Space Preferences at Orkanen Library:
What Students Value and Activities They Engage in

ALEKSANDAR HRISTOV
The thesis explores the space attributes of Orkanen library in relation to
the students’ preferences when choosing a place to study and their effect
on study and non-study activities. Based on their perceived importance
the following space attributes were identified to be of high value: privacy, noise level, window view, natural light and comfort of
furnishing.

The quiet zone of Orkanen library had successfully accumulated all of
the above mentioned attributes. There, students could study without
being disturbed or disturbing others. The sound privacy and the
collective concentration were particularly motivating for the students.
Despite the positive qualities that the quiet zone possessed specific
internal and external disturbances were identified. The low noise level
amplified intermittent sounds and had the potential to disturb students.
Furthermore, due to its open, unconfined environment, the quiet zone
was vulnerable to noises penetrating from outside the area. Certain space
attributes such as crowdedness and noise level diminished or changed in
quality towards the end of the day. Nevertheless the quiet zone was the
preferred place for studies compared to other spaces in the library which
possessed some but not all of the space attributes required by the
students.

Restricted Access/Limited Control theory and the concept of
exoinformation helped to identify that the students acknowledged the
library as a public place to study while having some degree of control
over their privacy. Natural barriers in the library were used to increase
concentration and motivation during studying and in the few cases when
privacy was required during non-study activities. In general, the leaked
exoinformation was not considered to be sensitive or useful for the
observer or the person being observed.
Table of contents

1. Introduction 1

2. Problem formulation 2
   2.1 Limitations 3

3. Previous research and literature review 5
   3.1 Diversity of study spaces 5
   3.2 Jamieson’s four levels for planning and building 6
   3.3 Space attributes and their importance 6
      3.3.1 Space attributes in a historical and time perspective 7
   3.4 Problematic space attributes and solutions 8
   3.5 The physical and social dimension of the library 9
      3.5.1 A need for togetherness and separateness 10
      3.5.2 The open unconfined space and noise level 11
   3.6 Malmö University Surveys 12
   3.7 Summary 14

4. Theory 15
   4.1 Focus on privacy 15
   4.2 Restricted Access/Limited Control Theory (RALC) 15
   4.3 Building on RALC with exoinformation 17

5. Empirical setting: the Orkanen library 19

6. Methodology 26
   6.1 Nature of the questions 26
   6.2 Sampling 28
   6.3 Ethical issues 30
   6.4 Collected Materials 30
   6.5 Transcription 30
   6.6 Analysis Method 31

7. Results 33
   7.1 Personal and activity profile of the students 33
      7.1.1 The respondents 33
7.1.2 Weekly visits
7.1.3 Expected hours per visit
7.1.4 Reason to visit
7.2 Quiet zone – a preferred place to study
  7.2.1 Motivation and reasoning for the quiet zone
  7.2.2 Noise level and the use of earplugs
  7.2.3 Silence as generator
  7.2.4 Penetrating sound
7.3 Studying alone or in company
7.4 Where in the library
  7.4.1 Switching places during a single visit
  7.4.2 Variation
7.5 Less desirable locations and space attributes
  7.5.1 Isolated chairs
  7.5.2 Silent room
  7.5.3 The group rooms
  7.5.4 The least favorite place
7.6 Being observed and observing
7.7 Avoiding certain activities
7.8 Awareness of time
8. Analysis and discussion
  8.1 A preference for open space
    8.1.1 The quiet zone
    8.1.2 Visual privacy and comfort
    8.1.3 Noise levels
    8.1.4 Students in the quiet zone
  8.2 Exoinformation
  8.3 Study and non-study activities at Orkanen
  8.4 A place to study
  8.5 Comfort and type of furnishing
  8.6 Freedom of movement
  8.7 Minimizing and avoiding activities
  8.8 Value of space attributes
  8.9 Changing qualities of space attributes
    8.9.1 Crowdedness
    8.9.2 Noise level
List of figures

Figure 1: Half the map of Orkanen library 19
Figure 2: Group room (non-quiet zone) 20
Figure 3: Isolated armchairs (non-quiet zone) 21
Figure 4: Desks for 6 people on the left and 2 standing desks (quiet zone) 21
Figure 5: Beginning of the quiet zone 22
Figure 6: One-person sofas (quiet zone) 22
Figure 7: 2 desks for 4 people with 2 stationary computers (quiet zone) 23
Figure 8: Round tables with 5 chairs to each table (non-quiet zone) 23
Figure 9: Inner corridor (non-quiet zone) 24
Figure 10: Inner corridor (beginning of the quiet zone) 24
Figure 11: Rotating chairs (non-quiet zone) 25
Figure 12: Poster 29
1. Introduction

The motivation behind this thesis comes from my personal and working experience as a student and part-time librarian at the Orkanen academic library of Malmö University. I have both spent time studying at the library and behind the information desk answering students’ questions. During those years I first-hand witnessed the many changes the library went through – new types of furniture were introduced regularly, expansion of the quiet zone, improved Wi-Fi coverage, experimenting with closing hours, displaying students’ art in the library corridors and thematic monthly book exhibitions among other changes. What motivates some of these changes can be explained by the “opportunities, challenges and changes in higher education” and the effects they have on academic libraries (Olieveira, 2016:355). Something else that is influencing the way academic libraries operate is the digital medium. Ever since it was introduced to the public and eventually made its way into academic libraries, it has been challenging and affecting both traditional library services and library space planning (Olieveira, 2016). The effect on the latter is that academic libraries are now providing more physical space for their patrons and less for book storage area. Since a lot of the information collection, storage and assimilation have moved digitally and online, students now have more options as to where to conduct their studies - either somewhere in the library or outside of its premises. A personal computer and internet access is turning where one could engage in the learning process more and more into a personal choice.

Webb, Shcaller and Hunley (2008) came to the conclusion that learning was no longer limited to laboratories and classrooms. Therefore it was expected that institutions of higher education had to answer to the demands for alternative study places and incorporate them in their physical premises (Mathews, Andrews & Adams, 2011; Fisher & Newton, 2014). And indeed, Shill and Tonner as well as Stewart wrote that renovated and newly erected academic libraries have started to feature elements of non-traditional learning facilities in their layouts (2003, 2011). The list of library spaces conducive for learning is long but by no means complete and include some of the following locations: nontraditional facilities like cafes and classrooms; computer classrooms, informal spontaneous spaces, social learning spaces, group study areas, communal and collaborative spaces, computer stations, areas for individual as well as areas where quietness and solitude dominate (Oliveira, 2016).
2. Problem formulation

With changes in the physical space of libraries I believe there is an urgent question to be answered. How are they perceived by the very people they are designed for and meant to accommodate their needs and preferences? The role of the student in the academic library is central and there are many space attributes that make an environment desirable or not. Elements like crowdedness, noise level, audio and visual privacy, type of furniture, level of interaction, aesthetics and others can be decisive when a student is making a choice whether or not to study at the library, where in the library, for how long and with whom. By finding out which are the library attributes that affect the students’ spatial choices most, this thesis will achieve two things. One, if the current physical spaces satisfy the students’ preferences at Orkanen library and two – if that is not the case, what changes should be made accordingly to their preferences. Orkanen library is the biggest of the three student libraries that are part of Malmö University and matches the description of a higher education building with alternative study places. It is a library of many spaces which possess different qualities in relation to space design and planning in terms of functionality, aesthetics, layout, furniture, privacy, window view, etc. Therefore Orkanen is a very suitable case study to find out which are the most preferred space attributes that attract students to specific places in the library. By answering this question I will also find which ones are less important to the students or perhaps could even be ignored if others are satisfied successfully in the first place.

The first research question is:

1. What space attributes of Orkanen library are considered valuable to its students when choosing a place to study?

An important justification for the inclusion of the next research question comes from researchers’ findings’ that students demand “quietness not silence, community not isolation” (Olieveira, 2016:357). In other words, the individual requires privacy and concentration but also communication and interaction. In another study, Sommerville and Collins came to the conclusion that students had a clear preference for “open, unconfined environment” (2008:813). Satisfying such demands and providing the students with a varied environment is not an easy task. This is especially true when other studies show that students also have a preference for privacy expressed in the form of “having their own little space, without distractions, or spaces where others could not see them working” (Harrop & Turrin, 2013:71). Another study that supports this claim concludes that the library as a communal space must continue the tradition where students can “engage in quiet, solitary and contemplative study” (Chan & Spodick, 2014:255).

I believe this does not need to be a dichotomy case but more of a clear example where the social and physical dimensions of the library must work together in a close to perfect balance in order to
successfully satisfy the students’ needs. It would require the presence of a set of space attributes which
the students could choose from, manipulate and navigate through so that they could successfully
engage in individual or group study and non-study activities. Such activities would also require an
environment where students could rearrange the library attributes if such changes are necessary
because switching from one activity to another might dictate a partial or totally different space. What I
am describing is similar to Altman’s definition of privacy- a dynamic process in which the individual
wants to control the level of interaction which varies from individual to individual as well as
circumstances over time (Beckers, Van Der Voordt, & Dewulf, 2016). Creating the right conditions
for such a process in a public space like the academic library is indeed challenging. Therefore I
consider the following research question to be a much needed follow up of the first one.

2. How are the library space attributes affecting the study and non-study activities of students?

Students who spend time at the library studying are most likely engaged in other activities
before, during or after their studies for the day. This needs to be explored further as Orkanen gives
possibilities for variety of activities in its spaces. I believe that by adding the second research question,
I will be able to understand better the students’ decisions to engage in personal activities at the library.
Library’s functions may be obvious and clear to the students and include the search for and access to
information in digital or physical format, a place to study individually or in a group as well as the
option to be there for non-study related activities. The formal library rules are straightforward too: no
food allowed just non-alcoholic beverages, no talking in the quiet zone, opening hours during
weekdays 08:00 – 20:00 and others. However, since there are constant changes in the physical
environment where learning takes place together with the incorporation of alternative study places,
then surely there is blending of formal and informal rules of engagement coming from each and every
space but now put together under one roof. In this line of thoughts it is interesting to understand what
students think to be acceptable and non-acceptable behavior or activity at the Orkanen library. Is there
a gray area when it comes to some activities not because they are forbidden but just because they are
taking place in the library? Is paying a bill online a common practice or talking on the phone in the
corridor, or in the non-quiet zone unpleasant, how is talking with friends in the non-quiet zone about
non-study related topics perceived by themselves and by others surrounding them? Such and other
questions will be put under the spotlight through the lens of research question number two.

2.1 Limitations

I think there are certain limitations of the study that may affect the generalization of the
findings. First, Orkanen is an academic library with specific space attributes typical for libraries of
higher education, but nevertheless no two libraries are the same. For example high ceilings and
excellent window view are features that are present at Orkanen but could be totally absent in another
academic library. Even with space attributes present in all libraries such as air quality/movement,
aesthetics, etc, if a library has really poor ventilation then it is likely that this attribute will be of greater importance over the others to the students. Second, this particular library serves students who are in the academic disciplines of the humanities. It is possible that students in programs and courses that have to do with for example programming or natural science disciplines might have other space preferences due to the nature of their activities hence the study environment could have different attributes and priorities.

Last but not least, the students who I interviewed were not balanced in terms of gender and ethnicity. There were six female and only two male participants who took part in this study while all of them were white individuals from Western Europe.
3. Previous research and literature review

This chapter contains the reviews of previous research in the field. Section 3.1 presents the studies of Robert Sommer who researched different places where students could be found studying. He identified a variety of locations and documented the reasoning behind the students’ motivation for choosing a place to study. Section 3.2 presents the arguments of Peter Jamieson that universities should focus on four main levels when planning and building teaching and learning facilities. According to him the role of the student should be central and once the facilities are erected, the work for their improvement and optimization should continue. Section 3.3 is where space attributes are identified and ranked but also where researchers differ in opinion and results when it comes to the importance of some of the space attributes. In this section the reader can also read about placing the space attributes in a time context. What was regarded as an important space attribute in the past by the students might not be the case today. Section 3.4 focuses on problematic space attributes and solutions offered by researchers. The next section is on the physical and social dimension of the library where space attributes fall in one of the two groups. The combination of those two dimensions has an effect on the students’ preferences when choosing a place to study and is sometimes expressed in surprising to the researchers ways. There seems to be a need for togetherness and separateness at the same time. The last section of chapter three is about the students’ preference for open unconfined spaces and the noise level negative impact on the students. Apart from a descriptive paragraph with the chapter’s structure, the next paragraph is about the initial output of search and selection criteria for the inclusion of the papers in chapter 3.

3.1 Diversity of study spaces

In Ecology of Study Areas, Robert Sommer writes that up until 1960’s the research focus had been on single study locations such as the library reading room or the student’s personal living space-the dormitory. His work had a different approach and showed that studying could take place in many settings each offering something different to the student. The author’s intention was to learn about all these spaces used for studying and “the perceived advantages and disadvantages of each location” (Sommer, 1970:271). He discovered that studying took place in outdoor areas, cafeterias, empty classrooms, libraries, residences and others. An important disclaimer he made was that his work made no attempt to measure the efficiency of the studying, but rather to determine the students’ perception of the settings and their reasoning for choosing to study there. It was an ambitious project with visits and interviews that took place in five universities and four colleges. The following method was used: an interviewer would approach students at the place where they were studying and ask them to fill out a simple open-ended questionnaire. The student had to answer the question why he had chosen to study there and what were the disadvantages of studying at that particular place. The motivation behind this approach was that an open-ended questionnaire “would facilitate a comparison of data from several different settings” (Sommer, 1970:273). Later on Sommer and his team created a
questionnaire with multiple-choice forms and ratings scales but encountered problems because they had to be modified for every new location making comparison from one setting to another difficult. Therefore they returned to the original questionnaire which results could be coded into major categories, increasing speed and reliability (Sommer, 1970). In another paper the same author writes the following: “Few places make as strict a demand upon the physical setting to guarantee privacy as the library reading area. The library is one of the few public institutions in which interaction between people is actively discouraged” (Sommer, 1966:234). In the same article “Ecology on Privacy” the author continues: “New libraries on university campuses often contain special rooms to satisfy the needs of more gregarious readers as well as to get them out of the way of students who prefer quiet and solitude while studying” (Sommer, 1966:234).

3.2 Jamieson’s four levels for planning and building

Although a lot has changed since then, some 40 years later Peter Jamieson writes that universities still have much to learn when it comes to designing “effective teaching and learning environments” (2003:130). According to him, academic developers are to take part in two levels during that process. First, they are to contribute to all the planning and designing as this is the foundation for the creation of any new teaching and learning facility. Second, once such facility has been erected, it is crucial that the same experts should continue their work in order to optimize it. The environment should be seen as a continuous process of development because students shape and change its settings and functions according to their own needs (Jamieson, 2013).

According to Jamieson, the role of the student should be central and the study environment should answer to her “need and desire to learn both formally and informally in appropriate settings” (2003:130). His advice to universities is that they should focus on four main levels when planning and building teaching and learning facilities: comfort level, aesthetics impact, fit-out and layout. Comfort level can be briefly described as the effect the space has on the individual. Elements such as floor coverings, desks, and tables, together with temperature, sound and light levels, all have to do with the comfort of a student in a specific setting. Aesthetic impact has to do with the way the student respond to interior design elements like color schemes, type of fabrics and floor coverings as well as the decorative elements of the space. Fit-out of the space defines the student’s opportunities in terms of what they can do in a specific space based on its type and resources. Layout of the space has to do with “arrangement and number of facilities, furniture or fittings and, most importantly the space between items” (Jamieson, 2003:131). Its manifestation can be found in how students can move through and between physical spaces as well as how they study in a specific area and with whom they are working together.

3.3 Space attributes and their importance

The above mentioned four levels are similar to what other scholars have developed and labeled as space attributes. A space attribute is a term used to describe the indoor characteristics of a
physical space and can be linked to the student’s perceived importance of such attributes when she is choosing a space to work at. A study from 2015 uses 18 space attributes in order to identify which of them influence the students’ spatial choices the most (Cha & Kim). In a survey students were asked to rate space attributes by their perceived importance using a 7 point Likert scale. The following space attributes came as the most important, starting with the highest: amount of space, noise level, crowdedness, comfort of furnishing and cleanliness (Cha & Kim, 2015). To the surprise of the authors “window view” scored low with 3.48 points coming in contrast to studies which found out that students preferred seats close to a window (DeClercq and Cranz, 2014; Organ & Jantti, 1997). However it is important to make the distinction between a window view and a source of natural light. The latter is especially attractive to students and has been demonstrated in a number of studies (Foster & Gibbons, 2007; Kilic & Hasirci, 2011; Twait, 2009). Comfort of furnishing was ranked fourth unsurprisingly because 55.5% of the participants expected to stay longer than three hours and more than 70% of them used their own laptops and required large spaces for doing more than one activity at a time (Cha, & Kim, 2015). It is suggested that modern day students use a wide variety of materials and therefore are attracted to larger study tables over spaces designed for individual work which often are perceived as too enclosing (Loder, 2000). Through the method of participant observation Bedwell and Banks found out that students who were engaged in individual work often used group study tables, moved and readjusted them whenever necessary (2013). What these students would do is to mark their own personal bubble by spreading their materials (Bedwell & Banks, 2013; Schneekloth & Keable, 1991). Using books, laptops, and backpacks creates a clear divide and is respected by other students. When it comes to comfort in furnishing, studies tend to shift for and against soft furniture compared to tables and chairs. Foster & Gibbons (2007) as well as Webb et al., (2008) recommend libraries to use soft furniture while other studies suggest the opposite (Applegate, 2009; Loder, 2000; Vaska, Chan & Powelson, 2009). Similarly to the possible confusion whether it is window view or source of natural light or perhaps both that attract students, it is hard to name the best single type of furniture. It is likely that the students’ preference for type of furniture is not a constant and is determined by the type of activity they are currently engaged in.

3.3.1 Space attributes in a historical and time perspective

The digital medium that I mentioned in the introduction of my thesis came along with emerging new technologies such as laptops, smartphones and other portable electronic devices. Technology is today an integral part of the learning process and students are increasingly making use of it. Students who regularly spend time at the library want to use their electronic gadgets and have a need for a power outlet close to their working stations. Wireless connection and a nearby source of electric power have become a must for library users nowadays (Montgomery, 2014). It is no surprise that in the past the absence of such electronic devices did not require changes in the study habits of students and the physical property of the library. Naturally Robert Sommer does not mention any
demand for power outlets in his two articles that I quote from. Such demands start to appear regularly from the early years of the 2000 onwards (Brown, 2004; Cowan 2012; Fournier, Lane, Lyle & Morris, 2010; Mohanty, 2002; Montgomery, 2014). In a paper from 2003, Scott Bennett came to the conclusion that such changes were rapid and were in fact the second highest reason for library renovations, the number one being growth of collections (İmamoğlu & Gürel, 2015). The study of Fournier et al. (2010) showed that students demand for power outlets was ranked higher than that of the preference for comfortable furniture, quiet spaces and large tables to study and spread materials at. Besides the lack of adequate access to power outlets, students also named two other obstacles to using a laptop on campus. The heavy weight of the laptop together with concerns for theft or damage was a major stoppage power.

It has to be pointed out that in newer studies like those of Beckers et al (2016) and Cha and Kim (2015) that address the topic of space attributes, there is no mention of the importance of power outlets or wireless internet access as well as obstacles such as weight, design or functionality of the laptop. I believe this is partly due to the advancement and improvements in electronic devices making them lighter, smaller and easier, increasing their portability thus making them more relevant for the students’ study habits. And as a result of this, demand for power outlets was successfully addressed prior to the execution of the studies. Therefore it should be clear that when comparing the perceived importance of space attributes and draw data from various books and articles, one should have in mind that certain attributes are focus of attention in a specific period of time where changes in technology for example could push for new learning habits and demand further changes in the learning environment. That is why the absence or presence of space attributes with varying degree of importance should be carefully studied and compared. Cha and Kim warn that although some space attributes could be ranked in terms of student’s spatial choice, there is a possibility that attributes that are considered unimportant could sometimes become a determinant (2015). For example if the aesthetic appearance of the space is extremely poor then the student is more likely to consider it. The authors also think that the importance of attributes could have a reflection on their order of consideration. When a more important attribute is satisfied, a less important attribute could be subsequently considered (Cha & Kim, 2015). Such is the case where Bedwell and Banks write about quiet study areas affected by cell phone chatter and students who chose to socialize there and ignore the no-talking-allowed rule (2013). Despite such disruptions, it could be observed that such places were regularly and heavily used by students. The authors speculated that it was the only place which had a steady wireless signal.

3.4 Problematic space attributes and solutions

While some studies aim to identify and measure key space attributes, others focus into solving certain problems stemming from individual specific variables. In “Good Fences Make Good Neighbors” (İmamoğlu & Gürel, 2015), a study of behavior mapping (observation) the authors write
about the space attribute crowdedness and possible solutions to it. They argue that providing privacy may have a positive effect on crowdedness, an important space attribute ranked third in the study of Cha and Kim, (2015). Not enough space for the students in an academic library could be a result of out-of-date architecture and bad furnishing but also as they point out the way students make choices to sit or not at a specific location (İmamoğlu & Gürel, 2015). For example, this and other studies found out that students preferred to sit by themselves even when the table was big enough to accommodate at least few people and there were available seats. Often a student would choose to sit diagonally to the person sitting already at the table but not next to or opposite of her (İmamoğlu & Gürel, 2015; Eastman & Harper, 1971). Other studies such as Applegate (2009); Foster and Gibbons, (2007) and Xia, (2005) found that when the table was close to being 50% occupied, the student would mostly choose to not sit at it. The way they alleviated the problem of crowdedness was to place territorial markers at the tables. In this way, students would not ignore a table when there were already one or two people sitting at it because the divider was providing them with enough privacy. Making well-defined formal dividers showed the students that while the table was for several people there was enough personal study space for each and every person (İmamoğlu & Gürel, 2015). In the same study 58% of the participants said that they preferred to study alone whereas 46% preferred to study with friends but in silence.

3.5 The physical and social dimension of the library

In another study, Beckers et al. suggested a conceptual model where the space attributes were separated into two distinguished groups and together with sociodemographic variables such as gender, age, study year and living situation had an effect over students’ learning space preferences for both individual and collaborative work (2016). The first group was what Beckers et al. named the physical dimension and included space attributes such as comfort, aesthetics, ICT facilities and layout. The second group constituted of privacy, interaction and autonomy and was described as the social dimension of the space. In order to measure the social and physical dimension of the environment Beckers et al. developed a questionnaire with a list of propositions on a five-point Likert scale. The way the authors make sense of the social dimension is by previous studies of it that took place in office environments. The individual requires privacy and concentration but also communication and interaction. In office environments interruptions, crowding and noise are seen as attributes of distraction. With the help of environmental psychology, privacy is defined as a dynamic process in which the individual wants to control the level of interaction which varies from individual to individual as well as circumstances over time (Beckers et al., 2016). An issue which is explored in another study where personal control is understood as a construction of the social dimension and is linked to the degree of autonomy an individual has when deciding what to do, when and where. (Appel-Meulenkoek, Groenen, & Janssen, 2011).
3.5.1 A need for togetherness and separateness

At the same time however there seems to be a clear dichotomy between certain space attributes or at least their existence at the same location is found to be very hard to balance. I already wrote that students had a preference for “open, unconfined learning environments” (Sommerville & Collins, 2008:813). It is not only comfort of furnishing and layout that drives students with preference for individual work habits to seek spaces originally created for group work. There is evidence that students do want to study in the presence of others. İmamoğlu and Gürel called this a “need for both togetherness and separateness” and “conflicting needs for functional separateness and psychological togetherness” (2015:71). The study by Bedwell and Banks similarly concluded such dichotomy writing that half of the students expressed a need to be around other students in public areas rather than studying in individual, quiet and enclosed carrels (2013). The author gave a possible explanation that individual students appreciated a sense of community. Another possibility according to Sommer was that for some, the sight of other students studying could have “a facilitative effect on their own motivation” (Sommer, 1966:240). Sommer added that some students in order to maintain their concentration felt the need for an activity or social stimulation around them. Similar reasoning was given by Bedwell and Banks’ paper in a way that many students regardless of whether they use a laptop or not, chose to study in public spaces in order to help with their focus (2013). They had students confirm that they would purposely choose open, public spaces and the use of computer workstations to force themselves to focus on their work and at the same time to limit any leisure distractions, especially those coming from their laptops (Bedwell & Comeau, 2009). The goal was to decrease the level of one’s socializing as well as other activities such as playing video games, checking Facebook and watching videos on the laptop. There was a conscious choice in the students’ decision to position themselves in a way that their laptop screens would be facing the public space when they were writing papers (Bedwell & Banks, 2013).

The opposite - the need for separateness comes from studies such as that of Harrop and Turpin who found a relationship between “the privacy preferences of university students and the preference for a quiet learning space without any distractions” (Beckers et al, 2016:248). It was found that students who favored privacy, stressed on the importance of having their own “little space with no distractions, or spaces where others could not see their work” (Harrop & Turpin, 2013:68). To achieve that level of privacy, students would also chose out-of-the-way-corners for their work. In the same study however, Harrop and Turpin could also demonstrate that some students preferred certain spaces because the chances of their friends being at the same place were high. Beckers et al. (2016) confirmed the preferences for quiet working spaces but failed to find a strong correlation with the preference for privacy. Instead, the students expressed a preference for places that supported the possibility for retreat in quietness. Their findings were confirmed by Price, Smith and Agahi, (2003) stating that quiet areas are one of the most desired places in the university facilities.
Other studies confirmed the students’ fondness for individual work and quiet spaces but also underlined the somehow unorthodox execution of their preferences. For example students studying at D.H. Library at North Carolina State University stated their preference for quiet spaces but also showed appreciation for the social spaces in the library. In the survey, 35% of them answered that they had two favorite locations: the quiet spaces designed for individual work and the social spaces, using them almost equal amount of time (Yoo-Lee, Lee & Velez, 2013). As Oliveira quoted a study by Thaler et al. which reported findings that more than 50% of the students in seven different libraries could be found individually studying at the most social locations (Oliveira, 2016). In another study Holder and Lange discovered that 30% of the students at McGill University would use the group spaces at Furniture Lab for quiet study (2014). A similar conclusion was reached by Thomas, Van Horne, Jacobson and Anson reporting that the majority of the students were studying quietly in group spaces (2015). Another study found out that students who would study alone demanded peace and quiet in areas where the learning environment was intended for group work. The authors wrote that such individuals would readily ask others to speak more quietly or even move elsewhere (Tevaniemi, Poutanen & Lähdemäki, 2015).

3.5.2 The open unconfined space and noise level

If students wish to study individually in open, unconfined spaces surrounded by other students, there are certain space attribute that they would have to take into account. That would be crowdedness, comfort of furniture, privacy be that visual or audio and last but not least noise level. This particular space attribute tends to be problematic both in confined study rooms, private carrels, cafeterias, lounges as well as in open public spaces. Studies have shown that noise heavily influences cognitive and communication tasks where intermittent noise is proven to be more disruptive than continuous noise (Braat-Eggen, Van Heijst, Hornikx & Kohlrausch, 2017). Speech like noise, noise coming from ringing phones and pass-by noise are the most disruptive noises in open-plan offices. It is also shown that a general background of silence makes any noise to stand out and is more distracting than a noise coming from a continuous activity (Sommer, 1966). In the same study, Sommer writes that some firms would intentionally introduce white noise generators in fully soundproof environments which tend to have certain coldness and non-human qualities where any movement or noise disturbances affect the staff negatively. In their study, Braat-Eggen et al. decided to measure background noise in five open-plan environments (OPSEs) at universities in the Netherlands. Students who participated in the survey were asked if they could identify different noise sources and disturbances. In addition to this, students had to answer if they were actually bothered by the noise while performing different activities. The study showed that 38% of the students think of background noise as disruptive (Braat-Eggen et al., 2017). Five different types of background noise were identified, coming from building devices, telephones, intelligible and unintelligible conversations and people walking. The following three were ranked most disruptive in descending order – intelligible
speech, unintelligible speech and walking. It is also very interesting to find out that the level of disturbance depends not only on the type of noise but also on the task the students are currently performing. Students are most affected by noise when studying for an exam, followed by reading and writing tasks. Of all the participants, 57% used earplugs or headphones in order to compensate for the noisy environment while 14% had never used any.

To conclude, I believe that the space attribute privacy deserves to be addressed especially when it comes to studies in this area. Preibusch writes that ever since the invention of the Internet and its introduction to the public, the definition of privacy has shifted from spatial to information privacy (2013). The implication is that the body of research that focuses on privacy taking place in academic libraries is heavily focused on information privacy in connection with digital library services, patrons’ data storage and access, safe and anonymous browsing among other issues. When it comes to spatial privacy, privacy could be broken down to audio and visual privacy and has links to personal space and crowdedness as well as noise levels (Sommer 1970; Klic & Hasirci, 2011). In general, social stimuli are major source of distraction for people engaged in studying and can be linked to the issues of privacy in public spaces such as the library. In all of the studies reviewed so far the only one that offers a definition of the space attribute privacy is the paper of Beckers et al (2016). The problem of privacy will be further addressed in the theoretical chapter of this study. Something else that I believe deserves a better understanding is the activity of studying. In many of the articles when the authors talk about students’ preferences and space attributes, we learn about “quiet study” or where and with whom students like studying in general. I have no doubt that the process of studying alone has been thoroughly researched but the process of studying in connection to the perceived importance of space attributes in my opinion could be further explored. That together with time spent on non-study activities at the library should also be a matter of concern.

3.6 Malmö University Surveys

Based on Jamieson’s recommendations that the teaching and learning environment could be understood as a space of continued development where students adjust to changes and further make changes fit to their own needs, it is important that academic developers set an evaluation process to find out if the changes have met the original educational objectives set out in the original plan (2013). Such evaluations were performed at the Malmö University when in 2015 a group of researchers sent a questionnaire to the students regarding the quality of the learning spaces in Orkanen library. It is unclear how many took part in but there are numbers and comments that made some conclusions possible. For each question in the survey, the students could mark more than one answer as well as to leave a comment. Most of the students answered that their preferred place to study was at the quiet zone in the library. Where exactly in the quiet zone or in general varied depending on what type of activity the students were engaged in. Many commented that it was good to be able to change places so that one could study more effectively. For example being able to move from a desk and chair to a
sofa or an armchair. Whether or not the students get their most preferred place, 55% answered with *most often* while 35% said *rarely*. It was agreed that if one is not at the library between 8 and 09:30 o’clock in the morning, getting hold of your favorite place is becoming increasingly difficult the later you arrive. Soft furniture like armchairs and sofas were best to read at but not so good for writing activities. Many complained that sofas take up too much space which in their opinion should be utilized better. When it came to space attributes such as noise level, 55% of the participants were very pleased with it, 20% pleased and for 25% the noise level was unsatisfactory, while the rest 10% did not have an opinion. The overall comments were that it was not quiet enough in the quiet zone nor it was quiet enough in the whole of the library in general. The majority of the students were pleased with the lighting at the library, leaving only about 7% of them dissatisfied. The complaint here was that the central automatic system controlling the blinds prevented the sun from entering the library.

A second survey was produced in the year of 2017. It was much broader and encompassed all of the faculties and libraries of Malmö University. The aim was to find out how teachers and students perceived both teaching and learning spaces. The accumulated data would then be used for the development and improvement of both formal and informal learning spaces. In total 1111 students and 82 teachers took part in the survey. 462 students preferred to study at the library that of all three libraries Orkanen was most favored). In general, students wanted quiet environment, more variety of spaces and more group study rooms. A need for ergonomic workstations was expressed as well as more sitting places near an electric outlet. Approximately 50% of the students rarely get the place they want, and again coming early seems to give one the best chance of securing a good spot. Here are some of the things the students complained about Orkanen. There was a shortage of study places both for individual and group work, especially if one wanted to sit at a table. The quiet zone got full fast and again one had to be there early in the morning in order to secure an attractive space. Sofas that were meant for six people (two sofas against each other separate by a low table) were often occupied by a single student making them undesirable for others, contributing further to the shortage of study places. A wish for single armchairs close to an electric outlet was also expressed. The open, unconfined space of the library made it difficult to stay focused and study; one could hear noises coming all the way from the first floor. The positive attitude was expressed mainly in gratitude towards the quiet zone at Orkanen. The students thought of it as a good place where one could study without being interrupted. Another strong quality of the library was that one could study by herself and still feel the collective concentration and benefit from it.

The 2015 survey that solely focuses on the Orkanen library showed that the quiet zone was a preferred place for students (Malmö University, 2015), specially the short side of the library which was facing the sea. It was preferred because it was a quiet zone, had a lot of light coming in and a great view. Unfortunately, a building was erected in 2016 that literally rendered the view to zero. The
study from 2017 confirms that the most preferred area is still the quiet zone, together with the study group rooms (Malmö University, 2017).

3.7 Summary

In order for me to answer the first research question of the thesis I had to find out what library space attributes were identified as important by previous research. There is a group of space attributes that are presented in many academic papers as important and some are also ranked in students’ perceived importance when choosing a place to study. There are differences in the ranking while some attributes are classified as important and others not. I had to be critical while I was reading previous studies on this topic and took into consideration the time, and technology development variable. The work of Sommer and Jamieson addressed the first variable whereas the second was discussed in section 3.3.1.

Something else that was evident from the literature review was the students’ need for both togetherness and separateness when studying. Formal and informal learning facilities had to create an environment where students could study individually and undisturbed while surrounded by others in open, unconfined spaces. Previous research documents such behavior and offers some explanation to this phenomenon but I think there is a knowledge gap which should be further explored.
4. Theory

4.1 Focus on privacy

Regarding space attributes, most people using common sense understand what space attributes like air quality, aesthetics, window view and cleanliness among others are without much explanation. However when it comes to visual and sound privacy and privacy in general a clarification is much needed and appreciated. Privacy is a complex phenomenon that cannot be pinned down to a single definition and different scholars present varying definitions. To put it in a timeframe, it is understandable that when privacy was first introduced, it was seen as “non-intrusion, a right to be left alone and had everything to do with the physical space an individual occupied” (Preibusch, 2013:1134). Therefore privacy in general although not always rightfully was linked to liberty, autonomy, secrecy or solitude (Tavani, 2007). But with technological advancements, the invention of the internet and the introduction of an affordable personal computer to the masses, many scholars moved their attention from spatial to information privacy. That is the reason why privacy is studied as something that can be breached, lost and therefore it should be protected (Preibusch, 2013).

In the computer science field, experts have tried to move the debate around privacy by separating and placing privacy in three distinctive groups: privacy as hiding (confidentiality), privacy as control (information self-determination) and privacy as practice (identity construction) meaning that the individual has the ability to define her identity by controlling how much of her personal data to reveal or conceal. In other words, the individual must be able to control and renegotiate the boundaries of the already collected data about herself (Berendt, 2012). Similarly, Preibusch argues that privacy can be understood as negotiation on an individual level (2013). The relation between a consumer and service providers is usually marked by privacy policies that are in agreement on how much of the individual’s personal information can be used, shared and even sold further to third party actors (Preibusch, 2013).

4.2 Restricted Access/Limited Control Theory (RALC)

Moor and Tavani’s Restricted Access/Limited Control Theory (RALC) (2007) will provide this paper with a broad enough framework where privacy is both connected to the physical environment and to the actions of the individual. Similarly to theories on information privacy, RALC gives control over privacy on individual level but the focus remains on a spatial level. One of the strong points of RALC is that the theory makes a clear distinction between the condition of privacy and the right to privacy. The former defines the necessary conditions for one to have privacy in the descriptive sense. This makes it possible for us to talk about loss of privacy or in the latter case a violation or invasion of privacy (Tavani, 2007).
According to RALC “an individual has privacy in a situation with regard to others if in that situation the individual is protected from intrusion, interference and information access by others” (Tavani, 2007:10). Here the word situation is deliberately left open to interpretation as the author want to cover many state of affairs that people usually consider private. Under this umbrella there are situations like activities which are taking place at a physical location, within a relationship or the storage and access of information in a digital form. (Tavani, 2007). RALC theory also clarifies when privacy can be lost or violated. In situations where an individual is naturally protected by intrusion and access by others, we can talk about natural, descriptive privacy. According to RALC there are naturally private situations and normatively private situations. In the former type, the natural means of the environment shield the individual and his privacy by blocking any attempts for observation, interference and intrusion. For example, forests, hills, rivers, are all natural means that could be situated between people and in cases where these obstacles are overcome; privacy could be lost but not violated. In normatively private situations however privacy can very well be violated or invaded. There are norms – legal, conventional and ethical – according to which one can expect a protection from violation of privacy (Tavani, 2007). For example in locations such as one’s house, where the individual should be able to enjoy the privacy of her own home and expect that people would not peek or spy through the corner of the window. Also during activities such as voting where there is a high degree of privacy involved, or in cases where servers contain personal information such as medical or any other personal records. In normatively private situations a person’s privacy can be violated, invaded and also lost (Tavani, 2007).

I believe an important clarification should be made over the author’s comment on the definition of situations that can take the form of many states of affairs that “we regard as private” (Tavani, 2007:10). It is possible that the reader might be in a state of confusion, wondering how an action can demand privacy if it is taking place in the wilderness or in a public space in an urban environment. In other words, it is not a common practice for individuals to demand privacy for certain actions in premises that are deemed for public use such as libraries, bus and train stations, the street, and so on. I interpret the word private here to mean that an individual might want to engage in a private, personal activity that she wishes no one to see or hear sometimes even in public spaces. This means that the person does not need to demand privacy in a public space but simply to risk engaging in a private activity. The motivation does not have to be specified here, but what matters is that if such private activity/situation is taking place in what the author names naturally private situation, privacy can be diminished or lost but not violated. Perhaps it might be better for naturally and normatively private situation to be referred to as privacy in natural and normative situations.

Another important quality of the RALC theory is that it gives control to the individual in order to manage her own privacy. It builds on the Control theory of privacy by making the very important point that a person does not need to have absolute control over information about herself (Tavani,
It is fair to say that absolute control is practically impossible or very hard to attain and sustain where as having some degree of control with relation to choice, consent and correction is highly possible. “A person needs some control in choosing situations that offer others the level of access the person desires which can range from total privacy to total publicity (Tavani, 2007:12) In case of a student studying at Orkanen library, she can make a decision over the situation that is to say what place she will choose to study at. This would mean a choice and control of space attributes which can be with dominant or diminished qualities depending on the specific location. Total privacy would require a study room and total quietness – the silent room where even laptops are forbidden. To alter that she has the option to change her location and for example to go to the cafeteria where there are no such restrictions and one can speak or use a laptop and interact with others. The physical boundaries found in natural settings can be translated to those in the academic library with its layout, type of furniture, bookshelves, lightning, crowdedness, noise level and others.

4.3 Building on RALC with exoinformation

I think that the RALC theory can be fortified by the additional concept of exoinformation. Brunk suggests that rather than seeing privacy as something that can be threatened, violated, intruded upon, the focus should lay on individual level instead. More specifically, can we look at privacy not as outsiders trying to get in, but to see privacy as a flow of information from the inside out? (Brunk, 2001) The logic behind this is that humans in their everyday interactions reveal a great deal of information about themselves. We do that consciously and unconsciously in both the physical and digital world. “Merely by walking outdoors, we put ourselves in the public domain,” (Brunk, 2001:11). Therefore the information that leaves us is what Brunk calls exoinformation. Although the author is mainly focused on the exoinformation in the cyberspace and the digital footprints we are leaving after queries or simply browsing the internet, I think this concept has strong implications in the physical world as well. Public libraries is where a great number of people share the same space, often engaged in some sort of information searching, gathering or dissemination. According to Brunk exoinformation has five important characteristics. These are granularity, persistence, frequency, sensitivity and valuation. The first one refers to how much information is being shed and possibly collected. A good example would be if someone knows what bank you are a client of, compared to information about your bank account and finances. Persistence refers to how long exoinformation is observable as well as how long it remains useful and relevant. For example one might get a quick sneak peek or gain access to the source of information for a longer period of time. Frequency is another attribute and can be described as “the rate of leakage of exoinformation” (Brunk, 2001:12). If you want to know what activity someone is engaging in, then a quick look over the shoulder might be enough. However, if you need details, then the frequency would have to be increased. The last two characteristics are sensitivity and valuation. The former deals with the time period needed depending on what the observer is trying to find out. For example one may need only a second or it can take days,
weeks, and months to find that part of the exoinformation one is after. The latter is about how important or confidential the information that is leaving is to you. For example exposure of medical or financial information is probably more upsetting compared to something less personal like an e-mail address.

RALC describes the two *wheres* of privacy - that is privacy in natural and normative situations, where one’s privacy can be diminished, lost or violated. Exoinformation on the other hand describes the *how*, that is the characteristics of the process during which privacy can be diminished, lost or violated. Tavani writes that privacy is related to personal choice, consent and correction, and I think this is where exoinformation adds to the equation. First, there is choice, then comes consent but after correction is applied there are some consequences to bear. Was the information important or sensitive to you, how much was seen, for how long, who saw it and what use was made of it? These are part of the characteristics of exoinformation. Even without the need for correction of someone’s activity or change of place, there is a constant shed of exoinformation in a place like the library where students are in formal or informal contact with the surrounding environment and the others.

In order to illustrate this better an example is required. A student is at Orkanen library for her daily studies. With her, she took a letter that she received from the center for prevention of sexual diseases. The results are back and she wishes not to wait until she is home in order to read the letter (the example would work with an email as well). She is in control over the situation and can decide whether to open the letter or not and where to open it. To increase privacy she can go to the toilet and read it, sit in one of the isolated armchairs or simply to stay where she already is and open it. If the valuation of the exoinformation is high to her, then she will probably try to achieve the highest possible level of privacy by going to a space where physical obstacles prevent anyone else from seeing her activity. If she decides to stay in the open, unconfined space where she already is then when it comes to granularity, the logo or the name of the institution on the top of the front page might give away enough exoinformation to whoever happens to pass by and see it. About persistency, the exoinformation could be observed for a second or two but can remain useful for much longer time especially if the observer happens to know that person. This is an extreme case that demonstrates that an individual can be in control when it comes to her privacy and that she decides how to increase or decrease it simply by using physical barriers and obstacles situated in the public environment she is in. When it comes to students spending their time in study and non-study activities at the library, I believe that RALC theory of privacy together with the concept of exoinformation will help me to better understand the dynamics of their actions and motivation to engage or not engage in certain activities that have to do with the physical and social attributes of the library.
5. Empirical setting: the Orkanen library

Before I move on to the methodology part and the results from the empirical study, it is necessary to provide a presentation and overview of the Orkanen library as the empirical setting where students engage in study and non-study activities. The text is supported with a map of the library and several photographs which help the reader to clearly comprehend the physical and social dimension of the library in order to better understand the results and analysis chapter.

Figure 1: Half the map of Orkanen library

The building Orkanen is home to the Faculty of Education and Society, the IT support center and the Orkanen library. The library is on the last, fifth floor of the building and is open both to Malmö University students and the general public. Anyone the age of 18 or over has a right to a library card and can use the library’s book collection. Other physical materials include newspapers, magazines, and scientific journals plus free Wi-Fi and access to stationary computers, printers, TVs,
projectors and other technical equipment for presentations and such. Orkanen is divided into a quiet and a non-quiet zone, where the latter covers approximately three quarters of the library. In the former, no verbal communication of any type is allowed whereas in the latter, students can freely engage in discussions. There is quiet room in the non-quiet zone where no computers are allowed and no power outlets for charging electric devices can be found. It is a room where the walls are made of matted glass, making it possible to see the shadows of the people who are in and respectively the people who are passing by. The quiet room is equipped with several sets for individual work comprised of a table and a chair. Cutting the long side in a straight angle (see figure 1), there are two corridors in which the group rooms are located. Two of them can accommodate 10+ people whereas the rest are made for maximum use of four people at a time. These rooms are small, have a low ceiling, lack windows and consist only of a table and four chairs.

Figure 2: Group room (non-quiet zone)

The rest of the library is an open, unconfined space with high ceilings which contribute to a spacious environment. The outer walls of the library are made of glass which brings in a lot of natural light. One of the short sides where the quiet zone is located has a beautiful view towards the city. One of the long sides of the building has also a nice view towards water and other parts of the city. On this same side one can find 360 degree rotatable, individual armchairs that are isolated from two or three sides making it impossible for others to see who is sitting in and what one is doing unless they face him centrally.
Figure 3: *Isolated armchairs (non-quiet zone)*

In the quiet zone in between and along the bookshelves students have access to desks with two, three or four seats on each side with no markers or dividers. Some of the desks for four and six people in total have stationary computers, one per seat (see figure 4 and 7). In the two corners of the quiet zone there are one-person sofas with a lamp for each and every seat and a small space separator in between (see figure 6).

Figure 4: *Desks for six people on the left and two standing desks (quiet zone)*
Figure 5: Beginning of the quiet zone

Figure 6: One-person sofas (quiet zone)
The sofas that so many students complained about were replaced by sets of round tables and five chairs for each (see figure 8 below). There are only a few red sofas left that are placed in pairs divided by a table in between. In the non-quiet zone, in the middle of the library one can find the cafeteria. It is a place with round tables and five chairs to each table as well as high stools and bar-like tables.

The way students navigate the library is by either taking the outer path that circles around the library or going through the inner corridors (see figure 9 below)
Figure 9: *Inner corridor (non-quiet zone)*

*Note: The phone booth was not installed at the time of the interviews*

Figure 10: *Inner corridor (beginning of the quiet zone)*
Figure 11: Rotating chairs (non-quiet zone)
6. Methodology

In order to gather the necessary data for this thesis I decided to conduct semi-structured interviews. The reasons for this are twofold and they are tightly linked to each other. First, the space attributes of Orkanen library are not separate, independent entities but rather interconnected, and some are situated in others. For example the space attribute noise level could be connected to the quiet area of the library, but not necessarily. If that is the case however, a student could choose from a variety of spaces in the quiet zone. Each space adds or removes certain attributes. If she decides to sit on a sofa, then the type of comfort of furniture should be considered as part of the space attributes the student took into consideration before choosing a place to study. However, she might prefer to sit in an isolated armchair where privacy is valued highly, or perhaps choosing the silent room where noise level is reduced to an absolute minimum. What makes matter complex is that Cha & Kim, speculate that “the importance of space attributes could also reflect the order of consideration: when a more important space attribute is satisfactory, then a less important space attribute may subsequently be considered” (2015:279). If this is true then to use a self-completion questionnaire with closed choices in order to find what attributes students rank highest would miss to answer the question why. Since I am interested in space attributes connected to both the physical and social dimension of the library I could not use participant observation either. For example, if I were interested exclusively in the variable crowdedness I could observe different parts of the library, focus on tables and sofas and record their busyness and capacity. I would be able to produce statistics but would stay oblivious to the motivation behind the decision of the student to occupy or not a certain place.

Second, my preference for semi-structured interviews compared to structured interviews or self-completion questionnaire with multiple choice answers is due to the variety of activities students engage in. Studying could be broken down to preparing for an exam, reading notes, writing essays, etc., but the dynamics of their activities would not be covered. Is there a specific order a student conducts her study activities or is it more of a random process? Furthermore, it is not necessary that students only spend time at the library in order to study neither do they study all the time they are in the library. Perhaps different activities are reserved for specific places judging from students’ comments that they like to change spaces (Malmö University, 2017). Adding to this is the study of Braat-Eggen, van Heijst, Hornikx & Kohrausch which shows that students find certain noises more or less disturbing depending on the activities they are currently engaged in (2017). Therefore by conducting semi-structured interviews, I would be able to place the student’s perceived preferences towards specific space attributes solely based on her experience.

6.1 Nature of the questions

The first four questions demand answers with regard to the respondents’ personal and activity information (Appendix A). Age, sex, what program and semester the student follows beg for straightforward answers while the other three questions aim to cover possible deviation from an exact
number. How often and long the student visits and stays at the library could depend on a number of variables therefore the questions would make sure that the reasons behind such variations in days and hours would be made obvious. Having questions five and six in consecutive order would look for possible link between the choice to study alone or not with preference for a specific location. The two questions combined with the next one would reveal what space attributes are valued by the students at Orkanen library. In addition to this I would also gain a better understanding of what studying constitutes of and where at Orkanen one performs it.

Questions 11, 12, 13 aim to specifically find out about the privacy preferences of students and the non-study activities they engage in. For some of the participants in the interviews the word unpleasant made the questions unclear. In those and other cases I would start with: “Are you aware if others...” and then I would proceed with questions 11 and 12. Sometimes the following example was also provided to secure maximum clarification before the students could answer. A student studied regularly at Orkanen library. While studying she would naturally take breaks and sometimes during a pause she had a habit of watching photos of cute animals. She did this despite feeling slight discomfort by thinking that someone might see her engaged in this particular activity. There was clearly nothing wrong or forbidden in the act alone but nevertheless she saw it as something personal and revealing. Despite this, she would take a risk and proceed with her habit. By asking these questions I would find about the students’ motivation and reasoning to act or not in a certain way and where they drew the line when it came to appropriate non-study activities at the library. Exoinformation and its characteristics would take shape into the specific activities the students engage in.

Question 14 is a continuation of questions five, six and seven and is related to the level of social interaction, crowdedness, privacy, noise level and whether one is studying alone or not. It is an important question because the individual has some control over her privacy and can choose within the settings of the library where and when to engage in study and non-study activities. However, the later it gets some of the physical and social dimensions of the library start to change. The space attributes that attracted a student earlier in the day would change or disappear completely. Natural light diminishes, window view, crowdedness and noise level change or could be rendered to a minimum therefore the students’ earlier choice to stay and work might be revised.

Each question and group of questions are designed to probe and look for specific answers be that attractive space attributes or theory implications. When given yes and no answers, the students could be asked to elaborate further so I can accumulate enough date for each question. If certain questions would fail or succeed only partially I think the semi-structured interviews with their flexibility would allow me to look for the answer in some of the rest of the questions.
6.2 Sampling

The participants had to be full time non-distant students following a program rather than a single course offered by Malmö University. Initially it was planned to only conduct interviews with students who had passed their first semester. This would guarantee a higher chance of familiarity and experience in the environment of Orkanen library. The interviews took place during the months of December and January which rendered that requirement obsolete. Another criterion was that the student must have spent time regularly at the library rather than paid random visits.

To further define the sample universe it was decided that all the participants should come from the same academic field. This was a recommendation which came from a similar study and where it was speculated that students from different faculties had different preferences towards the value of space attributes (Cha & Kim, 2015). Regarding the size of the sample, Robinson suggests the researcher to be flexible and decide on it as she progresses with data collection (2013). That would include reading and making sense of each interview before conducting the next one. This allowed me to decide whether or not I were going to add new, different data to the one I had already collected or I would have reached saturation and there was no need for more interviews. These would be the optimal parameters to operate in. It has to be noted that the biggest limitation was the time factor and the volume of work I could individually process.

As a sample strategy I decided on convenience sampling. First, posters were placed at Orkanen library (see figure 12 below) and messages were shared on the Facebook wall for the international students in Malmö, inviting them to take part in the study.
To increase the chances of attracting interview participants I also approached students at numerous social occasions. The student organization Fenix organized cooking classes during which I took part and approached groups of students asking them if they were interested in being interviewed. Those who showed interest exchanged emails with me for further communication.

The posters resulted in securing a single contact while the rest of the participants came after my personal engagement in the above mentioned events. I made sure to approach and invite a bigger number of people than I could possibly interview because there was always a chance that some of the students who initially agreed might not proceed with the arrangements for a day and time for an actual interview. I started interviewing one by one those who agreed and who met the required criteria on first-come-first-served basis until I decided I did not have to interview any more students. All of the interviews took place at Orkanen library and were audio recorded. The duration of the interviews varied from 15 to 25 minutes.

Figure 12: Poster
6.3 Ethical issues
At the beginning of every interview the research subjects were informed about the overall purpose and main features of the study. Although participation would not benefit anyone on a personal level, they would contribute to the improvement and re-design of a comfortable and productive study environment for the future students at Malmö University. For the sake of text clarity the participants in this study were assigned fictional names.

The confidentiality of the respondents was guaranteed as none of the interview questions begged for personal information such as name, country of origin or security number. There was no potentiality recognizable to other people information in any of the questions asked either. Possible ethical concerns might occur when the interviewee is discussing non-study activities at the library. Some of them could be private and highly personal in nature so that the respondent might decide that the interviewer is not worth knowing them. Contrary to this, when the researcher is being open and listening attentively, the interview process might lead “subjects to disclose information they may later regret” (Kvale, 2007:28).

6.4 Collected Materials
I conducted ten interviews in total two of which were compromised. The first one could not be transcribed due to poor sound quality because I had failed to adjust the appropriate recording settings. The other interview had to be removed from the data because of the respondent’s vague answers. He had graduated approximately six months ago and gave unsatisfactory answers to my questions. He could not remember the number and duration of his weekly visits to the library neither why he would prefer one location before another which resulted in ending the interview prematurely. Therefore the results chapter contains data from eight interviews.

6.5 Transcription
Steinar Kvale writes that researchers can transcribe their own interviews or that task can be outsourced to someone experienced (2007). I decided to personally transcribe the interviews and while this was a time consuming and tiresome process I also benefited from it. I learned about my own interviewing style and as Kvale writes “the interview situation reawakened during transcription” and the analysis of what the interviewees said had already started (Kvale, 2007:94).

I decided not to use any transcription software for the conversion of the audio files into text. After carefully researching what computer programs were available on the market and reading people’s experience, I was not satisfied with the accuracy percentage. Had I decided to use such a software program I would also have had to double check its accuracy by playing each audio file and manually comparing it to the program generated text. Therefore I decided to use the open-source VLC media player which supports a wide range of audio and video files. The software is particularly useful because it allows the user to adjust the playback speed of the file. This way I did not have to always
keep up with the speed of the interview and risk missing parts of it. With a slightly lower than normal speed I transcribed parts of the interviews wherever it was necessary and I played certain parts a few times over.

Since the intended purpose of the interviews was not to serve for a detailed linguistic conversational analysis I have not pursued a high detail transcription. The interviews were transformed into a more formal written style where I have omitted any mh-s sounds and the like and whenever there was a pause in the student’s speech I have marked it with a “...”. I did not transcribe any changes in intonation but I registered the few instances where the interviewees laughed.

6.6 Analysis Method

The analyses of the interviews were conducted without actually following a single specific analytic method. Instead, I have decided to freely change between different techniques and approaches. The interview analysis is known as bricolage and is a mixed methods approach where the interpreter has the freedom to move between different analytic modes which has been commonly used and proven to be effective (Kvale, 2007). It is recommended that the researcher should be able to get an overall impression by first reading the interviews, then go back to certain ones and re-read specific passages that has caught her attention. The researcher can then try to figure out metaphors in order to capture key understandings, group interviewees’ attitudes towards different phenomena as well as attempt to visualize findings to find insights in the data. Using the bricolage interview analysis method successfully, Steinar Kvale suggests following a simple but effective list of tactics for generating meaning in qualitative texts. The analyst should pay attention to emerging patterns and themes, seeing plausibility and clustering which would help her to see “what goes with what” (Kvale, 2007:16). Another tactic that the analyst should apply is to make contrasts and comparisons so that she could sharpen her understanding as well as the use of metaphors for the sake of bringing diverse pieces of data closer together.

Under the umbrella of bricolage’s analysis method, some of the modes I included are coding and condensation. The former one requires the researcher to use one or more keywords for text segments which later would permit the identification of similar statements situated in more than one interview. The analyst can also categorize which would be “a more systematic conceptualization of a statement” and the actions of coding and categorizing are usually used interchangeably (Kvale, 2007:5). The benefit of categorization is that the researcher can reduce long interview statements to a few categories. Categorization makes it possible for the analyst to break down large volumes of interview texts into manageable tables and figures. There is the option for one to develop the categories in advance or as they arise during the process of the bricolage analysis method. The latter mode would help the analysis of texts where the interviewee has generated texts larger than few
sentences. Such long statements would then be rephrased in a single sentence or few words and could be processed further if necessary with the help of meaning coding (Kvale, 2007).

In order for me to identify what space attributes were considered valuable to the students when choosing a place to study at Orkanen, I had developed certain categories prior to the analysis. I used the information from the literature review chapter which revealed what space attributes were most important to the students as well as their ranking among larger group of space attributes. Therefore I created the following groups (categories) of space attributes: window view, source of natural light, type of furnishing, privacy, noise level, crowdedness and amount of space. Then I proceeded with the reading of the interviews and after that I started re-reading those sections of each interview that contained space attribute information for every category. Some of the categories such as crowdedness, privacy and noise level had more depth than window view for example and were further split in subcategories. Re-reading the interviews lead me to realize that these three space attributes are complex and worked together as a group which was shown by the study and non-study activities of the interviewees. The concept of privacy also emerged not only when the students talked about the places where they preferred to study but throughout other parts of the interview. For example I connected privacy to the way some of the students used the layout of the library in order to minimize noise coming from other parts of Orkanen as well as the cases where they dealt with having to talk in the corridors or do online banking. Under the category exoinformation I registered everything that had to do with interruptions, disturbances and breaks in the studying process of the students as well as during non-study activities such as talking on the phone. Any visual and audio contact with other students in the library was taken into account.

Apart from identifying the important space attributes, I noticed there was an emerging pattern in the stories of the students in connection to crowdedness and noise level. Some students experienced similar feelings towards the end of the day when others were leaving the library and their emotions could be linked to crowdedness. The full complexity of privacy and noise level at the quiet zone emerged after I saw that some students shared the same experience in that part of the library.
7. Results

This chapter presents the empirical data collected during the interviews. It contains the personal and activity profile of the students, their perceived preferences for space attributes at the library as well as the study and non-study activities they engage in. The reader is introduced to the sociodemographic variables of the interviewees – their age, gender, program and semester they are enrolled in. The students’ weekly visits and the duration of each library visit together with their motivation for coming to the library is also summarized here. The habits of study and non-study related activities are presented in one of the following sections as well.

The next part of section seven has information on the physical and social dimension of the library and the preferences of the students when choosing a place to study. The space attributes that matters to the interviewees are made available to the reader together with negative and positive effect they could have on them. The text proceeds with the introduction of specific spaces at Orkanen library that are avoided by the students. Such spaces fail to attract the interviewees due to either a total lack of desirable space attributes or partial satisfaction of their spatial preferences. The last part of the section is reserved for activities that students do not feel comfortable doing at the library or avoid them completely.

7.1 Personal and activity profile of the students

The next section presents factual information such as age, gender, students’ program and semester, frequency and duration of their library visits.

7.1.1 The respondents

The average age of the participants was 25 years old where the youngest was 22 and the oldest was 30 years old. Six female students and two female students took part in the interviews.

Linda was 30 years old and followed the Bachelor’s degree in European Studies, and was in her fourth semester.

Adam was 28 years old and followed the Bachelor’s degree in International Migration and Ethnic Relations and was in his second semester.

Julia was 25 years old and followed the Master’s degree in Leadership for Sustainability and was in her second and last semester.

Maria was 22 years old and followed the Master’s degree in Leadership for Sustainability and was in her second and last semester.

Veronica was 24 old and followed the Master’s degree in Leadership for Sustainability and was in her second and last semester.
Cami was 24 years old and followed the Master’s degree in International Migration and Ethnic Relations and was in her first semester.

Jena was 22 years old and followed the Bachelor’s degree in Primary School Education and was in her final year, studying a single semester abroad at Malmö University.

Antony was 24 years old and followed the Bachelor’s degree in International Migration and Ethnic Relations and was in his third semester.

All programs were taught in English.

7.1.2 Weekly visits

The weekly library visits of the students varied. Five of them stated that the number fluctuated according to the amount of school work they had. Three of the respondents did not indicate this as a reason for the frequency of their weekly visits. For example in the beginning of the semester Cami was present daily at the library due to the large amount of work they were given but later she limited her visits to twice a week. Julia was present four to five days a week but specified that she “sometimes do not want to see this environment anymore” therefore she also studied at home and at cafes (Cami, personal interview, 2018).

7.1.3 Expected hours per visit

The duration of the visits just like the weekly visits also varied. The students could not identify the exact amount of hours they had spent at the library during each visit. All gave approximate numbers and as Antony attested - “it really depends, some days it is long, some days it is short” (Antony, personal interview, 2018).

7.1.4 Reason to visit

The main reason for being at the library for all but one student was to primarily study. Adam was the only one who stated that he was there to mainly socialize and then to study. Primarily here should not be understood as the only activity the students engaged in but as the main reason for them coming to the library and taking most of their time. For example Jena would use her laptop to read and
take notes. Julia also read, took notes and wrote essays. Veronica had a focus on articles and would spend time using her laptop searching for papers in different databases. Antony’s primary focus was to read all the obligatory literature. Cami would also do a lot of reading and summarizing after which her visits at the library would be limited to mostly writing.

Two of the female students had built a routine for their time at the library. They were flexible as to where in the quiet zone studying might take place but quite straightforward in the process of it. Veronica had an online job so she would first start her day by spending time job related tasks. She saw this as a form of procrastination before she “gradually slips into studying” (Veronica, personal interview, 2018). Similarly before getting on with her studies for the day, Cami would engage in what she called “small personal admin stuff” (Cami, personal interview, 2018). This included checking emails from a doctor or something related to her visa, and in general things that had no connection with her studies. After an hour or two she would proceed with what she had planned in terms of studying for the day.

In regard to intentional breaks during studying, three of the students specified that they would go together with friends to take a cup of coffee and spend some time in the cafeteria socializing. There they would engage in talks before going back to their desks and resume studying. Cami stated that would she would switch off her phone during study time, turn it on during coffee break, get updates on the latest news and events and then switch it off again. The rest of the students also reported similar behavior but not in a specific order. All of them would at some point answer a text message, write an email or check Facebook updates while the main thing they would do is to keep studying, trying to avoid being distracted.

7.2 Quiet zone – a preferred place to study

Five out of eight students chose the open, unconfined quiet zone for their studies. The only exception was Adam who would go to the library mainly to socialize. He said: “If we intend to talk, to relax and study and not too much study...we will go in the talking place” (Adam, personal interview, 2018). In the rare cases when studying was a priority, his classmates and he would find a suitable space in the quiet zone of the library. Jena answered that she studied mostly in the non-quiet zone whereas Linda could be found in various places in and out of the quiet zone.

7.2.1 Motivation and reasoning for the quiet zone

The students motivated their choice to study in the quiet zone of the library stating different reasons. For example, Antony was very social and had really difficult time concentrating saying that it was in his “own nature” (Antony, personal interview, 2018) and when in the library he would actively look for people he knew, not only as a form of procrastination but also because he really enjoyed meeting and talking to people. Consciously choosing, placing himself in the quiet zone was the way to make himself study. Otherwise he would be much less productive or even if he wanted to study but
was sitting with friends in the non-quiet zone, he knew he would end up just chatting. He would go there to secure his audio privacy but he admitted that being the distracted person he was, he would look up if someone happened to pass by him. “I am not the person that is locked up to the computer” - (Antony, personal interview, 2018). Adam who would come mainly for socializing at the library felt similarly about his willingness to study. He would be in the library and look for students he had met during the introduction week. Unless he had to, he could not “study too much” if he and his friends were in the non-quiet part of the library. Three other students expressed positives for the quiet zone where Julia thought that by studying there her productiveness increased. “When everyone is working around you, it motivates you to also work” - said Maria. Veronica expressed similar view and added that she felt like being “surrounded by concentration” (Maria; Veronica, personal interview 2018). Claire studied in the quiet zone because no one could come and interrupt her since talking was not allowed. It was something she wanted to avoid since people she had met during the introduction week had the habit of stopping and starting a conversation with her if she happened to be in the non-quiet zone.

7.2.2 Noise level and the use of earplugs

Maria stated that she always listened to music therefore it was not possible for her to say if it was loud but nevertheless she thought it was quiet enough. Julia also agreed that the space was quiet but she too sometimes listened to music. Veronica already stated that she benefited from the concentration that silence brings to her therefore she never used earplugs. Linda’s preference was to listen to calm music because even with earplugs she could “still hear something” (Linda, personal interview, 2018). Having tiny objects in her ears was something Cami did not find comfortable at all so her answer to my question was no. Antony and Adam did not use earplugs either. Jena misunderstood my question thinking that earplugs meant headphones to which she answered that she “almost never” listened to music. (Jena, personal interview, 2018). Having read the transcription this was something I had missed to correct during the interview therefore I could only assume that Jena rarely listens to music but cannot speculate on her use of earplugs alone. Antony said that whispering to him was fine or at least he thought it was fine when done in the quiet zone. He thought that most people were respectful and they would not frown upon if he would whisper or cough. Veronica and Cami agreed that short exchange of words such as greeting each other was tolerable in the quiet zone but Linda had bad experience with people talking for longer periods. The rest of the student’s objections if it was quiet enough are to be found in the next two sections.

7.2.3 Silence as generator

The calm, silent atmosphere of the quiet zone could bring both negative and positive emotions to the participants in this study. Linda who sometimes studied in the quiet zone did not feel comfortable as the feeling of possibly disturbing someone was constant. “I feel too conscious about everything. Can’t even eat a banana or something, cause I will disturb other people” said Linda (Linda,
personal interview, 2018). Adam expressed his frustration over noises coming from people who typed on keyboards, librarians who pushed book trolleys and placed books back on shelves. Similarly to Adam’s sensitivity, Antony pointed out that the floor was generating a lot of noise every time anyone wearing high heels or shoes with hard soles was walking by. To him the big, opened space amplified a lot of noises and since he was easily distracted, something as simple as someone clearing his throat could possibly draw his attention to it. Veronica was aware of the floor “defect” therefore every time she would enter the quiet zone, she would start walking on her toes and as soon as she would exit the area, resume her normal walking posture on high heels. Besides the amplified noises that the quiet zone generated, Antony described the space as having too strict a feeling to it, “a serious undertone” - he said. At the same time he seemed to appreciate it because this was something that helped him focus so that he could study. Veronica added that “you can hear the concentration” – which to her was a big advantage. (Antony, Veronica, personal interview, 2018)

7.2.4 Penetrating sound

Apart from noise generated by people who study, pick up books, return them back on the shelves or move through the library, external sources of disturbances were also reported by some of the students. Cami reported that she could hear clearly what people were discussing even when they did not talk loudly at all and were even positioned outside the quiet area. Veronica shared her opinion and pointed out that the signs that designated the beginning of the quiet area did not prevent people from standing before them talking and disturbing the students in the quiet zone. To Linda this clear demarcation of where the quiet zone started and ended was troubling. “Usually you know there is a fine line when the quiet zone ends...and usually people sit there and talk...and you can hear it all the way down of course and there were people talking really loudly and it really annoyed me.” (Linda, personal interview, 2018). Antony and Veronica agreed with this and like Linda they would not choose and sit at the very beginning of the quiet zone. They would sit either in the middle of the section or somewhere in the corners of both ends of the quiet zone where the external sounds would be muffled by the time they reached them. Antony added that it happened sometimes that people would walk through the quiet zone talking loudly, guessing that they were not familiar with the rules (Antony, personal interview, 2018).

7.3 Studying alone or in company

None of the students had a specific seat at a specific location that they would describe as their favorite. None of them complained that they were unable to find a place that suited their needs and study preferences due to crowdedness. Cami and Maria studied together with friends and would come early at the library in order to secure the needed seats at the same table. For Julia it often happened that she would go alone to the library but would join someone she knew and they would study together. Linda preferred to study alone while Jena might prefer company but most of the times studied alone. Veronica would be particularly picky who she might choose to study with because she would like to
minimize the risk of possible distraction. Similarly, Antony would not study with friends if he had important school projects to work on. Adam would first try to find classmates to study with but if not, would settle for a space by himself near other students. Cami and Maria made it clear that they were together with classmates but would otherwise study independently of each other. Maria said “I do not want to talk to my friends…so I just want to study…it is more sitting together but we do not speak to each other”. In a similar manner Cami said that “it has become a strategic thing for us to sit in the same area of the library but not study together in terms of talking” (Cami, personal interview, 2018). She added that another reason they studied together was because they had the same tasks so they exchanged notes and shared books when there were not enough copies.

7.4 Where in the library

Those who preferred the quiet area almost always chose the big desks for six people (see figure 4) or the one-person sofas (see figure 6) close to the outer wall of the library. There the window is a massive glass wall starting from the bottom of the floor reaching all the way up to the ceiling. A source of natural light and view were highly valued by all the interviewees. Another option for the students would be a desk with four seats, two of which had desktop computers (see figure 7). Antony and Cami would also sometimes use one of the two standing desks or the desk that had dividers separating students who are sitting opposite each other. Five of the students expressed a clear preference for a table and a chair because they need the space for their laptops but also because they need “to study and have stuff” on (Antony, personal interview, 2018). Four of the students had always their laptops with them while the rest were flexible and would sometimes use the desktop computers as well. Antony expressed his preference for the one-person sofas as well but he did feel too comfortable compared to when he was at a desk where sitting in front of a computer was not a time to sleep (Antony, personal interview, 2018). Linda and Jena who studied alone were sensitive about not taking space which they thought was reserved for groups of students. They both shared an opinion that a single person should not be sitting somewhere where clearly a group of friends could be studying together. Linda had a particular preference for the round tables (see figure 8) in the non-quiet zone which she rarely used because of the above mentioned reason. On the other hand she argued and defended her choice that a desk with a stationary computer gave her the right to sit there.

7.4.1 Switching places during a single visit

Four of the students answered that they sometimes did switch places after lunch. After lunch should be understood as going outside the premises of the library to eat and then coming back. For Cami it depended if her place was taken and she did not have her computer with her. Otherwise, if she did not have a lot of school work and had her laptop with her, she would find a place and stay with it for the day. As for the rest, Julia might do it sometimes if she had her laptop with her but if she “feels in the zone” she would stay where she was. (Julia, personal interview, 2018). Linda and Jena would only change places if they thought it was loud around them. The former complained about noisy
students in the quiet zone forcing her to change places. The latter would move if she was changing the type of activity she was doing as well. If she was switching from working on a paper to more personal stuff, then she would move to a comfortable chair instead of working on a table. So she would move to a comfortable armchair instead of working at a desk. Veronica said that she has a habit of writing at a table, and the reading in the red armchairs or the secluded orange ones. Julia did not switch places during a single visit while Maria would not switch unless it was noisy and would always choose a place with a table so that she would be able to study, “to have stuff” (Maria, personal interview, 2018).

7.4.2 Variation
Linda, Antony, Veronica and Adam shared a preference for variation in study spaces. Every day they would consciously try and sit somewhere else. Veronica was very motivated and ambitious person who benefited greatly from the quiet zone. She said her goal was to improve her thinking process and creativity by switching spaces, seats and windows views. Linda shared partially Veronica’s opinion by stating that changing places “gives you a good mood to study”, because you changed the atmosphere (Veronica, personal interview, 2018). She made use of how big the library was. Antony on the other hand tried to escape monotony and boredom and expressed a preference for randomness. “If you are going to sit in front of your pc all day…you might as well go and mix it a bit” (Antony, personal interview, 2018). Cami who has a routine at the library said that when it was her lunch break, she needed to talk, to see friends.

7.5 Less desirable locations and space attributes
Part of the interview questions focused on places that students did not choose for their studies for one or another reason. Although such places possessed some attractive space attributes they did not fully met the requirements of the students. The list with these locations is by no means complete and I gave different examples which I believed present different space attributes or different combination of attributes.

7.5.1 Isolated chairs
A good quality of the isolated chairs was that they provided the user with high level of privacy. Two students expressed their positive thoughts in such manner: Julia said she could “do whatever and no one was watching” while Jena saw this chair as place where she could relax but not study (Julia, personal interview, 2018). Both of them pointed out the window view as an attractive space attribute. While Linda agreed on privacy she could not help feeling trapped at the same time. Adam shared her opinion and said he felt too much isolation. Another problem was the lack of power outlet and a table, a hard surface for the students’ belongings. Four students expressed the lack of such table and three stressed the missing power outlets. Veronica who changed places regularly had a specific use for this space. She would be in one of those chairs only when her laptop is fully charged and had only reading to do. She added that reading was often reserved for the one-person sofas. Besides a study activity she said that “it is really nice having a place where you can come down and be by yourself”. The chairs
were quite secluded and if she had enough of people around for the day, she would feel there surrounded by two walls and just stare at the water, not having to talk to anyone (Veronica, personal interview, 2018)

7.5.2 Silent room

Maria was the only student who did sometimes study in the silent room but she was unknowingly breaking an important rule. There were no laptops allowed and when I pointed this out she was surprised but also agreed since she had noticed the lack of power outlets. The problem the students had with the silent room was that it was too quiet and too small a place. Julia said that the silence was so intense to her that she could not breathe because she felt she had to be quiet while Antony added he could not lift his pen as it would make noise while he found the room to be “bit small but not claustrophobic”. Adam refused to study there because of the complete lack of noise. Cami compared the silent room to a “closed box” and expressed her preference for the big unconfined space of the library (Cami, personal interview, 2018). Since there were no laptops allowed, this rendered the room unusable to those who carried their personal computer with them. Linda who previously had made remarks how uncomfortably quiet the quiet zone was said that she would use the silent room if it wasn’t for this rule.

7.5.3 The group rooms

Antony and Veronica mentioned the lack of natural light, the lack of windows and only a door, making the rooms “very cold and clinical”. Maria also thought that no sunlight made the study rooms very unattractive. Veronica said she felt there was no oxygen referring to the small size of the rooms (Veronica, personal interview, 2018). Students reported that they have used them sometimes when they were assigned group work. In general however, the rooms were avoided due to their small size, lack of natural light, no windows and respectively no window view.

7.5.4 The least favorite place

This question triggered responses not for a specific place but rather for places that are to be avoided if they were noisy, crowded with a lot of movement in or around. Linda and Jena said they could not imagine using the rather peculiar looking rotating chairs. Both have not tried them and did not plan to, saying they were “too much” and “can’t imagine them being comfortable” (Linda, personal interview, 2018). Linda made an additional comment how there was no one sitting there so no one must like them. Cami and Julia would never use a set of four small round metal tables with four chairs each that could be found on the left side right after the main entrance. They commented that it was a noisy, uncomfortable place to study and the tables were small in size. Adam made a comment that in one of the corridors where there were tables with chairs separated with bookshelves made the space feel crowded: “I do not know why but I feel it more closed, the shelves are big and full of things” making it one of the least preferred places for him (Adam, personal interview, 2018).
7.6 Being observed and observing

This section explores the students’ feelings when their actions are seen or heard by others and vice versa. None of the students reported that it was unpleasant when others could observe what they were doing. This was also true in times when the interviewees were talking or engaging in a specific activity which was visible for the others around them. The exception is when one is on the phone or paying bills online, which will be dealt with in the next chapter. Everyone seemed to agree that they were at a public space like the library and you were not supposed to do anything out of the ordinary. However, the behavior of Adam and Cami varied depending where they were in the library and in some cases they would correct it if necessary. Here are some examples of what they had to say. Julia said that she did not think she was doing anything that no one should see (Julia, personal interview, 2018). Linda agreed with her by saying that “you are only supposed to be studying…I guess it is not, something too personal or private”. Antony was really open and confident in his behavior and added “I do not really care about that. I am not really shy about people hearing like what is going on with me” and “I do not really care, I don't have anything to hide really”. Maria was frank and straightforward and said: “In general if someone sees it and I do not know them…I do not give a damn…cause I do not really care what people think about me”. Veronica said that she did not see it as a problem if others could see what she was doing (Veronica, personal interview, 2018). Cami said she was aware subconsciously that her actions are in the presence of others: “I mean we are not in a cafe...where there is some music or something. So if someone wants to listen, it is really easy.” (Cami, personal interview, 2018). Therefore she would think what they are talking about and maybe that would make her gossip less. She would also not watch Youtube videos because of the possibility that someone could see what she was doing. Of all the interviewees, Adam was the one who said that he would feel “a little bit unease” if he would check his Facebook or is watching a Youtube video. The reason he gave was that the library is place where you should be studying and not be using it for other activities like the ones mentioned. He also stated that in the non-quiet zone of the library, he would sometimes feel aware that they are indeed talking, having to remind himself that is it “ok” to talk. To quote him: “I feel sometimes concerned” (Adam, personal interview, 2018). Jena had a hobby of crafting cards where she used scissors, glue, markers and paper. She speculated that others might have thought this was weird but she did not particularly care (Jena, personal interview, 2018).

Even though no one expressed a strong negative feeling of being seen in an activity they were performing, all of the eight students were aware of their actions and a few of them used it to correct their behavior. Antony said that being in the quiet zone, where the atmosphere was serious and everyone around him was working made him continue working when he was getting distracted. I quote “Sometimes I feel like…not guilty …but okay, get off Facebook now and do some work” (Antony, personal interview, 2018). It is interesting to mention that he had a hypothesis that although there were many people with huge stacks of books who would be focused on their computers, they...
were probably pretending to be working or just sending messages to their friends (Antony, personal interview, 2018). Veronica agreed stated that it was good to be seen when she was not studying. She thought that sometimes when she was being unproductive and have been on Facebook for long enough, people would think she was lazy. This would trigger her to log off and continue with her work (Veronica, personal interview, 2018).

Similar opinions were shared when they were asked if it was unpleasant to see or hear others doing something at the library. Linda commented that as long as they were quiet she did not mind what they were doing (Linda, personal interview, 2018). Again, there were students who were affected by what they saw or heard. For example, Antony shared that it was actually useful for him not speaking Swedish. He would find it very distracting when someone speaks in English. A group of people talking in English nearby would make it difficult for him to study, especially if it was a long conversation. But if it was just few words or people talking in Swedish, then he could focus and study (Antony, personal interview, 2018). Jena also agreed with Antony when it came to language especially because she knew a lot of those at the library who spoke in English.

Julia said that she was easily distracted and she liked watching people passing by. Also, in the cases where she was annoyed with what she had to study she would look around wonder what everyone else was doing. And if she could look into someone’s computer she would in way that she could distract her from her tedious school work. Cami said something similar meaning that she usually did not pay attention to what others did. However, if they did say something interesting, she would stop studying and start listening on purpose. When in the quiet zone, sitting on the big 3v3 tables, she would get distracted if the person opposite her was doing something interesting like sketching and as a result she would look at it more often.

7.7 Avoiding certain activities

Talking on the phone was a non-study activity that the students would try to keep to a minimum or avoid altogether if possible. Adam would leave immediately the quiet zone in order not to disturb the people around him. Jena would try to keep private conversations to a minimum because “the library is place to work”. But to her, short conversations were fine. For Maria answering a phone call was slightly unpleasant and she would leave the non-quiet zone to answer it because she did not want to distract the people around. Linda would stay and try to keep it short in duration if she was in the non-quiet zone. Julia seemed to agree on the duration of the conversation meaning that it would be really annoying to have to listen to someone for two hours who laughs out loud on the phone. She also said that the corridor was a place where she felt she was allowed to have a phone call. Everyone agreed that they would use the corridors connecting the library to have the phone call or even going outside the premises of the library. Antony added that phone calls depend on the context and who he
was talking to. For him it was sometimes really difficult to find a place where he can have a serious phone call with a loved one, he missed privacy.

The activity of online banking was something else that the students kept to a minimum or did not do at all. The exception was Antony who said he did not have internet at home therefore he used the wireless connection of the library for all sorts of non-study activities including paying bills online. Two other students commented that they would lower the brightness of the monitor or type in their personal details fast in the rare cases they did online banking at the library. The rest said they would rather do it at home because here they were risking someone shoulder surfing and seeing their password. No one of them had thought about if the network was encrypted or not, their focus was on the physical level. Adam said he would not do banking because the library was “mainly a place to study” (Adam, personal interview, 2018).

Veronica admitted that once while they were in the non-quiet zone with friends, they were talking and laughing really hard. She thought that they could definitely be heard in the quiet zone and therefore asked the others to tone it down. She said this was a place to study and they had to respect the others. Antony had a similar experience where they failed to notice how loud they were until someone got really angry and told them to shut up.

Last but not least, Adam stated that being in a corridor in the non-quiet area where each table with chairs was separated by big movable white boards felt like being outside of the library. There his friends and he would sometimes watch YouTube videos and laugh. He could see that more people were eating there and were engaged in random non-study related activities.

7.8 Awareness of time

Based on their answers the students belonged to two groups. In the first group were those who benefited from these changes. Linda who preferred to study alone and usually came to the library in the afternoons and stayed in the evening as well felt more comfortable the later it becomes. She particularly liked the evenings because there were less people. Julia also felt more comfortable the more empty and quiet the library became. She gave an example where on Friday people would start leaving in the afternoon before the library eventually closed at 17:00 o’clock. She said she would feel more productive because she was not the one already leaving but she was not staying until the very end either. There were students who could be placed in the middle of these two groups because they experienced both positive and negative emotions. Veronica who was very ambitious and motivated would feel a bit of pressure that she too needs to be going. However if there were deadlines to be met she would stay or if she had long and busy day then she definitely enjoys the quietness and being alone in the library in the evening hours. Antony said that it was a shame no one was at the library during those late hours but at the same time he found it cozy where you could really focus and get the place for yourself. He too enjoyed the calm atmosphere since often during the day was noisy and
crowded. For that reason he preferred the evenings but also because the night view of Malmö was really special to him. Although Jena said that when people started to leave she felt the pressure to leave too, she would stay and finish what she was working on. She described this pressure by saying “oh, I should go...I wanna probably be like them” (Jena, personal interview, 2018).

In the other group there were students who felt the pressure that they too had to leave since everyone was leaving. Adam felt that “everyone is outside” and “should follow them” while reporting that he also experienced a “sense of loneliness” (Adam, personal interview, 2018). Cami called the library “too spooky” and that the collective atmosphere that helped her study was gone and she cannot really keep working going as far as calling it “unnatural” to be there in the evening (Cami, personal interview, 2018).
8. Analysis and discussion

Section 8.1 together with its subsections contains the analysis on the students’ preferences for open, unconfined space in the quiet zone of Orkanen library together with its physical and social dimension. Subsection 8.1.4 is about the RALC theory of privacy within the parameters of the quiet zone. Section 8.2 accommodates the exoinformation concept which is applied to the students’ actions at Orkanen library. Section 8.3, 8.4 and 8.5 deal with study and non-study activities, the locations where the students are active and their preferred type of furniture. Section 8.6 has a focus on the layout and fit-out of the library and the freedom of movement it provides to its students. The next section in chapter 8 contains the analysis of the students’ motivation to refrain from doing certain activities and minimizing others. Section 8.8 provides the reader with information on the importance of space attributes in a group rather than their importance as a single attribute as well as the interviewees preferences for locations dominated by a specific space attribute. Section 8.9 focuses on the changing qualities of some space attributes and their fluctuation from positive to negative effect on the students. The last subsection discusses the group mentality of the students when it comes to space attributes and their importance to the interviewees.

8.1 A preference for open space

The analysis of the empirical data showed that the interviewees had clear preferences for specific physical spaces when studying and certain space attributes or combination of space attributes were valued higher than others. A central finding was that the students preferred the open, spacious area of the library (see figure 4, 6, 8) compared to study spaces located in rooms and corridors of the library. The former had the necessary and sufficient conditions for the satisfaction of the students’ preferences when it came to the physical and social dimension of the library. The latter were found to either lack certain desirable space attributes or they were of poor quality hence failing to become an attractive learning environment. This result endorses the findings in the studies by Sommarville and Collins (2008) and Bedwell and Banks (2013) stating that students have a general preference for open, unconfined environment.

8.1.1 The quiet zone

Within the open and spacious premises of the library, the majority of the interviewees had a clear preference for Orkanen’s quiet zone. There, five out of eight students could be found engaged in various study activities. This finding confirmed the results by Malmö University surveys conducted in 2015 and 2017 making the quiet zone still one of the most desired locations in the whole library. The students associated this location with space attributes which perceived importance for the most part of their time at the library was valued positively. This space seemed to best address the needs of the students in what Imamoğlu and Gürel call a “need for both togetherness and separateness” (2015:66) - a place that can simultaneously secure conflicting needs like functional separateness and psychological togetherness. The case of togetherness helped the students at Orkanen not only to concentrate but to
remain concentrated and even in some cases to increase their perceived efficiency of studying. It is interesting to know what constitutes the case of togetherness, and under what conditions it is valued highly by the students. The work of Sommer (1966), İmamoğlu and Gürel (2015) and Bedwell and Banks (2013) confirm the preference for a shared open public space. The reason according to Sommer is that by studying together in groups, the presence of others who are also engaged in study activities might have a facilitative effect on the student’s own motivation (Sommer, 1966:240). This resonates with the words of Maria who said that “when everyone is working around you, it motivates you to also work” (Maria, personal interview, 2018). I believe that the space attribute privacy that includes both sound and visual privacy plays an important role for the high desirability of the Orkanen’s quiet zone. Students, especially the male individuals stated in the interviews that not being allowed to talk saved them from great distractions but also prevented others who happened to pass by from starting a conversation. Judging by the interviewees this rule seems to be respected by most of the library guests who are passing through the quiet zone. I think this contributes to the student’s ability to maintain focus and motivation by eliminating the options of starting a conversation whenever and with whoever. A good example is when Antony was looking for people he had met at the introduction week to start a conversation with. Cami on the other hand was specifically trying to avoid such people by placing herself in the quiet zone. The students preference for the quiet zone confirms what Harrop and Turpin (2013) discovered about students who had a preference for privacy- both groups wanted to have their own space, where they could not be interrupted but unlike the interviewees in this research paper, the students in Harrop and Turpin study also needed a space where others could not see them studying.

8.1.2 Visual privacy and comfort

Visual privacy and visual comfort are two other space attributes that were actively made use of by all of the interviewees in the quiet zone. Seeing others studying in a quiet environment, it adds to the seriousness of the activity and keeps to the motivation strong. In the words of Antony: Sometimes I feel like...not guilty...but okei, get off Facebook now and do some work” (Antony, personal interview, 2018). Besides being able to observe and add to your visual comfort in some cases, there are benefits of being observed as well. Veronica admitted that when sometimes she was feeling unproductive and have been on Facebook for a long time, she would think that people could see that and think of her as lazy. That would be enough for her to make herself log off and resume her work (Veronica, personal interview, 2018). This finding is confirmed by the study of Bedwell and Banks which found that students place themselves on purpose in public spaces and in such positions and angles so that their activities could be seen by others. This was done with the clear intention of censoring oneself in order to stay away from aimlessly browsing the internet, watching Youtube videos and checking Facebook updates (Bedwell & Banks, 2013). This way the students tried to stay on focus and do their studies more effectively.
In the literature review part I wrote that there seems to be a dichotomy between certain attributes expressed by the students’ self-contradicting preferences and their execution. The results and the analysis of the data make me think that there could be another angle to see the matter from. I believe that his togetherness-separateness could be understood similarly to the Yin and Yang symbol-that all things exist as inseparable and contradictory opposites. Just like Yin and Yang, the two opposites of togetherness and separateness attract and complement each other. I do not think now that it is unusual when studies report that half or more than the half of all students study individually and quietly in places designed for group work or that students in such spaces would demand silence from others and even make remarks when they discuss things (Oliveira, 2016; Thomas et al., 2015; Tavaniemi et al., 2015). The data collected from the interviews confirms the findings that students are drawn to open, unconfined learning environments. The data also confirms the study of Jamieson who writes that such learning spaces should be seen in a continuous process of development where students are changing and shaping its settings according to their needs (Jamieson, 2013). For students to demand silence in places designed for group work and open discussion is an example of students adjusting the environment to their needs and demanding an appropriate noise level. In cases where the demand for silence is officially introduced by the library’s rules I can see how the concept of together-separateness is actually amplified. Two out of the three attributes of distraction are controlled - that of interruptions and noise (Beckers et al., 2016).

Sound privacy together with visual comfort seems to be a working formula for the students studying in the quiet zone of the library. First, the quietness can be understood as a social barrier that stimulates the process of studying. It is a desired space attribute by the students because it serves a specific function. It is a special space attribute because it can be traced back to both the physical and social dimension of the library and its amalgam of the two cannot be found in any other space at Orkanen. Second, visual privacy or visual comfort is used as an opposite of a barrier between the students. Bedwell’s and Banks’ findings (2013) together with Veronica’s statements of how one can position herself in order for others to openly see what she is doing is a well calculated move. I understand this as a conscious decision to give away some of your privacy in the hope of gaining advantage in the activity you are engaged. However I must be critical and mention the cases of visual distraction some of the students have experienced. Watching people passing by, students sketching or something that appears interesting to them can sometimes distract the students and interrupt their process of studying. Therefore besides voluntarily giving up some of their privacy, students in the quiet zone are also experiencing unwanted visual discomfort. This however does not outweigh the perceived overall importance of the quiet zone.
8.1.3 Noise levels

Despite being the most preferred place for studying the quiet zone of Orkanen has problems with the space attribute noise level. Sources of disturbance were both internally and externally registered. Those found within the premises of the quiet zone disturbed not all but some of the interviewees. Problems with noise were not new to the library and were reported in both surveys from 2015 and 2017. Such disturbances could be analyzed with the help of Jamieson’s levels of comfort and aesthetic impact in formal and informal learning spaces (2003). The effect that certain features of the space like the hard floor of the library, the noise generating keyboards and librarians pushing book trolleys was negatively registered by some students. Noise level was the second most important space attribute in the study of Kim and Cha (2015) and the findings so far confirm its importance. Controlling the noise level that is generated within the quiet zone seems to be a difficult task since it is generated by the work of students studying there and by librarians or random people passing by. Individual students do not have control over such interruptions, neither the rule of no talk helps to lower the noise level. It is problematic because studies show that intermittent noise is more disruptive than continuous noise influencing the students’ cognitive and communication tasks (Braat-Eggen et al., 2017). In the case of the quiet zone in Orkanen, the general background of silence is amplifying the noise coming from high heels or shoes with hard surface making it particularly distracting for the students. This finding is confirmed by the study of Sommer (1966) stating that such type of noise is actually more distracting that noise coming from a continuous activity and in the study of Braat-Eggen et al. (2017) walking is ranked the third most disturbing noise. It is interesting to point out that in one of the interviews, Linda said that this exact background of continuous silence was making her too conscious of the environment, preventing her to act and move normally, forcing her to be in a perceived constant threat of possibly disturbing someone. An opposite opinion was expressed by Veronica who said that she could hear the silence which to her was a big advantage (Veronica, personal interview, 2018).

Noise coming from outside the quiet zone area was sometimes registered by the students and classified as disruptive. The students could identify both intelligible and unintelligible conversations of fellow students coming from the corridors connecting the quiet zone to the rest of the library. In the findings of Braat-Eggen et al. (2017) these types of noise were ranked first and respectively second as the most disturbing sounds. I think it is worth adding something new to the findings of Braat-Eggen et al. that is not necessarily a gap in the literature but more of a further description of noise disturbances in cases of intelligible and unintelligible speech. Although not in the quiet zone, two of the students reported that they reacted stronger to intelligible speech in a language they were fluent. If nearby students talked in English two of the interviewees would get visibly distracted while if the students spoke in Swedish for example, such disturbance would be registered on a low level and thus more
easily ignored. So depending on one’s knowledge of a language, a speech can be registered high or low in level of disturbance.

A note should be added to the space attribute when one is discussing the 25% of the students who were overall not pleased with the noise level at the Orkanen (Malmö University survey, 2015). The interviewees in this thesis were able to provide me with detailed information regarding this space attribute. All of them except for Linda were satisfied with the noise level at the quiet zone but it was more difficult to judge the overall quality of the noise level at the rest of the library. The reason for this is that although intermittent noise is not more disturbing than continuous noise, its definition is what actually makes it problematic for the students. In the words of Antony: “I feel very opposite of the quiet zone...it can get quite noisy down there. And it really depends cause sometimes can be very noisy in different places and sometimes it can be very quiet” (Antony, personal interview). A researcher can measure noise levels but a sufficiently long period of time has to be taken in mind in order to register successfully all noise sources.

Jamieson’s fourth level (2003), the layout of the space makes it possible for the students to move freely in the library as well as to communicate verbally in most part of the library. Unfortunately the unconfined space not only contributes to the accumulation of highly valued space attributes in certain places but its architecture also helps noise travel easily throughout the library. An individual solution that was applied by some of the students was to sit somewhere in the middle section of the quiet zone or somewhere in out-of-the way corners. This way sounds coming from the non-quiet section could be muffled by the time they reached the students. Such finding was reported in the study by Harrop and Turpin (2013) who found that students with the preference for privacy also had a preference for quiet learning spaces where they could not be disturbed. In their study, the students chose to sit away from people passing by, choosing out-of-the way corners in the library.

8.1.4 Students in the quiet zone

The students’ motivation behind the decision to study in the quiet zone of the library could be seen through the RALC theory’s definition of privacy: “an individual has privacy in a situation with regard to others if in that situation the individual is protected from intrusion, interference and information access by others” (Tavani, 2007:10). As a public space, Orkanen library does not guarantee absolute privacy and one should expect that her privacy can be diminished or lost but not violated. The theory of privacy stresses that one does not need to have an absolute control over information about herself. The students who choose to study at the open public space in the quiet zone are aware of that and what they have is some degree of control in relation to choice, consent and correction. They place themselves in situations that offer others the level of access which they have calculated is acceptable and even beneficial for their studies. The interviewees have fair control over the sound privacy attribute but less power over the visual privacy attribute. No talking and keeping quiet in the specified for that zone of the library is respected by the vast majority of the students. This
official library rule gives the students power to either correct someone’s disruptive behavior in case they are talking or to move to another part of the library. Moving elsewhere would be the only option for students who choose to study in the non-quiet zone of the library if the noise level generated by nearby students is too high and disruptive to them.

8.2. Exoinformation

The visual privacy is a space attribute the students have no control of since they have chosen to conduct their studies in a shared public open space. Apart from getting distracted by their own or the actions of the others in the library, the interviewees did not find it unpleasant if other people could see what they were doing and vice versa. When applied, the concept of exoinformation helps us understand these findings. First, the interviewees agreed that the library was a place to study and they did not have anything to hide. Their primary goal was to study except for Antony but even he agreed that studying did not imply a process veiled in secrecy. Therefore I can conclude that during the act of studying the exoinformation that a student is leaking to the public is not high in valuation. The exposure of books, videos or study materials is not a sensitive information neither confidential to the interviewees hence the low level of privacy required for study activities.

Second, the information the others could obtain from observing the interviewees is low in granularity and persistence. A passer-by only has a limited amount of time to find out how much information is being shed and even less amount of time to possibly collect it. A person sitting next to another has higher percentage of persistence meaning that she is closer to exoinformation’s source and possibly such information is observable as long as that person stays in his place. I do not have to guess how important or how much information can be collected in such instances. The findings of the interviews revealed that students sometimes engaged in collecting leaked exoinformation. It was Julia who said she was easily distracted and would watch people passing by. She would also look into people’s monitors around her to distract her from tedious coursework. Similarly to Julia, Cami would first get distracted by someone who was sketching opposing her and as a result she would look more often at the sketch because she found it to be interesting. In Cami’s case the rate of leakage had to be increased meaning that after registering something interesting she had to look more often at it since she was interested in the details hence the need for higher frequency. Julia would also have to increase the frequency of observation if she was to find something that catches her attention. In both cases there is low sensitivity and valuation and the information was observable as long as they have visual access to it or lose interest. In Julia’s case persistence was also low since the information was not useful and was as relevant as long as the interviewee felt the need to be distracted from her studies. Perhaps an exception to this is the student who sometimes engaged in the non-study activity of making cards. Observing an activity where one is cutting, coloring and gluing paper together is not a common activity at the library and although such information might not be of particular importance, it could
make a strong impression on the observer so she could link it back to the student for a longer period of time.

8.3 Study and non-study activities at Orkanen

I wrote that in the literature review part I considered it important to know what constitutes studying and how this process was actually performed by the students in the formal and informal environment of the library. The analysis of the interviews shows that it is not a linear, straightforward process. It could be a single activity during a daily visit or a series of activities like reading, writing then back to reading again. It would depend on which phase of the course they are currently in – in the beginning of it, it is mostly reading the obligatory literature, taking notes, searching for articles while the further the course progresses in time, tasks change to writing essays, summarizing and sometimes additional reading is required. An important element that defines studying is that the study activity or the chain of study activities is sometimes interrupted by non-study activities. These are distractions that are produced both internally and a result of external forces. Three of the students were mostly engaged in reading academic articles and going through all the obligatory literature. The rest were performing a mix of the above mentioned activities. I can conclude that the frequency and duration of the students’ library visits depend on how busy they are during a particular course/program and again in which phase of the course they are in. Another element linked to how intensive or important studying could be is an approaching deadline. The data also showed that students would spend significantly longer time at the library before a class exam or when hand in paper is due. I could confirm the findings by Cha and Kim (2015) who found out that the students who spent long hours studying in the library and considered their activities important, gave more attention to almost all space attributes when choosing a place to study compared to those who ranked their activities with a low point. In this research paper, I think that all of the interviewees carefully took into consideration space attributes when studying and their space choice was neither random, nor spontaneous.

8.4 A place to study

None of the students had a specific favorite place at the library, neither did any of them complain about being unable to secure a place to study due to high level of crowdedness. This is in contrast with the findings of both Malmö University surveys where roughly half of all students failed to secure a favorite spot and mentioned a general lack of available spaces especially in the quiet zone if one would arrive at a later hour in the morning. A possible explanation for this mismatch of results is that some of the interviewees would come together with friends early in the morning while others preferred to study later in the afternoon or the evening. At Orkanen, early in the morning the influx of students has not peaked yet and their total number starts declining progressively in the later hours of the afternoon. Another explanation is that since the interviewees did not have a favorite spot they were flexible when choosing a place to study and eventually did find one. This could explain why my findings differ from the findings of the two Malmö University surveys. Another two complaints from
the 2015 and 2017 were that soft furniture like armchairs and sofas were comfortable to read at but not at all for writing and respectively there was a shortage of available desks and seats. I assume that this problem was partially solved when the library decided to remove the sofas which were often occupied by one or two people at the most and introduce round tables with chairs to them (see figure 8). There was no data on how many of the students carried their own laptops but compared to a recent study where the lack of power outlets was not an issue, neither was the weight of the laptop mentioned, this number went up to over 70% of all the students who took part in the study (Cha & Kim, 2015). In their findings students with personal laptops were engaged in multiple activities at the same time and required enough surface area. These numbers were confirmed by my findings in which four of the interviewees carried own laptops while five of them expressed a preference for a chair and a table because they needed the space for their laptops but also because “to study and have stuff” on (Antony, personal interview, 2018). This leads me to the conclusion that the desks at Orkanen library are in general big enough and support varied student activities and confirm the importance of the amount of space attribute found in Cha and Kim study (2015). I did not find if the interviewees used backpacks and personal belongings to mark their personal space unlike students in other studies which could possibly suggest that there is indeed enough space and one does not need to do that in the first place.

The problem of crowding discussed by İmamoğlu and Gürel, (2015); Eastman & Harper, (1971); Applegate, (2009); Foster and Gibbons, (2007) and Xia, (2005) was present in the motivation behind two of the students when choosing a place to study. Although Linda and Jena had a preference for spaces that support group work, they were conscious that by sitting there alone, they were taking a space which should be utilized by a group of people. The suggestion of İmamoğlu and Gürel (2015) to add territorial markers to the desks certainly helped with the issue of crowdedness and privacy while Linda’s argument definitely added something new to it. During the interview she defended her choice of space not by using personal markers but if the desk had a stationary computer for public use, which for her meant that the computer gave her the right to sit there. The importance of power outlets pointed out by numerous studies (Brown, (2004); Cowan (2012); Fournier et al, (2010); (Mohanty), 2002; (Montgomery, 2014) did not bother the interviewees. The only time it was mentioned was by the few students who spent some time at the secluded orange chairs and the lack of power outlet in a close proximity. I assume that this particular need together with WI-FI coverage was well addressed even prior to the first survey Malmö University survey of 2015.

8.5 Comfort and type of furnishing
The data showed that there was not a single preferred type of furniture that was used by the interviewees. Depending on their current task and importance, be that writing, reading, working from a distance or simply relaxing, the students used a variety of furniture. I speculated that specific study or non-study activities could be reserved for locations with specific type of furnishing. This was proven to be partially true. The data showed that regardless of the type of activity - study or not study related,
students preferred a desk and a chair. Usually such type of furniture was reserved for serious studying such as reading, writing or data search, opening the possibility for them to do multiple things at the same time because they could spread their books and learning materials. On the contrary, soft furniture would be mostly used for reading, less formal work or relaxing. Therefore I can conclude the focus should not be on studies which tend to shift for or against the use of soft furniture compared to hard surface desk and chairs (Applegate, 2009; Loder, 2000; Foster & Gibbons, 2007; Vaska et al 2009; Webb et al., 2008). Based on my findings, it is likely that the students’ preference for type of furniture is not a constant and is determined by the type of activity they are currently engaged in. An important comment is that although the students did not have a favorite spot in general nor a physical space reserved for a specific activity, most often the interviewees chose places right next to a window or in a close proximity to one. This confirms other findings which show that the space attribute window view and natural source of light are important to the students (DeClercq and Cranz, 2014; Organ & Jantti, 1997) but differs from the study of Cha and Kim (2015) where window view was not ranked high by the students.

8.6 Freedom of movement

Although I did not get a confirmation that specific types of studies are executed at specific spaces regularly, these findings tend to gravitate towards Jamieson’s recommendation for building effective learning and study university environments (2003). To be more precise, the fit-out and the layout the space seems to be well addressed at Orkanen library judging by the actions of the interviewees. Three of them had a clear preference for variation of space when in the library. Veronica wanted to improve her thinking process by changing regularly spaces while Linda found that changing places gave her a good mood to study while appreciating how big the library was. The motives of Antony were trivial who said that being at the same place every day is boring, so he tried to have some variation. The movement of Cami was characterized with breaks in which she went to the cafeteria to chit chat with friends. Regardless of motivation the fact that they had the freedom to move throughout the whole library, changing spaces and workstations, sitting to read, using desks to write, chair to relax or simply to enjoy a cup of coffee with a friend at the cafeteria is a proof how well the informal and formal learning environment of the library was built. The students changed places willingly because they were provided with opportunities in terms of what they could do based on the type of space and its resources. Contrary to this, two of the interviewees who studied in all parts of the library said that they had cases where high levels of noise would force them to change place of study. I do not consider this to be a major counter argument against the quality of layout of the library.

8.7 Minimizing and avoiding activities

If some non-study activities are reserved for specific spaces at the library there are definitely others which are undesirable, put to a minimum or avoided. When I asked the interviewees if it was
unpleasant to be seen or heard doing a study related activity the answer was no. Preibusch (2013) recommends that when talking about privacy the researcher could avoid naming it because the interviewees have a tendency to exaggerate the measure they take into protecting their privacy. The data showed that the students did not feel comfortable being heard or seen doing two types of non-study activities. This was online banking and making or answering a phone call. The concerns surrounding the former were about the presence of people around the students but not concerns regarding any possible weaknesses in the Wi-Fi network. The interviewees who did online banking did not make use of the physical environment meaning they did not switch places to a more confined location. Instead they would type in fast their credentials or lower the brightness of the screen. The rest would reserve this activity for their homes where they expected that there would be no people to peek behind their backs or spy through windows. There is a high degree of privacy in what the RALC theory identifies as normative situations (Tavani, 2007). The only student who would engage in non-study activities that require an online connection was Antony since he did not have one at home. What the data reveals is that first, students agree on the public profile of the library and that studying is what should be done for the most part of the time. They are not engaged in private activities since these are reserved for the premises of their homes where they feel secure and have much higher control over their privacy. Second, the online banking example makes it clear how aware they are about the exoinformation that has a potential of leaving them. The perceived risk is high and when it comes to persistence, the information that is leaking is not observable for a long time but has the potential to remain useful and relevant for a long period (Brunk, 2001). The valuation meaning how important or confidential the information that is leaving one is also be ranked high in this case.

The other activity that made students uncomfortable was answering a phone call. One of the reasons for this is that the act of answering a phone call is often random, not a pre-planned activity. It is not under students control because their primarily intention for visiting the library is to study. Their space preferences at the library are based on studying, other non-study activity and relaxing but never on talking on the phone. Even those who chose to study in the non-quiet section of Orkanen felt uncomfortable talking on the phone there. In cases when some of the students were talking and laughing loudly in the non-quiet zone and they themselves or others corrected their behavior was a reminder that they saw the library as a place to study. It is possible that a self-correction of bad, problematic behavior is applied only when the rate and duration of the leaking exoinformation is high and long enough. The behavior then is corrected either by the person herself, or if she is unconscious or unwilling for example when laughing too loud, she might be corrected by someone who is near proximity and is disturbed by the noise. This and the fact that some of the interviewees tolerated short greeting between others or even study related conversations in the quiet zone when kept in moderation explains their uneasiness to accept a phone call.
Corridors of the library are the only escape for them. The rest of the library in terms of layout and natural barriers like bookshelves, desks and the space in between cannot adequately guarantee a high level of privacy. Looking through the lens of RALC, corridors are the place where there are no natural barriers of any kind and everyone is in motion. I believe this is the reason why the interviewees choose to move there when on the phone. They can visually confirm when people are approaching which gives them more control over the exoinformation leaving them. A person who is passing by has a low level of granularity or persistence and in cases when someone is in a close proximity the person talking on the phone has control over the sensitivity of what she is saying. She can either make a pause or move in the opposite direction of that person.

8.8 Value of space attributes

Many studies so far have identified valuable space attributes, ranked them and measured students’ perceived importance when choosing a place to study (Beckers et al, 2016; Braat-Eggen et al, 2017; Cha & Kim 2015). I think that the analysis of the results could contribute to the existing body of literature because apart from identifying some attributes as important, the interviewees seem to value them especially highly when grouped together. I can conclude that once a student has experienced the benefits of sitting at a large desk close to a window with access to a lot of natural light and a great view, surrounded by big, unconfined space, it becomes more difficult to appreciate other locations in the library. Less appreciated are the group rooms for example (see figure 2). They give the student better privacy in terms that it is very quiet, and she can actually talk and discuss without anyone hearing it. But that high level of privacy I think is not of use to most of the students. They will not sacrifice space attributes like window view, natural light, comfort of furnishing, being surrounded by other hard-working students for a confined place with artificial light and no windows. There is simply no need for that. I think that once a group of space attributes with good balance between them is found, students are not likely to change their space preferences unexpectedly. An exception that most of them mentioned is when they had to collaborate with other students in a group related task. In that instance the need for group work outweighs the personal preference when choosing a study space and space attributes of low quality are temporarily ignored. Another example of study space that is missing valuable attributes are the small metal chairs by the entrance (see figure 1, point number 5). The amount of table space is limited and together with high level of noise, this location becomes undesirable to many. Logically, I think it is enough when even one space attribute is missing from the working formula to make a space less desirable compared to one that has it all. For example, on the opposite side of the quiet zone is a very similar space compared to it except that talking there is allowed.

However, I do not think that spaces where students spend most of their time are of the highest importance to them. As it was revealed from the results, the isolated chairs (see figure 3) are a place where few of the students read or retreat in order to relax or hide from others. Julia said that there she
could do whatever she wanted and that no one was watching (Julia, personal interview, 2018) while Veronica stressed when she was surrounded by the chair’s high walls, she could look straight out of the window, staring at the water and not having to talk to anyone. In short, she could come down and be herself (Veronica, personal interview, 2018). They did not spend much time compared to the rest of the activities they engaged during the day, but it is obvious that they valued that location highly. There, the interviewees had a possibility to retreat where they were protected from intrusion and interference by others. They did not need high level of privacy for their studies or work but there were moments that personal privacy at the library was very important for some of them. The RALC theory underlines that the individual has control in managing her own privacy. That absolute privacy is impossible in a public space like the library is evident, but the data demonstrated well how the individual exercises such control. Moving from an open, unconfined space to a secluded one, the student is making use of privacy occurring in natural situations. The design of the furniture gives her enough visual comfort so that she could be by herself. In addition, she has options in terms of consent or correction - either accept the current noise level or move somewhere else if the noise level is more important than the visual comfort. I find similar examples of control over someone’s privacy in the actions of other students as well. There were two interviewees who said that sometimes they would consciously choose out-of-the-way corners in the quiet zone in order to maximize on low noise levels. By making use of natural barriers and the layout of the library, they were increasing the level of their privacy and maintaining high focus and motivation. Another example was the preferred location in the library where Adam and his friends were feeling like being more outside of the library compared to the rest of the spaces available to them. There they felt they had bigger control over their privacy because they were protected by the movable white-boards. In other words, the physical dimension of the library allowed for more intense interaction between them, as well as higher levels of privacy and autonomy. Privacy in this case should be understood as having the freedom to, to dare to engage in activities that Adam otherwise considers not to be practiced in a library. After all, Adam like the rest of the students agreed that the library was a place to study. Perhaps the visual and audial confirmation that he received from others in the same area that were eating against the library rules and were engaged in random non-study activities gave him additional confidence that his behavior and that of his friends was acceptable. That behavior could be further explained by Jamieson’s layout of the space that has to do with “furniture or fittings and most importantly the space between items” (Jamieson, 2003:131). Although the focus is aimed at helping students study, this perhaps demonstrates that when certain spaces are seen by students as more informal than formal, they could be encouraging the students’ non-study behavior. However I cannot generalize since Adam was the only one of the eight students who came to the library with the main idea to socialize and then to study.
8.9 Changing qualities of space attributes

In the beginning of my thesis I wrote that some space attributes were not only connected to each other but also that some could be found in others. For example unconfined space and quietness encompass type of furnishing, window view, crowdedness, and others. This section of the thesis makes claims that certain space attributes change qualities. To be more specific, there is evidence how a space attribute can change quality and even to be associated with something negative when at first it was experienced as something positive.

8.9.1 Crowdedness

All of the studies in the literature review section analyzed the space attribute crowdedness in cases where an increasing number of people were joining others who were already occupying the same space (İmamoğlu & Gürel, 2015; Eastman & Harper, 1971; Applegate, 2009; Foster and Gibbons, 2007 and Xia, 2005). Crowdedness was connected to privacy issues and different remedies were being offered. The gathered data in this thesis revealed that the effects of crowdedness at Orkanen library exist in opposite direction as well. The crowdedness attribute is more visible when people start leaving the open, unconfined space of the library which leads to changes in the atmosphere surrounding the studying students. The collective atmosphere that motivates and helps people to study disappears together with the students who decide to leave the library. Those who stay till late and benefit from this collective concentration are experiencing the negative effect of crowdedness when there are less and less people around them. When it comes to RALC’s privacy that is linked to choice, consent and correction, it actually becomes more difficult if not impossible to correct these changes. A student could move to a location where there are still students to be found but she would have to repeatedly do that until there is no one left in the whole library. It is not a practical solution at all. The only possible outcome for the student would be to accept this change and to correct it by leaving the library. Nevertheless there are students who come to the library later during the day and stay through the evenings and actually enjoy the time when there are less and less people at Orkanen because it helps them to concentrate and relax. The library with its natural physical borders – bookshelves, desks, different types of rooms etc. – is all together rendered as an empty place. The student could not alter her position by making use of natural obstacles the way she does in cases where a higher degree of privacy is required. On the contrary, in the evenings less privacy is wanted by some of the interviewees in order to compensate for the loss of students and collective concentration. What one might have used as a natural barrier to feel more comfortable during an activity is now no longer useful because the students are missing and their absence triggers sense of loneliness and spookiness. Also, whatever exoinformation one might leak here, to be seen or heard and made use of, all this becomes irrelevant because again, there are no students left to observe each other or at least very few people are left, scattered in a big, unconfined space.
One needs people to experience crowdedness and more specifically a varying amount of people in order to define this space attribute as problematic. The less or more students the more visible the attribute becomes and interestingly enough it evokes similar feelings stemming from its two opposites. If it is too crowded, it obviously constitutes a problem and if the students are gradually declining in numbers until there is no one left in the library, it also becomes a problem. I can conclude that people who appreciate the collective atmosphere seem to be more prone to experiencing negative emotions caused by this emptiness. Last but not least, Veronica talked about the isolated chair as somewhere “where you can calm down and be by yourself”, an activity not connected to studying but more as a place to take a breath after a long day. In a sense, this perceived quality of the isolated chairs is expanding to the rest of the library in the evenings.

8.9.2 Noise level
The way crowdedness changes its qualities is not unique and I think that similar powers can be ascribed to the noise level attribute. It is an important attribute to the students and in combination with other attributes it is highly valued. In the quiet zone it can be found as an amalgam of the social and the physical dimension of the library giving comfortable level of privacy to the students as well as improving their motivation and concentration when studying. However, if the same space attribute is placed in the silent room of the library for example, the students react very strongly against it. It is counterproductive to concentration, totally disruptive to their activities making the students conscious of their every movement. Just like high level of privacy, there is no need for such high level of noise comfort. It becomes a dominant space attribute with the highest level of importance when choosing where not to study. This leads me into thinking that a researcher can measure how important space attributes are to a student when choosing a place to study but she should also identify the way such important attributes are grouped. In the case of the silent zone at Orkanen library, it is a group of attributes that has a special quality and they are valued all together in a bundle by the students. It is not low noise level that attracts people to study there. It is students that study individually, quietly sharing an open, unconfined space that generates certain qualities that many benefit from that attracts those people in the first place.

8.9.3 Group mentality
A final issue worth paying attention to is what I would call group mentality when it comes to space attributes and their importance to the students. I noticed it first when the students talked about collective concentration, how everyone was focused and their motivation was amplified in the quiet zone of the library. Seeing someone being serious and working hard had positive effects on other students and made them also work hard. The same effects seem to be taking place when students start leaving the library in the evening. The need to follow others was clearly expressed by some of the students I interviewed. This group mentality does not end there. When it came to the least favorite place, Linda said that they did not look comfortable (see figure 11), but also that “no one is sitting
there…so others must not like them too” (Linda, personal interview, 2018). This leads me to the space attribute crowdedness, making me wonder if these rotating chairs are even less preferable when a student sees that no one is using them. I think it might not be crucial or at least it’s not the only variable to consider when someone is making a choice where to study but this definitely has some weight in the decision. In conclusion I believe that group mentality encompasses a lot of activities – studying together, leaving the library, choosing or not choosing a place. Whether or not a place is popular among the students depends also on how high its space attributes are valued and how they are grouped together. I think another important variable to the perceived importance of space attributes are the students themselves. Attributes like window view, source of natural light and their qualities are independent of the people who study at the library but crowdedness, privacy, noise level are well connected to all the individuals found there. In that line of thought, it is worth repeating RALC’s main point that an individual has some control over her privacy in situations that others are involved in as well. It might be something obvious but I believe it should be stated that the individual’s privacy is linked to the people surrounding her. I think this can partially explain the group mentality of the students.
9. Conclusion

The goal of the thesis was to identify what space attributes were important to the students at Orkanen library and how they affected the students’ study and non-study activities. Previous studies together with the analysis of the data showed that privacy, noise level, window view, source of natural light and comfort of furnishing were the ones that were taken into consideration when choosing a place to study. Apart from identifying key space attributes it was also discovered that students appreciated them when they were grouped together since that generated an environment that contributed to the motivation and the concentration of the students.

The space that satisfied and covered all of the above mentioned space attributes was the quiet zone of the library. In this location the students chose most often a space close to the window with plenty of natural light and excellent view, sitting on a chair in front of a desk. This type of furniture could satisfy the varying study and non-study activities providing the students with enough surface area for their laptops, books and learning materials. Privacy in the quiet zone was valued highly as it provided the students with an environment where one could concentrate and study without the fear of interrupting someone or being interrupted. The quiet zone created social and physical dimension with enough sound and visual comfort so that the students could feel a sense of togetherness while exercising enough control over their privacy. Despite its positive qualities there were also a number of problems such as noise level coming from internal and external sources. The fit-out and layout of the space gave freedom of movement and visual comfort but it also contributed to the spread of intermittent and continuous types of noises. Adding to the complexity of the quiet zone was that the positive qualities of certain space attributes diminished or completely disappeared in the later hours of the evening. The collective concentration that many benefited from during the day disappeared with the approaching evening and students leaving the library. Students who stayed felt a sense of loneliness and a need to leave the building too.

Other locations with attractive space attributes to the students were also discovered in the analysis of the data. Students valued the option to retreat in places like the isolated chairs where they did not study but instead relaxed and avoided being seen on purpose. For specific activities, the one-person sofas situated in each of the corners of the quiet zone were used mostly for reading and less formal work.

The application of the RALC theory could explain how sometimes students made use of the natural barriers in the library either to enhance their privacy when studying or why they steered away from group rooms or the silent room when choosing a place to study. The theory was useful by providing a definition of privacy and placing the control of it in the hands of the individual. In the cases where students were not satisfied with the attributes that a specific location was offering them, they exercised some degree of control with relation to choice, consent and correction. All of the
interviewees agreed on the status of the library as a public place and that studying was not a secretive process. When it came to non-study activities most of them did not engage in anything private either. Such situations were reserved for the premises of the home. The one activity that was shown to be most problematic to the students was answering a phone. Since the majority of them planned and chose a space in the library based on their learning needs, answering the phone was a random, difficult to exercise control over action. The corridors of the library where there were no natural barriers and which provided good visual comfort and a satisfying level of privacy was the only place in the library where they felt they could talk on the phone.

The concept of exoinformation revealed that most of the information that was being shed when observing or being observed was not of high sensitivity or importance. An exception to this was when students tried to minimize the granularity and persistence of the leaked information in cases where one was doing online banking at the library. Answering a phone call in the premises of the library was the other activity that forced the students to think about exoinformation leaving them. Further analysis of the data showed that in some cases where students were engaged in study activities, they were leaking personal information on purpose so that they could limit internal distractions like watching Youtube videos or checking Facebook updates. In other time they consciously looked for exoinformation shed by others so that they could distract themselves from a tedious course task. However the most common case of leaked exoinformation was random, coming from passers-by, classmates and students sitting around the interviewees also studying like them. Such exoinformation when registered was most often in the case of visual and sound distractions and had no real value.

In conclusion, Orkanen library offers a wide variety of formal and informal learning places that suits the needs of the respondents in this thesis. There was no perfect space which was completely absent of distractions and disturbances. However, some locations had space attributes or rather groups of space attributes that were highly valued by the students when choosing a place to study.

9.1 Suggestions for further research
Based on the results and their analysis I think that further research could be done with focus on students’ gender. The two male students in this had difficulties concentrating, maintaining focus and studying during their library visits. Due to the small sample size I could not generalize if this was due to gender differences or simply two individuals who would rather socialize than study. Perhaps a similar study could be implemented with attention to concentration and motivation together with the perceived importance of various space attributes. Additional changes to the sample could be made by selecting students from the natural science disciplines in order to establish if this would produce results of different space attributes of importance compared to the ones in this study. Locations that were less attractive such as the silent room and the group rooms could be explored in future studies. There are students who prefer to study in such locations and identifying what space attributes or
combination of space attributes they value the most should be of interest to LIS. Another topic of interest is space attributes that change or diminish in quality which could be further studied. Last but not least, the problem of crowdedness could be improved by limiting the access to the library only to students. The general population could be denied access to Orkanen library thus leaving the space solely to the students of Malmö University. Before implementing this, the library staff could conduct a survey in order to identify the percentage of non-students found in the premises of the library and how often and how long they usually stay for. I think it is important to have information on the statistics, because if the numbers are low enough to make a substantial difference the university might decide against it.
Reference list


Appendix

The interview questions:

1. Age, gender, major, semester
2. How often do you visit the library?
3. How long do you usually stay during a visit?
4. What is that you do at the library?
5. Do you study alone or with friends?
6. What is your favorite place to study?
   - Second, third, fourth favorite
7. Least favorite place to study?
   - Probing with questions about different locations (quiet room, group study rooms, isolated chairs, the cafeteria, etc.
8. Do you switch places in the library during a single study visit? (not because a place would be occupied from the beginning, but later on, when you have already seated yourself)
9. Do you think it is quiet enough in the quiet zone? (if the student prefers to study there)
   - Do you think it is too quiet?
10. Do you use earplugs?
11. Is it unpleasant if you can hear/see what others are saying/doing?
12. Is it unpleasant if others can hear/see what you are saying/doing?
13. Have you ever stopped yourself from doing something or done something with unease because you are at the library?
   - Avoid paying bills online, accessing your bank account, reading a specific book, answering a phone call, any activity that is not forbidden per say but you rather not do it at the library.
14. Do you feel comfortable when students start leaving around 17:00 o’clock and the library gradually but progressively gets emptier and emptier till it closes at 20:00?