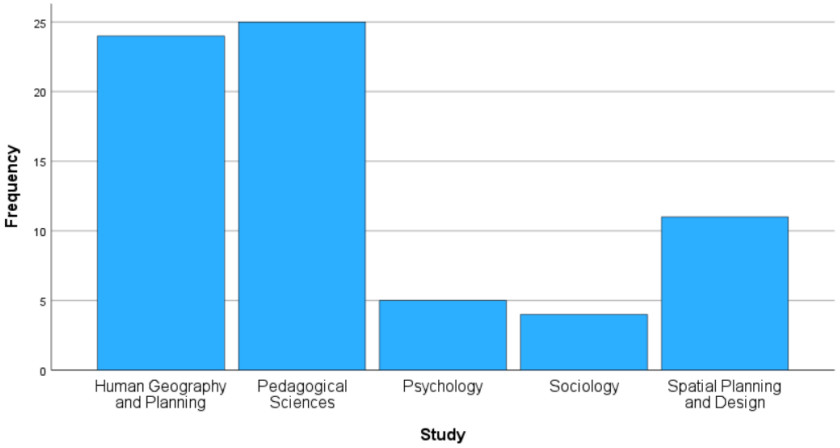
After establishing the themes concerning university-related tasks, the study locations mentioned were highlighted and further divided into themes. These themes coincide with the research done during the theoretical framework and can be divided into first, second and third locations. First location codes found in the text included: "*home*", "*my room*", "*other people's house*" and "*the dining room table*". Second and third location codes were harder to divide as locations such as libraries could be considered as both. For this reason, these codes will vary depending on what type of task is being considered. For dependent tasks, only lecture halls will be considered as second locations. For independent tasks, all locations related to the university will be considered second locations. Locations mentioned that were coded as second locations in the context of independent tasks include the university library, open spaces and cafeterias in university buildings and designated study areas within university buildings. Although not many third locations were mentioned, a few examples were: "*a cafe*", "*outdoors*" and "*in the train*".

Following the analysis of the data collected from the focus group, a survey was established as is described in the methodology. This survey was then distributed and managed to collect data from 69 respondents. Before analysing whether a correlation between the type of tasks students need to conduct and the location they prefer to conduct them at could be established, descriptive statistics were run to determine the general characteristics of the respondents. These characteristics can be summarised as follows and will be presented in a selection of graphs: (1) 65,2 percent of participants were female, 31,9 percent were male and 2,9 percent identified as other. (2) The majority of the responses were from students studying either Human Geography and Planning or Pedagogical Sciences. There were no responses from the studies Academic training primary school teacher, Artificial Intelligence, Data Science and Society, Global Responsibility & Leadership, Liberal Arts and Sciences or Religious Studies. (3) The data is most representative for students in their third year, thus those who started studying during the Covid-19-pandemic. (4) 24,6 percent of the respondents still live with their parents or other family members, 52,2 percent live with other students, 14,5 percent live alone and 8,7 percent have an alternative living situation. (5) The

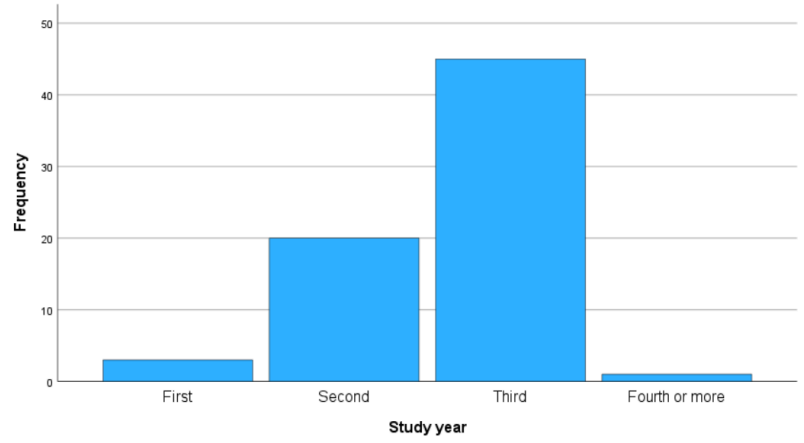
respondents' ages range between 18 and 27, with the most common ages being 20 or 21. These findings are presented in the following 5 graphs.



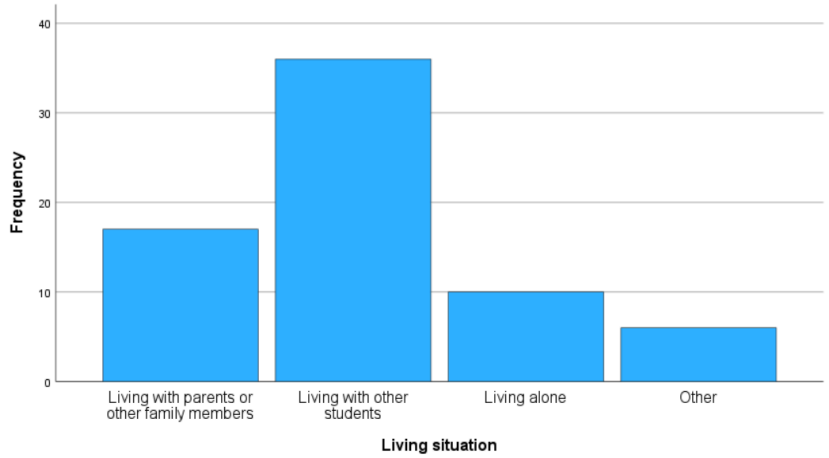
Graph 1: Gender frequencies. Source: SPSS, Author.



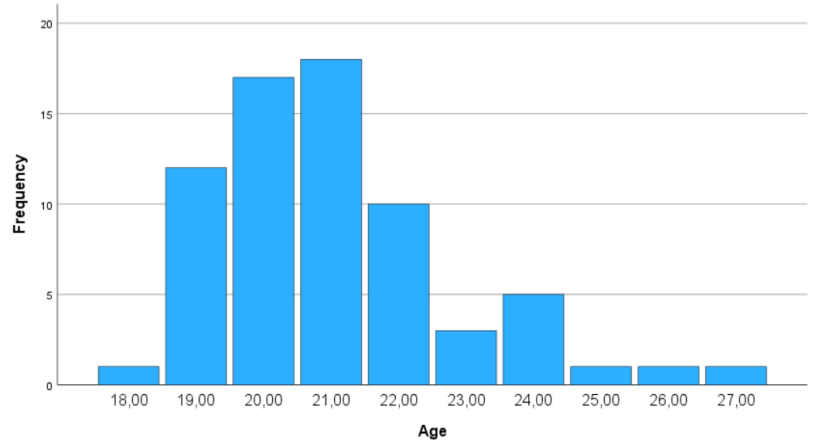
Graph 2: Study frequencies. Source: SPSS, Author.



Graph 3: Study year frequencies. Source: SPSS, Author.



Graph 4: Living situation frequencies. Source: SPSS, Author.



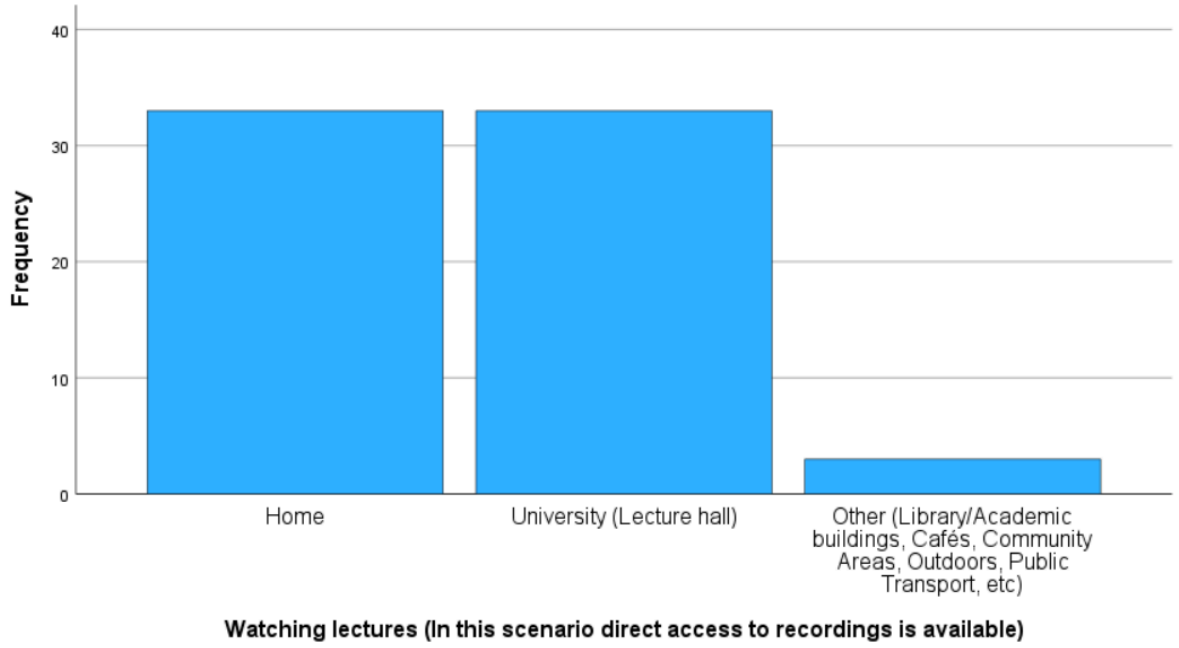
Graph 5: Age frequencies. Source: SPSS, Author.

After running descriptive statistics on the data, multiple cross-tabulations were conducted and analysed using the Fisher's Exact Test. By doing this, this research was able to establish whether a correlation between the different tasks and the selected locations was present. The selected location for each task was compared to the selected locations of the other tasks to determine whether the location preference varied per task. The null hypothesis used for each test is as follows:

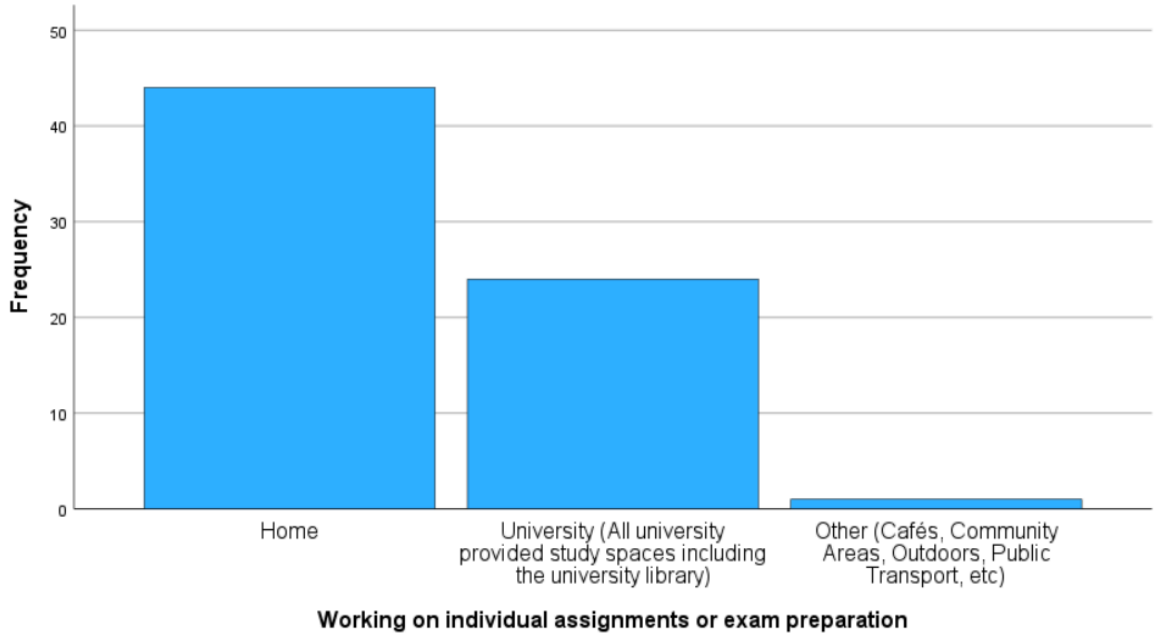
H0: There is no significant association between the preferred study location selected for task A and the preferred study location selected for task B.

This null hypothesis was tested six times on all six possible combinations of task comparisons. Out of the six tests, three were significant and three were insignificant. In the case of a significant test, the null hypothesis is rejected meaning an association between the preferred study location for each task can be found. This was the case when comparing the preferred study location when watching lectures and studying individually, when watching lectures and doing software-based work and when studying individually and doing software-based work. For the insignificant tests, the null hypothesis cannot be rejected meaning there is a lack of association between the preferred study location of the two compared tasks. This was the case when comparing the preferred study location when watching lectures and doing group work, when studying individually and doing group work and when doing group work and doing software-based work.

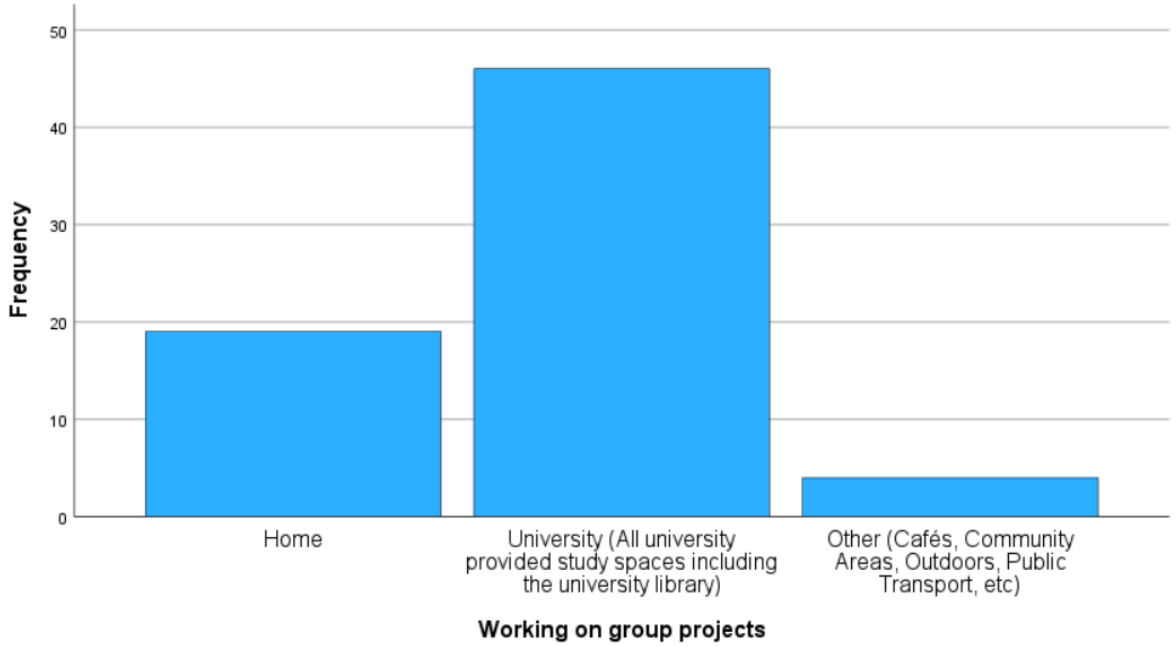
Based on frequency tables made for each task it can also be concluded that for watching lecturers both first and second locations were equally preferential. Concerning individual work and software-based work first locations were the most preferred. And regarding group work a majority preferred second locations. Bar charts for each task can be found below (see graphs 6-9).



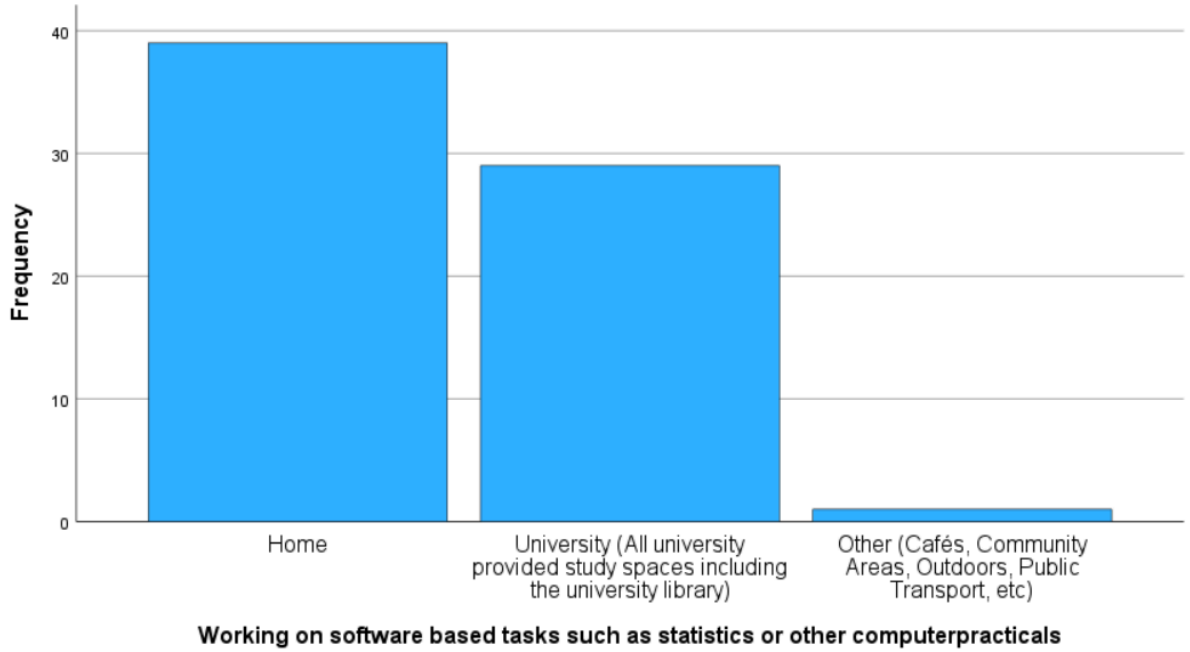
Graph 6: Watching lectures frequencies. Source: SPSS, Author.



Graph 7: Working on individual assignments or exam preparations frequencies. Source: SPSS, Author.



Graph 8: Working on group projects frequencies. Source: SPSS, Author.



Graph 9: Working on software-based tasks frequencies. Source: SPSS, Author.

Finally, to uncover more of the underlying motivations behind students' study location preferences three interviews were conducted with students studying different behavioural and social science courses at the University of Groningen. Beforehand these interviewees were questioned on their gender, age, study, study year and living situation to gather some background information on each participant. An overview of the participant attributes can be seen in Table 1.

	Gender	Age	Study	Study year	Living situation
Interviewee 1	Female	25	Human Geography & Planning	3 (+ previous completed bachelor)	Living with fiance
Interviewee 2	Female	21	Sociology	3	Living with other students
Interviewee 3	Female	21	Pedagogical science	2 (+ one prior year of another bachelor)	Living alone

Table 1: Attributes of the interviewees. Source: Author

To provide a clear analysis of the results, the findings will be presented per type of location, using the most prevalent themes mentioned in each interview and incorporating key quotes and theories from the theoretical framework.

First places

For most tasks, two out of three interviewees expressed a stronger inclination towards studying from home. The reason for this preference may be attributed to the living arrangements of the interviewees, where one interviewee resided with her fiance outside of Groningen, while the other had her own place in Groningen. This can be linked back to Ahmad et al. 's (2022) findings on the benefits of flexibility. For the interviewee living outside of Groningen studying from home provided the most benefits concerning time efficiency and ease, however, the ease of studying from home was also mentioned by both other interviewees. The comfort of studying from home was also a common factor among the interviewees. However, what the interviewees disagreed on was how studying from home affected their concentration. While two of the three interviewees appreciated the possibility to study at their own pace and take breaks whenever desired, interviewee 2 found that studying from home led to more distractions and unnecessary breaks. Additionally, two other drawbacks of studying from home that were highlighted were the absence of social interaction and the difficulty in maintaining a healthy work-life balance. A quote from interviewee 3 expressing the latter was as follows: "*While if I'm sitting at home, I often feel like I still have something to do and then I notice that I'm tired faster, so I feel like I'm never done.*" This was an overlooked aspect of study-life balance in the research done by Ahmed et al. (2022) and important to keep in mind when considering student-wellbeing and the provision of study space.

Second places

In contrast to the other two interviewees, interviewee 2 had a clear preference for attending lectures physically and making use of university buildings for individual studying. She explained how utilising second locations helps motivate her during her studies due to a number of aspects. She highlighted that having a separate study location allows for a clear separation between her study and personal life, and instils a sense of obligation. However, the most significant benefit she cited was the motivation she gains from being around fellow students. This was a frequently mentioned aspect by all three interviewees. Two interviewees explicitly mentioned their preference for studying with others in certain scenarios, as they found it to be motivating, and all three interviewees expressed the added benefit of social interaction to their mood. The interviewees frequently used the word “gezellig” to describe studying with others, which is a way Dutch people describe a positive social interaction. One of the interviewees also stated how social interactions with like-minded individuals is a positive experience for her and helps her discover more about her own interests within her field of study and concerning her career options.

In the case of all three interviewees, there was a clear preference for utilising second places when it comes to group work. The interviewees stated that online meetings are sometimes preferred when the content that needs to be discussed is limited and when the dynamics of the group have been established, however, in most cases the interviewees stated that meeting in person was preferential. The interviewees all felt the university provides sufficient facilities to do so, such as faculty building cafeterias or private rooms that are available, although one interviewee mentioned that the university could provide more information on these spaces.

All three interviewees did also mention downsides to studying at second locations. These were mainly related to attending lectures and included distractions from fellow students, uncomfortable seating and a lack of attention due to the lecture being long and slow.

Third places

When it comes to third places none of the respondents seemed to be too fond of utilising them for study-related tasks. Most interviewees found they had enough available study locations either at home or at university facilities. Third locations were often described as impractical, for example in the case of cafes where you have to pay for drinks to be able to sit there. The interviewees also mentioned how locations such as cafes often have more distractions. The only third location mentioned by an interviewee that was frequently used was the train, the interviewee stated that she used this location mostly to maximise time efficiency. The lack of interest in third locations was also deducted from the survey where only a handful of respondents had a preference for third locations for any of the tasks.

Other aspects

Finally, during the interviews, a number of other aspects were discussed relating to the interviewees' experiences during the COVID-19 pandemic and how this has affected their perception of study space, as well as how they feel about how the University of Groningen should adjust or not. When questioned about the influence of the COVID-19 pandemic, interviewee 1 responded by expressing that although she did not perceive it to have a significantly adverse impact on her, it did lead to a distinct shift in her attitude towards her studies. In her own words, she stated, "*You just have a very different attitude to your studies… you hardly know anyone, you are less involved and you also teach yourself a certain way of studying.*" She described how she made adjustments by utilising her time for other activities, but she recognized that it could be more challenging for those who do not have such alternatives, especially if they are new to being a student.

All three interviewees mentioned the use of online spaces as part of their study practices. Two of the interviews linked the ability to speed up or pause online lectures to better concentration and study results. One of the interviewees also appreciated the possibility to watch lectures online when she was not able to attend live lectures. Furthermore, all three interviewees acknowledged the convenience of conducting group meetings online at times, however, all three interviewees made clear online meetings are not ideal in many situations, especially if you have not met any of the group members in person yet.

Finally, when asked how they felt about lectures being compulsory interviewee 1 answered: "*I'm not really a fan of compulsory lectures myself, but yes I do think it helps for students to get them to the lecture hall a bit.*" Interviewee 2 explained how at times she liked compulsory lectures as it gave her a sense of obligation, however being able to plan her own time while working on her thesis was more productive. In the end, all three interviewees agreed that keeping up with your studies should be your own responsibility.

Conclusion

This research draws inspiration from the growing phenomenon of digital nomadism, which is driven by advancements in technology and shifts in societal norms. These factors collectively influence our perception and utilisation of space. This was accelerated by the emergence of COVID-19 leading to widespread increases in remote working. However, COVID-19 didn't only affect workers, it also had a big impact on students. This research intended to investigate this impact by answering the question: "*How do students utilise first, second and third places for school-related tasks post-COVID-19 and why?*" This was done through means of a literature review and mixed methods primary data collection.

The literature review explored the definitions of remote working in a student context and of different types of places. It also provided insights into the spatial qualities of learning environments that were later referred to in the interview results. When analysing the results of the survey the first thing that became apparent was a lack of preference for third locations with only a handful of students selecting this option for any of the tasks. This was supported by the interview results with the interviewees expressing that third places are often inconvenient and distracting. The interviewees also expressed they felt sufficiently satisfied with the available study places either at home or at university facilities.

The second thing that can be concluded from the tests run on the survey is that the only task that had a significantly different preference among students compared to their other preferences was working on group work. This too was supported by the interviews where even the interviewees who had a clear preference for first locations showed a preference for working on group work at second locations. This was also reflected in the frequency analyses, where group work was the only task with strong preferences for second locations. This coincides with the feelings interviewees expressed about online meetings.

The preference for conducting individual work and software-based work at first locations could be related to the concept of flexibility put forth by Ahmad et al. (2022), which was also expressed by two of the interviewees. It is also interesting to note that the interviewees didn't express experiencing any technological benefits from utilising second locations, an aspect of learning spaces deemed important by Van Note Chism (2006).

For lectures, the preference for first or second locations turned out to be split equally. This could be predicated based on the research done by Gysbers et al. (2011) where they highlighted the mutual benefits of both physical and online resources.

Concluded advantages of first locations include: efficiency, ease, comfort and being able to work on your own time. Disadvantages included: distractions, the absence of social interaction and difficulty in maintaining a healthy work-life balance. Concluding advantages of second locations include: increased motivation through obligation and the presence of fellow students, as well as other social benefits and improvements in a work-life balance. Other interesting observations were the changes in study practices expressed in relation to COVID-19, a strong sense of responsibility to achieve study goals in whichever way you prefer and a lack of emphasis on learning conducive design of space.

Discussion

Like any research, there are several areas that can be improved in this study. Firstly, it is important to acknowledge the limited representativeness of the research as the target group involved was quite specific. Additionally, there were missing or insufficient survey responses from certain studies and study years, leading to potential biases. The lack of diversity among interviewees is another limitation to consider. Furthermore, due to the constraints of the research length, many factors influencing students' location preferences were not explored. However, as mentioned in the introduction this research topic is fairly new and still requires a lot of research. Consequently, the outcomes derived from this study will primarily serve as exploratory findings, intended to provide direction and inspiration for future research endeavours.

For future studies, conducting more comprehensive investigations into the spatial qualities of preferred study locations would be valuable. This would provide insights into how alternative study locations can be effectively implemented for students. Additionally, exploring how universities can adapt their curriculum to accommodate the new preferences of students, while simultaneously encouraging physical attendance and incorporating online resources, would be an interesting avenue to explore.

Lastly, it is crucial to examine how the post-COVID generation perceives and experiences space, and whether there are notable differences compared to the target group studied in this research. Understanding these dynamics can contribute to a more comprehensive understanding of evolving spatial preferences among students.

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Appendix 1

Focus Group Guide

Introduction:

- Introduce the research
- Explain the structure and aim of the focus group
- Ask if the group has any questions before we start

Main questions/prompts:

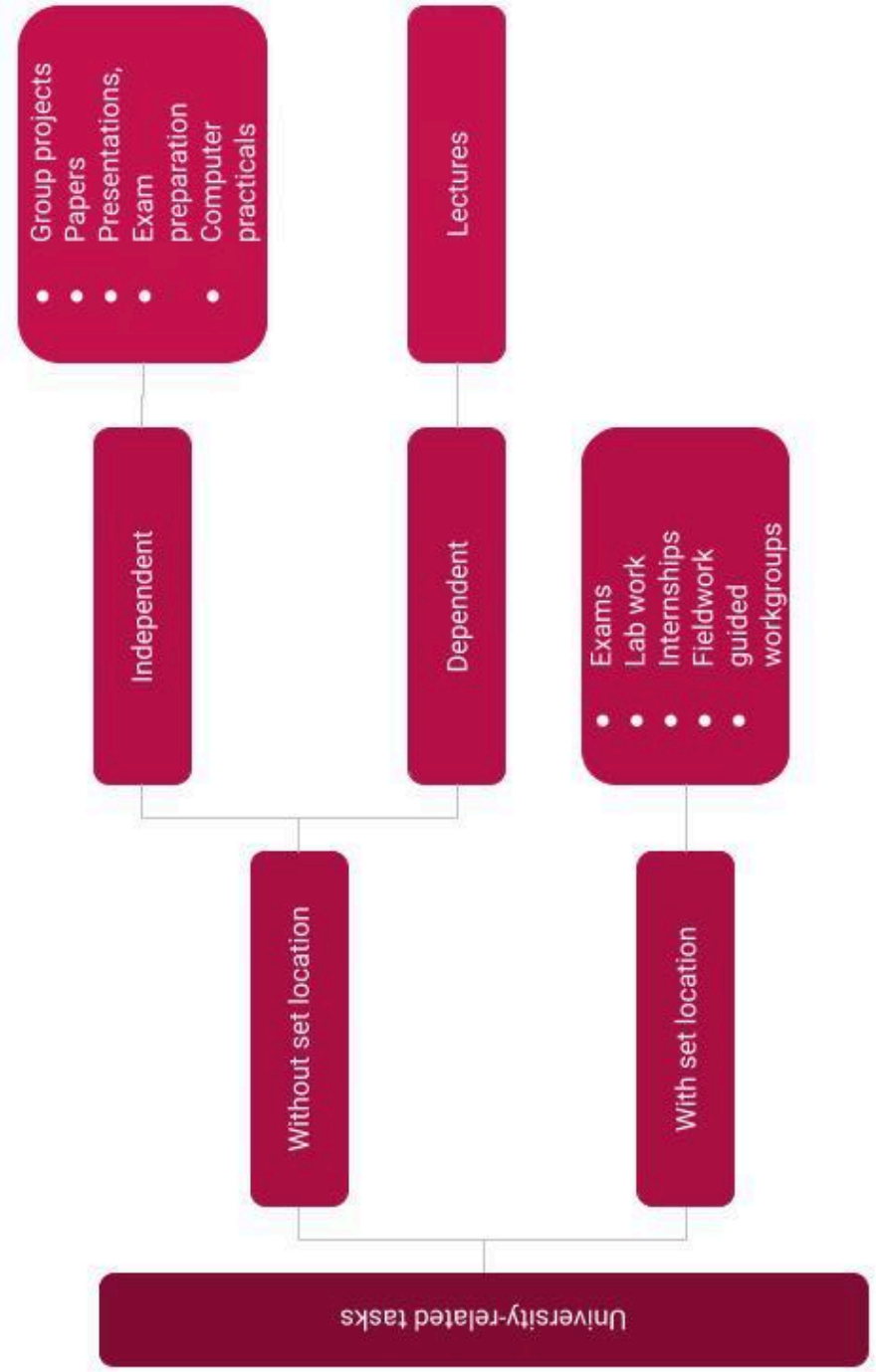
- What tasks do you need to conduct
- Where do you conduct these tasks

End:

- Ask if there are any final questions
- Thank the participants for their time and insights

Appendix 2

Focus Group Code Tree



Appendix 3

Survey Questionnaire

- *Gender*
  - Female
  - Male
  - Other

- *Study*
  - Academic training primary school teacher
  - Artificial Intelligence
  - Data Science and Society
  - Human Geography and Planning
  - Global Responsibility & Leadership
  - Pedagogical Sciences
  - Liberal Arts and Sciences
  - Psychology
  - Religious Studies
  - Sociology
  - Spatial Planning and Design

- *Study year*
  - *First*
  - *Second*
  - *Third*
  - *Fourth or more*

- *Living situation*
  - *Living with parents*
  - *Living with other students*
  - *Living alone*
  - *Other*

- *Watching lectures (In this scenario direct access to recordings is available)*
  - *Home*
  - *University (Lecture hall)*
  - *Other (Library/Academic buildings, Cafés, Community Areas, Outdoors, Public Transport, etc)*

- *Working on individual assignments or exam preparation*
  - *Home*
  - *University (All university-provided study spaces including the university library)*
  - *Other (Cafés, Community Areas, Outdoors, Public Transport, etc)*

- *Working on group projects*
    - *Home*
    - *University (All university-provided study spaces including the university library)*
    - *Other (Cafés, Community Areas, Outdoors, Public Transport, etc)*

- *Working on software-based tasks such as statistics or other computer practicals*
    - *Home*
    - *University (All university-provided study spaces including the university library)*
    - *Other (Cafés, Community Areas, Outdoors, Public Transport, etc)*

Appendix 4

Interview Guide

Introduction:

- Introduce the research
- Explain the structure of the interview
- Explain the aim of the interview
- Ask if the interviewee has any questions before we start
- Ask the interviewee for verbal consent to record the interview

Main questions/prompts:

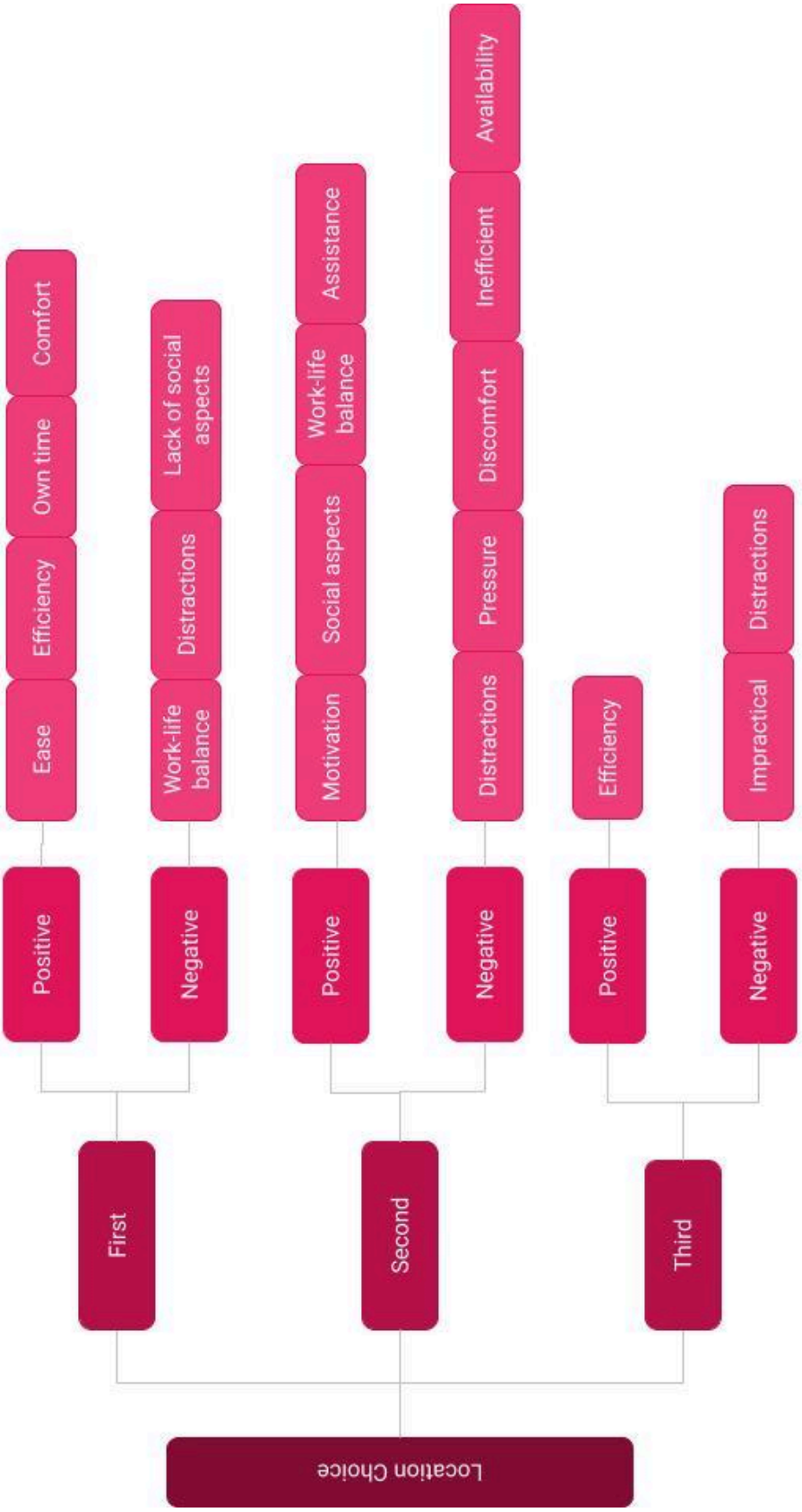
- Preferences when watching lectures (In this scenario direct access to recordings is available)
- Preferences when doing individual work
- Preferences when doing group work
- Preferences when conducting software-based work
- Experiences with COVID-19
- How do you feel about your current course
    - Compulsory locations

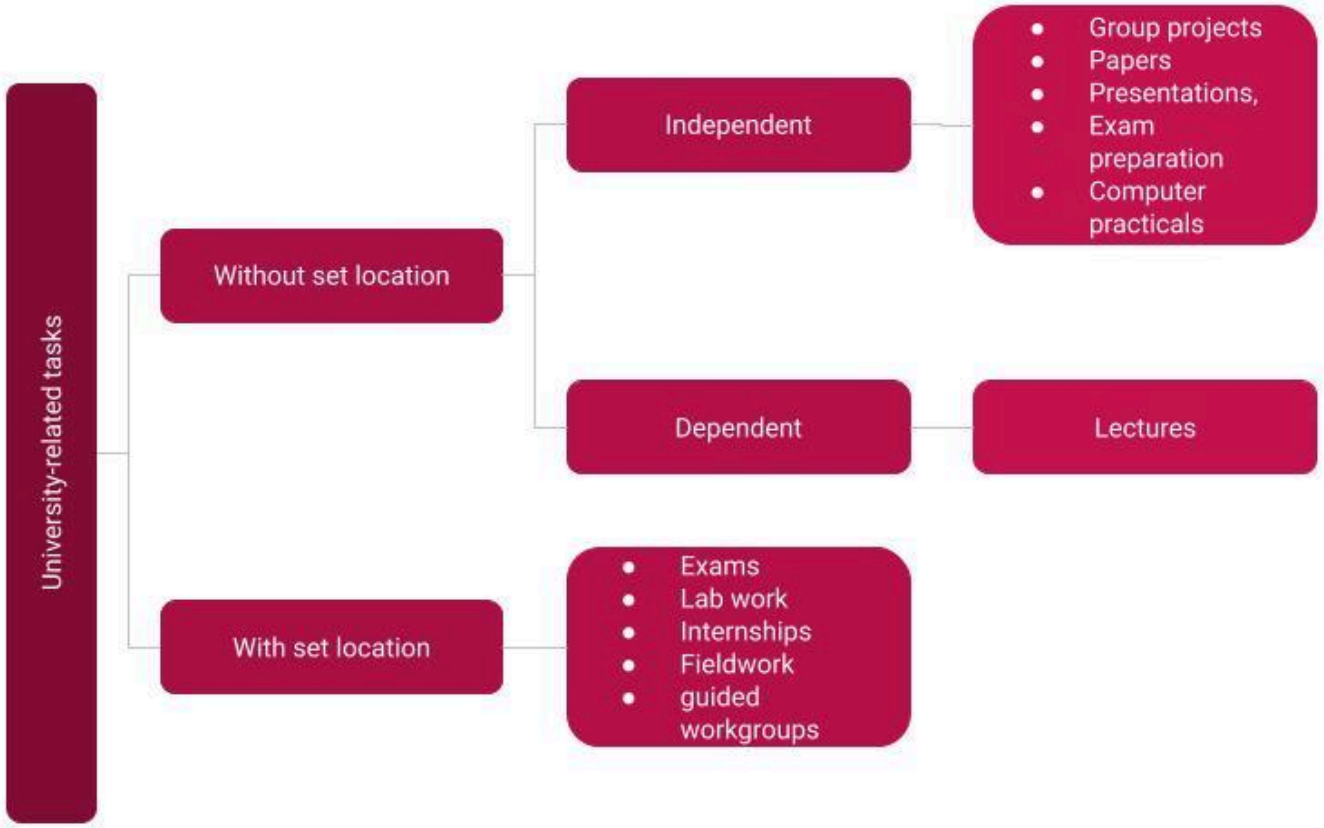
End:

- Ask the interviewee if they have any final questions
- Thank the interviewee for their time and insights

Appendix 5

Interview Code Trees




University-related tasks
Without set location
With set location
Independent
Dependent
Group projects
Papers
Presentations,
Exam preparation
Computer practicals
Lectures
Exams
Lab work
Internships
Fieldwork
guided workgroups