



A comparative visual study of Interior Design within prison institutions

By

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ABSTRACT

The consideration of 'wellbeing' is a luxury, furthermore, the concept of Interior Design is seen to be one with which the wealthy alone, are acquainted. The understanding of elements within design and their potential power to improve the Subjective Wellbeing of those within the space, is a tool which few consider, specifically when conceptualising spaces which we as a society, use to detain. It is not only necessary, but vital that we consider how the spaces we design impact those who are ordered to be contained within them. It is imperative that we consider how they can affect and how they can improve. This study examines the consideration, or lack thereof of Interior Design within prison institutions in order to argue for its' benefit. Through the utilisation of case studies, specifically comparing two prisons on either end of the spectrum regarding wealth, recidivism rate as well as population, it was possible to obtain common grounds on which to assess and therefore gather results. The paper explores the elements of 'good' design and the analysis of these principles within each of the institutions compared. The purpose of the study aims to catalyse innovative thinking when designing spaces which are generally contested, as well as improve the overall standard of design consideration in prison institutions. The key contributions of the report aim to further understand and develop concepts on the topic while providing a tangible point of comparison when putting theory into practice.

Key words: Subjective Well-Being, Biophilia, Healing Environments

DECLARATION

I hereby declare that the **research report** submitted for the **Honours in Interior Design** to The Independent Institute of Education (The IIE) is my own work and has not previously been submitted to another University or Higher Education Institution for a postgraduate qualification.

Signature: LH

Date: 30/11/22

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INTRODUCTION

Contextualisation

The concept of 'wellbeing', although varying with respect to certain fields, can be defined as, "a positive outcome that is meaningful for people and for many sectors of society" (Unknown, 2018). In Architecture and Interior Design, the topic has been given more consideration when regarding the spaces in which people exist. The concept of a 'Healthy Building' is often a topic in discourse as we question how we as designers can achieve these spaces. It is imperative that our choices and designs are sustainable, our buildings and spaces are healthy and the users which exist within them, feel safe. There are tools which one must consider when regarding what impact the spaces will have on users, and whether the spaces will be able to foster Subjective Well Being. A space in which the user can engage in meaningful experiences and impact their lives positively. When considering a space, it is natural that one would consider safety and health first and foremost. But once that is achieved, the question beckons, can one develop in this space? Can one thrive? However, when considering environments which are constructed to contain those who are mandated to be there, the function and thus the nature of the space is changed. The architecture of prisons a topic that is not foreign to the discourse of designers, the creation of spaces in which people exist unwillingly. However, it is rare that one considers more than the foundation and the structure. More than the walls between the cells, and more so the colour on them, the lighting used, the interior tools which impact the user of the space. How do these tools affect the experience of the humans within them? And to what extent is this fostering the notion of a healing environment, and an environment which prioritises rehabilitation as opposed to punishment. The purpose of this review with regard to the thesis, will seek to understand the current research on and around the topic, before seeking to further explore the research. It will also seek to credit the existing research for their concepts and theories, prevent replication of said research and examine any inconsistencies within the text.

Rationale

Through the conduction of this study, I will examine how the introduction and consideration of the interior design of these institutions, will be beneficial for those who work within as well as serve time within these spaces. This study is relevant in exposing the necessity for purposeful and user centric Interior Design consideration, within institutions, specifically prison institutions, to create a better experience for the user within and the working staff. The academic relevance lies in the context of the research, also 'user centric' design is a popular concept, it has yet to be applied to

contested and neglected spaces, like that of prisons, old age homes, mental institutions etc.

Problem Statement

The aim of this research is to determine and explore the utilization of Interior Design within prison institutions. Interior Design within these institutions is often overlooked. The thesis will follow a deeper understanding of the aspect of Interior Design elements, or the lack thereof, within these spaces. Although the architecture of prisons are carefully thought out, in order to maintain order, and control, the Interior Design is less often given any consideration. I will aim to compare and contrast two prison institutions, one in South Africa, namely Pollsmoor Prison in South Africa, as well as a prison in Halden Prison in Norway. This statement identifies the problem of the lack of consideration of Interior Design within certain prison institutions (Jewkes, Y. 2018: 3). This is an issue due to the fact that the design of the interior spaces can have a major effect on the user's experience within the space. It is thus important to evaluate and explore this topic to consider how these spaces implement their design and how they can improve.

Research Aim

The purpose of this study is to analyse the spaces in the prisons and therefore the consideration or lack of Interior Design as well as the quality of space produced through the introduction of Interior Design in both Pollsmoor Prison and Halden Prison. Through this study I want to clarify what can be perceived as 'good design' within these institutions, using various design principles to analyse this. I will also aim to explore the necessity for 'good' design within these spaces, and how this influence can contribute to the overall experience of the space as well as the user.

Research Question(s)

1. What is 'good' Interior Design? What elements contribute to 'good' Interior Design?
2. How does the internal environmental quality of Robben Island contrast to that Halden Prison in Norway?
3. What is the design intent in both of the prisons?
4. How do these elements contribute to the user's overall experience within the space?
5. Can the design elements perceived in Halden be implemented in a South African context?

Objectives

The objective of the study is to visually compare the quality of the indoor spaces by assessing the Interior Design within these spaces. This will be examined through assessing the visual cues within the two spaces, using principles such as Colour Psychology, Indoor Environmental Quality and

Biophilia. I will then use these assessments to compare Pollsmoor Prison and Halden Prison. Through this comparison I will be able to identify the presence or absence of these elements within these spaces and thus determine how a more user centric space can be constructed. It is important to note that the objectives are to determine the quality of the spaces by using assisting literature which points to various qualities which indicate well designed space. The objective is not to determine the effect of specific design elements or their value in rehabilitation.

LITERATURE REVIEW

Theoretical Foundation

Theories within this thesis will be used to help select concepts and the relationship between said concepts. There are several key theories which will be used to compare the two prison institutions in terms of the quality of their indoor spaces, which extends to the interior design of the spaces. These theories are as follows: Indoor Environmental Quality, Colour Psychology and Subjective Wellbeing. Subjective Well Being (Ulrich, R.S. 1991) can be defined as people's self-reported evaluations of their lives as well as encapsulating a psychological wellbeing as a result of one's environment. Subjective well-being concerns itself with how the spaces surrounding an individual can affect the individuals mental, physical health. The relevance of subjective well-being to the scope of work is due to the fact that in these prison spaces, the user is forced to exist within these confines which are not conducive to a good mental or physical state, and often do not foster a rehabilitative environment. Subjective wellbeing speaks to designing for, not only the current needs to the occupants, but anticipating their future needs, which is something that needs to be explored when concerning the design within these institutional spaces. Indoor Environmental Quality can be defined as the qualities that affect human life within a building (Mujeebu, M. 2019) or the general conditions within the building. In this exploration, the quality of the indoor environment is what will be studied. These qualities identified are thought to be necessary in order to provide a good and healthy space. This can include, but is not limited to air quality, lighting, ventilation, presence of nature and acoustics. All of these factors can affect one's experience in the space. When considering that within a prison, the majority of the users' time is spent indoors, and therefore these conditions would have a more concentrated effect on these individual. Due to their lack of freedom of movement, this can heavily affect the quality of life of these inmates. Colour Psychology is the study of colours with regard to human behaviour as well as how the colours within a space can affect the user's mood, feelings and overall experience within the space (Mikellides, B. 2012). The relevance of this specific theory lies in the uses of colours in the prison buildings. This will be examined within the research conducted in order to perceive the value of the design within these spaces and the impacts that they have on the wellbeing of the inmates.

Conceptualisation

The following concepts are discussed within the review of literature, and it is thus important to familiarise oneself with these terms. They are as follows; Healing Environment, Illumination and Biophilia. A healing environment is considered when the impact of the physical environment was assessed on one's wellbeing (Ulrich, R.S. 1991). Illumination can be defined as "applying light to

provide a clear view of the environment and objects", as defined by Cengiz (2022). Biophilia is a concept that can be defined as the human's inherent desire to connect with nature as per Heerwagen (2009).

The Architecture of Prisons

Qian (2012) notes that the definition of what consists of a prison environment has been continuously shifting and evolving. The paper discusses the notion of imprisonment as a form of punishing people and this being a relatively recent concept. It draws on the fact that previously, punishment was issued quickly, and it was only during the medieval times that incarceration for long periods of time was introduced. The early versions of prisons and their primary purpose was only to keep prisoners from escaping, therefore, not much attention was given to the spaces in which this happened. This idea of isolated punishment started in small scales, in which a few prisoners were held in these cells, for short periods of time. It wasn't until the introduction of late medieval religious practices that these formal prison spaces were inspired. These religious prisons were purposed to invoke a period of reflection. It was in the 16th century that the notion that rehabilitation through work could be achieved, and thus lead to the idea of workhouses as prisons. The key themes within this reading lie in the origin of the cell block typology, as well as play a key factor in explaining the history and original intention of prison environments, that being to both punish but also ensure a period of reflection. This disparity between the original intention of these spaces as well as the emphasis on punishment is a theme that will further be investigated within the research. Where Qian (2012) notes the structure and make up of the cellblock, Lopez and Maiello-Reidy (2017) furthers these ideas by assessing the nature of the space as a unit.

Lopez and Maiello-Reidy (2017) suggests that tools used in prisons such as, the spatial environment created by long, dark and narrow corridors, poor acoustics, restricted natural light as well as a lack of private spaces are counterproductive to creating a space necessary for good mental health and rehabilitation. The author argues that humane settings that support stabilisation, are imperative and then goes on to suggest how healing is achieved. The key factors are the fostering of relationships, minimised barriers between staff and inmates, as well as fostering a calm and comforting environment. Another point of note emphasises allowing individuals to feel a sense of control and creating a normalised environment which simulates the outside world. The research has found that not only would this be helpful for the inmates but would also increase the quality of life of the staff. A 'healing environment' – which Lopez and Maiello-Reidy (2017) make mention of, is thought to be created with access to nature to positively influence behaviour and reduce stress and violent outbursts. This introduction of nature allows for emotional restoration. Various other design features are mentioned with regard to exposure to

nature, such as the size and number of windows. The research speaks to how smaller enclosed yards would function better than a bigger scale one, in order for one to feel secure and regulated. There should be minimal to no fluctuation in temperature or air quality to ensure a stable environment. By controlling sight lines and acoustics as well as introducing spaces which facilitate participation, this healing environment can be achieved. The collective work of Lopez and Maiello-Reidy (2017) is integral in considering factors which come into play in a healing environment, and how these tools can be implemented in order to better design for these prison environments. This emphasis on the user is a concept also utilised by Petermans and Pohlmeier (2014) in their paper on Subjective Well-Being.

Design for Well Being

Petermans and Pohlmeier (2014) make mention of the fact that long term happiness is less about circumstance and more so about the activities one engages in, this research follows how design could aid in providing spaces for those activities and thus providing a space which fosters happiness. The paper commends design which takes one step further in order to empower users to flourish within the space. The concept of the Positive Design framework is introduced as it manifests in its three facets: design for virtue, design for pleasure as well as design for personal significance. These three facets would stimulate human flourishing and create a design which enables subjective wellbeing. The works of Petermans and Pohlmeier (2014) link to the concept of design being utilised beyond the necessities, and thinking for development, a concept which is not generally executed within these prison structures. Another author who writes on the topic of development and emotional wellbeing, but further investigates the idea of wellbeing as a result of a healing environment, is Tuszynska-Bogucka (2020).

Tuszynska-Bogucka (2020) discusses the concepts of Ulrich's (1991) Supportive Design and Malkin's (2007) Healing Environments. They note architectural space and the impact that this has on an individual's emotional state, as well as how to optimise the healing environment. The writer mentions that utilising Interior Architecture as a means of developing spaces will positively contribute to people's emotional wellbeing and physical health. The research finds that colour, lighting, size of rooms all have an effect on the users mood, wellbeing and efficiency. They discuss how designers can create safe and comfortable environments. The survey conducted had results as follows: the highest perceived emotional responses, by methods of eye tracking, of human participants were to the environments which followed the golden ratio principle. The study concludes that it is important to consider proportions, scale, colour and spatial arrangement to ensure a sense of comfort. Tuszynska-Bogucka (2020)'s contribution can be seen to involve

proportion and scale as an important tool when designing the interior of these spaces and gages how this can be directly linked to comfort.

McGee and Park (2022) explore the innate need to connect with nature and how this has been positively associated with enhanced mental, physical and emotional states. They mention that an all-encompassing view of interior design factors in colour, light and materiality to engage the senses of the user. But also notes that materiality can be subjective in how it engages with people. Thus, the article is inconsistent in providing specific materials and the ways in which they influence physical or mental health, the research on this is limited. The article also makes mention of a lack of research on colour and health outcomes. But notes that colour can be useful in navigating spaces. McGee and Park (2022) mention how light is directly linked to the bodies circadian rhythm and how colour can affect the performance of people as well as their perceptions of the space. Natural light, fresh air as well as access to views is proven to be beneficial in a healing environment. The lack of research on colour is not mentioned in the next source, where Kraus (2019) discusses colour as a psychological agent.

Colour and Light

Kraus (2019) makes mention of how indoor space is influenced by three major components. This is seen to be surrounding factors, structural factors and social structures. The surrounding factors are elements such as temperature, noise and lighting. The structural factors exist as the architecture, materials, structure, and colour. The social factors can be seen to be the occupants of the space. These internal factors, the author discusses, can impact the wellbeing, and physical health, as well as performance of the users of the space. The combinations of colours as well as the intensity of them can be seen to have a direct influence on emotions and behaviour. The writer notes that 90% of our time is spent indoors and that colour affects comfort. Red is shown to increase blood pressure and bring up intense emotions, white, which has the highest light reflectance is seen to have impact in small and dark spaces. Yellow can be seen to increase performance as well as appetite. Green is seen to evoke feelings of safety and blue has been shown to slow down heartbeats. Colour comfort significantly influences the perceived overall indoor quality. It will thus be integral to the research at hand, to examine the types of colours used, the rooms in which they are used and the functions which are carried out in those rooms. Jalil, Yunus, and Said (2011) mention when discussing the Environmental Colour Impact, that colour is the easiest material to alter the characteristics of the indoor environment and can be used subtly to influence mood and behaviour. Colour and light are strongly related due to the fact that the full psychological effects of the colour in the space will not be seen without adequate lighting and visibility.

According to Cengiz (2022) there is extensive research on the topic of light within prisons. When illumination is used correctly, the correlation between illumination and human health is important to note. The author makes mention of electric lighting replacing natural lighting in spaces where natural lighting is limited. The literature makes mention of the importance of supplying illumination specific to the type of work done in the space. The direction of the light, the colour of the light and the spacing of the lighting all adds to the importance of correct illumination. This is further supported by discussing the direct impact that lighting and illumination has on the quality of life of individuals. Visuality, and illumination can improve or impair one's health. Lighting, which is in excess or which lacks, can be seen to disrupt the balance of human biology. The user of the space will find not only their hormones affected, but also their nervous system. Light impacts one's biological system, psychological state, feeling capacity and circadian rhythm. Relating back to the original intended research, Cengiz's (2022) studies can be seen to directly relate to the quality of space created in these prison environments, and how the lack or excess light can be seen to affect the users physically and psychologically within them. Another author who tackles the concept of both direct and indirect connections with nature in manmade spaces is Heerwagen (2009).

Biophilia and Nature

Heerwagen (2009) explains the necessity of contact with nature for humans and describes it as a universal primary need. This connection to nature on a regular basis, is said to reinforce values of respect and care for the environment. Studies within the research show improved moods and reduced stress when this is the case. The works of Ulrich (1991) are referenced, in which the effects of exposure to nature was studied within a hospital environment, the findings were as follows: those patients whose rooms were facing a brick wall, spent a longer duration within the institutions and needed more painkillers than those who had their rooms facing a natural view. This is discussed in conjunction with the benefits of sunlight, the positive health implications as well as the medicinal properties of bright daylight, these features enhancing moods and alertness. In another reading, Heerwagen (2009) studies find that communities with trees and outdoor gathering places show increased social interaction. Office spaces, or working spaces encounter less stress when windows portray views of natural landscapes. Humankind has psychologically adapted to certain landscape features which are key due to links with prehistoric habitat selection. We naturally feel anxiety when being in the open without some form of protection, large open spaces with limited view should be avoided. The more buildings can connect with this ancient programming, the higher chance that these spaces will stimulate our psychological, emotional, and functional state. The conclusion of the research is that biophilia and well-being are strongly related. In the case of prisons this is an important observation to make when noting the amount

of greenery or access to outdoor spaces provided. It is also important to consider the spaces in which all of these features are successfully implemented. Specifically with regard to how this impacts the perceived value of Interior Design within the spaces, as well as note how this could potentially have an impact on the recidivism rate or rate of repeat conviction or offense.

Kriminalomsorgen

In Berger's (2016) analysis of Norway's Prison System, known as, Kriminalomsorgen- they note rehabilitation and reintegration being the priorities of Norway's prison system, how normality is emphasised, and the focus of the punishment is the loss of freedom as opposed to additional punishment and labour. This system was established in 1875 and labelled as the most humane. In 1998, the department re-established their goals to include job readiness of inmates. The writer mentions that although this system is proven to reduce recidivism, it is also the most expensive prison system to maintain. Halden was opened in 2010, on a 75-acre facility with the capacity to house 252 inmates. There are no bars on windows, no electric fences and have been no attempts to escape since the prison was established. The typology of the prison is designed to mimic a small village in order to allow inmates to maintain a sense of normalcy. The prison is built to human scale the tallest space within the prison is a mere two storeys in height. Berger (2016) mentions that the prisoners do not wear uniforms and maintain friendships with guards, who remain unarmed. The guard stations are small to encourage less time spent on surveillance and more time outside interacting and socialising with inmates. Each individual cell is spacious and fitted with an attached bathroom to maintain privacy. Each ten cells share a kitchen and recreational area. Prisoners have unsupervised access to the facilities, such as a building where family and friends can stay for overnight visits. An additional one million was spent on decorative fittings such as light fixtures and paintings to create an inviting environment. Cell walls are green to create a soothing environment, working areas are bright orange to create an energised feeling in the space. The room for conjugal visits is red. A total of 18 different colours were utilised by the interior designers in the prison to create an array of environments. The incarceration rate is 75 per 100 000 people and has the lowest recidivism rate in the world at 20%. The focus is on restorative justice which seeks to heal the harm caused by the crime rather than punish the executor of the crime. The 5 goals of Halden are named as follows: retribution, incapacitation, deterrence, restoration, rehabilitation.

These pieces of literature are vital when considering the difference between Halden Prison and that of a conventional prison structure. The conditions from the spaces themselves, to the treatment of prisoners is vastly different. The philosophy is in complete contrast with the earlier mentioned philosophy of early prison structures. To add onto this, the design is heavily

emphasised within this prison. The elements mentioned, regarding colour, access to outdoor spaces, nature, lighting and ventilation, all exist in Halden. It is when using this literature, the research will be able to be compiled in comparison with a conventional prison and the perceived value will be able to be indicated.

Conclusion

The literature which was assessed can be seen to cover numerous tools of design such as lighting, colour, the incorporation of nature, and materiality, all of which have been seen to have a recorded effect on the physical and mental wellbeing of humans. These spaces, in their core are no different to that of a prison environment, however these rules are seen to be dismissed in the design of said prison environments. When Halden prison is discussed, it is evident that these elements seen to hold success are implemented and the quality of life of the inmates is vastly improved. The research which follows this will seek to further investigate this link as well as extrapolate the notions of a more traditional prison typology to further compare the two and seek out the successes and failures of both.

METHODOLOGY

Paradigm

Ontology is concerned with what is true, what is real and the nature of reality (Du Plooy-Cilliers, F; Davis, C; Bezuidenhout, R. 2014). In the constructivist paradigm, many realities are constructed in terms of an ontological perspective. The research acknowledges the lack of an objective reality but rather reality existing as a social construction which is contextualized by meanings that people give to their personal and lived experiences as well as interactions. This would be a justified approach within the research as this social construction is the origin of the different approaches towards the prison systems and spaces. The ontological standpoint of the research is subjectivism, that looks at an inductive approach. Epistemology is concerned with the nature of knowledge and the different methods in which we gain this knowledge (Du Plooy-Cilliers, F; Davis, C; Bezuidenhout, R. 2014). As far as the epistemology: this approach concerns itself with knowledge as a product of human construction. The chosen epistemological approach will be interpretivism and would be inductive in nature. Interpretivism is seen to focus on the objective aspect of measuring that which is observable, it can be deduced from the interpretation of subjective experiences. Through methods of visual analysis and comparison within the study, the research will utilise these subjective experiences to deduce the effectiveness of the interior design within these spaces. The methodology used would be qualitative of nature. A historical-hermeneutic theory and methodology of this study would be implemented, based on the fact that the aim is to develop a deep understanding of the perceived value of Interior Design within prison institutions (Du Plooy-Cilliers, F; Davis, C; Bezuidenhout, R. 2014). The inductive nature of the research would be due to the search for a pattern through means of observation which would contribute to building on an existing or new theory. The interpretivist approach regards the fact that in the research, the idea of objective knowledge will be challenged, acknowledging that facts can be considered to be fluid and embedded within a system of meaning (Du Plooy-Cilliers, F; Davis, C; Bezuidenhout, R. 2014). This system of meaning is dependent on both context as well as interpretation.

Approach

The thematic approach of the research includes its ontological and epistemological standpoints. Ontology is concerned with what is true, what is real and the nature of reality (Du Plooy-Cilliers, F; Davis, C; Bezuidenhout, R. 2014). In the constructivist paradigm, many realities are constructed in terms of an ontological perspective. The research would acknowledge the lack of an objective reality but rather reality existing as a social construction which is contextualized by

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Population

The target population examined in the research are the prisons of choice. Namely, Pollsmoor Maximum Security Prison in Tokai, which is located in Cape Town in the Western Cape of South Africa (Craven, 2003). As well as Halden Prison, which is situated in the border town of Halden, Norway. The Interior Design within these two selected prisons is the topic of interest, as well as how they compare to each other within their subjective realities. To provide further context into these prisons, it is important to note the difference in their sizes as well as the number of prisoners they cater to. Established in the year 2010, Halden Prison is the second largest prison in Norway, and exists as a maximum-security prison. The prison places emphasis on rehabilitation, humane treatment, and a sense of community. As of 2015, the population of Halden Prison is 251 inmates (Benko, 2015) this includes live-in staff. According to Venter (2006), Pollsmoor Prison, officially known as Pollsmoor Maximum Security Prison is home to some of South Africa's most dangerous criminals. Although the design intention catered for a maximum capacity of 4336 inmates (Venter, 2006), as well as a further 1278 to accommodate for staff, the current population is known to be 7000 inmates alone, this figure fluctuates and is recorded daily.

It is important to note the selection of these prisons and their significance within the broader scope of work. Halden is seen and mentioned in literature as the most 'humane' prison (Benko, 2015). One of the factors that contribute towards this sense of humanity, can be attributed to the fact that the prison itself, as seen in consulted readings, prides itself on giving its' inmates the most 'normal' experience as possible. The prison prioritises integration into society as opposed to punishment, this is particularly interesting when noting that Halden Prison is situated within and

therefore surrounded by a forest (Benko, 2015). This contrast of physical isolation and social inclusion is vital to note. This practice of integration and normalcy can further be seen in the treatment of the prisoners, the encouragement to earn money within the prison and the lack of prison uniforms, amongst other things. To juxtapose this strongly, Pollsmoor Prison is located in the suburb of Tokai, using only road to separate the prison from the surrounding homes, commercial areas, and other recreational facilities (Craven, 2003). Although Pollsmoor can be seen to prioritise security and separation (Venter, 2006) due to the nature of its' inmates and their placement in a maximum-security prison, it is located in the middle of suburbia. By choosing two completely opposing prisons, it was possible to study each in terms of Design elements considered and implemented, furthermore, to contrast them in order to observe the differences in internal environment created.

The unit of analysis (Du Plooy-Cilliers, F; Davis, C and Bezuidenhout, R. 2014) refers to the basis on which decisions are made regarding development of code when unpacking the data and research. In the case of visual analysis, photographs obtained online can be considered to be the unit of analysis utilised. These images were selected from various websites as well as a collection of photographs taken by Mikhael Subotzky (Subotzky Studio, 2004) , in which the photographer explores the voting process within various prisons. These images are open access to the public and none of them have been obtained by the researcher themselves. The images utilised do not require access into prisons analysed. It is important to note that the value of said space has not been discussed, but rather the various Interior Design elements visible in each prison, or the lack thereof, this will be the focus of the study.

The population parameters can be considered to be social artefacts (Muratovski, 2016) in the form of images on the internet. The conditions on which these images were chosen include: the clarity of the focus of the image, framing of the image, lighting in the image as well as the content/ subject of the image. These factors are specifically vital when considering the internal spaces created through Interior Design. It is through these images compared, that the data was collected and examined. The intention was to compare similar spaces within the two prisons to minimise variables, these spaces are as follows: living quarters, bathrooms, halls, kitchens and circulation spaces. The access to these images, similar spaces and thus the data all depend on the limitations of what was available to the researcher through online sourcing.

Sampling

A purposeful sampling method (Du Plooy-Cilliers, F; Davis, C and Bezuidenhout, R. 2014) was utilized in terms of choosing Pollsmoor Prison and Halden Prison as the case studies used to gain data. These are prisons which the researcher has deliberately chosen for their social and historical context, the role they play within their respective communities, as well as philosophical approaches to reform and rehabilitation. This also includes a non-probability sampling method as these specific prisons have been selected to investigate the presence or absence of Interior Design elements. Within the non-probability sampling method, purposive sampling was conducted in order to make sure that the samples chosen are in line with the parameters of the research conducted. With purposive sampling (Du Plooy-Cilliers, F; Davis, C and Bezuidenhout, R. 2014) the elements are purposefully chosen based on characteristics mentioned within the parameters. When regarding the research questions, the characteristics important for the research are determined, and a sample with these characteristics is selected. Those who do not have these specific characteristics are then disregarded. In this research the images chosen are based on the subject, the lighting, the framing, the consideration of privacy in the form of avoiding images with inmates in them etc. The advantage of this method is that it ensures that each element of the sample can assist with the research.

The justification behind using case studies and specific images, lies in the avoidance of ethical issues by entering a prison, taking pictures within the prison, or interviewing inmates. The two specific case studies selected ensure that options from either end of the spectrum were considered, a prison in a country of wealth, which takes an unusual approach to criminality and emphasises rehabilitation, and one in a country which does not have funding or the necessary means to cope with a continuously overcrowding criminal justice system (Craven, 2003).

Data Collection

The data collection of visual research involved examining the effects that already exist (Muratovski, 2016). Thus in the research, all of the data analysed and thereafter synthesised was obtained through the comparison and contrast of the images, along with the interrogation of the images individually. The sampling process is subjective, but the ideological platform around the selection is framed, this is done through the discussion of the social context and historical lens through which prisons are examined. In this aspect, the ideological approach can be considered to be placed in a social context, that of the prison, as well as historical. This allows for the research focus and lens through which the data is analysed to be more specific, this is further discussed in the literature review as well as the concept document in the early stages of the research proposal. The data collection and analysis are married in visual research. The instrument used is that of a

case study, which provides a description of social phenomena within a real-world context. These phenomena occur within specific circumstances as the case study allows for an exploration within the context of the phenomena to understand experiences of individuals. The goal of utilising the case study method was to focus on the subjective reality of the participants in the case study and to amplify their experiences. To amplify 'the unique voice of those whose experience in, and perspective on, the world are unknown, neglected or suppressed' (Gomm et al, 2000:6–7). The method specifically would be direct observation, the case study method would be explanatory as it attempts to explain the circumstances and nuances.

A mono method was used when analysing the prisons, the research being of the qualitative nature (Du Plooy-Cilliers, F; Davis, C; Bezuidenhout, R. 2014). A visual analysis was conducted in order to investigate the concepts within this study. The online photographs utilised and selected were of the interior spaces of Halden prison and Pollsmoor Prison, within these images, the presence or absence of lighting, ventilation, access to nature, sizes and number of entry and exit points, colours utilized, among other elements, will be noted, contrasted, and compared. These elements were selected after noting their importance in quality of space when consulting literature. The problem statement identified in the research speaks to the lack of consideration of Interior Design within spaces which are contested (Jewkes, Y. 2018: 3). The specific issue discusses the impact that interior spaces have on the users' experience within the space, and the importance of design for wellbeing. Thus, the data collection method was relevant and appropriate when considering the images directly and their portrayal of or neglect when considering Interior Design within the prisons examined. The research objectives were to analyse and compare the use of Interior Design within the prisons, by utilising images the researcher was able to directly link the theory in the literature review to what was or was not seen in the spaces shown in the images, as well as methods of design that are either considered or neglected.

The spaces utilised in the comparison were that of the living quarters, communal areas, bathrooms, recreational area, and circulation spaces. These spaces vary in function and were chosen in order to note how the interior space changed from program to program. Informed by models taken from the literature review it became apparent that the different spaces would have different design intentions, whether that be control or sedation or security, specific to the context of a prison, by comparing these spaces, it was evident that although design intentions varied from room to room, they also vary in and amongst each prison. Thus, the overall Interior Design is compared.

Analysis Methods

The method of coding can be considered to be a way in which information is indexed when conducting a qualitative study. It is the way that the data analysed is defined (Gibbs, 2007). Through use of thematic coding, the images will be selected and analysed. The methods of analysis and the criteria of comparison considered the function and program of the various spaces, namely the: living quarters, bathrooms, kitchens, recreational areas, halls and circulation spaces. These spaces all server different functions, considering the main activities which would occur in these spaces daily and analysing how they are conducted. In this way it allows for varied conditions to be considered and different design intentions that need to be allocated for when considering the design of the prison and the interior spaces.

It is imperative to note the subjectivity of the researcher as well as the lens through which the images are analysed. This lens and viewpoint pertain specifically to that of a designer, as one notes the design elements within each space of the prison or the lack of these elements, the researcher scans the images chosen in order to draw information out about the subject of the image as well as compare this information to its counterpart in the other prison. How the living spaces differ, how the communal spaces differ and so forth. There is an established understanding, as mentioned previously in the limitations and ethics of the research, that the perceived reality of the researcher is moulded by the surrounding society and thus the bias which is assumed when considering spaces which are contested is to be acknowledged.

The criteria by which these images were analysed, listed above, were chosen when regarding theories discussed in the literature review. The theories discuss various elements of design that can be seen to correlate with subjective well-being such as Indoor Environmental Quality as well as Colour Psychology. Indoor Environmental Quality can be defined as the qualities that affect human life within a building (Mujeebu, M. 2019) or the general conditions within the building. Colour Psychology is the study of colours with regard to human behaviour as well as how the colours within a space can affect the user's mood, feelings and overall experience within the space (Mikellides, B. 2012). These theories deal directly with wellbeing and the user experience within the spaces that the theories are utilised, or the lack of the theory is noteworthy. Thus the criteria of lighting, ventilation, access to nature, sizes and number of entry and exit points and colours utilized are appropriate measure by which to compare the images in the visual analysis.

This was conducted by, for example, consulting the image which portrayed a cell (single sleeping unit within a prison) within Halden Prison, and noting the lighting, the sizes of the entry and exit points, the presence of safety measures in the form of barbed wire or burglar bars, the ventilation

access (both natural and artificial), the amount of greenery present in the room or the access to greenery, the lighting in the space and the colours displayed on the furniture and finishes. This was then placed directly adjacent to a space within Pollsmoor Prison, and the same features were analysed. The results thereof were further synthesised. This process was repeated for the bathrooms, the recreational area, the hall and circulation spaces. Each time, analysing each space, comparing, and synthesising the results.

RESEARCH CONDUCTION AND ANALYSIS

Findings and Interpretation

The presentation and interpretation of findings will adhere to the following format. The spaces analysed are as follows: The Room, The Ablution, The Yard, The Hall and the Corridor. The Room speaks to the cell, or the sleeping area, the Ablution will make mention of the bathroom or wash closet, the Yard will describe the communal or recreational area, The Hall refers to the space in which events take place, and the Corridor refers to the circulation space. The name of the spaces to be compared will be portrayed as a title, followed by the images side by side. The Halden image will exist on the right of the page and the Pollsmoor image will exist on the left. The description of the space in Halden will follow, mentioning what can be seen in the images, the lighting and ventilation in the space, the furnishings within the space and their materiality, the colours in the space, and the greenery in the space. This will be linked to the literature consulted and the support or contradiction of information gained in the literature review. This will precede the description of the Pollsmoor space against the same criteria. These two bodies of text will exist before and form the basis on which the interpretations are extracted. This will be critically evaluated and referenced where literature is concerned.

The Room



Figure 1



Figure 2

Figure 1 depicts a typical sleeping cell at Halden Prison, the contents of the cell are as follows: a single sleeper bed, a small side table, a desk, a built-in closet, a chair, a bin, a bulletin board along the wall and a door leading to the private bathroom for the cell. Framed amongst the furniture, is a window which appears to be approximately 900mm from the floor, and extends to approximately 1500mm in height, these figures are estimates using other items in the room for scale. The window is approximately 900mm wide and is unbarred from the outside area. Although it is unclear to see which space the room looks out onto, it is evident that the window provides natural light both in the room and specifically on the desking space. The window is also a source of natural ventilation

for the occupier of the space. The floors are furnished with what seems to be a wood or a wood laminate, this colour and finish or a similar material is seen throughout the room, making up the desk, side table as well as cupboards. The wall on the left is painted a subtle green or washed-out lime colour. There is no greenery portrayed in the space.

Figure 2 depicts a typical sleeping cell at Pollsmoor Prison. The contents of the cell, as per the image, show multiple bunk beds in the cell and inmates moving amongst them. Washing lines are hoisted from wall to wall internally. The windows shown can be seen to start relatively high up the wall, providing lighting from the narrow panes, overall, the space which the opening occupies in total seems to be wide, composed of several narrow panes, the openable spaces are barred by metal. Although the panes are narrow this does not seem to compromise lighting or ventilation as there are multiple openings and windows within the cell. The bunk beds are comprised of an ungalvanized metal or a finish similar. Aside from beds and washing lines, there appear to be no other visible furnishings within the space. The walls are painted a less vibrant yolk shade of yellow. There is no visible greenery within the sleeping space.

In Halden the unit is catered towards one person, and this reflects in the size of the space, in contrast to this, although Pollsmoor is bigger in capacity, it is catered towards many more people, this is further supported with the knowledge that the prison is overpopulated, and thus, many more prisoners are housed per room. In this way, Halden can be seen to prioritise the inmate's privacy and dignity. The natural lighting in both spaces appears to be adequate, however the images lack in the portrayal of the presence of artificial lighting, the colour and amount thereof. It is unclear to see from the image above whether the ventilation in Pollsmoor sleeping units would be sufficient, due to the sheer number of people that each cell houses. Halden cells are furnished with warmer materials and colours, the wood contrasted to that of the metal, the furnishings of Halden appear to be better maintained as well as given more consideration. Both cells display a use of colour, Halden uses a green, which according to literature consulted (Mikellides, 2012) evokes a feeling of safety, whereas Pollsmoor uses a yellow, which in a schooling and office context is studied to increase performance, however studies of use in prisons are unclear. There is no greenery in either sleeping area.

The Ablutions



Figure 3



Figure 4

Figure 3 depicts a typical bathroom in the cell of each inmate at Halden. It consists of a toilet, sink, and mirror, the walls are tiled till the ceiling for the space to be easily cleaned and allowing for the corner shower to function. The bathroom has white downlights visible in the space which allows for the space to be well lit, but no visible natural ventilation. The toilet and sink look to be a standard ceramic. The walls are tiled in a white tile, whereas the floor tiles are cream in colour. There is no greenery present. Figure 4 depicts two inmates, in the communal shower space within Pollsmoor. The toilets and sinks are not visible in the image. Although the space appears to be naturally well lit, it is not confirmed, and artificial lighting conditions can not be seen within the image. The ventilation conditions thus, are also unclear. The finishes on the wall are a white tile, which seems to stop at 2000mm and continues with an eggshell-coloured paint. The floor tiles are cream in colour. No visible displays of greenery can be seen in the bathroom.

The main contrast in the bathroom of Halden and Pollsmoor is, similar to the cell, the lack of privacy and amount catered to in the space. Halden has privatised bathrooms per cell for each inmate, whereas Pollsmoor is a communal area. Halden seems to be adequately lit with artificial lighting, however conditions in Pollsmoor are unclear and therefore cannot be compared. Halden has no natural ventilation, again, Pollsmoor ventilation is unclear. The colours utilised are similar in both spaces, white and cream which according to consulted literature (Mikellides, 2012), has a high light reflectance and therefore is impactful in smaller spaces in order to light up the area adequately. The absence of greenery in each space seems to be a commonality.

The Kitchen



Figure 5



Figure 6

Figure 5 depicts the kitchen space in Halden Prison. Each 10 - 12 inmates share a communal kitchen space. In the image, a sink is visible, a fridge, cabinetry for storage as well as a stove and oven. The lounge area to the right, is furnished with assorted couches, cabinets and a television mounted to the wall. There are two downlights visible in the image to provide artificial lighting over the preparation area as well as the lounge area. Two large windows are seen in the image, ranging from the floor to approximately 2100mm in height. They can be estimated to be 1200 mm wide. It is unclear whether these windows open, thus the ventilation cannot be commented on. However, the design seems to mimic a typical residential apartment style and layout. It is difficult to assume the finishings based on the image, the floor seems to be some sort of laminate to make for easy maintenance. The couches are covered in coloured fabrics, and the fittings of the kitchen seem to be some sort of board or plastic. The colours utilised in the kitchen are mainly white, paired with the light brown wooden finish of the island. The couches visible in the image are orange and grey. The literature consulted made little mention when it comes to the specific effects of these colours. There is no greenery present in the kitchen, however there is a visual connection between the inside and outside space.

Pollsmoor's kitchen area in Figure 6 seems to be far more industrial in terms of aesthetic and furnishing. The image depicts inmates in the kitchen space. Above the preparation space, seems to be a big extractor fan, or a mechanism to control smoke and heat. Washing spaces are seen around the periphery, fitted with sinks and drying areas. At the centre of the room, underneath the mechanism, is where the stoves and fryers seem to be. Horizontal LED lighting is suspended from the ceiling to provide artificial lighting. With regards to natural lighting, the double volume central space allows for ample sky light to perforate the interior area during the day. There is one window visible in the image, but it is unclear whether this looks onto an interior or exterior space. There is also a similar narrow paned wide window that exists on the back wall. These windows, coupled with the multiple doors visible, can be seen to provide cross ventilation through the

space. The wall finishes along the exterior washing area, seem to be tiled similarly to the bathroom spaces. The furnishings are mainly metal, with what seems to be a concrete or screed type floor. The colours in the space, are predominantly grey and silver. The literature was once again inconclusive when it came to deeming Environmental Colour Impact. There is no greenery or plant life present in the space.

The lighting in both spaces seems to be adequate, both spaces incorporate artificial as well as natural lighting within the spaces. Although Pollsmoor appears to be more well ventilated, this is unclear when consulting the images. The pivotal difference in the kitchen spaces lies in the use of materials and colours. Whereas Halden has warmer finishes and a more neutral colour palette, Pollsmoor's use of screed and metal evoke a colder feeling (Mikellides, 2012). Neither of the spaces had any greenery present however, Halden's kitchen space has a visual connection to nature, whereas Pollsmoor's kitchen has no visible visual access to nature or the outside.

The Hall



Figure 7



Figure 8

Figure 7 depicts inmates of Halden in the recreational hall. The large hall is fitted with two basketball hoops visible in the image, as well as a rock-climbing wall in the centre of the hoops. The floor has delineating sections, it seems to denote court sizes for various games. The space is fitted with artificial LED lighting on the ceiling, in the image, 14 lights are visible. It is unclear whether there is any windows in the space when viewing the picture. Thus, it is also unclear how the ventilation in the space works. The finishes of the space seem to be a wooden laminate, with vertical wooden cladding along the top of the white plastered walls. There is no greenery present in the space. The neutral colour palette seems to be carried throughout the design of Halden.

Figure 8 depicts inmates of Pollsmoor, sitting on the floor around a table in the hall space. Along the wall there is what seems to be a screen for a projector. There is a window visible in the image. The artificial lighting cannot be clearly gaged from the image; however, the natural lighting is provided through the window in the corner. The window is barred with burglar bars but can also be used for ventilation purposes. Artificial ventilation is also unclear. The finishes of the space include a red brown tiled floor, and a pale-yellow brick wall that is plastered from approximately 2000mm high and simply painted up until that point. There is no greenery visible in the image or space.

In these particular spaces, it appears that Pollsmoor has more consideration for ventilation and natural light than in the case of Halden, this can be seen due to the inclusion of a window. Similar to the above results, it is clear to see that the difference in finishes is the most stark. Where Halden prioritises warmth in the form of wooden laminate floors as well as cladding, Pollsmoor has opted for tiled floors and plastered brick walls. The colours in Halden are browns and whites, but in Pollsmoor they exist as reds and yellows. There is an equal lack of consideration into the integration of plant life into these spaces.

The Corridor



Figure 9



Figure 10

Figure 9 portrays a circulation corridor in Halden Prison. The corridor consists of several doors, as well as some windowed panes looking into the adjacent space. The corridor is littered with two machines, of which their use seems unclear. The corridor is lit well, in terms of artificial lighting, several downlights in rows of 2 can be seen. In addition to this, the windowed panes to the left could also provide additional natural lighting, along with the window to the outside at the very end of the corridor. The doors can also be seen to have a strip of glass in them, in this way, bringing a small amount of light into the rooms to which the corridor leads. The ventilation within the space and how it operates is unclear, although it can be assumed that the window at the end can offer natural ventilation. The furnishings of the space are minimal, although it is important to note how strong the presence of the colour white is. Not only in the walls and doors but also the floor finish. A single potted plant can be seen in terms of greenery.

Figure 10 portrays inmates of Pollsmoor as they clean the floor in the corridor space. The corridor is littered with light green doors leading into the adjacent spaces. As well as netted hatches in certain areas in order to maintain visual connection and surveillance between the corridor and the interiors of the rooms to which the corridor leads. There is a strong presence of artificial lighting in terms of LED lighting. The corridor is well lit, however there seems to be no windows into the circulation space, and thus no natural ventilation. The finishes seem to be plaster and paint on the walls as well as a screed or similar type floor. The doors are also painted a particular shade of green. There is no greenery present in the space.

There is no stark difference when comparing the artificial lighting of the two spaces. Both seem to be adequately lit. However, where Halden makes use of natural lighting through windows to the outside, Pollsmoor's corridor seems to not have any visual connection to the outside. Thus, we can also conclude that the ventilation in Halden is better due to the implementation of natural

ventilation through the windows. The finishes in Halden are different to that of Pollsmoor in the use of colour and materials. Halden has a completely white colour palette in the corridor spaces, while Pollsmoor incorporates colour. Halden integrates minimal greenery although this is still more than what is displayed in Pollsmoor.

In relation to the themes of the literature, the themes being as follows; design for wellbeing, colour and light and their effects on the user experience, biophilia and nature in design, the research indicates many interesting findings. The most convincing of that, being in relation to the theory of Indoor Environmental Quality (Spengler, J.D. Chen, 2000) and its linkage to adequate lighting and ventilation. In Halden Prison three out of five spaces analysed made use of natural lighting and ventilation through windows. Whereas in Pollsmoor only two out of five spaces made use of natural lighting and ventilation. Regarding Colour Psychology, it is clear to see that Halden sticks to a more neutral colour palette of white and natural colours whereas Pollsmoor utilises primary colours in its Interior Spaces. Although when this is measured against the literature consulted, it is inconclusive what effect this has on the mood and user experience due to the lack of research in that aspect. It is important to note that the use of white in Halden Prison can be compared to the clinical aesthetic that one would find in a medical hospital. However, the colours utilised in Pollsmoor seem to mimic that of a classroom. The utilisation of greenery is fairly non-existent in both of the prisons, however Halden utilises visual connections to nature whereas Pollsmoor does not. However, this is not a strong enough argument to conclude that Halden includes more elements of Biophilia (Heerwagen, 2009). It is imminent to the research to consider the difference in population that each prison caters for, as the most astounding difference between the prisons seems to be the lack of privacy in Pollsmoor where the design intent of Halden seems to prioritise both privacy and normalcy. This can be further supported when noting that the Interior Design of Halden seems to not drift far from that which you can expect to find in the residential apartment. Although the literature seems to support the research in terms of Indoor Environmental Quality (Spengler, J.D. Chen, 2000) and Illumination, it neither supports nor contradicts the research when regarding Colour Psychology and Biophilia (Heerwagen, 2009).

Purpose, Objectives and Questions Addressed

The purpose of the study was to analyse the interior spaces within the prisons and note either the consideration or neglect of Interior Design. Furthermore, the aim was to clarify what can be perceived as 'good' design within these institutions using design principles such as lighting, ventilation, furnishings, materiality and colours. The research shows that Halden Prison seems to exhibit more of the principles mentioned above, specifically when acknowledging the use of materiality and consideration of finishes as well as lighting. However, Pollsmoor Prison does not

exhibit as much use of these principles, therefore it can be deduced that Halden Prison could be utilised as a stronger example of 'good' interior prison design. It must be acknowledged that, post analysis, the term 'good' design is subjective, and although specific principles were utilised to form an unbiased system of comparison, Halden Prison and Pollsmoor Prison have different needs, design intentions and philosophies. The problem statement addresses the lack of consideration of Interior Design within certain prison institutions. As well as how this affects the user experience within the space. After conducting the research, it is clear to see that although in South Africa we have not yet begun to implement these design principles, the design intent seems to be primarily concerned with catering for the amount that the prison needs to house, as well as the functionality of the space.

The objectives of the research were to visually compare the interior spaces and assess the interior design elements present in these spaces using visual cues and principles of Colour Psychology, Indoor Environmental Quality and Biophilia (Heerwagen, 2009). Although there is strong evidence suggesting Indoor Environmental Quality (Spengler, J.D. Chen, 2000) is the primary concern, the evidence is lacking when it comes to the consideration of Colour Psychology (Mikellides, 2012), more so to the mention of only certain colours and their effects in literature. When considering Biophilia (Heerwagen, 2009) it is evident that this principle is neglected in both prisons and can be improved in future designs.

The research questions were addressed in noting that the South African prison, although sufficiently lit in terms of artificial lighting, lacks natural lighting and ventilation. Whereas the Norway prison makes these elements a priority in each space. The furnishings in the South African prison play a purely functional role when acknowledging the number of inmates which need to be catered for. There is little to no personalisation of space or autonomy within the spaces, whereas in Halden, we see furnishings such as smaller more intimate kitchens and lounge spaces, privatised rooms and bathrooms etc. In this way making privacy and normalcy the main priority. The materiality of the furnishes existing in Halden, serves both aesthetic and functional purposes, whereas in Pollsmoor it seems to be limited to function. The use of colour in Halden is more neutral whereas Pollsmoor displays more of the primary colours. The secondary question is addressed when noting the subjectivity of the term 'good' design, but when contrasting both prisons against the qualities acknowledged by the literature to be fundamentals in good design, it is imminent that Halden Prison exemplifies more of these principles of adequate lighting and ventilation, including that from a natural source, an in-depth consideration of materiality and colour. The research was inconclusive when assessing how these elements contribute to the user's overall experience within the space, this was not gaged from the visual analysis alone and would require a more in-

depth study, taking into consideration subjective experiences, this would also require participants and some sort of psychological gauge, of which I do not have the expertise to discuss or investigate. The question of how these spaces can be improved in terms of Interior Design and user experience, lies in the increase or introduction of natural elements to directly integrate the inmates and nature. As well as in Pollsmoor, more consideration into materiality and the utilisation of a variety of durable and aesthetically appealing finishes.

In conclusion, the elements of design interrogated and compared in the study yielded varied results in terms of what is prioritised in the Interior design within the spaces. Although Indoor Environmental Quality is strongly considered, the principles of Biophilia and Colour Psychology are not as strongly considered in either of the spaces. Even when principles of Colour Psychology are implemented, the literature consulted is not in depth enough for conclusions to be drawn. The design of Halden Prison based on these principles, can therefore be considered to be a more well-designed space, and a better representation of 'good' design when contrasted to that of Pollsmoor

CONCLUSION

Implications

The study conducted yielded a mixed set of results. It is clear to see that although certain elements, such as Indoor Environmental Quality, have a strong impact as well as presence in both institutions, newer concepts such as Biophilia and Colour Psychology have little presence in these spaces. This could potentially be due to the recent origin of both concepts as well as a lack of depth within the existing research. Specifically considering Colour Psychology, research varies and results are often contradictory between studies, thus, this can be seen to be an inconclusive concept. Furthermore, institutions such as Pollsmoor were constructed before these concepts were developed, thus would not have been as strongly considered. Although Halden can be considered to be a pioneer in terms of design consideration, it is important to note the effect of design intent on the space, as well as other socioeconomic factors varying from country to country.

Contribution

The anticipated contribution of the study seeks mainly to form a deeper understanding and a more in-depth exploration of the principles of design that are present and absent within prison institutions. These elements, and the presence or absence thereof, have been compared and contrasted between both of the institutions and this speaks to the emphasis or neglect of the consideration of Interior Design within these contested spaces. Although the study speaks to what elements need to be included in order to better the indoor quality for both the inmates as well as staff within the spaces, it also addresses the discrepancy between the two institutions.

Ethical Considerations

Ethical considerations, as per Research Matters textbook, includes seeking permission from relevant authorities, informed consent, confidentiality and anonymity, freedom to withdraw or participate, avoiding unethical questions, avoiding bias, respect for human dignity, appropriate methodology, avoiding plagiarism, avoiding falsification and fabrication of evidence, providing feedback, and ensuring the safety of research participants. (Du Plooy-Cilliers, F; Davis, C; Bezuidenhout, R. 2014). However, since the data analysis conducted was via method of a visual analysis, only a few of these considerations apply. There is no need to seek permission from authorities or gain consent or concern the research with confidentiality as the method of data collection is observation and analysis through resources obtained online. An appropriate methodology is used as well as an avoidance of plagiarism and a lack of fabrication and

falsification due to the conclusions coming solely from visual observations as opposed to deducing points separate of what is observed. No human participants were utilized in this study, as this would require interviewing people who work and served time within these institutions, this alone would have brought several complications as well as inherent biases. All research was conducted alongside a supervisor to maintain ethical clearance.

Limitations

First and foremost, it must be noted that these spaces are contested spaces due to the power relations that they uphold as well as the reason people serve time within them. An acknowledgement of my own personal bias must be made; therefore, the writer or researcher of the study is a limit. There are also limitations in information being accessed through online images, these could vary based on camera and composition of image. This was mitigated through my selection of the images, to the best of my capabilities, making sure they are of the same resolution and standard. There would be privacy limitations in terms of accessing official architectural drawings of certain prison institutions as this is a breach in security. It is also necessary to acknowledge the wealth disparity between the places compared. South Africa is considered a third world or developing country whereas Norway is a developed and first world country. Therefore, there would be more funding allocated in developed countries to institutions to place emphasis on reformation. The facilities would be better maintained, upkeep, with more resources and fewer prisoners. It is also important to consider the type of prisoners that are kept within these spaces. South Africa has a greater number of violent and gang related crimes, therefore the spaces created to contain these people could have varying needs from those committing less serious offenses. It is also important to note that no comparison or mention of the recidivism or rehabilitation rate was made within this particular study, this is both out of scope of my particular field of knowledge as well as deals mainly with psychological factors which I cannot speak to.

Future Research

Although the researcher does not have the necessary knowledge to speak to recidivism or rehabilitation, as well as the psychological effects of the spaces on the user, it would be interesting to see a paper such as this play the role of catalyst when it comes to future research in said areas of expertise. The parallel between spaces and emotions is one that is clear although limited research is available and successful in drawing these conclusions. It must be noted that concepts considered and their attached academic theory, although needing to be relevant to the society in which you conduct the research, also need to be rigorously tested before being used as tools to guide further research.

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