



**INVESTIGATING THE USE OF SPORT AS A COMPLIMENTARY  
MECHANISM FOR POST MEDICAL REHABILITATION:**

*Towards a Post Drug Rehabilitation Re-integration  
Centre for Durban*

*BY*

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requirements

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## **ABSTRACT**

This dissertation examines that post medical rehabilitation centres should begin to analyse situations in which sport is actively promoted to reintegrate drug abuse patients back into society. The stigmas associated with drug abuse have been explored in this dissertation as an underlying factor that requires mental, physical and social rehabilitation and re-integration. Understanding and applying a holistic approach have represented the existing frameworks of the theories of power and structuration redefined to meet the needs of substance abusers. An analysis of the existing literature, precedent studies, a case study, and interviews with substance abusers from local rehabilitation centres, has revealed several themes which formed the overall framework of this research exploration and its ensuing conclusions:

- Rehabilitation, portrayed, as a reformation program is a vital component. The theory of power and structuration, in terms of a self-regulating design, can create a sense of routine and reformation within the built form.
- Recreation, exhibited through sport creating a sense of belonging and participation, eradicates the stigma associated with substance abusers. The use of sport and its positive attributes, can promote inclusivity and interaction within the built form.
- Reintegration, through awareness and a sense of normality promotes longer-term recovery. The incorporation of the theory of power and structure, the concept of self-regulation and sport combined initiates reintegration in a wider society.

Through the fieldwork and findings component of the research, this dissertation has also concluded that although the current rehabilitation facilities are generally well considered, an understanding of the themes of rehabilitation, recreation and reintegration are not typically collaborated into these facilities. Furthermore, as a means to support the existing facilities, there are several non-profit and non-government organizations that have set up their own support structures to meet the various long-term mental, physical and social needs of the patients. Unfortunately, their lack of infrastructure and funding has resulted in a gap between reforming the patient and reintegrating them into society. This dissertation has concluded that recreation through sport aids the recovery of the patients and restores the disconnection that leads to relapse.

In the context of the ongoing stigma around substance abuse, the design of a post medical rehabilitation program deals with the issues relating to relapse by using sports as a means of self-empowerment and inclusivity before the process of reintegration into the wider society.

# COLLEGE OF HUMANITIES

## DECLARATION - PLAGIARISM

I, Azhar Bayat declare that

1. The research reported in this thesis, except where otherwise indicated, is my original research.
2. This thesis has not been submitted for any degree or examination at any other university.
3. This thesis does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
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  - a. Their words have been re-written but the general information attributed to them has been referenced
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Signed

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## DEDICATION

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The most important dedication would be to thank the Almighty God for providing me with this opportunity to undertake my Masters of Architecture.

This dissertation is dedicated to my loving wife and parents who have been there to support me and thought me the true value of education. Thank you!

“A MAN WHO HAS NO IMAGINATION HAS NO  
WINGS”

-MUHAMMAD ALI

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# CHAPTER ONE

## Introduction:



Figure 1.1: Ex-addicts staying sober via sport (Source: <http://edition.cnn.com/2012/02/09/living/cnnheroes-strode-phoenix/>, Edited by Author)

### **1.1) INTRODUCTION:**

This research introduces the reader to the idea of sport being used as a mechanism for post rehabilitation amongst drug addicts. It will also unpack issues relating to the sustainability of post-rehabilitation and how the introduction of sport could alleviate some of these issues faced by recovering drug addicts. Relapse and re-integration are two of the most common issues faced by recovering addicts.

### **1.2) BACKGROUND OF STUDY:**

According to the National Institute of Health, drug addiction is a complex illness characterized by intense and, at times, uncontrollable drug craving, along with compulsive drug seeking and use that persist even in the face of devastating consequences ([www.riverbankhouse.net](http://www.riverbankhouse.net), (Accessed 8 Apr. 2015)). Addiction affects multiple brain circuits, including those involved in reward and motivation, learning and memory, and inhibitory control over behaviour. There are numerous factors which influence drug abuse such as genetic makeup, age and environment. This has a major impact on the users' social, mental and physical aspects of the body and has a huge alteration of the lifestyle changes. Due to these factors, effective treatment plans are designed to enhance and 'give back' the social, mental and physical aspects aiding the user to ultimately reintegrate them back into society which entails places of work, community and family.

Due to the complexity of the addiction process, recovery time is not within a rapid period of days but more on a long term based period ([www.smartrecovery.org](http://www.smartrecovery.org), Accessed 8 Apr. 2015). The treatment plans enable the user to gain control of their life but this is no guarantee and the user will be fully sustained mentally and physically after rehabilitation to fit into society. The issue of relapse comes to play, whereby patients are susceptible and exposed to threats and weaknesses once out of the rehabilitation centres. According to the National Health Institution, for the addicted individual, lapses to drug abuse do not indicate failure—rather, they signify that treatment needs to be reinstated or adjusted, or that alternate treatment is required ([www.parentpathway.com](http://www.parentpathway.com), Accessed 8 Apr. 2015). The prevention of relapse is the main focus as it is one of the key issues to which patients return to their old addiction habits. This issue is initiating new methods and systems which allow the treatment process to be encapsulate rehabilitation in all mental, social and physical aspects to allow a smooth transition from rehabilitation to living a normal sustained life.

### **1.3) MOTIVATION OF RESEARCH:**

Sport is largely perceived as beneficial to the human mind and body. Sport has the power to change all people's emotion, affect both the mental and physical aspects of the body, and contribute to social development (Andrew, 2005).

The intention of this research is to investigate sport as mechanism to facilitate post rehabilitation amongst drug addicts. Drugs have the capacity to damage the human brain causing mental defects resulting in adverse brain effects. Hence, drug addicts undergo a rehabilitation process to regain stability and revive their bodies and minds via certain rehabilitative methods.

A substance treatment plan is often divided into various stages or phases, which typically consist of medically-assisted detoxification, rehabilitation, and post rehabilitative support ([www.rehabs.com](http://www.rehabs.com), May 2015). These rehabilitation facilities often include treatments such as hypnotherapy, trauma workshops, arts and music classes and yoga as a complimentary mechanism to the rehabilitation process. These mechanisms bring about a positive result in the rehabilitation process through coping mechanisms and self-regulation (Gesler, 2003).

Sport is often used in both early prevention programs in schools as an alternative for substance abuse and healthier lifestyle as well as has a positive effect on physical, psychological and social aspects of alcohol and drug abuse users (Roessler, 2010). It provides an opportunity for a mix of fun, self-improvement and competition that will vary with the players involved and the sport they are playing at a particular time. The potential of sports can also lead to developing a range of positive aspects in people and is also associated with less positive practices, including substance abuse ([www.unodc.org](http://www.unodc.org)).

The common themes when conducting feasibility interviews with doctors who work in drug rehabilitation centres in Durban, was that sport had not been used as an inclusive mechanism in the post rehabilitation process and felt that if given an opportunity to include a sport facility inclusive of their rehabilitation centres, it would bring about a positive outcome amongst their patients.

Sport is not only a physical activity; it promotes a sense of belonging and participation. We can use sport as a specific tool for good recovery amongst people who are affected in mental disorders, to improve physical health, well-being, and self- concept (Pier L, 2011). Sport has the ability to act as a social conductor allowing for people who are in the post rehabilitation phase to integrate them back into main-stream society and also breaks the social stigma attached to drug addicts.

The issues of gender, race and class can be dealt with in terms of using a common support base such as sport as the enabler for post rehabilitation since that sport is recognized as a universal practice around the world. Sport can be seen as an activity that allows women, men, boys, girls and children to participate be it in a team sport such as soccer or an individual sport such as swimming or karate. Each of these sports can have a different approach and outcome on an individual which would be incorporated into the intended design. Due to these factors, I have chosen to use sport in the post rehabilitation process as it deals more with the improvement and healing process after hospitalization.

This research will manifest itself into an architectural design which will include a sporting facility, encapsulating the ethos of sociology, psychology, philosophy to be integrated in the semblance of a novel post rehabilitation re-integration initiative.

#### **1.4) DEFINING THE PROBLEM:**

Formal medical drug rehabilitation programs only last for a defined period of time, and full rehabilitation and re-integration is not guaranteed for many patients. After all, drug addiction is a chronic, relapsing disease, characterized by neurochemical and molecular changes in the brain that endure after medical rehabilitation ([www. healthyamericans.org](http://www.healthyamericans.org), May 2015). Because current rehabilitation facilities lack post-medical reintegration programs, recovering drug addicts are more likely to relapse. Indeed, it is proven that conventional and short term treatment approaches do not yield satisfactory results ([www.pretoriaonlinepages.co.za](http://www.pretoriaonlinepages.co.za)).

Although much has been written around the topic of drug rehabilitation and the transition process for recovering addicts, very little literature exists to show the role of the built environment in post medical rehabilitation. Similarly, although there is a wide body of literature relating to an understanding of power and self, and sport as a means of understanding power and self, few efforts have been made to link these theories to the concept of drug rehabilitation.

As such, there is a need for post medical research environments to explore reintegration platforms that embrace this existing understanding of self and power through sport. Ultimately, this will assist in ensuring that recovering drug addicts do not relapse during post medical rehabilitation and transition processes.

Furthermore, the universality of sport will encourage common relations not only between the addicts, but between the addicts and other members of society, thereby assisting in the re-integration of reformed drug addicts into society.

#### **1.4.1) Aims:**

The aim of this research is to investigate and analyse whether sport can be used as a medium of post-hospital rehabilitation amongst substance abusers in order to develop principles for creating an inclusive drug rehabilitation centre. This type of rehabilitation model is used to create an environment that provides for recovering patients a potential of re-integration into society through sport.

#### **1.4.2) Objectives:**

1. Understanding the role of the sport in re-vitalising the body in its physical and mental aspects.
2. To investigate and understand sport as a possible means of re-integration of drug patients post medical structure.
3. To establish a series of principles which could spatially shape the way rehabilitation centres are designed.

### **1.5) SETTING OUT THE SCOPE**

#### **1.5.1) Delimitation of Research Problem:**

The literature and purpose of this research project defines the current drug rehabilitation systems and the use of sport as a supporting mechanism. Sport predominately used as a means to prevent relapse and to allow for a smooth transition from post rehabilitation environment to the main stream society. The limitation of sport as a mechanism to aid the post rehabilitation phase and the corresponding need for an architectural environment, to contain this activity which supports reintegration into the community, will be the primary focus of the study.

This research will not be investigating any new means or systems which alter the pre-medical rehabilitation but rather focus on the post-medical factors of rehabilitation treatment programs and architectural environments. The theories and concepts which are being applied in this document will be strictly being associated with sport, rehabilitation and architectural built form pertaining to the research topic.



Upon the basis of the above, the study will be focused on drug addicts phasing themselves through post rehabilitation in order to revitalise the mental, physical and social aspects of the user. The interviews conducted will enhance the perspective in so far as understanding the role of sport being used as a complimentary mechanism for post rehabilitation. Sport is explored as a means of self, power, and re-integration establishing common goals and relations not just between addicts but also other members of society.

Finally, the research aims to ultimately derive a set of architectural principles which combine a sporting component to the post – rehabilitation phase. Patients are now able to sustain themselves via the dynamics of sport and also re-integrate themselves back into society.

### **1.5.2) Stating the Assumptions:**

This research sets out to assume that the post-medical rehabilitation program can be set upon to be altered by using sport as a complimentary mechanism according to the literature. Drug addicts who suffer from relapse and who also have passed the pre-medical rehabilitation treatment will be part of this new post rehabilitation program setting out to re-establish and re-vitalise the addicts personal traits via sport. The research also makes an assumption of an architectural intervention to program a new possibility of adopting a sporting component to the post rehabilitation phase treatment program which will allow for addicts to gain from the rehabilitation treatment. The system also adds a notion of removing any social stigma attached to the addicts equating them on a level playing field creating stronger supporting structures and aids the means to interact with a broader sporting community

### **1.5.3) Key Theories and Concepts**

The lack of current post-rehabilitation and re-integration facilities have been a key issue with regards to substance abuse. The relationship between themes such as the psychology of addiction and sport, as a means of post rehabilitation, will be linked with theories of power and structuration. These theories directly affect how the user is able to function and adapt to certain circumstances and activities thus having a positive effect on their mental, physical and social levels.

#### **a) Theory of Power:**

Power is the over-riding theory which will be discussed in this research. Drug addiction has a direct link with power as it has the ability to disempower the user. The notion of healing or rehabilitation has the ability to empower the addict. Power can be seen as an element to which people of authority dictate certain activities such as the government or doctors in a hospital. These levels of power can be used to either gain benefit or to discipline a subject. Architecture is and always used deliberately or unintentionally to define relationships amongst individuals, interest groups, cities and nations. Those relationships are based on power ([www.slideshare.net](http://www.slideshare.net)). Power can be based on economics, social, cultural and political influences. Iconic architecture can be used as symbolism of power via authoritative movements at their specific era. These buildings of power are based on common examples such as:

- 1) The Taj Mahal which symbolised economic well-being and political power.
- 2) Fortified settlements to embellish a monarch's strength. Power symbolised buildings via political, economic and movements of authoritative power regimes at their specific era.
- 3) The Colosseum signified honour, religion and entertainment and was a symbolism of Roman political power. The architecture of the structure and the events which had taken place in the Colosseum created historical landmarks to enhance its powerful status as a Roman intervention.

Architecture is intricately tied to social, economic and political power which makes it a highly important indicator of status and power (www.slideshare.net, April 2015). According to Kim Dovey, 1998, "the built environment mediates, constructs, and reproduces power relations" (Dovey, 1998). Places are programmed and designed to accord with certain interests primarily to pursuit of amenity, profit, status and political power. The built environment represents identities, differences and struggles over gender, class, race, culture and age. It shows the interests of people in empowerment and freedom, the interests of the State social order, and the private corporate interest in stimulation consumption (www.theses.gla.ac.uk, May 2015).

Power enters into the design of buildings in various ways. Architectural form is used as a symbol power, as discussed above, but the relation between buildings and power is just not a matter of symbolism. In this case, power can be exercised in its 'disciplinary' forms and the way buildings are planned to function. Examples of these buildings would be prisons, hospitals and asylums in which clear disciplinary functions are seen. The practice of imprisonment and confining the insane are spaces designed for specific purposes which have certain characteristics. This does not mean that the power relations reproduced in buildings must be oppressive, nor that they must all be so in the same way or to the same degree. The notion of disciplinary power belongs to Michel Foucault (Foucault, 1980) in which he states that power is ubiquitous.

Markus (1993) has argued, the articulation of space always embeds relationship power, insofar as it governs interactions between users of a building, prescribes certain routines for them and allows them to be subjected to particular forms of surveillance and control. These routines and activities, to which the subject relates to are from the structuration theory.

### **b) Structuration Theory:**

How is power mediated by spatial programs and spatial practices?

Anthony Giddens is the key theorist and has made development on the structuration theory. He bases his theory on a differentiation between 'agency' and 'structure'. He defines agency as the capacity to transform our world and structure as the organised social systems in the forms of rules and resources (www.utas.edu.au, April 2015). The primary notion of 'agency' and 'structure' is to enable and constrain. Structure involves the use of resources that are the "material equipment" and "organisational capacities" of actors to get things done. Thus, structure both enables and constrains the form of agency possible and as well is constructed by agents.

Dovey argues that architecture can be considered as a form of structure and the social action it 'frames' as the form of agency. Architecture evokes and enables certain forms of life while constraining others with both walls and sanctions. Structuration comes into play where by the structure has rules and regulations which create different behaviour patterns which in turn produce different outcomes. Those who have resources mobilise power, although power itself is not a resource but the result of possessing material and organisation material (Giddens, 1971).

Power relations are embedded in spatial programs which suggest pluralising the study of which acknowledges the inhabitants of a building to both 'subjects' and 'agents'. This gives an indication for buildings to empower and disempower agents and subjects.

Structure enables and constrains the form of agency and at the same time, structures are constructed by agents. Structures are organised properties of social systems, rules and resources and the agency has the capacity to transform our world. In the case of sport and post-rehabilitation, sport is being used as the enabler for the recovering patients for the betterment of the health. The coach, seen as a figure, has the power to instruct and control the agents due to his expert power statue. The combination of agency and structure, within rules, creates a system which has a place for all to work coherently. The built form will mediate power relationships between structure and agency to evoke a change in behaviour to the betterment of the patients rehabilitation and re-integration processes.

### **c) Conceptual Framework:**

Self-regulation through sensorimotor therapy

Self-regulation is an integrated learning process, consisting of the development of a set of constructive behaviours that affect one's learning. These processes are planned and adapted to support the pursuit of personal goals in changing learning environments (www.confabjournals.com, May 2015).

The use of self-regulation will be determined by the patient playing a series of sports to develop skills and improve social life upon daily encounters with outsiders. The patient will regulate himself to learning new coping skills via a variety of sporting activities and environments. These environments will be aimed at reducing environmental stresses, provide positive distractions, enable social support and give a sense of control to the patients (www.webbshade.com, April 2015). Sport has the power to give a person positive outcomes by means of self-determination and motivation.

The environment and activities derive from the theories of structuration and power whereby the 'agents' and structure' work hand in hand to produce positive outcomes in behaviour patterns. This form of regulation is linked with the patient, in this case, the patient being able to play in a sporting, which is the structure. Figure 3 indicated the sporting ethic is of a positive, disciplinary and recreational means whereby the environment has a positive outlook to the patient. This improves the all-round skill of the patient allowing him to self-regulate in a manner to which benefits him or her via the activities. The power of sport will be seen as this has the ability to change personal. This will be discussed further in chapter 3.

#### **1.5.4) Key Questions:**

- 1) How can sport be used as a means of post hospital rehabilitation?
- 2) What types of sport contribute to rehabilitation?
- 3) How can sport contribute to the rehabilitation program
- 4) How can the spatial configuration of rehabilitation influence the re-integration of recovering addicts into the community?

#### **1.5.5) Definition of Key Terms:**

Built environment: Refers to the human made surroundings in which human activities take place, ranging from scale of buildings to parks, neighbourhoods, and cities.

Post-medical rehabilitation: This term specifically refers to the patient after completing a treatment program, recovering addicts still require some type of ongoing support for an extended length of time. This phase of recovery, known as aftercare, generally requires involvement in some type of aftercare program, which has been shown to make a huge difference between the addict abstaining from his or her addiction or relapsing (www.projectknow.com, April 2015).

Drug addiction: In this context, this term refers to a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences. It is considered a brain disease because drugs change the brain; they change its structure and how it works (www.yourfrisco.dallasnews.com, May 2015).

Relapse: This term is defined in relation to drug misuse, is resuming the use of a drug or a chemical substance after one or more periods of abstinence (www.antibiotic.sexprivateznamka.com, May 2015).

Sensorimotor therapy: this refers to a gentle, body-centred therapy that can help relieve the devastating effects of trauma, abuse and emotional pain (www.marriagecpr.com, April 2015).

#### **1.6) Research Methods and Materials**

##### **1.6.1) Approach:**

The aim of the research is to understand how sport can be used, by recovering drug addicts, as a mechanism for post rehabilitation processes. The approach of the research will be a qualitative one, as it will rely on the perceptions of interviewed participants and constructivist research approaches. Primary data involving interviews will form the major research component of the study.

##### **1.6.2) Sample:**

The interviewees chosen will be purposive samples, to ensure enough information is gained. The time frame that the research has to be conducted in will be an estimated two month period. This informs the number of interviews that can be conducted. Proposed interviews of patients and two rehabilitation facilitators will be carried out.

These will involve a single follow up interview in order to allow the interviewees to view the data and comment on the way the data has been documented. Purposive sampling will be used for this research as the patients and their facilitators will be from the drug rehabilitation centres chosen. This method of sampling ensures that the respondent does meet the criteria for being in the sample as well as will give the closest and most accurate information due to them being in the rehabilitation centre and also within the rehabilitation program. The data collected from the samples will be cross checked and appropriate management of data will be ensured.

#### 1.6.3) Data Collection:

This study will be conducted in the area of Durban, specifically looking at two rehabilitation centres which do not currently incorporate sport in their post rehabilitation program: The Minds Alive Rehabilitation Centre and R.A.U.F rehabilitation centre. The reason behind choosing these two rehabilitation centres is that the Minds Alive Rehabilitation centre works with a rapid rehabilitation process consisting of 6 days and the R.A.U.F rehabilitation centre works with a more gradual one month rehabilitation period. This provides some variation in the study to allow for participants to contribute and it is also imperative to note that the study does not intend to be a purposeful comparative of the two institutions.

In order to get a broad perspective of the processes involved in rehabilitation programs, data will be collected in the form of interviews with patients and facilitators from the facilities mentioned. These patients will be interviewed whilst in their post rehabilitation phase. The interviews will be semi-structured, including open ended questions.

Questions will determine the objectives of the research by the data received from the samples and will be used to influence a built form which will concentrate on sport being the tool for post rehabilitation. These questions will also concentrate specifically on the data collected from the sample and provide information as to what aspects of sport are needed to fit into the post rehabilitation process and whether sport, in their opinion, would be beneficial in the post rehabilitation process. The data will also determine how the design of the built form will be composed as well as inform the site which would best suit the building itself.

The design proposal will manifest itself in the form of a drug rehabilitation centre that uses sport as its main post rehabilitation enabler. The experience gained from the data provided from the sample and the kinds of sport established from the data, will inform how sport can be programmatically and spatially incorporated into the rehabilitation centre, thus each interview will be focused primarily on sport.

#### 1.6.4) Analysing:

The data collected will be organized using a series of different codes and themes as well as respondent validation to ensure accuracy of transcripts will be factored in to the process. All the data collected will then be broken down according to the themes identified and any further themes will be generated into specific areas informing the design of rehabilitation centres.

### Precedent Studies:

The precedent studies conducted includes examples of the three explored themes of rehabilitation, recreation and reintegration, and how a combination of the three will formulate the best practise model for a holistic rehabilitation facility.

- Groot Klimmerdaal rehabilitation facility, Arnhem, Netherlands. This facility was evaluated due to its achievement of re-vitalizing and rehabilitating through alternate means.
- Caracas vertical gym, Venezuela, South America. This gym facility was analysed as an example that proves that sport can be seen as a catalyst to bring together the community- eliminating stigmatisation.
- Ostra Psychiatric Hospital, Ostra Sjukhuset, Goteborg, Sweden. This psychiatric hospital was analysed as an example of how spaces contribute to building up social relations and self-regulation.

### Case Study:

- Minds Alive Wellness Centre was selected as a case study as it has a good system in play and integrates sport in its daily routine, which aids in the treatment process. These points form part of the theoretical framework to be tested in the study

### 1.6.5) Validity, Reliability and Rigour

The intention of this research is to investigate whether sport can be used as a possible means of rehabilitation amongst drug patients and to establish a set of principles which set out to spatially shape the way the rehabilitation centres are designed.

The proposed procedures that will be carried out to check the validity, reliability and rigour of the findings when carrying out the research are: appropriate sampling and stating of biases. This is also to ensure more credible results, trustworthiness and high validity for the conducted research.

Multiple methods will be done to ensure saturation of research data through a process of respondent validation of any relevant research notes, interview transcripts, and data analyses, a means of checking for any inconsistencies and challenging assumptions will be generated, and all data will be re-analysed based on any feedback. Through a process of constant comparison, based on grounded theory codes, will be formed to highlight consistencies and differences and allow for emerging themes to form.

The validity and reliability of the study will be strengthened through the following:

- The research will be carried out at two rehabilitation centres to ensure accurate data. All data will be cross checked and properly managed across all themes, interviews and analysis.
- Purposive sampling will be done to ensure that the populations will accurate information. This type of sampling will be used due to the fact that the patients at the rehabilitation centres would have first-hand knowledge and experience in the specific field. This will help strengthen the reliability of the study.
- The questions asked will be purely based on sport and not on any of the samples personal life or experiences. These questions are based on a semi-structured interview guide which will provide possible outcomes for sport being used as a means of post rehabilitation and inform architectural design principles for an inclusive rehabilitation centre.
- Constant comparisons and objectivity across interview data will ensure that data is analysed as a whole and not fragmented.
- The sample must be appropriate, consisting of participants from rehabilitation facilities selected simply on the premise they would be able to provide insight into the topic. The sample size will be adequate and will assist in ensuring that the research will display elements of saturation and replication adding to the validity and rigor of the research.
- All interviewees will sign a consent form which will be handed to them and also will have to agree to the terms and conditions before being interviewed. The interviewees will be asked a series of questions dealing strictly with sport only and have no dealings with the personal lives or issues. The interviewees will be over the age of 18 years old to ensure validity of information.

Quality control should always be part of the study proposal and budget, as it is expected the researcher will run into some inconsistencies in data that need to be verified (www.botany.hawaii.edu). Should the research be conducted in the same context, the information at a later date will not have the same outcome as this is a reflective of the character of the patients? However the same general principles may still apply.

## CHAPTER TWO

### LITERATURE REVIEW

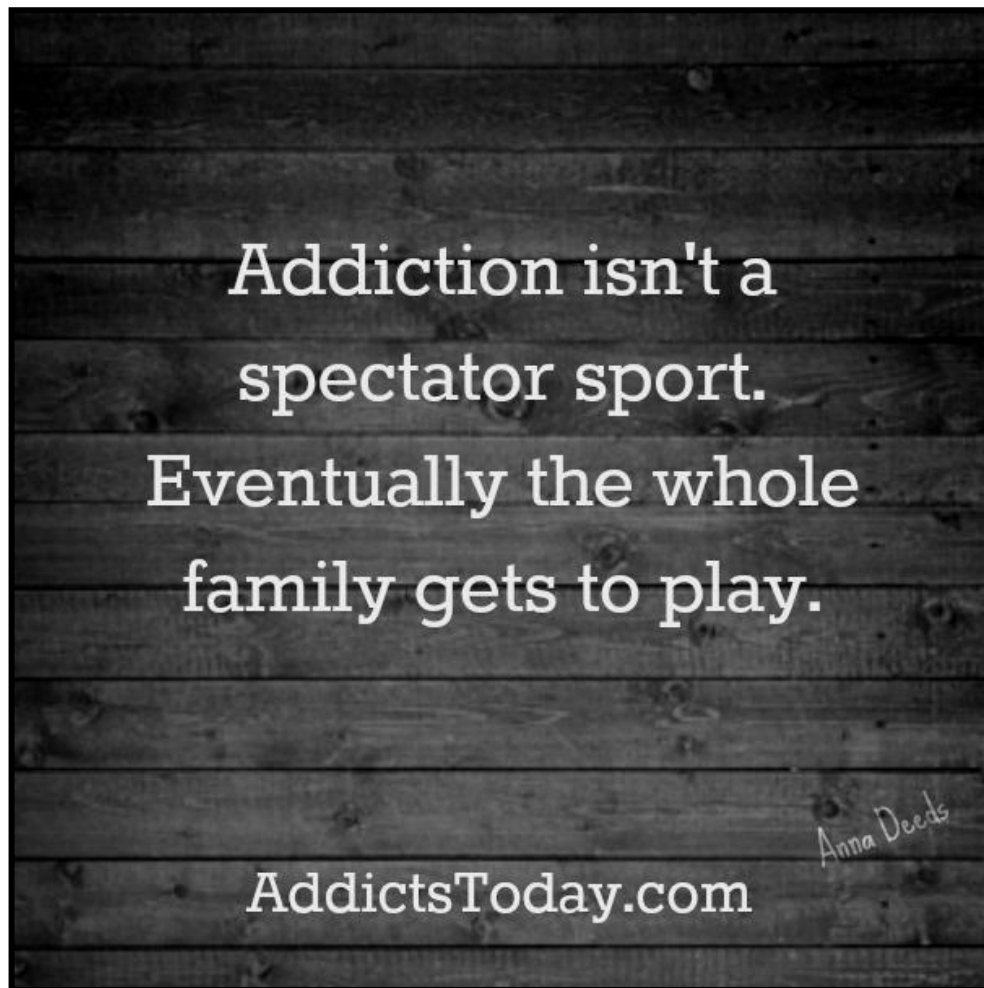
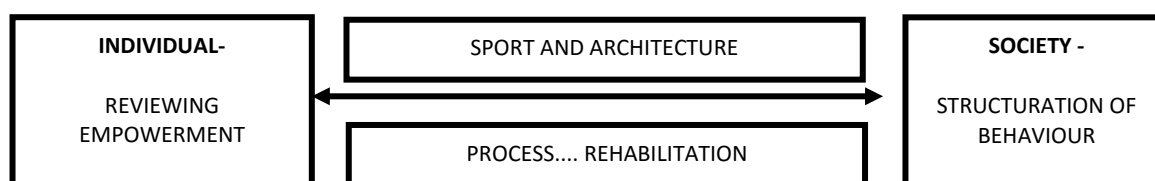


Figure 2.1: Addiction means everyone getting involved (Source: <https://www.pinterest.com/pin/272678952412113471/>)



## 2.1) GENERAL BACKGROUND TO THE STATUS QUO OF CURRENT REHABILITATION PROGRAMS AND ISSUES:

*Addicts are generally punished and the general status quo is to disconnect them from society and create barriers between them re-connecting to the wider society. Johann Hari believes, through conducted research, that the current rehabilitation methods need to be re-thought and a better approach is needed. Hari is of the opinion that addiction is an adaptation to the built environment and his approach is re-connecting addicts into society which gives them a presence in life. The idea behind his investigation is change the environment so that the addict can re-discover his purpose, bonds and relationships with the wider society. He firmly believes that the opposite of addiction is not sobriety... the opposite of addiction is connection...* (<https://youtu.be/PY9DclM6xMs>) ted talks, 9 July 2015



**Figure 2.2: This figure resembles the process of the individual gaining empowerment through the processes of rehabilitation and sport to reach a level of re-integration and reformation. (By Author)**

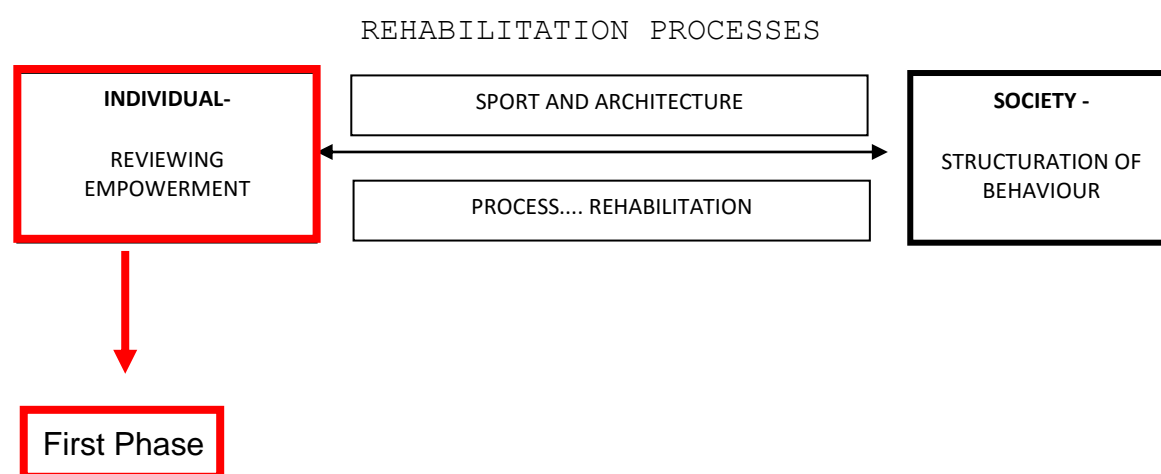
Rehabilitation facilities are used to help a person recover from addictions, injuries and physical and mental illnesses. Drug rehabilitation facilities are the most common type of rehabilitation as it deals with changing the patients' social, behavioural and physical attributes ([www.rehabs.com](http://www.rehabs.com), April 2015). There is a current need to invest in after care (post-rehabilitation) systems to be in place, and to have a holistic approach towards rehabilitation methods for maximum and efficient recovery (NIH, 2010). This means that there is an opportunity to improve this system and allow for patients to receive a full rehabilitative recovery turn-over in an efficient manner while reducing the problem of high relapse rates ([www.recoverymonth.gov](http://www.recoverymonth.gov), April 2015).

Prevention of addictive diseases should be complex and systematic. Rehabilitation models are a microcosm of real life, a placebo of social situation- whereby daily routines represent similar daily conditions of a social motif by providing solutions to situations that might come up through activities or assigned work. These activities can generate structured routines whereby architecture fits into the process as the outer shell- providing necessary support to the inner self-corrective therapy (Stephanidou, E, 1998). Various strategies have tried to reduce drug usage amongst people with varying degrees of successful outcomes. The most effective treatment for patients is long term based comprehensive treatment programs. These systems should include training in the facilities to encompass the mental, physical and social processes toward a holistic and comprehensive treatment program.

The process of rehabilitation is continuously shifting- taking a new shape as new ideas, theories and concepts introduce themselves- for the betterment of the person. The consensus is that sport plays a role in the rehabilitative process during long term treatment programmes. Lubans, 2012, states that sport interventions impact on mental health, as it has the ability to allow participants to master new skills and challenging tasks.

Using sport to teach life skills, and combining activities to teach fitness and discipline, are important elements in a sporting intervention that impacts on mental health ([www. dcaini.gov. uk](http://www.dcaini.gov.uk))(Lubans, Plotnikoff and Lubans, 2012).

These above mentioned elements and qualities of sport can be used to re-shape or re-think rehabilitation methods- encompassing all gender, race, class and financial status. Sport allows for the flexibility of social, physical and mental properties to fuse itself within the psychology of addiction and rehabilitative processes. The user can be influenced by the built environment through the use of sport, to combat powerful influences of substance abuse.



**Figure 2.3: Rehabilitation Process (By Author)**

## 2.2) REHABILITATION PROCESS

### 2.2.1) Addiction and Substance Abuse:

Addiction can have the power to change a person's life in the psychological, physical and social states. It appears to everyone in different forms, some being: gambling, sex, food, shopping and many other activities which each create a misconception of its generic use to drug addiction (Miller, 2011). There are various means of finding solutions to treat drug addiction and to understand how the treatment process works. The National Institutes of Health defines substance abuse as: "a chronic, relapsing brain disease that is characterized by compulsive drug seeking and use, despite harmful consequences" (NIH, 2010).

Relapse is termed, in relation to drug or chemical substance, as resuming the use of a drug or a chemical substance after one or more periods of abstinence ([www.antibiotic.sexprivatseznamka.com](http://www.antibiotic.sexprivatseznamka.com)). Substance abuse is also considered a brain disease because drugs alter the brain, changing its structure and how it works. These brain changes can be long lasting and can lead to the harmful behaviours seen in people who abuse drugs as it affects the person mentally, physically and socially ([www.theglobeandmail.com](http://www.theglobeandmail.com)). One cannot simply, in most cases, quit drugs or escape the chains of addiction at any given time without going through the process of rehabilitation.

According to the National Institution of Health (NIH), effective treatments are directed at many different degrees of illness and aims to help the individual to maintain a drug-free life and to achieve productiveness in family, work and social aspects. This outcome requires a long term treatment plan to achieve full recovery needed to maintain the productiveness and to avoid relapse ([www.drugbase.com](http://www.drugbase.com)).

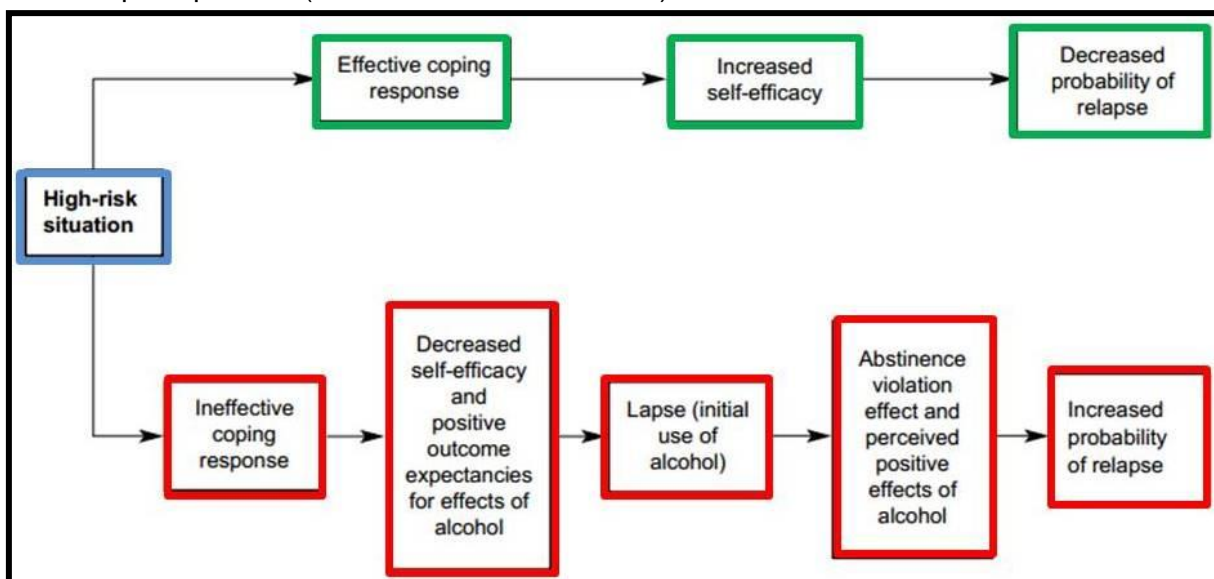
The built environment mitigates the causes of addiction by providing a therapeutic healing space which includes rehabilitation facilities that will foster emotional and physical health to drug addicts, and allow social interaction with the community (Lang & Moleski, 2010).

## 2.2.2) Relapse and the Concept of Self- Regulation

According to the NIDA (National Institute on Drug Abuse), relapse does not signal treatment failure – rather, it indicates that treatment should be reinstated or adjusted or that an alternate treatment is needed to help the individual regain control and eventually recover ([www.nazarethhouse.ca](http://www.nazarethhouse.ca)). The relapse process begins prior to the first post-treatment substance use, and continues after the initial use ([www.niaa.nih.gov](http://www.niaa.nih.gov)). This indicates that treatment models can be adjusted and made to improve patient outcomes after the pre-medical rehabilitative phase- to allow for maximum recovery for the patient. Self- regulation therapy, a common factor used by rehabilitation facilities, used a coping mechanism which can be influenced by the environment and its structure (activity) to provide learning and skill enhancing opportunities for the patient. According to Smith and Watkins 2008, there are four key factors that reduce patients' relapse outcome and relapse in hospital environments:

- Reduce environmental stress
- Provide positive distractions
- Enable social support
- Give a sense of control to patients

Sports, with the combination of surrounding environment and self –regulation, addresses these four terms. Self-corrective therapy can also be viewed as Marlatt and Gordon's (1985) relapse process model, and is based on social-cognitive psychology which incorporates both a conceptual model of relapse and a set of cognitive and behavioural strategies to prevent or limit relapse episodes ([www.substancemisuse.net](http://www.substancemisuse.net)).



**Figure 2.4:** The above figure relates to self-regulation response process

**Source:**

[https://lh3.googleusercontent.com/io0J2ey\\_ZYGT7cU2TXNtTjgmAqltsnHXy2LGizhCfZ8ljA49HLrJsLMEwfQ4HZ\\_6JZ6Fhi4=s170](https://lh3.googleusercontent.com/io0J2ey_ZYGT7cU2TXNtTjgmAqltsnHXy2LGizhCfZ8ljA49HLrJsLMEwfQ4HZ_6JZ6Fhi4=s170) (accessed 16 June 2015)

This figure illustrates two forms in which relapse can occur. The bottom series, indicated in red, which informs us that sometimes pre-medical treatment does not strengthen the patient enough and s/he is therefore susceptible to the challenges faced from the outside which causes relapse. The top series, indicated in green indicates a treatment model that uses a holistic approach and that patients' self-efficacy increases which equips them more toward handling daily situations, in turn, allowing for maximum control (Marlatt, 1996).

RP (relapse prevention) model of relapse is centred on a detailed taxonomy of emotions, events, and situations that can precipitate both lapses and relapses to addictions- drugs, alcohol etc. ([www.niaaa.nih.gov](http://www.niaaa.nih.gov)). If the correct systems are in place, this can be combated or easily manipulated in order to prevent relapses. Patients have to be taught how to cope around stressful situations through training and management- making them less vulnerable to the occurring situations and events (Marlatt, 1996).

Harden et al (2001) found that interventions which aim to reduce depression or promote self-esteem through training in the use of pleasant activities on a daily basis, such as sport or physical activity, can increase good mental health in young people ([www.dcalni.gov.uk](http://www.dcalni.gov.uk)). The introduction of sport, as a means of post- rehabilitation, can be seen as having the power to rejuvenate the patient physically, mentally and socially. The use of physical activities, with power to integrate, provide a key stepping stone for the recovering patient into the mainstream community, reducing the relapse rate.

### 2.2.3) Current Rehabilitation Treatment Programs

There are many drug treatment programs currently. Each program being different and unique according to its context and the type of substance abuse being undertaken. Certain rehabilitations extend their treatment to social interaction outside their facilities, which becomes part of the program. Rehabilitation facilities are positioned in certain areas and within certain communities due to issues pertaining to that specific area. Factors such as cost and public participation can have an effect on the rehabilitation methods, which results in the recovery being affected ([www.Rehabs.com](http://www.Rehabs.com)).

Rehabilitation centres are generally divided into four categories:

#### 1) Luxury Rehabilitation Centres:

- Expensive treatments which cater for the high end user.
- Independent therapist and located in tranquil and confidential settings ([www.Rehabs.com](http://www.Rehabs.com)).

## 2) Standard Treatment Centres:

- Focus is less on luxury and more on rehabilitation treatments and processes.
- These types of rehabilitation facilities entail a residential component and supporting activities such as small gyms and counselling sessions.
- The locations are generally focused in community settings ([www.Rehabs.com](http://www.Rehabs.com)).

## 3) Low Cost and Free Treatment Centres:

- Low cost and inefficient treatment catered for the low class citizen.
- Only offer counselling and detox programs.
- Lack of post-rehabilitation and re-integration methods.
- Setup by NGO's, governance and religious institutions ([www.Rehabs.com](http://www.Rehabs.com)).

## 4) Gender Based Treatment Facilities

- Specify in LGBT (lesbian, gay, bisexual and transsexual) personal.
- Specialist staffs which are trained to accommodate these personal due to the needs and stigma related issues ([www.Rehabs.com](http://www.Rehabs.com)).

The above mentioned rehabilitation treatment models consist of housing treatment components such as inpatient and outpatient variations- allowing the patient to either stay in the rehabilitation facility or to visit occasionally (once a week at minimum).

Inpatient programs are often seen as an advantage as therapy is done on a daily basis in group and individual activities, and the combination of interactive processes with recovering addicts- which makes the program more sustainable.

There is a structure in place whereby routines are implemented to participate in productive and positive distractions. Infrastructure and cost are two key issues which South African welfare organisations are faced with regards to the provision of holistic rehabilitation approaches (Boone, 2004).

### 2.2.4) Inpatient Vs Outpatient

The long term treatment programs, associated with in-patient philosophy, allows for a more sustained recovery- as opposed to low cost and free treatment centres. The short term rehabilitation systems which are currently in place, deal most commonly with pre-medical rehabilitation elements rather than undertaking a holistic approach- which encompasses both pre-treatment and post-rehabilitation (Rehabs, 2014). Sport and physical exercise can be seen as a commonly used mechanism in long term programs. Facilities such as gyms, swimming pools and outdoor activities allow the user, in the post-rehabilitation phase, to enhance recovery.

Short term rehabilitation processes, or outpatient philosophy, speak mostly of pre-medical rehabilitation- whereby doctors and nurses supervise the patients through a series of prohibited drugs or alternative methods which decrease cravings. The issues that surface are mostly financial, where facilities are unable to financially cater for the patient, or where the patient is unable to afford the treatment. This compromises the coping stage whereby the patient regains his physical, mental and social state that reinstates him or her back into mainstream society.

The effects of the ongoing rise of health care costs on middle to lower class citizens have a detrimental influence on communities. Inflation has created a ripple effect on the income of people, causing the cost of medical treatment to rise and therefore, be unaffordable to people within the middle to lower class bracket. Due to this factor, NGO (non-government organisations) have taken up their own initiatives to set up facilities that cater for this mass of people. These companies rely mainly on sponsorships and local communities who donate funds to help people in need.

#### 2.2.5) Conventional Rehabilitation Vs Holistic Rehabilitation

Conventional Rehabilitation:

Conventional rehabilitation systems are usually associated with cold, sterile and clinical places and often focus on immediate addiction with compromising attention to comprehensive wellbeing (<https://www.luxuryalcoholdrugrehab.com/programs/holistic-treatment-programs/holistic-drug-rehab>, April 2015).

Holistic Approach:

Holistic approaches have led therapeutic systems to a series of alternative treatment plans whereby the inclusion of pre-rehabilitation and post-rehabilitation are an integrated system. The rehabilitation facilities comprise of different types of systems which impact on the location of the facility and intended patient target. These approaches often have a high success rate in relapse count.

#### 2.2.6) Therapeutic Community Model

Therapeutic community is a rehabilitative concept which encompasses a holistic approach, methods which are used for long term treatment processes and both inpatient and outpatient programs. The idea behind this concept is to form a holistic approach to rehabilitative systems and by substituting drugs with structured routine activities. This treatment was first tested and done in Britain, where psychiatrists at Northfield Hospital began to treat each unit as an entity. They had begun to structure wards as communities to encourage mutual support. This had sparked an intervention in the world of rehabilitation whereby patients were involved in group environments.

Therapeutic community approaches are open to a multidisciplinary view of health which is based on ideas of collective responsibility, citizenship and empowerment (www.jkp.com). It is also reliant on a range of activities which comply with the agenda of social inclusion and living a balanced lifestyle with daily routines depicting real life situations for the inpatient residences. Richardson, 2005, is of the opinion that physical activities should be included in psychiatric treatments as it has many benefits to the human body in both long and short term processes. He states, "... changing health behaviours can be difficult, and frequent reinforcement can play a critical role in the successful long-term adoption of regular physical activity (Richardson, 2005)."

Although this is commonly a residential model, due to its community based strategy, and its natural environment based setting, factors such as transportation and cost will have to be considered in making this model an option for all genders, races and economic classes. Diversional therapy falls under the umbrella of the therapeutic model, encompassing sport or physical activity as a tool for rehabilitation purposes. This aids the patients' process of building social relationships and allowing for a steady integration process while ensuring good physical and mental qualities.

### 2.3.1) ENHANCING THE ROLE OF SPORT IN CURRENT REHABILITATION PROGRAMS

"Sport participation needs to be embedded in wider programs of personal and social development with programs structured to provide access to a range of factors that may protect against alcohol and/or drug abuse" (Witt & Crompton, 1997).

#### RE-CREATION VIA RECREATION

*"I'd tried to get sober many times," the 34-year-old said. "I tried the methadone clinic, I tried just cold turkey. But ... you need to fill the void with something. It was surrounding myself with a group of people that would rather get up at 7 in the morning to climb a mountain than to stay up until 7 in the morning drinking and using," he said. "With influences like that, I just moved further away from the darkness of my addiction." (Nick Nisbet, 2008)*

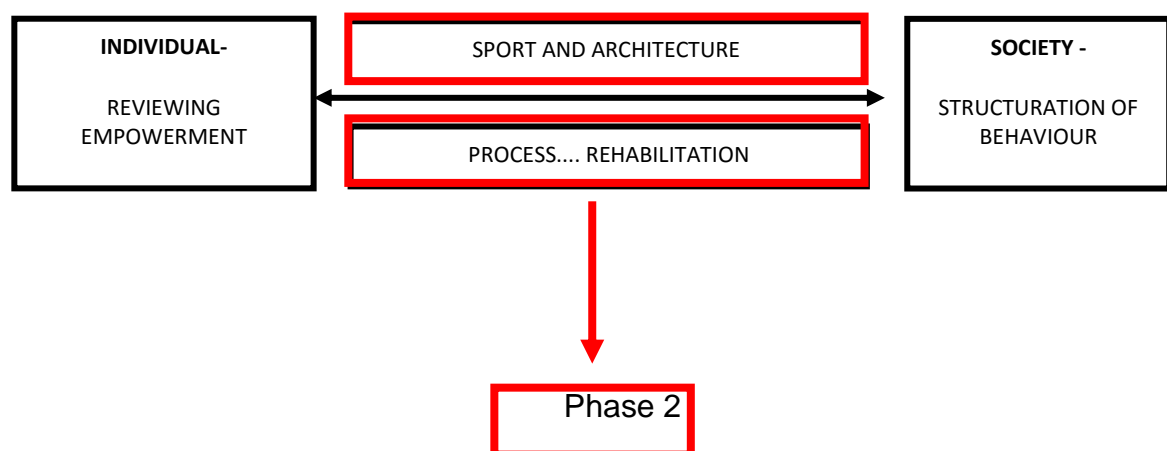


Figure 2.5: The Role of Sport in the current rehabilitation process (By Author)

There is an ongoing debate as to whether sport can be used as an agent to change current rehabilitative methods. A study conducted by Laura Kelly, 2011, on sport initiatives illustrated that sport, despite its added benefits, had hardly impacted on social and addiction problems. Her investigation had drawn out sporting projects which had certain issues such as little impact in addressing the socio-structural foundations from which young people became excluded in the first place, cost, infrastructure and accessibility to facilities. These were issues synthesised from her investigation and according to Douglas Hartmann 2011, Kelly's studies also conclude that sports programmes on their own, are most unlikely to cure social problems including that of addiction.

On the contrary, the National Institute Drug Association has stated that one of the emerging areas in addiction treatment science is the use of physical activity to help resist addiction and serve as a healing agent. Although it is stated that no effective treatment program is solely based on physical activity or sport, they can be a comprehensive component in complex treatment programs. These exercise routines may include sport, outdoor activity, martial arts and dance, which aid self-moral and boost social wellness. Physical activity can also be seen as an added benefit to physical and mental health, particularly in natural environments. It also offers patients the chance to learn a skill, take risks and achieve goals. Despite benefits which programs of exercise potentially offer, mainstream funding has favoured pharmacological and psychological interventions which have focused on reducing the harms associated with alcohol and drug misuse.

Lubans, 2012, is of the notion that sport interventions impact on mental health as they have the ability to allow participants to master new skills and partake in challenging tasks. The use of sport to teach life skills while combining an activity to teach fitness and discipline, are important elements to a sport intervention impacting on mental health ([www.dcalni.gov.uk](http://www.dcalni.gov.uk)). These elements and qualities of sport can be used to re-shape or re-think rehabilitation methods encompassing all gender, race, class and financial status.

### 2.3.2) Diversional Therapy – alternative therapy

Diversional therapy is a branch of therapeutic community therapy which introduces sport and recreational activities to enhance physical health, mental wellness and an improvement of sociological aspects. The therapy is based on a variety of sports such as: baseball, touch football, athletics etc. and includes the following advantages (social, mental and physical):

- Goal attaining outcome
- Gives purpose and meaning to life through sport and recreation
- Encourages communication expression and socialisation
- Helps with memory, orientation and mood swings

The therapy stretches out to rehabilitation facilities, hospitals and other medical facilities due to the patient in need of pre-medical assistance. This forms a means of a holistic approach to rehabilitation and is sponsored by NGO's and other community based initiatives ([www.rehabs.com/therapy\\_and\\_counseling\\_diversional](http://www.rehabs.com/therapy_and_counseling_diversional)). The location of rehabilitation facilities is based on key predictors of successful recovery.



These key predictors include social support networks and meaningful activities which are grounded in communal settings to combat these problems (Best, 2008). This gives authenticity and meaning to sport as a means of reforming the patient by establishing routine and social principles in their lives.

#### Substance Bill:

According to the Substance Abuse Bill, 2 July 2009, South African Minister of Health had provided a comprehensive national response to combat substance abuse. There should be provision for early prevention programs, early intervention and re-integration programs. Certain guiding principles had been set out which encompasses preserving a family structure, creating awareness and engaging people in recreation and sports to empower communities. The Government had also allocated a budget which will presumably fund facilities that adhere and implement approaches to enhance the national drug master plan.

#### Sport – A Possible Role in the enhancement for Post – Rehabilitation:

In research conducted by Rodrick and Landale, 2013, it was found that sporting activities were able to solve social, mental and physical issues. They formed a program called *Second Chance* which was based on the assumption that it would never be a solution for alcohol and drug treatment (Batchelor et al., 2005). The study draws comparatives between two interviewees who have two completely different approaches to rehabilitation. *Second chance* to both of these individuals focused on social networking and the exclusion of non-substance friends. They both found *Second chance* as a place where they built relationships and relied on each other as support structures.

*Second Chance* was structured in such a manner that the process of different sports related to helping transform identities. These structured routines, informal social controls (influences found through social networks) and agencies made it possible to restructure identities. The setup on *Second chance* is closely knit with the theory of structuration, whereby the agent (user) uses the structure (sports or building typology) for positive change. The degree of change varied among certain individual's experiences and dependencies outside of Second Chance.

This is evidence that sports-based interventions relate to the ways in which sports programmes are delivered (and by whom), rather than the sports themselves (Coalter, 2007). The social relationships experienced during physical activity programs are a significant factor in affecting behavioural change ([www.dcalni.gov.uk](http://www.dcalni.gov.uk)).

#### Stigma and Addiction:

Current stigma-related to substance addiction, gives a distinct exclusion to people who are under the influence of drugs. The social relationships with friends, family and mainstream society are devaluated causing detrimental side effects such as stress, lack of confidence and motivation to the substance abuser (Laudet and White, 2008). For instance, many prisoners engage in organised physical exercise and sport, and gain related qualifications. Although, few continue with sporting activities, or use their qualifications on release because of the problems associated with social exclusion (Meek and Lewis, 2012). This is due to personality disorders such as low self-esteem, decline in health and lack of motivation (De Leon, 2000).

The aim is to encompass a rehabilitation method which allows for sport to be used as not just an athletic program but as a healing component for substance abuse. This method should compensate factors such as class, gender, race, economical status, cost implications and infrastructure. Although no rehabilitative method, as mentioned, allows for a 100% success rate, it is important to consider rehabilitation as a holistic approach to healing.

### 2.3.3) Benefits of Sport in Re-Shaping Rehabilitative Systems

Many people believe that various attitudes and social skills can be developed through sport-making it an element that helps prevent substance abuse. Most people enjoy sport when it is presented respectfully and see it as a choice. When sport is presented as an option which allows you to work in a partnership, it sanctions several ways to prevent substance abuse-such as establishing social support structures and boosting self-moral and attaining life skill (www.unodoc.org). Sport has the ability to produce positive outcomes in **social, mental and physical aspects**.

Sport can be seen as an element that drives three main key points- which relate to the model of therapeutic community by establishing the following:

- 1) Social establishments amongst all race, gender, inequalities, cultures and economic stability
- 2) The benefits of repairing the body physically, mentally and socially.
- 3) Impacts the environment in a positive manner in a form to which it can be a diverse space which benefits both the user and outsider.

It should be considered that sport plays a major role in promoting discrimination and inequalities against various people who suffer from problems or diseases such as disability, social exclusion, and health care. (www.da.org.za, May 2015). Faulkner 2006, believes that physical activity does not only have effectiveness on the treatment of mental illness but also states that there are four potential mental-health strategies.

These strategies include:

- 1) "Physical activity may be a cost-effective alternative for those who prefer not to use medication or who cannot access therapy." (Faulkner, 2006)
- 2) "In contrast to pharmacological interventions, physical activity is associated with minimal adverse side-effects." (Faulkner, 2006)
- 3) "Physical activity can be indefinitely sustained by the individual, unlike pharmacological and psychotherapeutic treatments, which often have a specified endpoint." (Faulkner, 2006)
- 4) "Physical activity stands apart from more traditional treatments and therapies for mental health problems because it has the potential to simultaneously improve health and well-being and tackle mental illness." (Faulkner, 2006)

The attributes of sport enhances positive feelings and coping mechanisms, not just for athletes, but also for people with mental disorders or who have suffered traumatic experiences. It can be seen as a post – rehabilitative and re-integrative mechanism which gives depth to its versatility. It acts as a component which does not segregate people's gender, class and race as it unites people of communities and interests. Both team and individual sports are the essence of producing maximum output in a person's ability to develop skills and strong attributes to which they can take forward in their lives. The notion of sport being used as a means of post-rehabilitation and re-integration in this project, will establish an architectural language which will create new boundaries as to how the process of rehabilitation is looked at holistically.

#### 2.3.4) Phoenix Multisport – Alternative Sport Rehabilitation

Colorado Christian University has done a case study on a sporting initiative called Phoenix Multisport. The slogan, "that missing link in recovery" suggests that the program promotes substance awareness and the education of the community through positive distractions. Phoenix multisport is a program that fosters and supports a physically active community who are recovering from substance abuse through a variety of sports in order to develop and maintain the emotional strength to stay sober.

Scott Strobe, the founder of the organisation, having experienced the power of physical fitness, promotes alternative means such as; cross-fit, boxing, yoga, climbing and open gym activities, to fill in the gap of drinking alcohol. The program's mission is to create an active, sober community and to support new identities of a community committed cult- funded by NGO's (non-governmental organisation). Phoenix Multisport also offers their services to drug rehabilitations in surrounding areas to aid addiction prevention and sustain the recovery model in order to build new identities.

Studies have illustrated that many people have gathered that sport can develop various attitudes and social skill allowing its properties to act as a preventer of substance abuse. When the patient steps into the rehabilitation facilities for the first time, he is faced with the task of associating him/ herself with his/her environment, society ("community") and activities (rehabilitation program). The merging of these three factors will ultimately determine the outcome of the patient. This processes might not be seen as easy as just throwing a ball on the field but the value and teachings of sport are what has been drawn upon to allow for patients to socially integrate with others sharing values, adapting skill and keeping clean relationships.

This type of development process is about generating self-knowledge (self-regulation), development of a set of constructive behaviours and to learn coping skills through physical activity. Introducing the concept of self-regulation into this research topic is to illustrate the skill via sport which an individual needs to develop personally in order to be successful and learn how to cope socially to prevent relapse.

Sport plays a role in both small and large communities. From informal recreational matches and contests, to organized sports leagues and federations, people participate. They play, coach, train, and support their favourite athletes and teams. From indigenous sports to global sporting events, sport has "convening power". Where opportunities for recreational sport and play are absent, individuals and entire communities are often acutely aware of what they are missing ([www.unitednations.org.uk](http://www.unitednations.org.uk)).

### 2.3.5) The Role Of Architecture In Re-Creation

"The power of a healing environment comes from the design details that empower patients to take responsibility for their own health." ([www.academia.edu](http://www.academia.edu))

Sport, like many other activities, is not good or bad, but encompasses the potential to produce both positive and negative outcomes. For example, despite 'common sense' assumptions that sport promotes moral development, research is relatively consistent that participation in team sports actually promotes a less mature form of moral reasoning (Bredemeier & Shields, 2006). The question to ask is 'what conditions are necessary for the participation in sports to have beneficial outcomes in terms of preventing alcohol or drug usage?' (Coalter, 2005). The environment and its social support group add to the reduction in relapse rates and deals with the type of sport or physical activity. Drug rehabilitation facilities set a notion of positivity and encourage new identity by uplifting spirit and provide environments whereby daily life routines and activities are most effective in the recovery process. Buildings and cities are not just concrete shelters and designed ornaments of art, but are also the act of social construction which has an influential factor on communities and individuals.

*"The more felt buildings are, the more connected to rhythms of the day... the value the individuals they house...environment can heal as well as harm...places and spirit...nourish both individual and society."* (Christopher Day)

Therapeutic community models incorporate a living component which also serves as a healing process itself. Forming a connection to physical and emotional experience allows patients' motivation to follow the program, which in this case is using sport for the best possible solution. Basic physical components which are deduced for the establishment of any mental healthcare institute are based on whatever the purpose, have the following criteria:

1. Admin
2. Medical
3. Recreational / sport
4. Therapy
5. Residence

The arrangement of these spaces requires close interaction with the next human and the environment they live in. The therapy is usually defined in stages at a certain velocity. These stages of therapy are an integral part of the rehabilitation processes as it benefits certain criteria such as socialization, mental and physical aspects of the patient (Sven, 1971). The built environment determines how society lives, works and plays- thus having major influences on human behaviour both individually and collectively. The built form, when designed for a specific purpose- to influence interaction and behaviour- leads to space layout and arrangements in a particular order and setting.

Space can provide an outcome of action, which brings social practices and bodily development into focus. The benefits of sporting facilities embodied in an architectural form, plays a dual role in providing a space for social change and bodily development. Space will allow for rehabilitating patients to have their own private healing space, which will only allow certain agencies to cross paths or interact on those specific social levels. The architecture or built environmental component becomes a habitual practice for rehabilitation patients to interact at specific times with specific agencies which encompasses rules, laws and regulations. The social relationships experienced during physical activity programmes are a significant factor in effecting behavioural change ([www.dcalni.gov.uk](http://www.dcalni.gov.uk)).

These processes are staged by two variables:

1) The process of re-socialisation:

Therapeutic environment is a space created by architects in collaboration with psychologists for the promotion of mental health. These environments generally consist of patients themselves, the environment and the “community” of other patients, doctors and mentors (Suleyman, 1962).

2) The process of re-motivation:

This stage is to speed up the process of re-socialisation which is motivated by various types of therapy. The motivation hierarchy will depend on the patient himself and his self-potential.

One of the most important aspects of psychiatric architecture is the designing of therapeutic environments through language, music, and graphics or form. There are three sub-divisions to therapeutic environments which include:

Sociological Aspects:

Here, the hospital or health facility must be designed like a community whereby the patient should be retained within a therapeutic community to meet normal stresses of ordinary communities.

Psychological Aspects:

Physical elements must constitute the therapeutic environment based on what is helpful to the patient. The planning of spaces by the use of the correct elements allow for the healing process to be efficient. The introduction to nature should be implemented in the physical design due to its healing properties (Isikpinal, 1964).

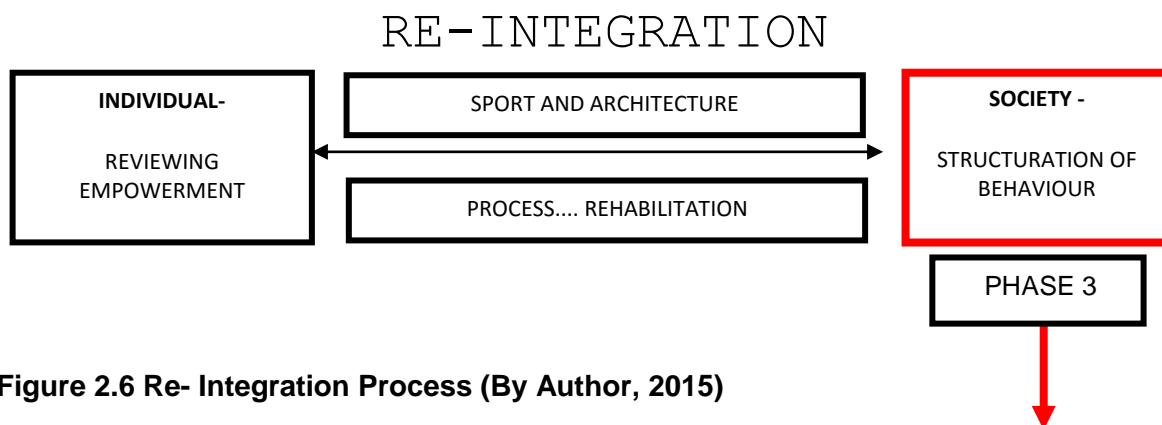
### Economic Aspects:

The above establishment is very costly, but therapeutic value can be gained to the betterment of rise in number of relapsing patients. "While the cost of rehab may be a deterrent for some people, it's important to remember the cost of addiction. It comes with many financial costs, due to the price of the drugs, lost productivity at work, criminal fines and medical bills for health issues associated with addiction. Substance addiction costs the addict dearly in other ways as well, from the deterioration of relationships and lost career goals to overall unhappiness and poor health." ([www.Rehabs.com](http://www.Rehabs.com))

Therapeutic environments allow for the integration of the healing component, which in this case is sport, with the environment. The use of sport will be used as a means of function and form. The quality of the environment can be influential in aiding the change of behavioural patterns and allow for a patients recovery system to be efficient. Architecture has become imbedded in the healing process of an individual through the creation of spaces that foster meaning to those activities utilised to achieve gradual rehabilitation through therapeutic or enabling environments. "Form and space can be insidious shapes to a person and community or they can nourish and spur development, both social and individual". ([www.academia.edu](http://www.academia.edu)) Architecture therefore is not a treatment on its own entity but a supportive tool to influence behaviour patterns.

'Buildings, spaces between them...make different lives, influence how we think, feel, behave...how we are.' Christopher Day. Many specialists in various fields such as therapy, architecture and sociology have argued about how place and the design of spaces communicate with human psyche, affecting the way in which people react to their lives and how they develop as a group or individually. The architect plays an important role in creating environments of post rehabilitation that are designed in such a manner that the structure and user develop a relationship which enhances neurotransmitters in a positive manner.

### 2.4.1) THE ROLE OF SPORT IN THE RE-INTEGRATION PROCESS



**Figure 2.6 Re- Integration Process (By Author, 2015)**

With the establishment of sport as a component of post-rehabilitation, the development phases need to occur with patient's while under-going the process of post-rehabilitation. The interactive process will have to be guided by doctors and mentors who work within the rehabilitation boundaries. Most effective programs preventing alcohol and drug related problems, such as life skills training programs are complex and include the training of social skills, sport/physical activity and relaxation techniques ([www.mindingourbodies.ca](http://www.mindingourbodies.ca)). Physical activity or sport can be a useful component of complex preventing programs. There are clear distinctions between sport, exercise and physical activity. Although they fall under one consortium, they have slight variations. These variations define a physical rehabilitation program in a series of phases.

Physical activity:

- Defined as any activity that involves some sort of physical exertion and voluntary movements that burn calories. Typical examples of these are dancing, gardening or even walking a dog.

Exercise:

- Defined as a physical exertion, voluntary movements and repetitive.
- Exercise is more specified, planned and repetitive
- It does not usually involve any form of competition.

Sports:

- Sport involves physical activities and exercise but differs in that they have a set of rules or goals for a specific skill whether it be team or individual sports. Sports are often, but not always, competitive.

Recreational sports and target physical rehabilitation are more likely to be useful in the case of a substance rehabilitation facility as opposed to professional sport where the risk factors are higher. The structure of the rehabilitation program will be based on the activity best suited to achieve certain goals at different stages. This could be seen as a link between sporting activities being spatially arranged to encompass the best possible outcome for the scenario at hand. The process or system has to work hand in hand with the inpatient's stay and re-integration process.

Therapeutic systems are designed based on group and individual connections in order to achieve the variety in social networking and healing properties. Sporting properties can be associated with different types of sport to achieve a desired result in aspects such as social, mental and physical. There are four common types of sports:

1. Individual:

This aspect will focus on the development of self-resilience, discipline and personal goals. Activities such as yoga, tai chi, chess, and swimming all serve a therapeutic purpose with enhanced properties of self-discipline. These sporting activities are related to exercise and physical activity which serves as a form of self – expression, which is what the patient would require at early stages of the treatment program.

2. Team sports:

The focus here is to build up social skills, goals and achievement in common goals as a group. The benefits that come from competing in any team sport is that people tend to learn the importance of teamwork, thinking about others while also developing social skills and empathy. It is also important to note that the support structure in both team and individual performances play a vital role in the development of a person and self-image. The constant rotation of these groups allow for a greater mix of social interaction amongst patients. This will, in turn, aid coping skills and develop new 'clean' relationships.

3. Extreme Sport

Extreme sports such as mountain climbing or freestyle skateboarding build self-reliance. The need for adventure also pushes physiological and mental barriers allowing for patients to combat certain negative emotions such as fear, in a subtle manner. This type of sport can be viewed as a tool to measure patients' risk factors.

4. Outdoor sport:

Outdoor sports are based in natural environments- enhancing the therapeutic aspect of treatment. The peacefulness and calmness of nature acts as a healing agent. Sports associated with the outdoors include: cross country and cycling. This will also forms part of the rehabilitative process system.

A rehabilitation centre is always establishing connections between inner and outer spaces. These environments are to help provide patients with what went wrong and how to work through the therapy models to achieve and build their own strength to surpass physical and psychological obstacles on the road to recovery and social inclusion.

Sport practised in the correct spirit can bring about a positive change in an alternate form of rehabilitation. Family and mentors play a large role in the process, as they act as the main support structures for the patient. Sport automatically introduces a code of conduct which contributes in shaping sporting activities adjunct with supportive environments to build support structures and facilitate rehabilitation.



#### 2.4.2) Sport and Therapeutic Community

The reason for addressing this specific rehabilitation treatment is that it creates a situation whereby patients will need to re-invent themselves, develop integration skills and allow for individual creativity- all without the usage of any substitute drug. Post pre-medical state, the patient is not fully healed physically, mentally and socially and is susceptible to relapse. Community factors encompass a strong network of relationships and creates a sense of belonging- enhancing the patient to withstand high levels of risk. Architecture has become embedded in the healing process of an individual through the creation of spaces that foster meaning to the activities utilised to achieve gradual rehabilitation through therapeutic or enabling environments. "Form and space can be insidious shapes to a person and community or they can nourish and spur development, both social and individual". (www.academia.edu) Architecture therefore is not a treatment on its own entity but a supportive tool in influencing behaviour patterns.

The system of therapeutic community is designed to aid patients' wellbeing and health by creating an environment that will allow reformed addicts the opportunity to restore their misplaced identity via team spirit. The term 'team spirit' can be defined, in this context, as the support based structure within the rehabilitation facility- forming a 'community' comprising of treatment staff and those in recovery. The key to this program is to encourage patients in becoming a tightly knitted community while building social relationships through daily routine activities. These activities act as a catalyst in developing social relationships in structured and psychologically informed environments. The establishment of these activities also promote a holistic lifestyle and peer influences to combat relapse and aid in support groups.

To re-integrate and to re-learn ones social role is done by structured routines and activities which encompass trades, skills and a chance of employment parallel to gradual re-integration to social insider and outsider relations. The development of new skills can be established via reactional therapy and creativity such as sport, dance and art. This process also forms part of an educational component that enhances opportunities for job creativity as well as incorporating family aspects into the healing process to self-motivate patients. Job creativity can also be used in the sense that patients provide for the community. An example of this process is when patients grow crops to sell to markets allowing for self-sustenance.

Due to the process of self-regulation as discussed above, daily routines and activities allow for social practise to occur. These physical activities have the qualities to affect rehabilitation systems with the aid of architectural environments which act as a form of structure for the agency to achieve the desired result. Environmental qualities begin to create spaces which house daily and recreational activities in a manner that allows reformation of self-identity through structured and staged development processes.

The daily routines in therapeutic community approaches develop social group responsibility through structured activities. The treatment process is as follows:

- 1) Members need to be gradually introduced to the new setting and an introductory process is undertaken whereby mentors and facilitators are empowering the patients. The mentors are in charge of daily routines whereby practical functions such as partaking in choirs to look after the place in which they reside. This can be seen as a disciplinary act.
- 2) These routines are altered on a daily basis to ensure a mixture of group interactions of different levels within the 'community' to facilitate individual change. Individual and group sessions are undertaken to train a specific social factor within the patients self-rediscovery journey (Kaplin, A, 2002).

A combination of the two could play a crucial role in the development of a person's physical, mental and social aspect. Many studies have illustrated interest in the effects of sport in the five 'C's' – Competence, Confidence, Connections, Character and Caring. These aspects are considered as vital components of positive personal development ([www.truesport.org](http://www.truesport.org)). There are many facets of playing sport such as: discipline, learning teamwork, following leadership of mentors and learning life-long skill ([www.davisprojectsforpeace.org](http://www.davisprojectsforpeace.org)). It is important to distinguish though between target rehabilitation exercise, recreational sport and competitive sport (Nespor, 1994).

## 2.5) CONCLUSION

To summarise this chapter through the establishment of primary data concludes that literature tends to lead to the notion that sport can be used as a means of post-rehabilitation and re-integration. This chapter elaborated that substance abuse affects the brain and creates a disjunction between links and threads that allow the physical, mental and social aspects of a person to work simultaneously. The issues of self-image, social re-integration and healing all suggest that there is a need for a holistic approach to be thoroughly enhanced, and a strong re-integration establishment for substance abuse patients to prevent relapse.

Current rehabilitation processes have suggested that there is room for improvement. These current systems and themes of social re-integration need to be adapted and included within the gesture of proposed rehabilitative processes. Patients undergo a series of phases in order to develop their physical, mental and social aspects through these movement patterns which are aided by therapeutic properties such as yoga and other sporting/ physical mechanisms.

Through the literature, we discuss sport as a tool that promotes positivity amongst people across all race, gender and classes. It is known to be a social magnet, whether people are playing together or the people are watching the activity take place. The level of interaction will still take place across both these realms. It is also established that there are slight variances in what is known as competitive sport and physical activity. The benefits of sport indicates that there is room for patients who require holist treatment on a rehabilitative key to progress in all aspects be it social, physical or mental. Different types of sports contribute to the rehabilitation and re-integration process. This allows the patient to re-vitalise him/herself holistically and re-integrate into mainstream society without any difficulty and stigmatization. Therapeutic community can be seen as the treatment facilitated to encompass sport in its therapeutic approach.

This entices an architectural response which will lead to a set of architectural principles. The principles would re-interpret the design of rehabilitative systems and entail its holistic approach in encapsulating and addressing social, mental and physical aspects via the use of sport. Sporting activities will have to be carefully planned out as it has its perks at each level or recovery. It will be used as a healing mechanism for the patients, with the support of the environment, to add to the positivity and create new perceptions of the treatment processes.

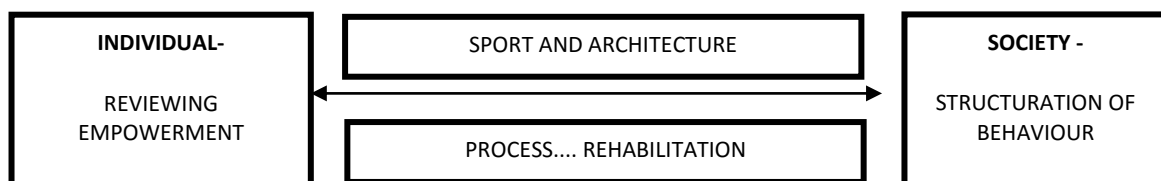
# **CHAPTER THREE**

## **Theories and concepts**

### 3.1) GENERAL BACKGROUND

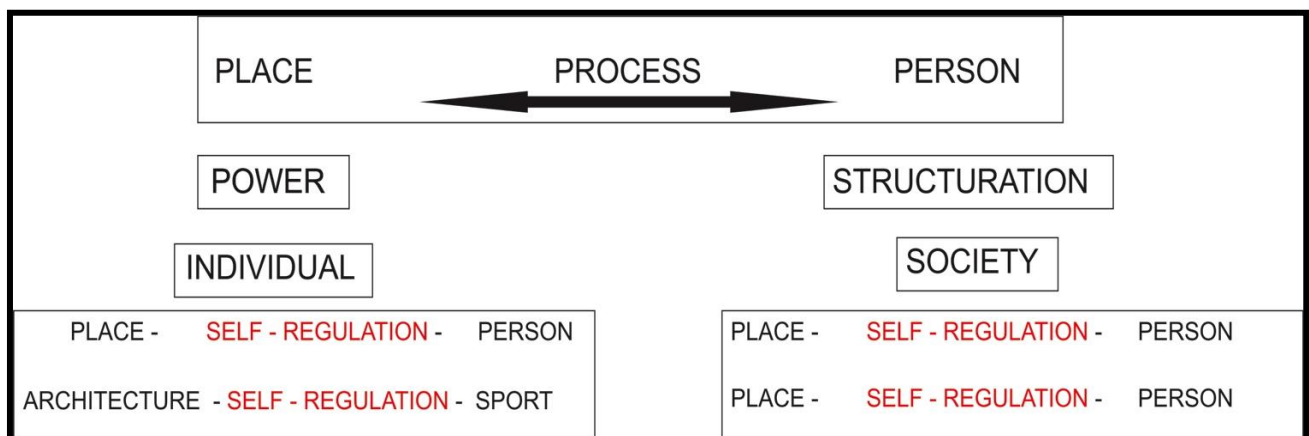
The lack of current post-rehabilitation and re-integration facilities have been key issues with regards to substance abuse rehabilitation. The relationship between themes such as the psychology of addiction and sport as a tool for post-rehabilitation will be linked with theories of power and structuration. These theories are used as an indication to illustrate the ability of a patient to fit into rehabilitation treatment processes, re-integrate into mainstream society and adapt to daily stresses through the use of an architectural medium.

The theories of power and structuration give depth to the development as to how the user establishes a relationship with space or structure and the routines to which form the structure. Power is the underlining factor between substance abuse and healing, and can be ascribed in many ways. This research will express power in its unique diverse role to influence built form, sport and substance abuse. Structuration theory is linked to theory of power and is mediated through spatial programming and practice.



**Figure 3.1: Process (By Author, 2015)**

Relationships to both place and people affect self-regulation, which is an important part of post-medical rehabilitation and goal support. Power and structuration can be used to promote self-regulation through the environment and sport to promote self-regulation through relationships between people and the environment.



**Figure 3.2: Sketch illustrating the link between theories (By Author, 2015)**

The above figure is a breakdown of the chapter and shows the link between the theories and concepts to achieve rehabilitation and re-integration. The concept of self-regulation is a learning process through the built environment and the activities to which it is affiliated with.

## **3.2) POWER AND POWERLESSNESS - EMPOWERMENT OF THE INDIVIDUAL**

### **3.2.1) Part A - Rehabilitation and Power Relations**

The theory of power is vastly knitted in the system of a substance abuser and rehabilitation. Drug addiction is a mental disease and an obsession which is an overpowering desire to use drugs. Drugs have the ability to disempower a person which causes social, physical and mental defaults in their lives. The process of rehabilitation is therefore a tool used to empower the patient by rejuvenating their mind, body and social abilities. Unfortunately, during standard rehabilitation programmes the patient generally has no control over their lives at this point in time and has to be empowered in order to attain control. The rehabilitation phase has power relationships which are distributed amongst doctors and nurses who take care of the patient allowing them to control and manipulate treatment. This form of power can be viewed as authoritative power.

Yet, the nature of rehabilitation should be to essentially empower previously powerless substance abuse patients. The concept of empowerment focuses on identifying capabilities instead of cataloguing risk factors ([www.business.highbeam.com](http://www.business.highbeam.com)). The link between empowerment, as an orientated intervention, enhances a person's well-being and provides opportunities for participation to develop knowledge, skill and enhance social relationships. Theories of empowerment include both processes and outcomes, suggesting that actions, activities, or structures may be empowering, and that the outcome of such progress result in a level of being empowered ([www.business.highbeam.com](http://www.business.highbeam.com)). Process of empowerment might include patients or people participating in community or group activities which include collective decision making and sharing leadership skill. The key to activities used as a tool to empower is to establish development skill, organised social networks and gaining control of mobilisation skill.

This form of rehabilitative process is what is now known as the 'psy' disciplines of the within the 20th century time period. The idea that rehabilitation was about reforming the sinner, bringing them to acknowledgement of their sins, invoking repentance and requiring some penance before restoration, was progressively supplanted with a more scientific or medical model (Rotman, 1990). In this context rehabilitation was recast not as a sort of quasi-medical treatment for criminality but as the re-education of the poorly socialised ([www.eprints.gla.ac.uk](http://www.eprints.gla.ac.uk)). This different approach taken in this current era was to allow less harm on the offender and to allow for public good seeing to the needs of the offender. These are two different approaches taken into rehabilitative methods. Beccaria was of the notion that 'requalifying' - or re-integrating - focused restoring the rights and duties and took on a more deontological (based on actions and ethics) conception of rehabilitation subjects (Foucault, 1975).

Ultimately, the modern perception of power can be used as a means to make social actions possible as much as it may constraint or prevent them. Galbraith. J summarises these positive types of power as;

- 1) Condict: Based on force
- 2) Compensatory: Through the use of various resources
- 3) Conditioned: The result of persuasion from various resources

### 3.2.2) Part B - Sport and Power Relations:

Sport has the power to attract, inspire and mobilize communities, cities and nations. It has the power to stand for human rights, include citizenship, respect of the next person and brings about fairness in its character. The power of sport can also be viewed to promote healthcare, social capital, post trauma relief and social mobilisation. Power relations between sport and rehabilitation feed off a common element being a structured and process model. Many of the core values of sport are compatible with the principles necessary for development and peace, such as fair play, co-operation, sharing and respect. The individual life skill learned through sport help empower individuals and enhance psychological well-being, such as increased resiliency, self-esteem and connections with others (www.193.63.164.37). Sporting bodies are powerful symbols because they appear to embody individual free will, self-control, health, productivity and transcendence (MacNeill, 1998). Sport can be seen as an element which holds different forms of power such as:

**1) Reward power:** Reward power stems from the individual having the capability to influence an incentive. This type of power is generally held by the authoritative power sources, the mentor, coach or manager, who passes on incentives to influence actions of the players (Merchant, 2005).

**2) Referent power:** This type of power can be associated with interpersonal relationships with people in the same organisation. This brings out mutual respect with referent power arising from charisma, respect and trust. This type of power, through sport, can be seen to aid rehabilitation and re-integration as relationships with mentors are formed via sport as well as healthy relationships with fellow peers. A sense of community can also be formed whereby trust and peers support can be used to address issues of self and social development (Merchant, 2005).

**3) Expert power:** Sport exercises expert power via coaches and mentors to pass on a specific skill to the player. These coaches and mentors can set programs for players to develop various attributes and skill to progress self – efficiency (Merchant, 2005).

**4) Enabling power:** Sport has the power to enable people, communities, cities and countries to settle disputes, allow for better standards of life and harnessing social relations with a degree of dignity. These attributes relate to rehabilitation and reintegration where sport is the main source of power driving patients to participate in activities to ready themselves for self – efficiency and social upliftment.

Programs with diversion objectives also share the belief that sport is an appropriate context for re-socialising participants into more socially acceptable values and behaviours. Rehabilitation systems are based on programmes to empower individuals in stages. These stages generally allow for suitable recovery and re-integration. When social and personal skills are combined, sport can be an effective medium to intervene in a person's decision making to abuse or not to abuse substance abuse. Participation in sport inherently leads to a drug-free lifestyle. Well-designed sport programmes, run by skilled and credible coordinators, help to reduce high-risk behaviour. This is true where the elements of structured sporting routines combined with the provision of drug-free information and life skills training are set in place (www.193.63.164.37).

### **3.3) STRUCTURATION THEORY - TOWARDS REDEFINING THE ROLE OF THE INDIVIDUAL IN SOCIETY**

Structuration theory is based on a social theory which deals with the creation and reproduction of social systems. Sport in its architectural platform and urban space allows for social practice to take place wherein reformation and integration may occur.

#### **3.3.1) Part A - The Role of Agency in Structuration:**

Giddens, whose structuration theory is based on a differentiation between 'agency' and 'structure', begins to break down these two components and describes 'agency' as the 'capacity' to transform the world. On the other hand, he speaks about 'structures' as the organised properties in social systems in the form of rules and resources:

1) Allocative resources: which stem from the control of material products or aspects of the material world ([www.zef.de](http://www.zef.de)). These are sources of power, natural and physical and only become resources when incorporated with the process of structuration.

2) Authoritative resources: This resource derives from the co-ordination of the activity of human agents ([www.tcw.utwente.nl](http://www.tcw.utwente.nl)). These are non-material sources of power resulting in the domination of some actors over others by the command over the activity and the coordination of human agents.

According to Dovey, the relations between 'structure' and 'agency' are primarily those of 'enabling' and 'constraining'. Structure both enables and constrains the form of agency that is possible, while at the same time- structures are constructed by agents (Dovey, 1999). According to Giddens, structuration sees the reproduction of social systems not as a mechanical outcome, but rather as an active constituting process, accomplished by and consisting of the doings of active subjects ([www.medlibrary.org](http://www.medlibrary.org)). For Giddens, structure is not simply external to agency, indeed structure has a 'duality' wherein it is 'both the medium and the outcome' of social practice or agency (Giddens 1979). The agents draw upon these structures to perform social actions through embedded practices and routines. Structures make social action possible, but social action creates the structures. Giddens calls this the 'duality of structure'. Space can be considered as a duality of structural ordering and action elements. Space is subjected to analysis in the social sciences as a 'product of social action' or as a 'product of social structure' and comes into being only by actively connecting with human beings. People connect not only things, but also other people or groups of people. Dovey, 1999, is of the opinion that architecture can be considered as a form of structure or space and the social action to which it 'frames' as a form of agency who are the active participants of the built form. This has a direct relation to Anthony Giddens's structuration theory. Structure and agency can be enabled through architecture in power of evoking or enabling certain forms of life with constraining others via physical barriers and regulations. The relationship between structuration and agency is what Giddens calls 'Structuration'

#### **3.3.2) Part B -Sport as an Agent in Structuration:**

Bourdieu, a structuration theorist, uses the example of the *habitus* which refers to a complex net of structured predispositions into which we are socialised at an early age. The *habitus* is considered to be a set of practical taxonomies (a way to group things together), divisions and hierarchies which embody everyday lifeworld experience and action. While Foucault sees power as 'ubiquitous' and beyond agency or structure, Bourdieu sees power as culturally and symbolically created, and constantly re-legitimised through an interplay of agency and structure ([www.essex.ac.uk](http://www.essex.ac.uk)). The main way this happens is through what he calls 'habitus' or socialised norms or tendencies that guide behaviour and thinking.



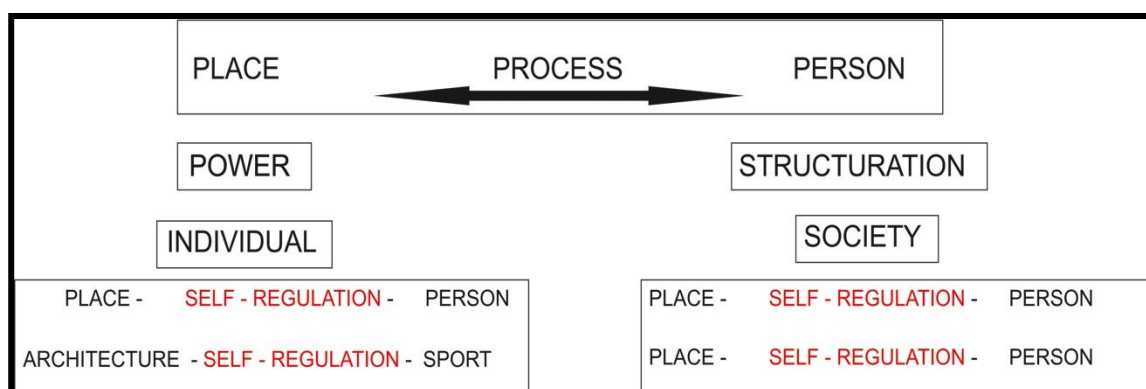
Habitus is 'the way society becomes deposited in persons in the form of lasting dispositions, or trained capacities and structured propensities to think, feel and act in determinant ways, which then guide them' ([www.essex.ac.uk](http://www.essex.ac.uk)). The Habitus is associated with actions and routines which we partake in on an everyday situation, becomes a form of knowledge, and a set of structured beliefs about reality (Bourdieu, 1997). Therefore in a sense, our habitus shapes our social world and external social structures shape our habitus. According to Bourdieu, 'agents classify themselves, expose themselves to classification, by choosing, in conformity with their tastes, different attributes, clothes, types of food, drinks, sports, friends which go well together, and which they find suitable for their position.' ([www.essex.ac.uk](http://www.essex.ac.uk)).

Having thereby absorbed objective social structure into a personal set of cognitive and somatic dispositions, and the subjective structures of action of the agent then being commensurate with the objective structures and extant exigencies of the social field, a toxic relationship emerges (Bourdieu, 1990). 'Doxa' refers to the learned, fundamental, deep founded, unconscious beliefs, and values, taken as self-evident universals that inform an agent's actions and thoughts within a particular field ([www.kalgrove.com](http://www.kalgrove.com)). The *habitus* is a system of habits amongst the participants and staff that is 'capable of generating similar practices, with common principles or similar practices such as vulnerability to drug and alcohol use (Bourdieu, 1984).

To form the link between the habitus and rehabilitation, we focus on two elements known as social capital and the 'field' of play which could be the structure or environment (Horowitz, 2000). For example, individuals arrive at an institute to engage with others and participate in activities which gradually generates a "habit". These individuals within the development of social networks differ upon sociological, ethnic, economical and gender base backgrounds forming what is known as 'capital'. The 'field' refers not only to the physical space where the social acts occur, but also to the structure the programs and services that more or less governs their behaviours during a specific time and space. The combination of the capital (habitus) and field (practice), one could say that practices of rehabilitation require not only a structured program and adequate resources (field), but also a good fit between the rehabilitation program, the social traits brought into the equation by the participants and staff (capital) and the dispositions (habitus) of all those involved in the practices of rehabilitation ([www.hivandrehab.ca](http://www.hivandrehab.ca)).

### 3.4) CONCEPTUAL FRAMEWORK

#### 3.4.1) Part A: Self-Regulation



**Figure 3.4: Self-Regulation process (By Author, 2015)**

The above figure is a breakdown of the chapter and shows the link between the theories and concepts to achieve rehabilitation and re-integration. The concept of self-regulation is a learning process via the built environment and its activities to which it is affiliated with.

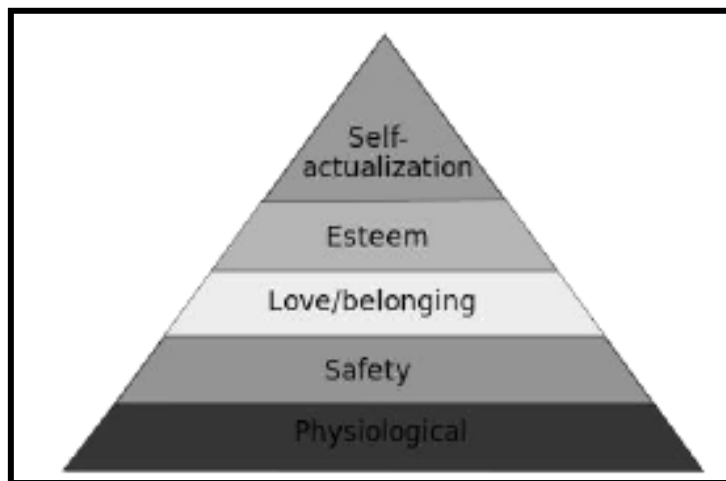
We conceptualise self-regulation as a generic umbrella term for the set of processes and behaviours supporting the pursuit of personal goals within a changing external environment and can be described as the following:

- 1) Self-regulative constructs overlap to a large degree with constructs derived from the transactional theory of stress, such as appraisal and coping (Lazarus & Folkman, 1984).
- 2) Self-regulation is the ability to monitor and control our own behaviour, emotions, or thoughts and altering them in accordance with the demands of the situation. It includes the abilities to inhibit first responses, to resist interference from irrelevant stimulations, and to persist on relevant tasks even when we don't enjoy them (www.education.com).
- 3) Self-regulating teams guide and perform their own tasks without a visible leader. It is clearly important to develop self-understanding, healthy self-esteem and important skills which we develop in childhood to control aspects of the self (www.education.com).
- 4) Self-regulated learning deals with goal setting, motivation, monitoring, and other issues clearly related to the fundamental problems associated with substance abusers and rehabilitation.

When a person has completed their pre-medical rehabilitation phase, the relapse rate as discussed above is relatively high. Development phases need to occur with the patient whilst under-going the process of post-rehabilitation- which is this research, is via sport. The interactive process will have to be guided by doctors and mentors who work within the rehabilitation boundaries. Physical activity has been reported to help with a wide spectrum of issues ranging from self-esteem and sense of social inclusion to clinical disorders such as schizophrenia, depression, and anxiety (www.mindingourbodies.ca).

The process of rehabilitation is a gradual build-up of the patient, from being in 'limp mode' to a good recovery process. There will then be a gradual build up in terms of movement patterns to which the patient will undergo both mentally and physically, before being able to carry out an activity due to the high risk of vulnerability.

Self-reflection processes are assumed to influence forethought cyclically regarding additional performance efforts, especially self-efficacy. This cyclical model hypothesizes close relations among processes within each of the phases. For example, in terms of the forethought phase, an individual's goals will be related to his or her subsequent strategy choice and self-motivational beliefs. Highly self-regulated learners will set specific process and outcome goals, utilize technique-oriented strategies, and display high levels of self-efficacy and intrinsic interest (Zimmerman, 1999). The third phase in this model highlights the importance of self-reflection as players make adjustments to improve future performances. It is hypothesized that highly self-regulated learners will attribute outcomes to strategy use, thus facilitating the selection of more useful or adaptive strategies following failure. Process-oriented strategies also make specific strategy attributions and displaying higher levels of self-efficacy, and satisfaction than novices (Zimmerman, 1999).



**Figure 3.5: Maslow's Hierarchy of needs (Source: <http://www.professionalacademy.com/theories-maslows-hierarchy-of-needs>)**

This figure represents the pyramid of human needs with the largest and most functional needs at the bottom and the need for self-actualization at the top (Bretherton, 1992). The physiological needs are the survival factors which one needs to strive for before moving onto aspects such as safety and love. Self-esteem derives from an accomplishment of goals by a person generally done in group activities. This aspect is all about creating a layer of respect or may seek to earn fame or glory. Self-actualization is the final stage of development and this level of need refers to what a person's full potential is and the realization of that potential. Maslow describes this level as "the desire to accomplish everything that one can, to become the most that one can be" ([www.expressiveproductdesign.com](http://www.expressiveproductdesign.com)).

We can derive from figure 4 that there are stages of human development which can be aided by architectural response. Form and space give meaning to certain activities and emotion that play a vital role in the patient's recovery process. Within adaptive control architecture, emotional appraisals are control signals used to govern self-regulation, making emotion both an appraisal and a governance process ([www.psych.stanford.edu](http://www.psych.stanford.edu)). The concepts of sensory experience and sensorimotor therapy can be interpreted architecturally through space and form, which leans towards power related theories, and structuration which leans toward the relationship between agent (user) and building

### 3.4.2) Part B: Self-Regulation through Sport

Power has been linked to both self-regulatory success and failure and typically aids itself self-regulation of task performance by making people motivated and goal orientated. Current research in social psychology mostly uses the definition of power as outcome control, because power as an influence makes the implicit assumption that the powerless will let themselves be influenced (Fiske & Berdahl, 2007). Sports can be seen as a coping mechanism in both physical (architectural) and social aspects. Power affects a wide array of cognitive processes, including rather simple or automatic ones such as construal level and basic attentional processes as well as complex or conscious ones such as executive control decision making, stereotyping perspective taking and creativity. Attention regulation is an important part of effective self-regulation. It comprises both stimulus-driven, automatic, bottom up processes and goal-driven, effortful top-down processes. Both of them are influenced by power ([www.monarch.qucosa.de](http://www.monarch.qucosa.de)). Development of expertise in sports and physical education requires not only innate talent and high level of instruction, but also the development of self-regulatory skills (Ommundsen & Lemyre, 2007).

Mind moves programs set out a set of movement patterns which build these receptors in the brain allowing the patient to reach close to 100% functionality. Movement is to use your muscles to do something. There are different types of movement:

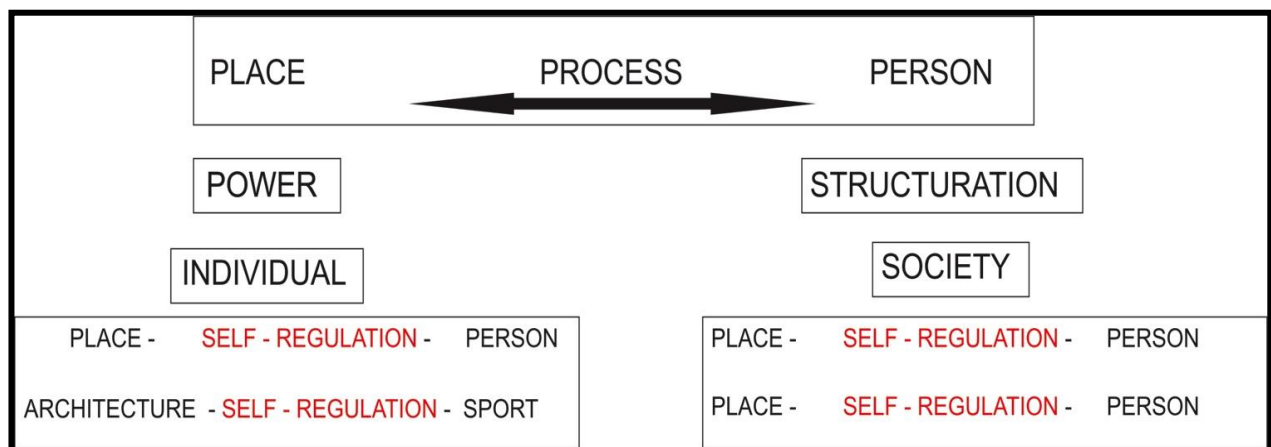
- 1) **Reflexive movement** – Breathing, heart beat or and movement to stay alive
- 2) **Primitive movement** – Guiding a child or a patient who has any brain disorder through the development phases such as moro reflexes and rooting
- 3) **Basic movement** – these are movements such as rolling, crawling and walking
- 4) **Skilled movement** – these are movements which are more synchronised such as tying a shoe lace, skipping a rope and throwing a ball.
- 5) **Expressive or creative movements** – these are movements which are used as a means of communication such as dancing and miming.
- 6) **Functional movements** – This type of movement deals with the fulfilment of a specific purpose at home, school or sports field

Ultimately, the built environment determines how society lives, works and plays thus having major influences on human behaviour both individually and collectively. The built form, when designed for a specific purpose, such as self-regulation, can influence interaction and behaviour which leads to space layout and arrangements in a particular order and setting.

Architects express their intent and ability by space arrangements and strategies. The use of physical elements and the arrangement of these elements affect routines and behaviours of society. Barriers and powerful mechanisms are used to encourage and discourage society to certain regulations and constraints. This form of subversive power can be carried out by the placement of these elements in different layouts and configurations to produce different results of public and private interactivity and self-regulation. These barriers are also used as a mechanism to channel people in certain orders- creating a steady flow and order in the way movement patterns are conducted.

Similarly, changes in texture imply the user being comfortable in a certain space allowing him to stay for a long period of time or moving through a space quickly. These can be seen in various manners such as textured speed bump which allows the driver of a car to automatically slow down making the ride less comfortable. The element of texture can contribute to human behaviour and interactivity on social levels. Self-regulation is important in both sports and secondary education.

### 3.5) AN ARCHITECTURAL AGENDA- LINKING POWER, STRUCTURATION & SELFREGULATION



**Figure 3.6: Self-Regulation (By Author, 2015)**

Spaces are constituted through action and different setups which create organised routines. These routines have the capacity to then reproduce social patterns and does so in a recursive way. Due to this, societal structures enable space constitutive action which reproduces the very same structures which enable it. The reproduction is organised societally via structures or informative space arrangement (Dovey, 1997). Simultaneity of spaces ordering structures and the immanence of action is to conceptualise the power of spaces as atmospheres to which provoke feelings. Opportunities for access to spaces secured by resources and authoritative mechanisms and as well as and spaces which set the atmosphere of inclusion or exclusion determine societal power.

#### 3.5.1) Part A: Expressions of Power in the Built Form

In its broader sense, power can be described as the ability to influence or to control the behaviour of people. According to Rorty 1992, 'Power is the ability to define and control circumstances and events so that one can influence things to go in the direction of one's interest' ([www.waternetonline.ihe.nl](http://www.waternetonline.ihe.nl)). Power and Space are discussed across three common elements or concepts:

**1) Enchantment:** This is the fusion of material and the symbolic presence presented by the sort of built expression of power. It may described as an enchantment of space, linking together matter and meaning is such a way as to produce various power effects.

**2) Emplacement:** This refers to the construction of certain spaces for certain activities and certain people. It involves a process of inclusion within and exclusion from specific spaces. Emplacement implies that there are boundaries and compartments producing effects of fixity.

**3) Enactment:** This is described as enactment in space, which is about how the social spaces are lived, processed through and experienced through mobility, and what power effects this brings about.

The monitoring of process configures emplacement to be very closely related to the production of knowledge in all aspects, where things and people are placed, classified and ranked, they have to be known and compared. As Foucault says 'discipline organises an analytical space.' It is in this way that spatial and forms of knowledge come to be combined, although at times the representation of space become pre-eminent over the material and lived space itself, a key characteristic of capital 'abstract space' (Lefebvre, 1991).

Architecture can be used as a means to change the perceptions in the manner that it affects the moods and sensations of the user which directly affects the building processes in a positive or negative manner, thus the development of new building typologies. The logic of inclusion and exclusion via institutionalized orderings is also followed by those who discuss space as a 'product' of societal interaction/structures, examining the production of social inequity through spatial relations in the empirical cases of virtual spaces and global spaces (King, 1990).

Furthermore, the placement of objects, zoning and movement layouts are key to influence interaction at levels of public and private. The use of space syntax analysis stresses the power relation between what is deeper and more private as opposed to public open spaces or spaces easy accessible for public interaction.

Power in social orders and social interaction can be stipulated amongst three categories:

1) Personal Space and Territory:

Privacy is often considered a process of exclusion whereby a person is often secluded from publicness or any form of interaction. Buildings, when designed for a specific intent, will have places for solitude whereby spaces can be separated (Altaman, 1975). This stipulates that the building has the ability to respond to and meet our ongoing privacy needs. These spaces can also be multifunctional in a sense that an easy alteration can be considered in so far as creating interactivity of separation.

3) Disciplining Spaces:

The notion of power with the design internal built form can order social interaction by effectively dominating and controlling people. The prison can be used as an example of disciplining spaces whereby spaces are defined for surveillance, segregation and classification. These spaces are design to exercise power over the inmates to discipline them. Disciplinary mechanisms in the form of space making can be seen in schools, shopping malls, hospitals, theme parks, etc. Michel Foucault is of the notion that the importance of the concept of surveillance when disciplining people. When architecture discipline," it does not matter who exercises power any individual taken almost at random, can operate the machine" ([www.governingwithcode.org](http://www.governingwithcode.org)).

The concept of Panopticon can be applied in this instance whereby the powerful or empowered body has control over the powerless. This is for visual purposes so that the offender can always be monitored. The Panopticon was designed to allow round-the-clock surveillance of the inmates by their superintendent. Bentham's intention was humanitarian but penitentiaries are not the best advertisement for a utilitarian ethic ([www.utilitarianism.org](http://www.utilitarianism.org)). This type of power impulses the notion of discipline through spaces

and is illustrated by partitioning of space according to rank, class and grade along with temporal regulation of ritual, routine and marching in time (Dandeker 1990). This form of power has a major advantage over the force which it often replaces. It drives power underground, makes its operations invisible as it utilises the subjects capacities in the task of their own oppression. Bio-power holds its subjects at a deep biological level controlling bodily gestures, habits and desires. It disciplines both the body and the soul.

#### 4) Biased Space:

Architecture can be biased and have effects on certain group values and is not neutral but social and political, resulting in architecture that can serve to maintain and reproduce social values and classifications through exclusion and segregation. These spaces inspire gender based and disability relationships- in terms of the buildings and its spaces through the examples of male, female and disability ablutions (Bankst, 1991). Over the past 50 years, society has recognised this built-in bias and required itself to reshape the built environment to ensure disable people can better participate in society (Welch and Palames, 1995). A third Example focuses on how architecture can embed values such as reliability, efficiency, or safety ([www.governingwithcode.org](http://www.governingwithcode.org)).

There was a shift in the re-thinking of how people could be treated in prisons and places of rehabilitation. This was also influenced by new ideas over time which allowed flexibility to set in to the design component- to allow for moral and sustained progress in gaining their presence back into society. According to Weinstein, coercion consists on transforming private, communal, group or cultural spaces into organisational spaces in which people perform actions directed towards fulfilment of another's plan, or refrain from performing actions subversive of the realisation of another's plan ([www.utas.edu.au](http://www.utas.edu.au)). Coercion can be defined as a threat of force to secure compliance and may be constrained as a latent kind of force (Dovey, 1997).

Furthermore, Power can be broken down into two specific types; power 'over' and power 'to'. Power 'over' can be associated with power as a capacity and as a form of a relationship between people (Isaac, 1992). Power 'to', is usually associated with the primary form of power and has a direct link with the term empowerment. According to Dovey, the 'capacity' to imagine, construct and inhabit a better built environment is what we really mean by empowerment ([www.mmo.gr](http://www.mmo.gr)). Power 'over' can be affiliated with the power of which an agent (user/personal) has over the other. This is to ensure compliance of the other with ones will. There are ways in which this can be carried out by means of sub-power utilities and concepts such as force, coercion, manipulation, seduction and authority.

Force can be defined as stripping its subject/user of its choices and non-compliances. Architecture can be used as a power tool to execute force by the typical example of a prison which is used to socially exclude a user from society. Elements such as walls, fortresses and bars are built forms which carry out the force in an obvious manner. Architecture has now metaphorically given a form of power by preventing actions of the user rather than creating it. Power enters buildings via the use of architectural forms to symbolise particular kinds of power. These can be illustrated via examples such as the case of economic power that resembles banks and exchanges, cathedral and temples to resemble religious exchange and towers to resemble contemporary financial institutions.

### 3.5.2) Part B - Architecture as an Agent in Structuration:

We view architecture as a dual role which encompasses both structure and agency in their respective roles. These roles can be enabled through architecture in the sense of evoking or enabling certain forms of life while constraining others with physical barriers and regulations. Structures have rules and regulations whereby solutions are implicated in social reproduction. Social structures not only restrict behaviour, but also create possibilities for human behaviour. Institutionalised features of social systems have structural properties in the sense that relationships are stabilised across time and space. Lefebvre proposes the idea of space being both a structuring form and a structured form which is simultaneously a collection of things and objects and the use of its resources ([www.tcw.utwente.nl](http://www.tcw.utwente.nl)).

Giddens emphasises the key element of the structuration theory through spatial relations. He breaks down structure in terms of spatial structure, and the design in one form of agency. The thread of power can be seen as it is spatialized in the sense that all agencies are situated in time/space 'locales' (Dovey, 1997). Locales can be seen as an example whereby board rooms, kitchens, cities etc. which are associated to places and meaningful spaces of everyday life.

The duality in Giddens theory suggests that structures construct the outcome of practices which constitutes of social systems. People shape structures but structure determines what people do. 'Social systems' are relations and interactions which we see in everyday society as relatively bounded social practices that link a person to a time and space. The social structure from which is formed from a space is categorised in many forms such as public and private, legal and social and economic structures. The separation of public and private is articulated in spatial structures, the design of the building, arrangement of space and the design on intimate and private spaces. Social structure is not the pattern of action but the principles that generate the action (Stones, 2005).

Dovey suggest the following principles through which power can be manipulated - or structured - and mediated through built form are as follows:

- 1) Orientation/ Disorientation: Built form can orient, disorient and reorient its subjects through spatial framings of everyday life. Cities and buildings structure the cognitive maps through which we imagine our world and give it our attention.
- 2) Publicity and privacy: Built from segments space in a manner that places certain kinds of people, places and actions under conditions of surveillance while privileging other kinds of people, places and actions as private. Spatial segmentation mediates social encounter.
- 3) Segregation and access: Boundaries and pathways can segregate places by social status, gender, race, culture, class and age, creating privileged enclaves of access, amenity and community.
- 4) Social and universal: Built form is socially produced, yet it has a particular capacity to make the contingent appear universal, to make socially constructed history appear natural.
- 5) Stability and change: Built form has a great inertia, generating illusions of permanence – a stable social order and the impossibility to change.
- 6) Authentic and fake: the quest for authenticity is a quest for the original and the real in a world of simulation and fakery. Yet authority is wrapped up with authorship and the idea of original authority; the quest is enmeshed in practices of power.



7) Identity and differences: Buildings and places inevitably construct and symbolise socially constructed identities and differences of persons, classes, cultures, institutions and nations. The politics of identity in built form mediate who we are and where we belong.

8) Dominant and subservient: A large-scale built or urban form, in mass or volume, inherently signifies the power necessary for its production. The juxtaposition of large and small inherently signifies a relation of power and may be linked to discourses of domination and intimidation.

9) Place and ideology: The experience of a place has the deep capacity to 'ground' our being, to open the question of 'spirit'. Yet the very potency of place experience renders it particularly vulnerable to the ideological appropriations of power.

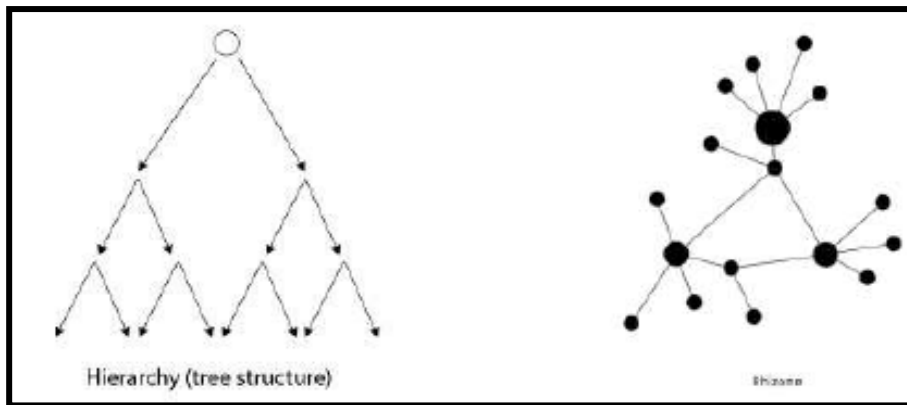
### **3.5.3) Part C- Power and Structuration as a Joint Approach**

Architecture evokes and enables certain forms of life while constraining others with both walls and sanctions. Foucault argues that power operates through social and spatial practices and is embedded in institutions. When a person has a sense of control, or a building has elements which enable a distinctive attribute of control, it is known as 'disciplinary power' -because it operates through regimes of normalisation and the eradication of deviance. This sort of power is something which is not held by the agents but rather it constructs 'subjects' and is known as 'bio-power' since it acts on and through the body to constitute docile subjects. Foucault also emphasises that this type of power is productive whereby it produces and harnesses human agency. This type of power is dispersed and exercised through micro-practices of everyday life where it spreads by capability action or habitual operations.

Bio-power is closely knitted with programmes associated with certain institutions and allows the agent to have the will to desire in certain spaces. Architecture has the capacity to then allow for desire from the agencies to take place at levels of privacy, shelter, views, light amenity and social distinctions. It is in this sense that spatial programmes are used as a productive force of life itself.

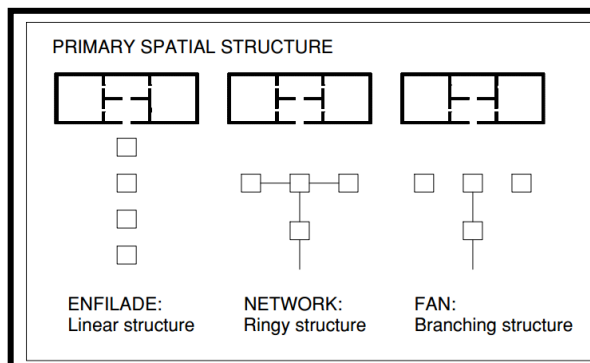
Dovey directly links power to Hillier and Hanson's space syntax theory whereby power itself can be seen in built form via spatial division. He starts this merge with the notion of 'smooth' and 'strained' spatial properties which derive from (Deleuze and Guattari, 1988). Dovey explains the property of 'smooth', by means of movement where one slides seamlessly from one site (place, meaning and image) to another. These types of spaces can be identified with movement and instability through which stable territories are erased and new identities and spatial practices become possible (Dovey, 1997).

Strained properties can be defined as identities and spatial practices which have become stabilised in strictly bounded territories with choreographed (sequence of movement) spatial practices and socially controlled identities. The smooth and strained space is a conceptual framework which enhances the architect or urban designer to rethink certain spaces. Strained space is often structured like a tree: hierarchically organised and deeply rooted.



**Figure 3.6: Hierarchy (By Author, 2015)**

The 'smooth' and 'strained' properties set about a platform for new exchange, be it in a social real or built form. This has a direct link to the space syntax theory which Hillier and Hanson derived. From this, we see that space has the power and means to allow people to flow, habitat and create a sense of emotion. The activity in which the space is designed allows humans to habitat specific times with specific activities under the influence of control and power. Dovey, 1999, suggests that buildings have consists of two realms being the subjects and the agents. The architecture could play a role in terms of empowering and disempowering the user via a series of spatial configurations. Buildings are translated via planning and how life is framed around it. The figure below represents three similar plans with different doorways yield three different syntactic structures.



**Figure 3.7: Spatial Structure (By Author, 2015)**

These three spatial structures are seen in most buildings and are used as combinations to achieve certain levels of control within the built form. Hillier and Hanson (1984), have identified a range of properties from this spatial analysis diagram which lead to this spatial structure to be of social significance.

**1) The linear structure** – is a string of spatial segments in sequence, known in architecture as the enfilade. This type of structure leaves the user with no choice of pathway from one segment to another. This type of structure is usually analysed with the depth and shallowness of it. With the linear flow having a very deep structure, it transverses many segments. It has implications for how many boundaries and points of control one crosses in penetrating into the building. A linear framed structure controls circulation and social interaction in certain key spaces. The example of a hall way or a foyer is the only access to a cluster of rooms which have a high level of control over the flow of daily life. The linear structure produces a spatial narrative with very strong levels of control in all cells except the deepest.

**2) The ringy structure or network structure** - is the opposite, as it connects segments to each other with multiple choices of pathway. This type of structure can also be defined by its lateral connections with possible pathways crossing through it, and is a form of dispersed control (Bellal T, 2004)

**3) The fan structure-** controls access to a range of spaces from a single segment, such as a corridor or a hallway. This structure also relates to social relations in two kinds: Those between inhabitants (kinship relations or organisational hierarchies) and those between inhabitants and visitors.

The types of structures illustrated above indicate that power can be defined by space making and the merging of the user and public which take place within certain places in certain structures. The syntax of traditional power relation was by locating their powerless 'visitors' in the deepest cells within the structure whereby there are places under surveillance. This type of structure stemmed of Foucault's disciplinary institutions such as prisons, hospitals and asylums. Hillier and Hanson are looking at new alternatives in advancing on Foucault's theory in as much as they distinguish between a diversity of 'reversing' the building. They look at buildings such as schools, hospitals, factories as having different degrees of institutional control (Dovey, 1999).

Marcus, 1993 is of the notion that buildings both embody and reproduce various distributions of power, and they can affirm or deny development of bonding. 'Spaces can be so linked that communication is free and frequent, making possible for dense encounters between classes, groups and individuals. These are the basis for community, friendship and solidarity ([www.intercom.museum](http://www.intercom.museum)). The alternatives are controlled movement, under surveillance, for narrowly defined purposes of production. Buildings always have double meanings in making concrete both power and bonds.'" (Markus, 1993). The built environment frames our daily life routines within certain spaces affiliated with the specific task. This encompasses the organisations of certain spaces within the built environment to mediate social interaction.

### 3.6) CONCLUSION

The exploration of the theories of power and structuration can be understood as the over-riding theme which combines sport, rehabilitation and the built environment. Power differences fundamentally shape our societies and thus everyday life. Power structures give meaning to the structuration elements which are established in societies through the creation, maintenance and existence of established systems of knowledge, culture and social norms ([www.architectureinsights.com.au](http://www.architectureinsights.com.au)).

Sport and rehabilitation have the ability to empower social classes through built form to produce and reproduce social relationships. The benefits of sport and rehabilitative systems allow for re-integrative systems to functions through public and private levels via formalised structures. Surveillance and the ordering of space and form has been identified to associate itself with two main elements. The first element speaks of the physical effect of controlling and ordering of spaces through surveillance and the physical appearance of the built form. The second element illustrates the planning of utopian levels to express with visibility and the theme of ordering and surveillance of the individual and social body within the mechanism of power ([www.architectureinsights.com.au](http://www.architectureinsights.com.au)).

Self-regulation is a concept which is commonly adapted in treatment models and can be expressed, in this case, via the notion of sport. The patient is constantly engaged in sport by means of structured routines as well as an agent to actively re-create themselves holistically encapsulating morals and mental, physical and social well-being.

This evokes a notion whereby the perception of post-rehabilitation treatment can be improved via the means of an architectural response. The articulation and the linkage of spaces to different routines allows for interaction between classes, groups and individuals to take place. The establishment of relationships and new realities are created through the built form- empowering the concepts of re-creation and rehabilitation to occur. These are the basis for community, friendship and solidarity to occur and abolishing the patient from discrimination and stigmatisation ([www.intercom.museum](http://www.intercom.museum)).

# **CHAPTER FOUR**

## **PRECEDENT STUDIES**

#### **4.1) INTRODUCTION:**

The literature thus far has highlighted the importance of post rehabilitation and more so using sport as the mechanism for integration. Through the concept of self-regulation the research has justified a framework in which the following examples can be examined.

The precedent studies will be conducted with the analysis of the previous literature in mind and how these examples relate to the topic and building typology.

The precedent examples will first analyse the general characteristics of each project and thereafter investigate the typology and how it deals with the existing context, and the manner in which the context is supported by the concept of self-regulation that suggests the ability to learn through the environment.

The different aspects of each example will be examined as to how these typologies and their specifically designed spaces respond to the needs of the patient and in turn impact them.

The analysis of the spaces provided is supported by ideas within the theory of power and structuration along with the concept of self-regulation.

The understanding of specifically structured routines and how they impact the patient and their reintegration process is important when assessing buildings of this typology.

The analysis of these examples and the research acquired is done so to provide a greater understanding on the post rehabilitation building types, so that the typology of sport as a post rehabilitation and reintegration mechanism can be informed through practical and informative design.

## 4.2) PRECEDENT 01

### GROOT KLIMMENDAAL



Figure 4.1: Exterior of Groot Klimmendaal Facility (Source: <http://www.home-review.com/2012/02/rehab-redefined/>)

#### 4.2.1) GROOT KLIMMENDAAL FACILITY BUILDING DESCRIPTION

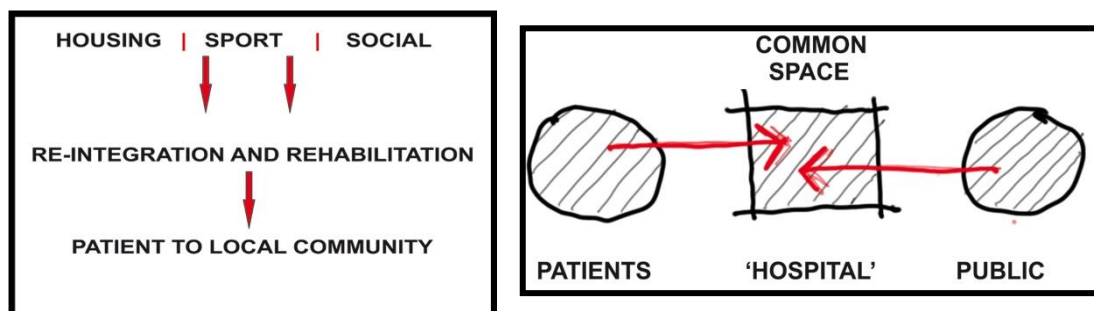


**Figure 4.2: Site plan (Source: <http://www.dezeen.com/2011/03/25/rehabilitation-centre-groot-klimmendaal-by-architectenbureau-koen-van-velsen/>)**

Groot Klimmendaal Rehabilitation Facility, located in a dense forest outside Arnhem, the Netherlands. The facility serves, which was designed by Koen Van Velsen, serves itself as a catalyst forming part of a large scale intervention and it's the first phase of the project. The architect's vision was to provide a facility for patients that rehabilitates and re-integrates themselves back into the community. The typology entails residency, sporting and social components which ensure a smooth transition between the treatment process and being able to graduate into the public realm. The next phase will include a school and a residential building. The users of this facility, consists of children, youth and adults. This facility includes a Ronald McDonald house for temporary residence of parents of those in rehabilitation.

#### 4.2.2) CONCEPTUAL FRAMEWORK:

Rehabilitation Groot Klimmendaal uses the “inclusive care concept” which is generated from the stimulating and positive environment which aids the well-being of the patients. The design initiative was to create a building which blends into its context and community to allow for the revalidation process for the patients.







**Figure 4.3: Re- Integration Process (Sketch by Author, 2015)**



**Figure 4.4: Sketch of the rehabilitation and re-integration model. Both patient and the building are placed at the centre of the community (Sketch by Author, 2015)**

The concept for the rehabilitation centre is based on the following:

- 1) **The Care Concept:** Using the built form to encourage patients to build up social relationships, rehabilitate and incorporate exercise by walking in long corridors and stairwells.
- 2) **Community Engagement:** The sporting activities are open to public entities such as schools and residents and the restaurants and theatres are also used by the locals. This adds to the re-integration process.
- 3) **Place making:** The choice of materials combined with the location of the building being in a forest, gives it a unique feel which does not speak the common language of an institutionalised facility such as a hospital or a health care facility. The interior is designed to capture the essence of the forest and has layers of double volume spaces and colourful finishes. Each floor has different activities with a long corridor acting as the merging element. The built form provides a positive and stimulating environment

<b>PLACE</b>	<b>PERSONALISATION</b>	<b>TERRITORY</b>	<b>WAYFINDING</b>
			
<ul style="list-style-type: none"> <li>• Meaning full to the user.</li> <li>• Strong sense of orientation.</li> <li>• different environments contribute to self-regulation process.</li> </ul>	<ul style="list-style-type: none"> <li>• Engaging oneself to a place.</li> <li>• Private space is important to the contribution to the treatment process.</li> </ul>	<ul style="list-style-type: none"> <li>• Forming a sense of familiarity with the context and internal space.</li> <li>• Patients gets a sense of safety aiding the self-regulation process.</li> </ul>	<ul style="list-style-type: none"> <li>• Using the built form in terms of physical and mental activity to navigate around a building.</li> <li>• linking of space and territory.</li> </ul>

**Figure 4.5: Table represents with principles and the adaptation to the patients experience within the building towards rehabilitation and re-integration (Sketch by Author, 2015).**

The above conceptual framework entices the experiences of the patients to rehabilitate and re-integration. The patient uses the concept of self-regulation, learning from the environment, via the following principles: place, personalisation, territory and wayfinding. This specific building introduces these concepts to the built form to enhance a new approach on after care and clinical facilities.

#### 4.2.3) THEORETICAL DISCUSSION- Power and structuration in re-integration methods

##### Spatial Programming and Power Relations:

The building program is designed to establish an environment that has a positive impact on the patient's rehabilitation and re-integration process, as well as a physically stimulating environment. The power relations concept is based on three key elements dealing with the user and configuration. These components are specifically placed to empower the patient to re-integrate and recover using the built form. The notion of the patient transgression from public nodes to private nodes is clearly evident in the design section of the building. The section illustrates zoning from public to private via a vertical stacking system. This emphasises that aesthetics and function of the built form are important for recovery and is clearly defined.

The schedule of accommodation is as follows:

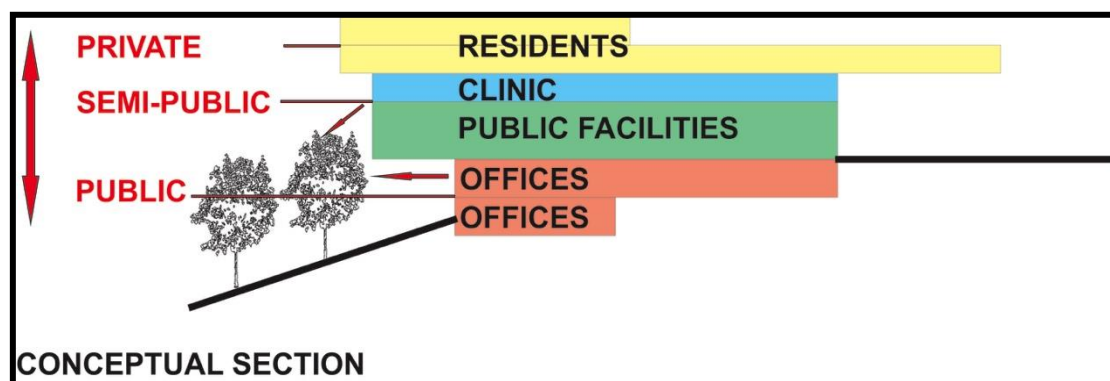


Figure 4.6: Illustrates conceptual section illustrating private to public function.  
(Source: <http://www.archdaily.com/126290/rehabilitation-centre-groot-klimmendaal-koen-van-velsen>, Edited by Author, 2015)

<b>PRIVATE FUNCTIONS</b> (REHABILITATE)	- RESIDENTS, CARE UNITS, SPORTS FACILITIES
<b>SEMI-PRIVATE FUNCTIONS</b> (REHABILITATE)	- OFFICES AND CLINIC FACILITIES
<b>PUBLIC FUNCTIONS</b> (RE-INTEGRATE)	- SPORTS AND FITNESS FACILITIES, SWIMMING POOL, RESTAURANT AND THEATRE

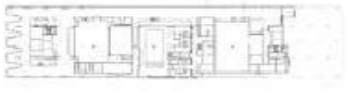



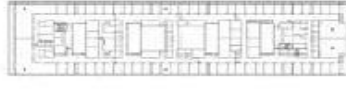
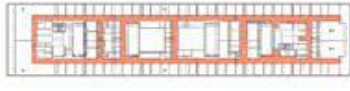

Figure 4.7: illustrates the rehabilitation and re-integration process (Sketch by Author, 2015)

The vertical spread of the accommodation schedule ensures that the public facilities are easily accessible on the ground floor and the residents on the highest level- ensuring privacy for the patients. Clever planning also limits the impact, with the tightly arranged composition of stacked terraces, cantilevered from a smaller ground bearing plinth, adds to the overall experience of the user and forest context.

The building program has a clear intent to carry out the vision of creating a schedule of accommodation that establishes rehabilitation and re-integration mechanisms. The architect worked exclusively with the users of the building to design it to be welcoming and have an open environment that offers a natural habitat for care

The spatial programming is well-reasoned at a strategic level to its final execution, which allows the patient to have full control over the building program and its environment. The reason for the spatial planning is to accommodate for the rehabilitation and re-integration relating to the principle of wayfinding.

#### PRINCIPLE OF WAYFINDING:

PLAN	CIRCULATION	LEVEL
		1
		2
		3
		4
		5

**Figure 4.8 - Plans showing clear circulation and movement paths indicated in orange throughout the building. (Source: <http://www.archdaily.com/126290/rehabilitation-centre-groot-klimmendaal-koen-van-velsen>)**

The plans above indicate that the circulation patterns are made easy for the patient to find landmarks such as sporting facilities, theatres and restaurants which allow for re-integration to occur. Wayfinding contributes to linking space and territory via mental and physical activities such as specific land marks and physical activities. The ground floor has double volumetric spaces which run the full length of the building and ensures a seamless continuity between the interior and the exterior.



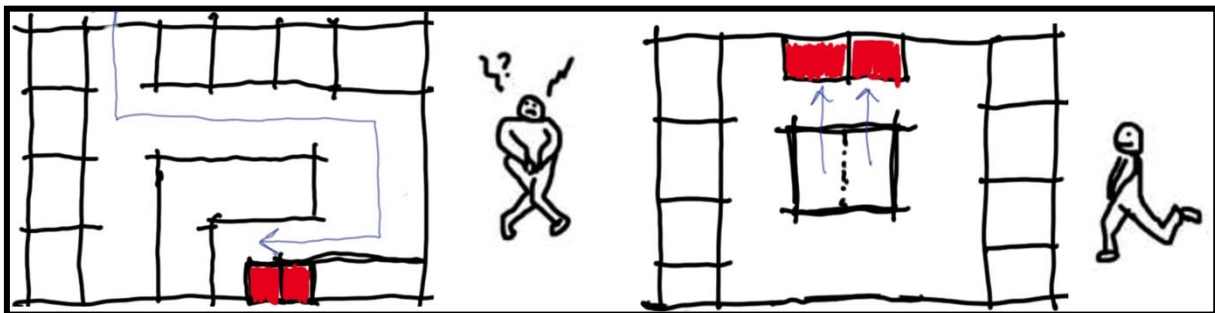
**Figure 4.9: Transition between indoor and outdoor space (Source: <http://www.dezeen.com/2011/03/25/rehabilitation-centre-groot-klimmendaal-by-architectenbureau-koen-van-velsen/>)**

### **CIRCULATION :**



**Figure 4.10: illustrating circulation paths (Source: <http://www.archdaily.com/126290/rehabilitation-centre-groot-klimmendaal-koen-van-velsen>)**

A shallow timber staircase runs the full internal height of the building which was a new way of enabling a variety of alternative routes roaming the building between different departments. This is used as a form to undertake physical exercise as the patient is navigating through the building.



**Figure 4.11 is a sketch by the author illustrating that planning should be clear with ease of accessibility. (Sketch by Author, 2015)**

**Figure 4.12 is a sketch by the author showing ease of access from common spaces with limited circulation. This also assures safety for a patient and easy transition from being in a public domain to a private domain. (Sketch by Author, 2015)**



A series of more human spaces with no dead ends as well as slow and fast routes makes the staircase a means of a wayfinding element to the patients, as it creates both familiarity and mental stimulation as patients explore different spaces. The corridor or timber staircase acts as a conductor to four concepts; place, personalisation, territory and wayfinding

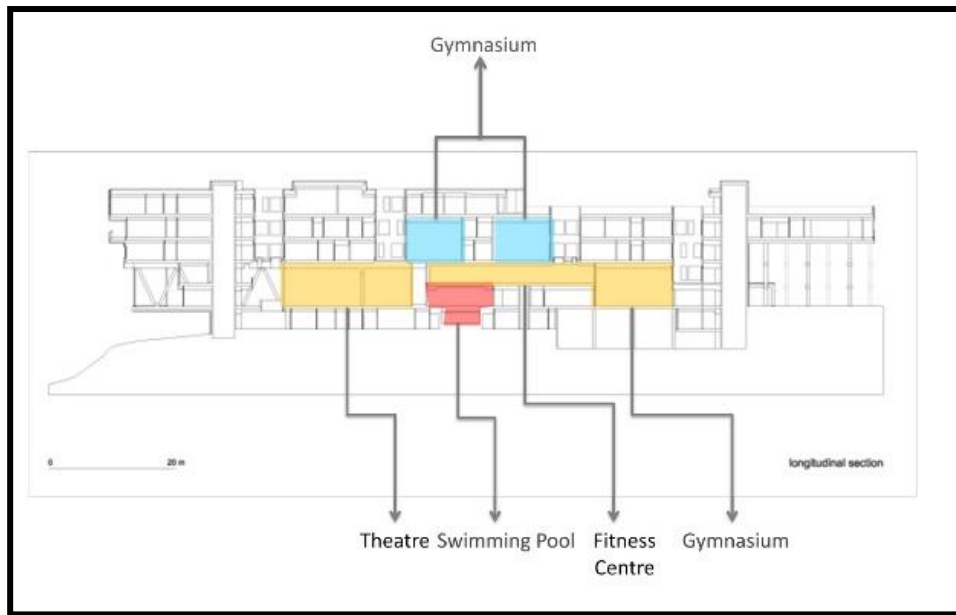
#### Social Context and Encounters – Re-Integration



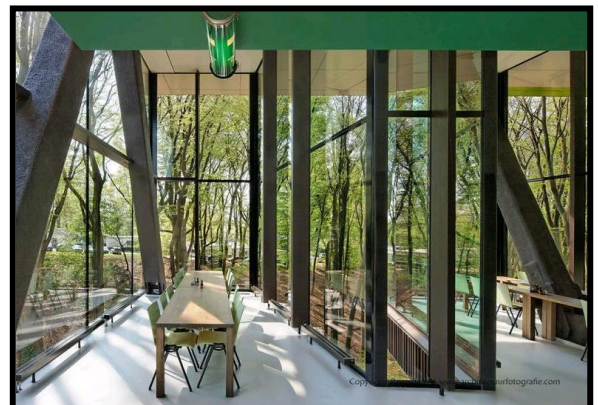
**Figure 4.13: is a representation of the site plan with the rehabilitation location marked in red. (Source: <http://www10.aeccafe.com/blogs/arch-/rehabilitation-centre-groot-klimmendaal-in-the-netherlands-by-koen-van-velsen-architect>)**

The location plays an important role both in its societal and urban context, as it is central to the community. Its position in a forest scape aids to the patients' rehabilitation process as it has a direct connection with nature. It is the first phase of revitalising the site towards a greater master plan which will transform the site into a public park, with low-rise public buildings, proposed school and a residential node. The facility is used as a catalyst which will attract a diverse range of people to site aiding the re-integration process of the patient. The theory of structuration can be seen clearly as the building typology acts as an agent for social cohesion to thrive between private patients and the public. The building acts as a resource of allocative power by its physical designed content which becomes part of the patients' integral process. The built form enables and constrains the patient, resulting in social actions through embedded routines becoming the product of social action. The patient through these encounters becomes connected to the built form and adapts to their new surroundings aiding the rehabilitation process.

Public facilities such as the theatre, swimming pool and restaurant allow the public and public schools such as schools, church groups and organisations, to use the facility and increase the interactivity with the patient. The built form has been designed in a manner whereby the public is allowed to filter deep into the plan of the restaurant, which is situated overlooking the forest. The philosophy behind facilities being used by locals is that the patient, who is placed at the centre of the community, gradually begins to feel reintegrated and feel part of the construct of society. The concept behind the design is first and foremost care and therapy, not through detachment and seclusion- but rather by designing the building and its spaces as part of the surroundings and community.



**Figure 4.14: illustrating sporting facilities within the building (Source: <http://www.archdaily.com/126290/rehabilitation-centre-groot-klimmendaal-koen-van-velsen>)**



**Figure 4.15: Illustrates Interactive public spaces within the building (Source: <https://www.architonic.com/en/project/koen-van-velsen-architectenbureau-rehabilitation-centre-groot-klimmendaal>)**



**Figure 4.16: Illustrates the sporting options that the building provides. (Source: <https://www.architonic.com/en/project/koen-van-velsen-architectenbureau-rehabilitation-centre-groot-klimmendaal>)**

The section captures the sporting mechanisms placed vertically and is used as a re-integrative tool for the public, and a rehabilitative mechanism for the patients. Social sustainability is a concept which is illustrated within the built form and allows the spaces to become part of the surroundings and community. The building shifts its paradigm from a regular institutionalised hospital setting to a new model which re-integrates and rehabilitates patients' into main stream society.

#### **4.2.4) CONCLUSION**

Rehabilitation Centre Groot Klimmendaal is a building which sits within a combination of an environmental and social context- which invites the community, family and nature to aid the patients' rehabilitation and re-integration process. Elements such as clear circulation patterns, natural lighting, voids and light-wells contribute to the positive atmosphere of the patients' and to the de-institutionalisation of the facility. The schedule of accommodation illustrates the vertical setting of the spaces which suggest that the private entities of the building are at not easily accessible by the general public. On the contrary, the ground floor invites the general public by using key nodes such as sporting facilities, a swimming pool and a theatre. Ultimately, the building achieves to re-validate and rehabilitate via these processes illustrating new and alternative means to post traumatic patients'.

### 4.3) PRECEDENT 02

## OSTRA PSYCHIATRIC HOSPITAL



Figure 4.17: Exterior of Ostra Psychiatry Hospital (Source: <http://architizer.com/projects/oestra-psychiatry-hospital/>)



#### 4.3.1) ÖSTRA PSYCHIATRIC HOSPITAL BUILDING DESCRIPTION

Östra Psychiatric Hospital designed by White Arkitekter in the year 2006 and associates is located in Östra Sjukhuset, Göteborg, Sweden. This is a university hospital which sits with in a per-urban environment and sites relatively near the coast. It is a model hospital for research best practices in Scandinavia. The overall desire of the Östra Psychiatric Hospital was to de-institutionalise health-care facilities by creating an environment which is aided by the built form in terms of aesthetic and function. This institution is of the notion of breaking the stigmatisation associated with psychiatric care (Lundin, 2010) via new integration methods. The main objective of this building typology was to create a free open atmosphere of avoiding all associations with compulsion and power and allowing for new type of rehabilitation and re-integration model.

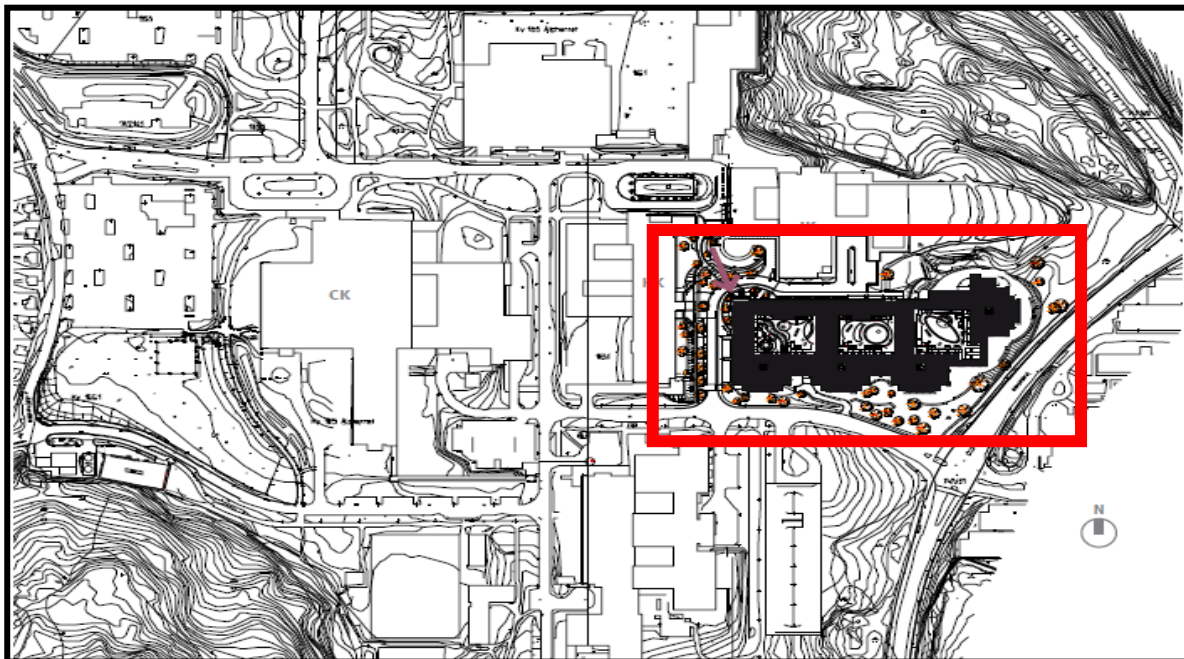


Figure 4.18: Site plan with Östra Psychiatric Hospital indicated (Source: <http://architizer.com/projects/oestra-psychiatry-hospital> (Edited by author, 2015))

#### 4.3.2) CONCEPTUAL FRAMEWORK:

The Hospital deals primarily with rehabilitation and re-integration via a three phased concept:

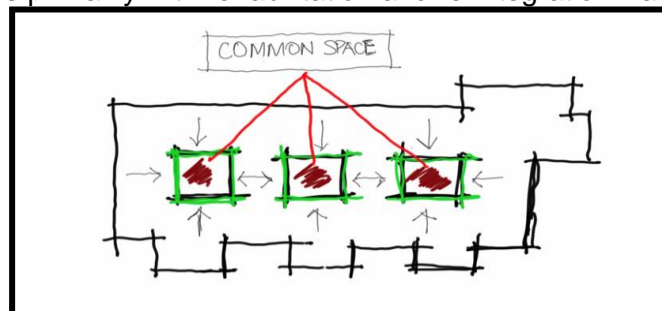
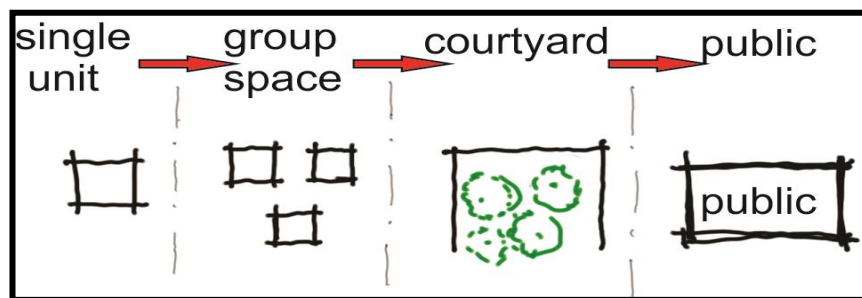


Figure 4.19: Sketch representing the three phased concept instilled within the hospital (sketch by author, 2015)

The three phased is used as a private to semi-private/public to public buffer which allows for different levels of integration within the hospital between rehabilitation patients and the public. This concept gradually increases the patient's personal spheres allowing them to progress from a single room...to the garden... and finally to the public sphere. The spatial layout and qualities play a vital role in terms of linking spaces and facilities across private, semi-private and public nodes allowing an almost seamless transition of re-integration. With the objective of de-institutionalising the medical care building, the patient is made to feel in a state of empowerment via the built form.



**Figure 4.20: Represents the intended re-integration method (Sketch by Author, 2015)**

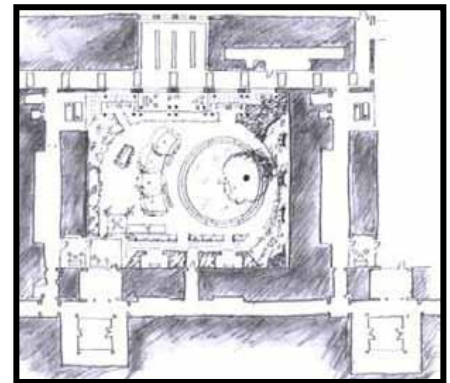
The total environment is contributing to the re-establishment of the patients' sense of reality. Architectural elements can be seen as elements which are used as integrative tool from the macro to micro level.



**“Residential Units”**



**“The Heart”**



**“Building Oasis”**

**Figure 4.21: The 3 elements which contribute to an architectural re-integration system by empathising central axis and central core space. Sketches by Lundin, S (form and Lundin, 2010).**

1. The garden **“the heart”**: Where you gather patients for activities and accommodation group.
2. The **‘protective outdoor area’**: No staff cards required and some patients have their own entrances.
3. **Residential Group**: Unit typologies -The spatial layout and qualities play a vital role in terms of linking spaces and facilities across private, semi-private and public nodes allowing an almost seamless transition of re-integration. The reintegration and rehabilitation methods will be analysed using the theories of power and structuration.

The theories of power and structuration can be seen within the re-integration process as spaces strategically places and are supervised at all times. This allows for different levels of social encounters relating to the properties of the structuration theory. The following spaces will be analysed according the gradients form public to private.

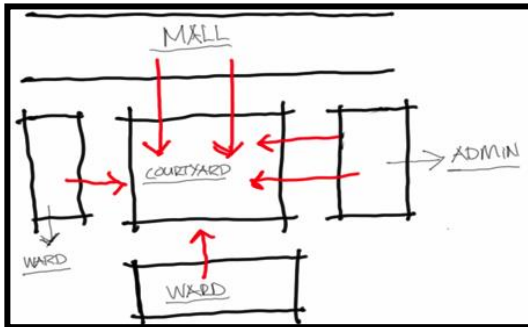
The diagram illustrates the building's layout, showing three courtyards (COURTYARD SEMI-PUBLIC) and their connections to public spaces (THE MALL - PUBLIC) and private spaces (THE HEART PRIVATE). The courtyards are arranged in a row, with the middle courtyard being the largest. Red arrows indicate the flow of movement between the courtyards and the public/private spaces. A legend at the bottom identifies the colors: orange for THE MALL - PUBLIC, green for COURTYARD - SEMI-PUBLIC, and yellow for THE HEART - PRIVATE.

The power relations concept is based on three key elements dealing with the user and configuration. These components are specifically placed to empower the patient to reintegrate and recover using the built form and clever spatial planning. This emphasises that aesthetics and function of the built form are important for recovery and is clearly defined.

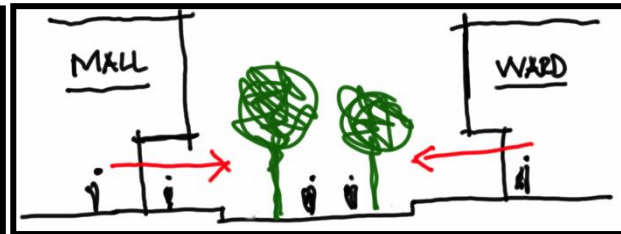




Within the building there are certain gradients of interaction forming a hierarchical structure. The residential node sits deep within the structure allowing for patients to have their privacy when needed. The courtyard serves a semi-public space which is the second phase of integration. The courtyard sits in-between the public and private domain allowing for interaction to take place between public and private. This is done with the intention to de-institutionalise hospital settings.



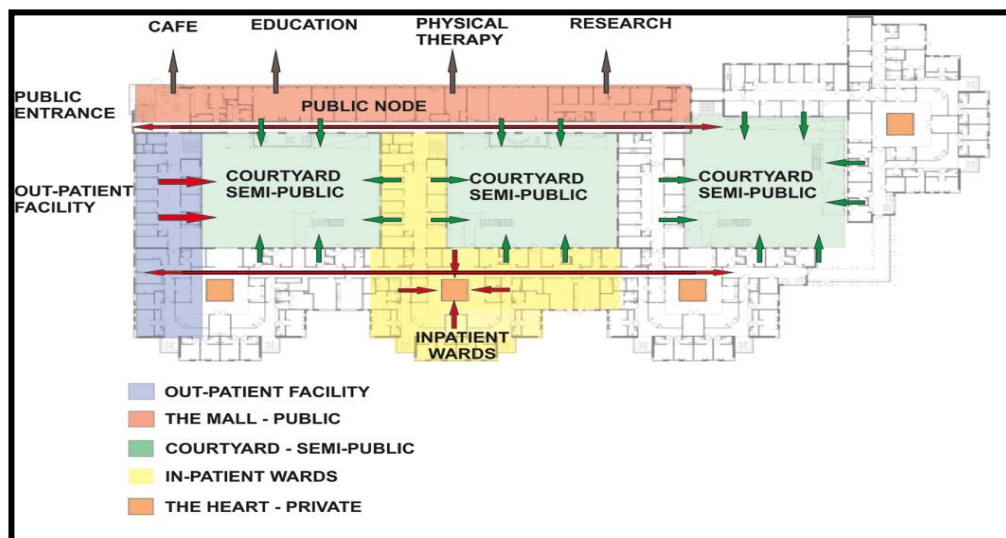
**Figure 4.24**



**Figure 4.25**

**Figure 4.24 and figure 4.25: Sketch of visual and physical connection from the public and private (Sketch by Author, 2015).**

Figures 4.23 and 4.24 illustrates that the courtyard is a point on central surveillance and merges the public and private nodes contributing to the re-integration model. Surveillance is one of the key power sub-concepts as it is subtly introduced where by the patients do not feel that they are being spied on. The built environment allows the patient to then build up self-resilience, forming a sense of self-empowerment. This can be seen as an intended act to contribute to the notion of de-stigmatisation of psychiatric patients. The common spaces can also be seen in relation to the single entrance for the public and patients.



**Figure 4.26: Public and private belts link with courtyard space forming a semi-public realm within the building and common entrance (Edited by author, 2015).**

## Accessibility and Wayfinding

Figure 4.25 illustrates that there is a common entrance to the building and is used for the patients, staff and the public, and has three distribution points. The entrance articulation also allows a clear line of vision to care units, mall and courtyards. The continuation of the volumetric entrance allows for views from the floors above into the courtyard from the café balcony -emphasising the re-integration processes whereby the public is introduced to the courtyard “semi-private” sector of the hospital.



Figure 4.27: Sketch of public entrance

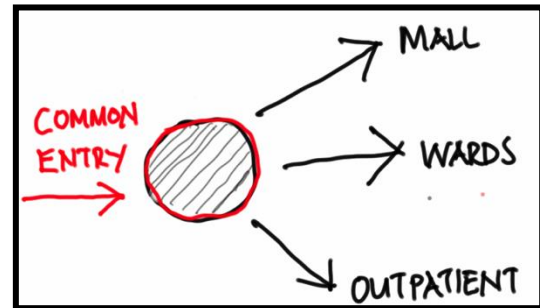


Figure 4.28: Sketch of common entry

Sketches by Lundin, S (form and Lundin, 2010) (Sketch by Author)



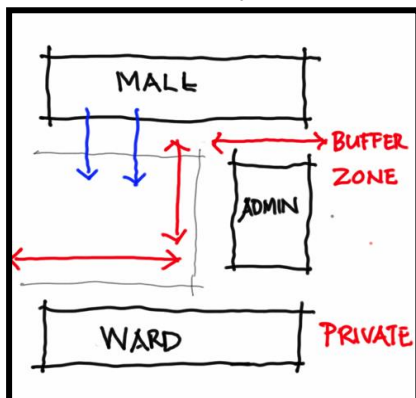
Figure 4.29: photograph of public entrance sketches by Lundin, S (form and Lundin, 2010)

Figure .26, 4.27 and 4.28 illustrate that the patients who are admitted into the facility arrive at a common point and are easily taken to the specific wards or care centre for assessment. Activities are grouped around a central passage way that connects to the stop storey of the entrance hall. Architectural elements such as volume, stairway and ramps are places in specific locations to allow for a clear and distinctive traffic hierarchy and the choice of orientation is kept to a minimum. There is a separate entry for emergency cases and ambulance drop offs. This is a vital component to the scheme due to the first impression a person feels and also to separate the different uses of the building via architectural elements.

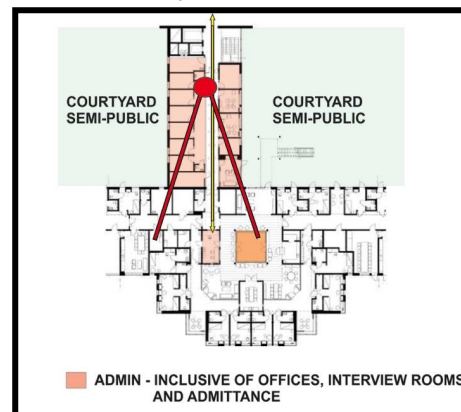
These elements have the ability to separate, unite and distribute people within the building to various nodes. The outpatient facility is located on the periphery of the building and has direct access to the courtyard space. The above analysis contributes to the introduction of the design principle of freedom versus control which is derives itself from the theory of power.

#### FREEDOM VS CONTROL: Accessibility from the Mall

Referring to figure 12, the mall acts as a distributor for various public functions. It consists of educational facilities, café, research departments and physical therapy. These functions are important due to its dual purpose with the public and patients of the hospital. It has a direct link with the courtyard and as well as views and accessibility to the care units.



**Figure 4.30**



**Figure 4.31**

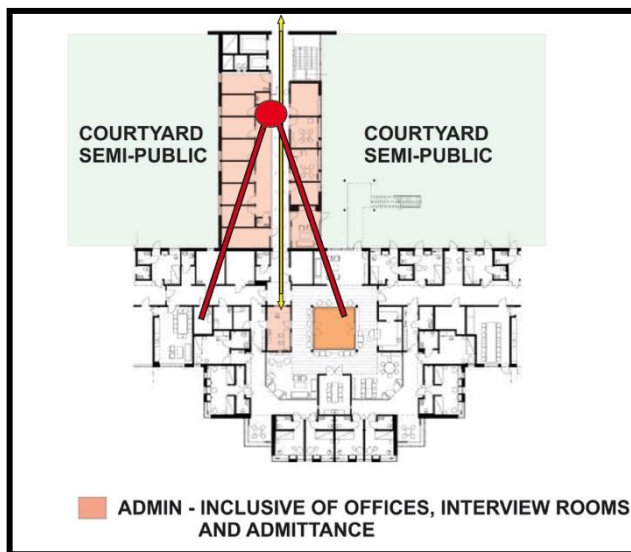
**Figure 4.30: sketch to illustrate the accessibility from mall and wards (sketch by Author, 2015)**

**Figure 4.31: illustrates the position of the staff wards in relation medical wards in plan (Edited by Author, 2015)**

Figure 4.30 is illustrated via the blue arrows that the public has only a single point of access to the courtyard as opposed to the patients who are allowed to filter throughout the building. The admin and courtyard act as a buffer zone and a point of control which allows control to occur on a subliminal basis.

Figure 4.31 illustrates the position of the staff wards and offices that are carefully positioned and are used as a buffer zone so that the general public may not filter through to the patients' rooms and any other private entity. The public space also serves as a positive distraction and a restorative element which gives the patient the notion that they are away from an institutionalised environment. It also gives rise to a more normal social situation-improving the integration opportunity and allowing for the patient to have greater control over them upon the notion of empowerment. The re-integration systems then flows from the courtyard to the general ward layout and then to the single unit typology. This reiterates that the rehabilitation method to flow from public to private and vice versa.

## PRIVATE VS COMMON: Micro Level



**Figure 4.32:** illustrates the position of the staff wards in relation medical wards in plan (Source: <http://www.home-review.com/2012/02/rehab-redefined> (Edited by Author, 2015))

Figure 4.32 illustrates that the relationship between the patients' wards, care units and the staff administration and work environment is in close proximity. Should there be an emergency or extra care needed by the patients', the staff is able to assist and also serves as a point of surveillance as indicated with the two red lines. Vision of staff rooms and ease of accessibility to the staff offices due to its proximity with the patients wards suggest that that strong expression of power is avoided. The design of the built form suggests that the staff and patients' share the same architectural expression allowing a sense of equality within the design.



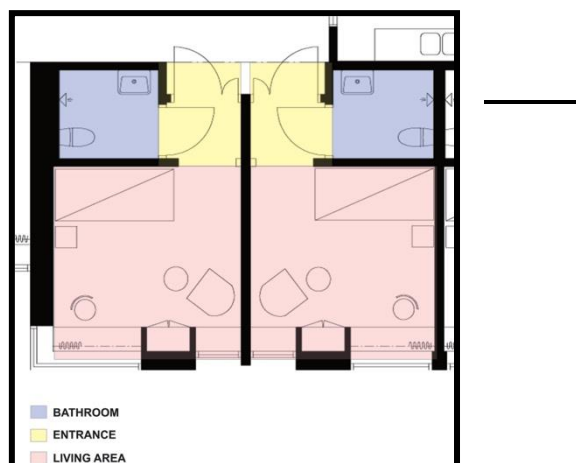
**Figure 4.33**

**Figure 4.34**

**Figure 4.33: describe the relationship between ‘the heart’ of the building and the patients’ wards with the link to semi private common spaces (Source: <http://www.home-review.com/2012/02/rehab-redefined/> (Edited by author, 2015).**

**Figure 4.34: Figure representing the different types of ward units in relation to ‘the heart’ (Source: <http://www.home-review.com/2012/02/rehab-redefined/> (Edited by author, 2015).**

Figure 4.33 and 4.34 describe the relationship between ‘the heart’ of the building and the patients’ wards with the link to a common space. The combination of the theories of power and structuration can be evident this is phase of re-integration and rehabilitation. Passages are avoided to de-institutionalise the nature of the building by substituting them with common spaces which allows patients to create social bonds- encouraging participation in communal activities. This serves as a creation of normality via the concept of an open atmosphere to aid small accommodation groups, which can be organised in several ways. Direct ‘prison like’ surveillance methods are eliminated and the patient is now given a free role within the facility with staff positioned in specific spaces to have natural surveillance over the patients. The transition phase from the common space to the secluded ward is smooth and easily accessible which gives the patient a sense of control should they need to retreat at any given time. Both the garden (courtyard) and the heart surround the day care units creating a strong link, both physically and visually, with nature- enhancing the therapeutic experience.



**Figure 4.35: illustration of a single bedroom ward unit (Source: Architecture as Medicine, 2007).**

Figure 5.34 represents a typical ward which is designed to have a single bed, bathroom and can only be used by one patient. Patients’ are placed according to rank and is the patients’ sanctuary. The room has views of nature which is used a calming element from the glazed veranda. The rooms are designed in a manner whereby the patient will not generally stay for a long period of time and speed up the recovery process.



#### 4.3.4) CONCLUSION:

Description of architectural elements which allow for social interaction and de-institutionalise the hospital environment:



**Figure 4.36: Micro social space**

**Figure 4.37: Courtyard**

**Figure 4.36: photograph illustrating ‘the heart’ acting as in outdoor breakaway space aiding the rehabilitation. The heart can be seen as an introduction of nature acting as an agent for rehabilitation. The heart also acts as a mechanism for patients to familiarise themselves with certain spaces with in the facility adding to the design principle of wayfinding derived from the theory of power (Architecture as Medicine, 2007).**

**Figure 4.36: photograph illustrating micro social spaces within the ward set up. These spaces are vital for re-integration as patients are allowed to establish social structures within the facility which in turn aids the rehabilitation process (Architecture as Medicine, 2007).**

**Figure 4.37: photograph illustrating the courtyard spaces which act as a social conductor by merging the public and private aiding the hospital intention to de-stigmatise and deinstitutionalise rehabilitative environments (Architecture as Medicine, 2007).**

The power and structuration theory can be seen in the building. Its specific program which is done in a manner attending to the need of the patients’ re-integration and recovery process. The patient’s integration system is devised from a micro level, which is the ward and the social space located in close proximity, to a macro level partaking in public activities. The architecture acts as a means of a wayfinding process within the building using mechanisms such as courtyards, atriums, public space and various other social spaces. There is a clear definition of hierarchy and levels of intimate spaces which contribute to building up social relations and processes of self-regulation. Social spaces within the building such as communal kitchens, cafes and restaurants allow for re-integration to occur at various points of building. The flexibility of these spaces allows the patient the option to retreat or socialise via informal environments, which add to the creation of non-institutional space.

## 4.4) PRECEDENT 03

### CARACAS URBAN GYM



Figure 4.38 Exterior of Caracas Gym (Source: <http://www.fastcoexist.com/1680630/a-prefab-vertical-gym-for-urban-slums>)

#### 4.4.1) CARACAS GYM BUILDING DESCRIPTION:



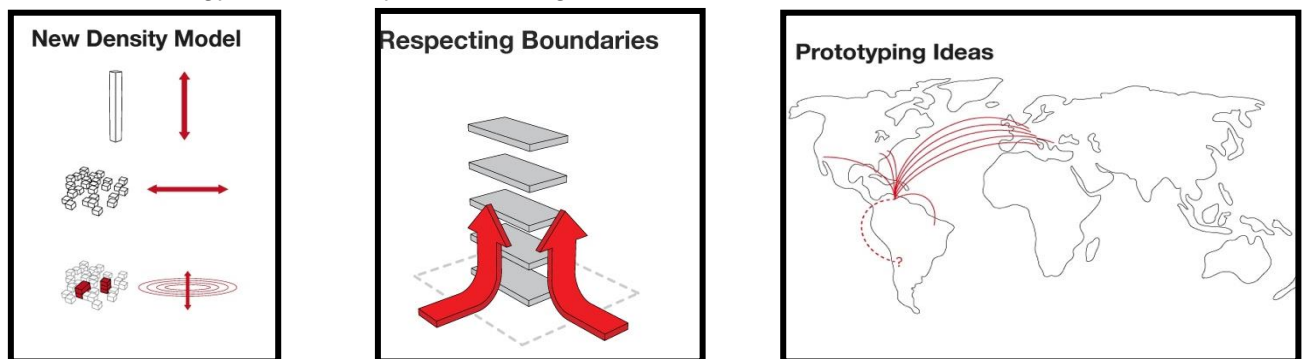
**Figure 4.39: Caracas Gym (Source: <http://www.fastcoexist.com/1680630/a-prefab-vertical-gym-for-urban-slums>)**

The Caracas Urban Gym is located in Caracas, Venezuela, South America and designed by Hubert Klumpner, Mateo Pinto and Matias Pinto. The client for this typology is the Municipality of Caracas and was constructed in 2004. The overall function of the building is a gym, with stacked multiple sporting facilities. The vision for the building was to establish a beneficial program of public outdoor recreational areas in the space – hungry low income urban area aiding the need for athletic, cultural and community friendly areas around the city of Caracas. This version of the gym was built above an extant sub terrain parking structure whilst remaining to have a distinct mark within its context. The facility can be erected and re-erected within a space of 3 months thus making it replicable and an ideal model for other improvised areas lacking sport and community programs. The community was involved from the start by selecting the sports and how it was going to be designed. The vertical gym is part of growing concept and is being manipulated in Japan, India, Brazil and the Netherlands.

#### 4.4.2) CONCEPTUAL FRAMEWORK DISCUSSION:

Programme and Structure: Stacked Sports Gym

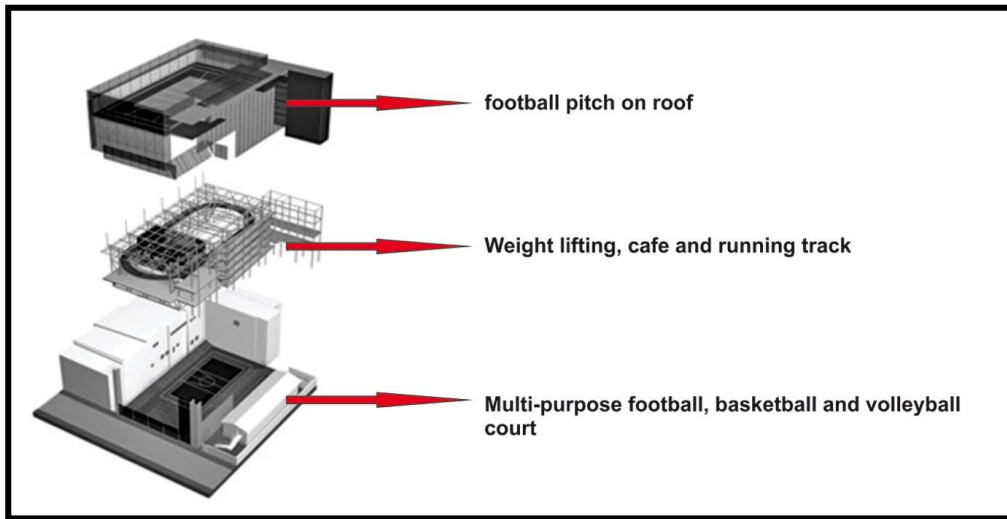
The urban gym was designed in a vastly dense area which prompted the architects to revert to the stacking solution of sporting components. This generated a set of principles for the new model for gyms where by the following elements had to be considered:



**Figure 4.40: Figure illustrating the set of principles adapted by the vertical gym concept (Source: <http://www.fastcoexist.com/1680630/a-prefab-vertical-gym-for-urban-slums>)**



Figure 4.40 illustrates the vertical stacking concept. Caracas is densely populated, in terms of its built form, which suggested to the architects that the idea of vertical stacking gyms respected the boundaries of the surrounding context. It can be seen as universal prototype that can implement in other countries.



**Figure 4.41: Illustration of the stacking concept (Source: <http://www.fastcoexist.com/1680630/a-prefab-vertical-gym-for-urban-slums>)**

Figure 4.41 is an illustration of the schedule of accommodation spread vertically, maximising the sporting nodes within a minimalist urban footprint. The sporting activities which can be characterised individual, team, outdoor sports.



**Figure 4.42: Representation of the different types of sports within the gym. (Source: <http://www.fastcoexist.com/1680630/a-prefab-vertical-gym-for-urban-slums>)**

With the diverse range of sporting activities, the centre attracts a diverse range of people who can participate in sporting activities in the gym. Each sport is staged in a particular manner allowing large volumes of space contributing to good indoor air circulation and transparency from one floor to the next.



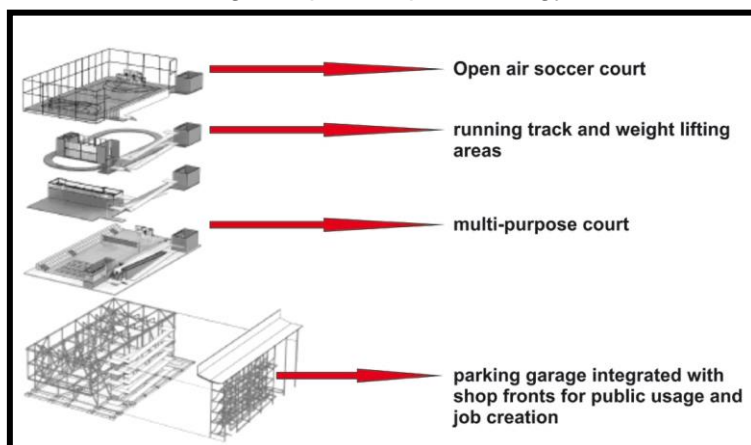
**Figure 4.43: Vertical Gym** (<http://www.fastcoexist.com/1680630/a-prefab-vertical-gym-for-urban-slums>)

Adaptation of the vertical concept:



**Figure 4.44: Exterior of Caracas Gym** (Source: <http://www.fastcoexist.com/1680630/a-prefab-vertical-gym-for-urban-slums>)

The vertical gym concept has been implemented in other areas such El Dorado, Caracas and Venezuela. This specific gym is attached to existing infrastructure enhancing its role in adaptive re-use of space within the urban framework. The existing building is an underutilised parking garage which was revitalised by the vertical gym to benefit the social aspects of that specific community. The vision for this specific gym was to establish recreational programs to encourage community interaction. Due to the lack of schools, vocational training and public space, the gym serves as a bridge to cater for this missing link.

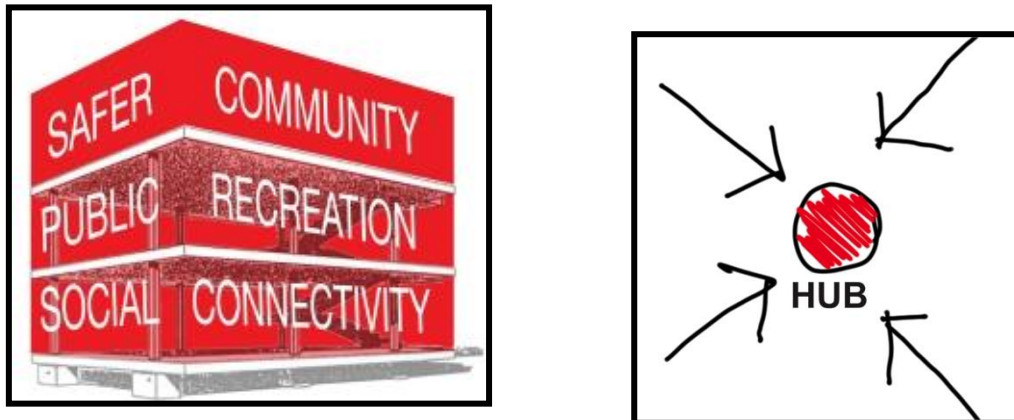


**Figure 4.45: illustrating the schedule of accommodation stacked vertically instead of the conventional horizontal space arrangement.**

(Source: <http://www.designboom.com/architecture/urban-think-tanks-vertical-gym-in-venezuela-revitalizes-region/>). The accommodation schedule also caters for street and multi-level parking and municipal offices.

#### 4.4.3) THEORETICAL FRAMEWORK DISCUSSION

##### Establishing Social Relationships – Structuration Theory Implication



**Figure 4.46: Theory of Structuration (By Author)**

The idea of the vertical gym was to establish dynamic sporting hubs which allow for community establishment and re-creating social bonds. The gyms are established and localised by the communities using the 'bottoms up' approach method- allowing for the community to get involved in the design component of the building. Architecture has always had a deep social purpose and the vertical gym can be seen as a typical example of this- by networking communities. The new interventions must integrate with existing infrastructure to re-inforce and redirect social patterns for positive outcomes in an urban context. The city is to maximise the availability of land to develop social condenses that bring together social classes allowing for re-integration to occur for maximum social sustainability.

##### Design Resolution:

- 1) Insert a pre-fabricated structured system that interconnects volumes and levels creating an attractive space for vertically organised sports yards and multifunctional levels.
- 2) The division of the operational component of the building with a community organisation and municipal offices. This allows a distinctive quality between public and private entities. The architecture is used to divide the spaces and circulation routes from street level through to the built form.
- 3) Within the building itself, it has offices which service the building on a regular basis allowing for autonomy and continual development.

This vertical gym varies from others in its two levels of parking and its interaction with a front retail façade inviting a diverse range of visitors. This will aid re-integration processes and establish social relationships.



**Figure 4.47: Illustrates the steel pre-fabricated structures installed on site by the local community. (Source: <http://www.designboom.com/architecture/urban-think-tanks-vertical-gym-in-venezuela-revitalizes-region/>)**

The building system is a pre-fabricated kit of parts that can be assembled within a time frame of around 3 to 4 months. The structure is flexible and can be adapted to specific sites locally and internationally contributing to its versatility. The engineers have used passive cooling systems due to the massive heat gain in the building. The prototype, when being designed and installed, is constructed with recycling material, wind towers, solar energy and rain water collection for maximum economic and environmental sustainability factors. Material is also localised and made lost to the site to reduce travelling costs which in turn reduce CO<sub>2</sub> emissions.

#### **4.4.4) CONCLUSION:**

The concept of the vertical gym is a prefabricated kit of parts which can be adapted to any local. The structure is flexible and can be attached or built upon existing infrastructure such as vacant lots and abandoned space, maximising the potential of any city space within a dense urban fabric.

The theory of structuration is evident in this practice as the idea of the vertical gym was to use the notion of sport, within the context for a safe space for community and a platform for social interaction. The idea of the location within a community setting adds ease of accessibility for the community. Sport in this instance can be seen as a catalyst to bring the community together eliminating de-stigmatisation and allowing everyone to be on equal grounds.

Urban Think Tank suggests that exercise and social activity is a right of all citizens in the city, no matter their social and economic background (<http://gimnasiovertical.com/>).



#### **4.4) CONCLUSION TO PRECEDENT STUDY:**

To summarise the above precedent studies, the Groot Klimmendaal rehabilitation centre, Caracus urban gym and Ostra Psychiatric Hospital, perform well for their intended purposes of rehabilitation, recreation and reintegration

Groot Klimmendaal is a building that achieves to re- validate and rehabilitate the patients through sport, its setting and theories- illustrating new and alternate means to post rehabilitation patients. Ostra Psychiatric hospital uses the power and structuration theory to create a devised integration system from the micro level into the macro wider society. Caracus urban gym creates a platform for social interaction within a community setting with great accessibility. It uses sport as a catalyst to bring the community together.

Combining these three precedents which each have one of the components of rehabilitation, recreation and reintegration, will together form the best possible holistic system. Sport in this instance can be seen as a catalyst to bring together the community thus eliminating de-stigmatisation and allowing everyone to be on equal grounds.

This comparative research and analysis between these projects will be used to further analyse the case study within the next chapter, and to assist in the formulation of using sport as a means of post rehabilitation.



## **CHAPTER FIVE**

### **Field Work, Findings and Discussions:**

## 5.1) GENERAL BACKGROUND TO FIELDWORK COMPONENT

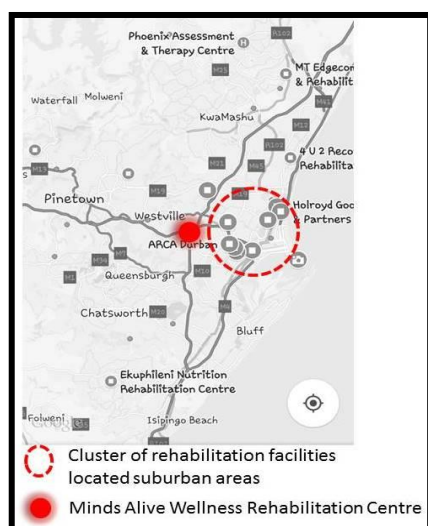
The essence of this study, in conjunction with the research questions and objectives set out at the beginning of the dissertation, is analysed within this chapter. This study aims to identify the issues contributing toward substance abuse and focus on addressing the current post medical methods. By understanding the current post medical methods, sport can be introduced as a means of alternate therapy for post rehabilitation and re-integration methods. The main assumption is that sport can be used to improve current post rehabilitative methods- due to its physical, mental and social qualities. The study is fundamentally aimed toward combating high relapse rates by adopting a sporting component to the post medical phase. This essentially removes any social stigma toward substance abuse and creating stronger social support structures.

The collaboration of data collected will be synthesised through interviews and questionnaires from rehabilitation facilities in Durban, namely Minds Alive Wellness Centre, R.A.U.F and Anti-Drug Forum, due to their short and long term comparatives. The analytical interpretation draws from the insightful interview findings, precedent and case studies which formulate the principles and notions that will apply to an architectural and social response.

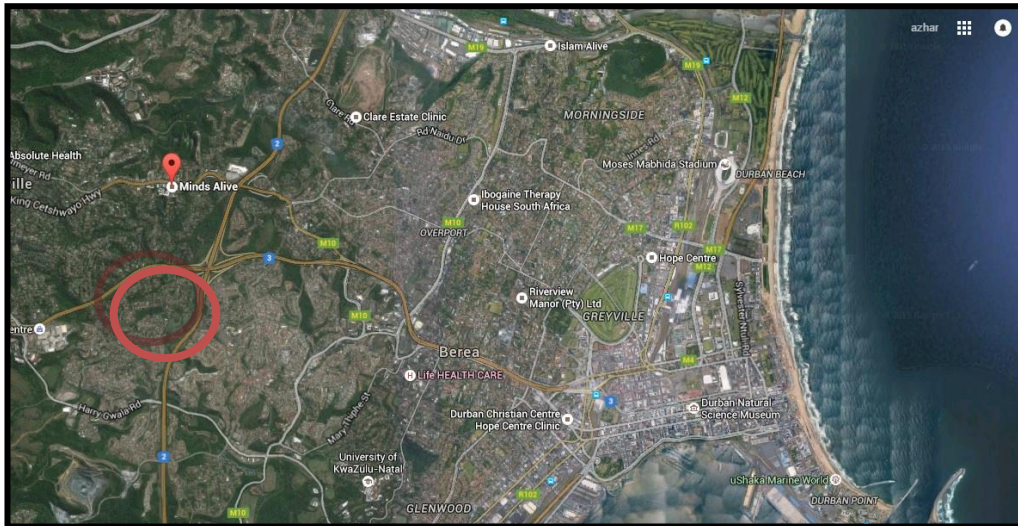
The main sample source being Minds Alive Rehabilitation Wellness Centre is due to its specialised rehabilitation environment and holistic approach. Its diversified program helps to facilitate recovery from all forms of dependency namely; drugs and alcohol. It provides a safe and supportive environment, to encompass harm reduction, resiliency building, motivational empowerment, and life skills training. Minds Alive Wellness Centre offers programs, which centre on physical activity and structured routines in its post rehabilitative process.

## 5.2) CASE STUDY – MINDS ALIVE WELLNESS CENTRE

### 5.2.1) General Background:

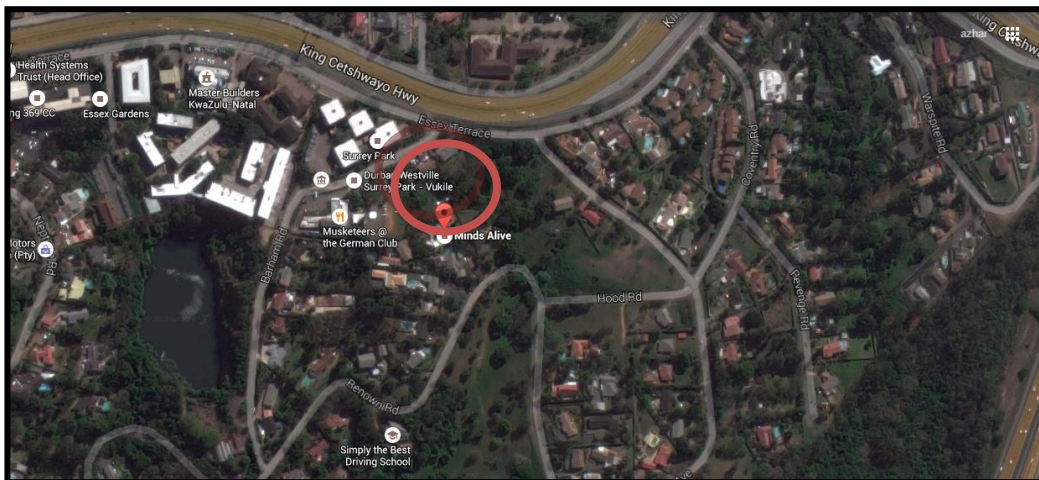


**Figure 5.1 Cluster of Rehab Facilities**      **Figure 5.2 Minds Alive in Relation to other rehab facilities (Sources: Google maps, edited by author, 2015)**



**Figure 5.3: Macro Map illustrating Minds Alive in relation to surrounding context (Source: Google maps)**

Based on the above diagram an analysis is made whereby, Minds Alive and other rehabilitation facilities are located within suburban areas, due to its comfortable home like setting which aids with the rehabilitation process. The rehabilitation facilities have emerged due to an existing need which is still under-catered for.



**Figure 5.4: Micro Map illustrating Minds Alive in relation to its residential surroundings (Source: Google maps)**

Minds Alive Wellness Centre is located in the suburb of Westville, which serves as a support centre, for those suffering from addictions, in and around the Durban area. The Centre is adjacent to a nature reserve, which assists in the recovery program of their users. The centre is in the heart of a residential area, which allows the users, to feel as if they are at home, which makes them feel comfortable and helps with the recovery process. Minds Alive retracts people on both a National and an international level, due to their approach of treatment.

**PO 6:** “Within a pre-medical rehabilitation, being in a natural residential environment helps us cope with the initial stage of pre medical rehabilitation. It brings a sense of calmness within our early stages of recovery. “

**PO 5:** “Having the rehabilitation setting in a residential area, allows us to feel more at home and comfortable, which aids in the treatment process.”

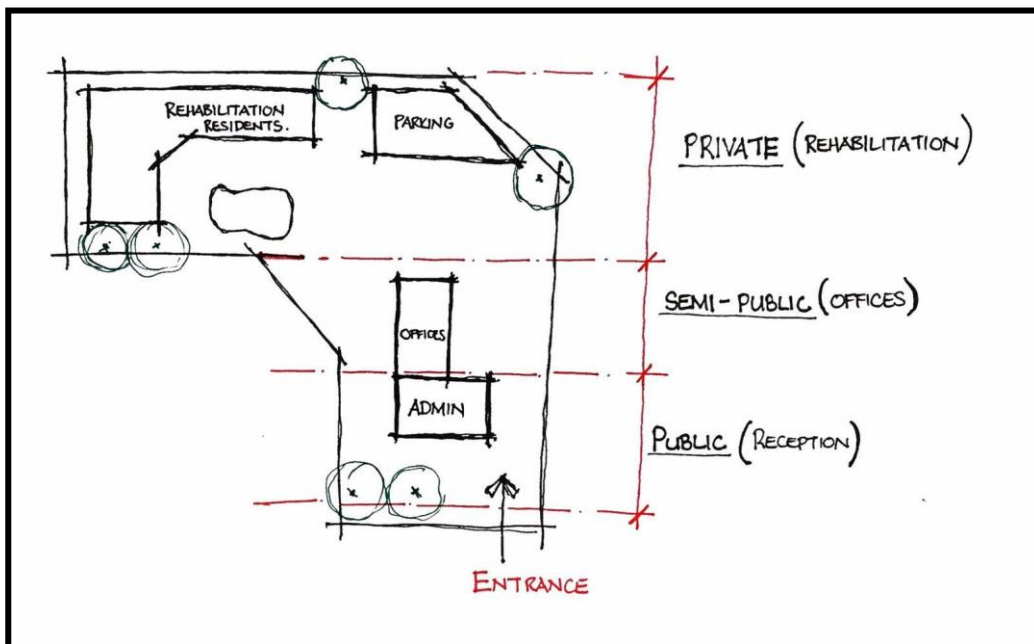
The building morphology has a distinct appearance, which blends into the residential buildings surrounding it. The original typology of this house had evolved to accommodate new functions, which include administration, patient accommodation, and healthcare treatments. Being in a residential area, parallel to a nature reserve, expresses a strong connection to the natural environment.

### 5.2.2) Spatial Programming:

The program is based on a holistic and innovative promotion, harm reduction, and resiliency-building therapy model that foster support in a non- judgmental atmosphere aimed at empowering people to improve their quality of life. The program at the facility includes; integrated complimentary therapies, massage therapy/bodywork, crystal healing, guided breath work and reiki. The other physical activities which are incorporated are namely, exercise and stretching, nutritional planning, recovery planning, manifesting goals are imperative in the recovery process. Support and assistance is provided 24 hours throughout the 6-day program.

**PO 8:** “The facilities like the gym and swimming pool, help with a structured routine, which helps us get on track, both mentally and physically.”

Mind Alive was selected for its holistic approach in pre and post rehabilitation



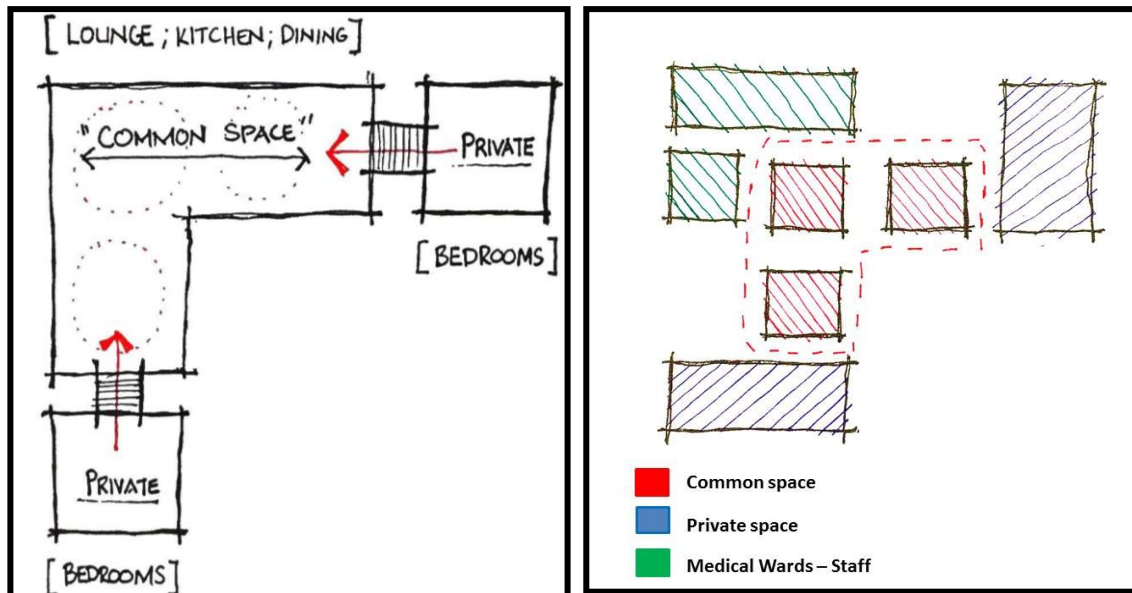
**Figure 5.5: Relationship between Public and Private Spaces on a Macro scale of the rehabilitation facility (source: Sketch by author. 2015)**



Built from segments space in a manner that places certain kinds of people, places and actions under conditions of surveillance while privileging other kinds of people, places and actions as private. Spatial segmentation mediates social encounter. The fan structure, which is used in the above macro scale, allows access of control, from a single segment being the administration function. The office and administration facilitate family and guest visits, and acts as a buffer, which controls the circulation of public and private elements within the rehabilitation facility. Opportunities for access to spaces secured by resources and authoritative mechanisms and as well as and spaces which set the atmosphere of inclusion or exclusion determine societal power.

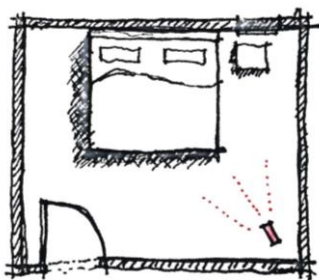
**PO 4:** “The lounge is used as a common space, where we can relax and socialise with other patients in the facility. This helps with relaxation and aids in our treatment during this difficult process.”

**PO 3:** “Being able to have this common space, allows us to integrate with other patients, and form our own community within the facility.”



**Figure 5.6: Zoning of Rehabilitation Facility (source: Sketch by author, 2015)**

The above images represent zoning within the rehabilitation facility from public to private nodes, with the bedrooms being on either wings of the buildings, it creates a break away space to allow for self-reflection which aids the rehabilitation process. The common space is predominantly used for daily routine activities, such as lounging, dining, and to host sporting activities. The main source of control is dictated by the medical facility within the rehabilitation unit, which is highlighted in green in the above figure, to allow for active surveillance and staff to be on standby for any emergencies. The principal of Way finding is evident within the plan whereby the common space being open planned, allows for transparency, and allows for constant interaction between individuals. With the common space being located in the central part of the facility, it changes ease of access with limited circulation, which assures the safety of a patient and ease of a transition from a public to private domain. Spatial segmentation mediates social encounter. Built form can orient, disorient and reorient its subjects through spatial framings of everyday life. Cities and buildings structure the cognitive maps through which we imagine our world and give it our attention.



**Figure 5.7 Represents the Personal Space and Territory (source: Sketch by author, 2015)**

The camera in each room of the facility acts as a direct surveillance. This allows the facility to monitor their patients, within the rehab interim, to allow them to check up on their patients and their wellbeing. Privacy is often considered a process of exclusion whereby a person is often secluded from ‘publicness’ or any form of interaction. Buildings, when designed for a specific intent, will have places for of solitude whereby spaces can be separated (Altaman, 1975). This stipulates that the building has the ability to respond to and meet our ongoing privacy needs. These spaces can also be multifunctional in a sense that an easy alteration can be considered in so far as creating interactivity of separation.

**PO 6:** “Having constant surveillance, in the patient’s bedrooms, allows us to monitor their recovery, as well as tend to them in any given emergency.”

### 5.2.3) Structured Routine within The Rehabilitation Process:

The following table has been derived in accordance to the patient’s specific treatment program. This program is compartmentalize into specific stages consisting if post rehabilitation and premedical recovery.


**PO 9:** “The program is broken up into two parts, the first part allows for patients to be rejuvenated and the last part in cooperates a sport and physical activity into their daily routine, which allows strengthening them both physically and mentally.”

CURRENT DAILY / WEEKLY PROGRAMME						
TIMES	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
08:00 - 09:00	CHECKING IN / ADMISSION	SELF CARE (BATH & DRESS)	SELF CARE (BATH & DRESS)	SELF CARE & BREAKFAST	SELF CARE & BREAKFAST	SELF CARE (BATH & DRESS)
09:00 - 10:00		BREAKFAST	BREAKFAST	ZUMBA FITNESS		BREAKFAST
10:00 - 11:00		REST / INTROSPECTION PHASE	ZUMBA FITNESS	CHANGING MINDSET LECTURE	CHANGING MINDSET LECTURE	EXIT INTERVIEW / DISCHARGE (FROM 10AM)
11:00 - 12:00			FULL BODY MASSAGE	YOGA	LUNCH	
12:00 - 13:00	VOLUNTARY SEARCH		LUNCH	LUNCH		
13:00 - 14:00	INTAKE QUESTIONNAIRES		BEACH WALK	LIFE SKILLS GROUP THERAPY	MOTIVATION DISCHARGE FORMS	
14:00 - 15:00	ORIENTATION	POOL / JACUZZI	TEA BREAK	TEA BREAK	TEA BREAK	
15:00 - 16:00			LIFE SKILLS	THE SECRET / DIANETICS DVD	SAUNA / JACUZZI	
16:00 - 16:30	RITE TO PASSAGE (DVD)	DINNER	DINNER	BRAAII	DINNER	
16:30 - 19:00	IBOGAINE IS ADMINISTERED	FREE TIME / TV	FREE TIME / TV	FREE TIME / TV	FREE TIME / TV	
19:00 - 20:00		BED TIME	BED TIME	BED TIME	BED TIME	
20:00 - 23:00						
23:00						
CRYSTAL HEALING- MONDAY & TUESDAY, REIKI / BODYTALK- FRIDAY MORNING PSYCHOTHERAPY / ONE ON ONE SESSIONS OFFERED FROM WEDNESDAY THROUGH FRIDAY						
PRE-MEDICAL REHABILITATION			POST-MEDICAL REHABILITATION			

**Figure 5.8: Table above illustrating daily/weekly program (Source: Brochure from Minds Alive Rehabilitation Facility, edited by author, 2015)**

- Monday → Tuesday (Pre- Med Recovery)
- Wednesday → Saturday (Post Med Recovery)

The above table illustrates pre and post medical rehabilitation phases, the initial two days allows for the patient to be in a more relaxed, control zone whereby most of the time will be spent in a more private domain of the facility, to rejuvenate and return to a sense of normality. The post medical rehabilitation focuses on reinstalling structure within a patient's life. The activities are structured around daily routines, which encompass sporting activities and mental stimulation. In this case study, an analysis will be made as to how sport is instilled in the daily routine and how it influences architectural spaces.



## CURRENT DAILY / WEEKLY PROGRAMME

TIMES	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
08:00 - 09:00	CHECKING IN / ADMISSION	SELF CARE (BATH & DRESS)	SELF CARE (BATH & DRESS)	SELF CARE & BREAKFAST	SELF CARE & BREAKFAST	SELF CARE (BATH & DRESS)	
09:00 - 10:00		BREAKFAST	BREAKFAST	ZUMBA FITNESS		BREAKFAST	
10:00 - 11:00		REST / INTROSPECTION PHASE	ZUMBA FITNESS	CHANGING MINDSET LECTURE	CHANGING MINDSET LECTURE	EXIT INTERVIEW DISCHARGE (FROM 10AM)	
11:00 - 12:00			FULL BODY MASSAGE	YOGA			
12:00 - 13:00	VOLUNTARY SEARCH		LUNCH	LUNCH			
13:00 - 14:00	INTAKE QUESTIONNAIRES		BEACH WALK	LIFE SKILLS GROUP THERAPY	MOTIVATION DISCHARGE FORMS		
14:00 - 15:00	ORIENTATION		TEA BREAK	TEA BREAK	TEA BREAK		
15:00 - 16:00	RITE TO PASSAGE (DVD)		POOL / JACUZZI	LIFE SKILLS	THE SECRET / DIANETICS DVD		SAUNA / JACUZZI
16:00 - 16:30		DINNER	DINNER	BRAAII	DINNER		
16:30 - 19:00	IBOGAINE IS ADMINISTERED	FREE TIME / TV	FREE TIME / TV	FREE TIME / TV	FREE TIME / TV		
19:00 - 20:00		BED TIME	BED TIME	BED TIME	BED TIME		
20:00 - 23:00							
23:00							

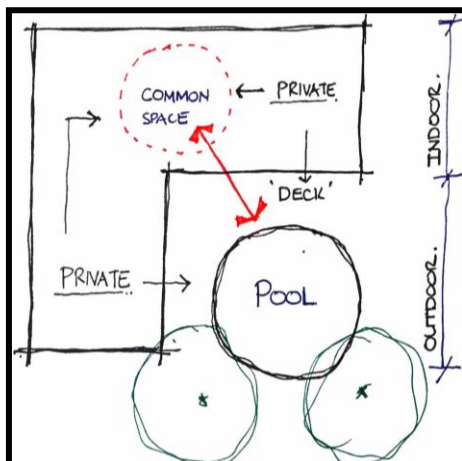
CRYSTAL HEALING- MONDAY & TUESDAY, REIKI / BODYTALK- FRIDAY MORNING  
\*PSYCHOTHERAPY / ONE ON ONE SESSIONS OFFERED FROM WEDNESDAY THROUGH FRIDAY

**PRE-MEDICAL REHABILITATION**

**POST-MEDICAL REHABILITATION**

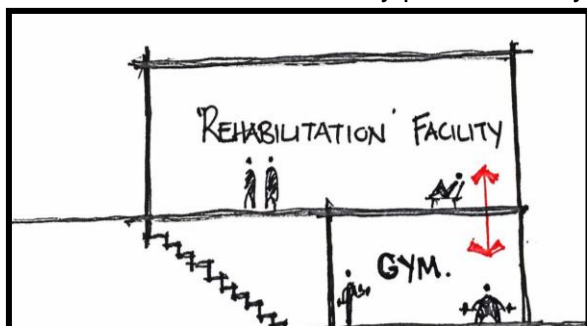
**Figure 5.9: Illustrating the sports which are part of the routine (Source: Brochure from Minds Alive Rehabilitation Centre, edited by author, 2015)**

The figure above illustrates sporting and physical activities (highlighted in blue) instilled within the daily routine at Minds Alice Rehabilitation Centre. The notion of sport being introduced within the rehabilitation facility allows for the patients mind to be occupied so that the feelings of anxiety are eliminated. . The common space is used to facilitate sporting activities such as yoga and Zumba. The rehabilitation facility also has a swimming pool and a gym, in which patients build up strength and self-resilience.

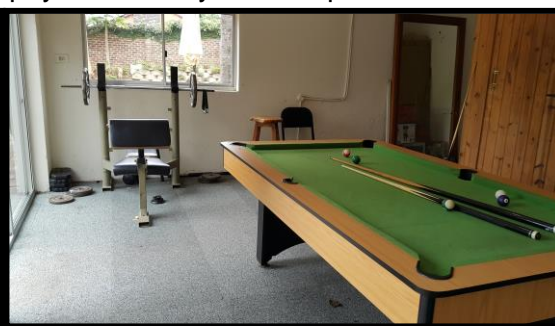


**Figure 5.10: Common space, which in this scenario is the lounge, where activities such as yoga and Zumba (dance sport) take place. (Sketch by Author, 2015)**

Based on observation undertaken at MAWC, the above diagram illustrates that after every sporting activity undertaken; there is a need for a release space. This release space is usually in an outdoor setting. The reason for this is that the patients shift from a very confined indoor space to a break away space which allows the patient to relax within a natural environment after they partake in any physical activity to recoup and warm down.



**Figure 5.11**



**Figure 5.12**

**Figure 5.11 represents the spatial relationship between the gym and the residential component (Sketch by author, 2015). Figure 5.12 is a photograph of the gym and the equipment at MAWC (Photograph by author, 2015)**

Figure 5.11 represent the relationship between the rehabilitation facility and the gym. This was previously a garage space which was converted into a gym due to the ongoing need from patients within the facility. The gym, although not part of the timetable routine, is used on a frequent basis to improve strength and conditioning. The pool table, seen in figure 5.12, is used as a form of relaxation and recreational amongst the patients. Equipment such as the sauna or steam-room adds substantial value to the rehabilitation treatment as it serves as a means of detoxification. The connection between the gym and rehabilitation facility is located in close proximity, which allows it to be convenient and easily accessible for the patients. The gym also plays a vital role in creating a structured routine for the patient, which aids in their treatment process.

**PO 8:** ‘After every sporting activity, there is a release space, which allows for a break. Having the gym and swimming pool in close proximity to the rehab facility, allows for this to occur.’

### **5.2.3) CONCLUSION:**

The theory of power and structuration both present itself in this case study by the common spaces mediating for social encounter as well as activities such as the swimming pool and gym, both, which encompass social encounter. The theory of power can be seen in this case study by the layering of public and private nodes as well as the constant surveillance within the facility. By introducing sport within the program it strengthens the program by allowing patients to become more self-resilient. Minds Alive uses the method of self-regulation by allowing patients to deal with goal setting and motivation as well as other issues related to problems associated with substance abuse and rehabilitation. Due to limited funding and infrastructure, Minds Alive was able to take the existing infrastructure and adapt it to the rehabilitative facility. Overall, despite the limitations they are presented with, they are still able to deduce a functional pre medical environment whilst still being able to accommodate for post rehabilitative methods.



### **5.3) FINDINGS:**

The interviews were gathered from various rehabilitation facilities namely, Minds Alive Wellness Centre, R.A.U.F. Majority of the patients were interviewed were from MAWC, and the remainder were from R.A.U.F and Anti-Drug Forum. Purposive sampling was used for this research as the patients and their facilitators were from the drug rehabilitation centres chosen. This method of sampling ensures that the respondent does meet the criteria for being in the sample as well as will give the closest and most accurate information due to them being in the rehabilitation centre and also within the rehabilitation program.

The facility may not be a best practice model, but does adequately cater to patients. Minds Alive Rehabilitation has attempted to meet post medical rehabilitation needs but some factors need to be addressed since there is no single environment which meets the needs or perception of the users which compromises of a full post medical recovery system. The role of the built environment in meeting their needs is generally not considered, this in turn entices an architectural response for a post medical rehabilitation.

In order to get a broad perspective of the processes involved in rehabilitation programs, data will be collected in the form of interviews with patients and facilitators from the facilities mentioned. These patients were interviewed whilst in their post rehabilitation phase. The interviews were semi-structured, including open ended questions. The data collected will be organized using a series of different codes and themes, addressing the needs of patients within post medical rehabilitation.

#### **5.3.1) Discussion on Emerging Themes:**

##### **Rehabilitation:**

##### **THEME 01: Long Term vs. Short Term treatment**

Based on the above literature, the two approaches taken are: the holistic approach versus the conventional approach. The Conventional approach focuses only on immediate addiction treatment- which deals with short term programs and outpatient facilities, whereas the holistic approach encompasses both pre-and-post rehabilitation, which focuses on the abiding outcome and consists of both long and short term outpatient units.

**PO 7:** “For inpatient facilities you would require staff permanently on site, medical facilities, and psychologists and social workers to be constantly on call in case of emergencies. The post rehabilitation methods generally across most rehabilitation facilities do not have fully fledged re-integration methods, which are vital for the re-integration, of substance abusers, back into society. It would be fantastic to have an element such as sport to act as a social conductor between the rehabilitation facility and the community due to sport being a social agent.”

**PO 5:** “I feel that a longer post rehabilitation period would decrease the chance of me relapsing by making sure that I regain all strength to socialize with people from my community again.”

**PO 3:** “This is my fourth time back due to relapse, and I’ve only been on short term rehabilitation programs as my friends who have been on long term programs have not relapsed as yet. Sport as a means of post medical rehabilitation would give us the opportunity to express ourselves and show the public that we can also be one with our community.”

Comparing Minds Alive, that works on a short term six day program and R.A.U.F, that works on a long term program- the findings suggest that the medical treatment for detoxification amongst both rehabs differ, which allows for durability towards the users recovery within the facility. The structure of rehabilitation methods are built on strict routines, which encompass daily procedures to keep the mind and body, occupied for majority of the day.

Anti-Drug Forum Rehabilitation facility, Minds Alive Wellness Centre and R.A.U.F all allow for a small scale of sporting activities to occur within their daily program, which encourages self-regulation, physical, mental and social stimulation.

Based on this discussion, it is evident that long-term treatment is a better option as it has a better success rate in negating relapse. Long-term rehabilitation methods establish a holistic treatment process. This is a common thread amongst the doctors and the social workers at the respective rehabilitation facilities. With sport being an inclusive agent in the post medical rehabilitation phase, it would aid the re-integration process. Subsequently, these conventional issues found in low cost treatment programs consist of counselling and detox programs only, which therefore nullifies post rehabilitation methods completely and results in high relapse rates.

## **THEME 02: Current Perceptions on Rehabilitation methods:**

The existing literature has established that pre-medical rehabilitation has a high success rate for detoxification, but stipulates that the lack of post medical rehabilitation and re-integration methods contribute highly to the immense relapse rate. Addicts are generally dismissed, disconnecting them from society and creating barriers between them and the process of re-integrating them back into society. The current rehabilitative methods need to rethink their approach of reconnecting addicts back into society. This cognitive approach deems to create relationships and bonds within a wider society with the approach of treating addicts by incorporating them instead of ostracizing them.

**PO 3:** “I personally feel like the rehabilitation facilities need to have programs which allow for us to engage with the community so that they realise we are normal people and it removes the stigma attached to us.”

**PO 4:** “The idea of us going to a rehabilitation facility automatically creates a bad perception of us as people. I think that rehabilitation is a place which needs to be exposed to outsiders to realise that this is an illness and we are all equal.”

**PO 2:** “The detoxification period has helped me gain some sort of stability, but my biggest fear is leaving the rehabilitation facility and being able to cope with society. I feel that if rehabilitation centres could create some form of program which helps us regain self-confidence.”

People in rehabilitation facilities have a stigma attached to them as well as feel withdrawn from the wider society. Current post rehabilitation lacks a re-integration process, which in turn makes it difficult for the patient to go back into society.

### **THEME 03: Cost and infrastructure:**

The lack of government funding resulted in the reliance on various initiatives. NGO's accumulate the costs that revive existing rehabilitation facilities. Due to the various types of rehabilitation facilities, regarding luxury, standard and low cost treatment, and people are unable to afford the profound treatments found in luxury rehabilitation facilities and are usually coerced toward the standard and low cost treatments.

**PO 7:** "It is an ongoing difficulty to get government funding on a regular basis and that initiatives need to be carried out by NGO's and private funders who seek interest in users in need of rehabilitation."

**PO 9:** "The cost of an addict relapsing outweighs the cost of a person in rehab, hence it is a proposal to the government to aid in reversing that process, to inject capital in rehabilitation facilities which will reduce the relapse rate. It is an aspiration of ours to have a sporting facility within our rehab, but unfortunately due to lack of funds this isn't possible."

**PO 5:** "Due to cost and infrastructure limitations, an idea to consider is forming a consortium among rehabilitation facilities, with them actively participating for a common post rehabilitation facility. The cost can be spread amongst numerous NGO's, to make this proposed model more cost efficient."

Cost and infrastructure play a crucial role in shaping rehabilitation facilities. NGO's and private organisations are contributed to funding of rehabilitation facilities. This in this has a repercussion on the facilities whereby infrastructure is not substantial for a holistic rehabilitation approach. The general consensus when interviewing samples, a sporting facility is deemed to be an ideal fit for the rehabilitation process but limitation of funds has stalled this process.

### **RECREATION:**

### **THEME 04: Sport as an alternate therapy:**

Alternative therapy introduces sport and recreational experiences to enhance physical and mental health and improve sociological aspects. The therapy stretches out to rehabilitation therapies, hospitals and other medical facilities according to the patients' in need of medical assistance. "Sport participation needs to be embedded in wider programs of personal and social development, with programs structured to provide access to a range of factors that may protect against alcohol and drug abuse" (Witt & Crompton, 1997).

**PO 10:** "cooperating sport into the program helps with self-resilience and self-expression, which is important in forming a new identify within him/herself."

**PO 3:** "It's a good idea, in a sense that sport helps keep your mind occupied, it focuses on the integrative aspect of it, which helps integrate the public with the patients."

**PO 1:** “Sport has the three major components such as physical, mental and social, which has a tremendous impact within the rehabilitation of a patient.”

**PO 11:** “Within our rehabilitation we have sports but on a small scale which the patients use such as gyms and pool tables, used for recreation which creates a bond between the patients, this bond creates a community within the rehabilitation facility.”

The general consensus from interviews conducted at the above mentioned rehabilitation facilities suggest that sport brings out motivation, strength, positivity, aids in building relationships and could furbish itself to re-integrating into the wider society.

#### **THEME 05: Adapting Sport in the Rehabilitation Routine:**

Recollecting the literature above, it is suggested that sport can be a variable in the rehabilitation process, which could establish connections between pre and post medical rehabilitation, and can act as a tool for rehabilitation and integration. Most substance prevention programs are complex and include trading of social skills and relaxation techniques ([www. satyananda.net](http://www.satyananda.net)). Although sport and physical activity fall under one consortium, they have slight variances. These variances define a specific rehabilitation program within a series of phases- these phases are split up into four specific types of sport:

Types of Sports derived from a general concuss with patients and staff from the above mentioned rehabilitation facilities:

Individual:

- **Mind Sports:** Card Games, board games and video games. It increases mental agility as well as enhances memory. These games were based generally in the rooms of the patients and in lounging areas, which allow for one on one interaction with the patients within the rehabilitation facility.
- **Self-Resilience Sporting Activities:** karate, kickboxing and martial arts. Mind sports such as karate, kickboxing are used to build up self-resilience, get rid of frustration and helps to release stress. This type of sport generally takes place in common gathering spaces such as lounge areas, halls and outdoor areas. On observations at Minds Alive Rehabilitation Facility, after every activity that the patients participated in, there was an allocated release space.
- **Self-Expressive sport:** Aerobics, Zumba and dancing are common amongst the general consensus to allow for self-expression and allows for body to mind synchronization. O observation, a large space is required in order to give patients more room for movement.
- **Relaxation Activities:** These included massage therapies, swimming and yoga and generally took place in quiet spaces within the rehabilitation facility. These activities generally took place during the mornings and evenings as it is used to calm the patients down before sleeping or eating.

### **Team Sports:** Self-Image and re-integration

- **Team Based**, are used as a means of building up social skill, conflict goals and achievement in common goals as a group. This type of sport can be used as a means of re-integration, which could connect, to the greater society. The theory of structuration can be implanted in this method as it allows for new social relations to be formed via sport activities such as soccer, volleyball, and netball. Based on observation, the rehabilitation facilities do have the infrastructure to allow for such sporting activities to occur.

**PO 6:** “Team based sports are vital for social cohesion to occur amongst patients and the community as it helps aid the re-integration process.”

Anti-Drug Forum also arranges a host of sporting events for the public and patients to interact in, but is difficult due to cost and stigmatization issues.

A patient at Minds Alive Rehabilitation Facility had stated that stigmatization is a huge issue, and sport could make a change in creating a common platform for the patients and the public to fuse as a single body.

### **Extreme Sport:**

Extreme sports such as mountain climbing or freestyle skateboarding build self-reliance. The need for adventure also pushes physiological and mental barriers allowing for patients to combat certain negative emotions in a subtle way, such as fear. Extreme sports are not offered in these facilities, as the rehabilitation facilities do not have the infrastructure to accommodate for these types of sports.

### **Outdoors sport:**

Outdoor sports are set in natural environments, enhancing the therapeutic aspect of the treatment. Outdoor associated sports include: cross country, yoga and cycling. This also forms part of the rehabilitative process. Upon based observation, Minds Alive Rehabilitation centre use public facilities such as the beach for outdoor activities (walking and cycling). This is an important tool within the rehabilitative process at M.A.W.C as the patients used this as an opportunity to escape the daily routine and reintegrate into the public realm by interacting with outside communities, essentially using the outdoors as a form of therapy.

Sport practiced in the correct spirit can bring about a positive change in an alternate from of rehabilitation. Family and mentors play a big role in the process, as they are the main support structures for the patient. Sport automatically introduces a code of conduct, which contributes to shaping sporting activities adjunct with supportive environments to build support structures and facilitate rehabilitation.

## RE- INTERGRATION

### THEME 06: Social Support structures

Family is a fundamental basis in creating social support structures for the patients within the rehabilitation centre. Long term rehabilitation facilities such as R.A.U.F allow family members to be part of the rehabilitation process, as this empowers the family to improve their quality of life whilst also enhancing the chances of a successful recovery for the person suffering with addiction. Family therapy sessions receive support and guidance along with the interaction if socialising with other families experiencing the same issues.

**PO 2:** “The definition of family has changed or digressed over the years from the standard parents and child, to friends and loved ones. The family bonding sessions could occur through sport or some sort of recreational activity, which allows the individuals to feel as though their family supports them during this difficult period in their life.”

**PO 8:** “Family to me is the most important aspect in my life as a recovering addict. They always support me in these difficult situations and visit me at the rehab often. We usually have sport family days at this rehab. This is time which we really enjoy in our sober state.”

According to the specialists in the rehabilitation field, family has an important role in the rehabilitation process, as it reassures them strength and support structures within their lives. Most rehabilitation facilities encourage family activities with the patients to boost up their morale.

### THEME 07: Location:

After extensive research and interviews, the doctors and managers stated that it would be preferable to have their own post medical rehabilitation sporting component within their specific rehabilitation facility, however they also implied that this would not be possible due to the lack of infrastructure and funding. They suggested that numerous rehabilitation centres could act as a single consortium, which could use this facility as part of their treatment program.

Majority of the participants who were interviewed had stated that having the site in the city as opposed to a suburb has the following advantages:

- **Ease of Accessibility:** The ideal location should be central, in relation to major highway routes, and close proximity to near public transport (taxis and busses) hubs. This would aid rehabilitation centres within suburban areas to commute to and from the facility, which allows for convenience. By having the site in a central location, it allows for easy accessibility to the facility for ex addicts, and serves as a return facility. Besides being in a convenient location for public transport routes, it is also in the centre of the economic hub.
- **Community:** Having the site in the CBD allows for interaction of people with different ethnicities, cultures and backgrounds, which points toward social cohesion and de-stigmatization. Diversity and community are part of a system, which could be utilised as a tool to create social consciousness and therefore, re-integrate.

- **Create Awareness:** By taking the rehabilitation concept and exposing it on a public platform allows for the patient of the rehabilitation facility to eventually emerge out of the isolated environment which in turn allows for interaction with society. The use of sport allows for the user of the rehabilitation facility and for the outside society to integrate on a physical and social level.

Through the analysis of the above literatures, the needs, in terms of post rehabilitative organisations, are clear.

#### **5.4) CONCLUSION:**

The analysis generated from the above framework has identified that sport can be used as a means of post medical rehabilitation and work as an act of social cohesion and reintegration. The benefits of sport are that it has social, physical and mental qualities that contribute to the rehabilitation program by instilling itself into the daily routine of a post rehabilitation program. The theories of power and structuration can be seen as two vital components to how sport and architecture can present itself as an alternate means for a better post medical rehabilitation and re-integration process. This has been done in accordance with the opinions of professionals in their related fields of rehabilitation.

# **CHAPTER SIX**

## **Conclusions and Recommendations**



## **6.1) INTRODUCTION**

This dissertation explores and investigates the use of sports as a complimentary mechanism as a post medical rehabilitation and re-integration program.

For conclusions to be made, the objections, assumptions and research problems must be looked at with the aim to address the shortcomings of the current post rehabilitation methods.

The aim of this research is to investigate and analyse whether sport can be used as a medium of post-hospital rehabilitation amongst substance abusers in order to develop principles for creating an inclusive drug rehabilitation centre. This type of rehabilitation model is used to create an environment that provides for recovering patients a potential of re-integration into society through sport.

The theories used in the above literature are the theory of power and structuration, both of which are implemented in the design approach along with the concept of self-regulation which helps in the three main process, being rehabilitation, recreation and re-integration.

The information gathered in the dissertation relate to the fact that the post medical rehabilitation methods need to be relooked at, in order to reduce the high relapse rate.

## **6.2) CONCLUSIONS:**

### **6.2.1) Outcomes of Research Questions**

#### **a) How can sport be used as a means of post medical rehabilitation?**

Short term rehabilitation programs are too expensive and they don't fully equip the patients to adapt to the wider society. Adding sport to the rehabilitation program would help with the integration process in terms of attempting to negate the stigma attached to the patients.

Sport can be seen as a contributor towards post medical rehabilitation via the following criteria:

- **Rehabilitation:**

There is a need to reinvestigate the current post rehabilitation that includes a holistic approach. This approach will help fully recover drug addicts and prevent relapse. The research has illustrated that sport can be used as a means of improving post medical rehabilitation as a holistic approach, which will aid the current rehabilitation method by introducing sport as a recreational measure that forms part of the re-integration process.

- **Recreation:**

Sport eradicates the above mentioned issues by creating social establishments amongst all race, gender, inequalities and economic stability. It benefits by repairing the body physically, mentally and socially. Additively impacting the environment in a positive manner by creating a multi diverse space which benefits and integrates both the user and outsider. These attributes of sports, dismantles any stigma attached to it.

- Re- Integration:

Incorporating sport into the post rehabilitation method, allows for the development of basic life skills that promotes positivity amongst people, creating a social magnet between various people. Through a variety of sport, the individual progresses, socially, physically and mentally which contribute to a holistic approach. This then allows the patient to revitalise him/herself and re-integrate into the main society without and stigmatisation.

### **b) What types of sport contribute to the rehabilitation training?**

Different sports (individual/ team/ outdoor/ extreme) are vital in learning skills and to create social cohesion and integration. Sport impacts the patient, physically, mentally and socially.

Individual sports (post medical) - building up of self-resilience

This aspect will focus on the development of self-resilience, discipline and personal goals. Activities such as yoga, tai chi, chess, and swimming all serve a therapeutic purpose with enhanced properties of self-discipline. These sporting activities are related to exercise and physical activity which serves as a form of self – expression, which is what the patient would require at early stages of the treatment program.

Team sports – building up of social and support structures

The focus here is to build up social skills, goals and achievement in common goals as a group. The benefits that come from competing in any team sport is that people tend to learn the importance of teamwork, thinking about others while also developing social skills and empathy. It is also important to note that the support structure in both team and individual performances play a vital role in the development of a person and self-image. The constant rotation of these groups allow for a greater mix of social interaction amongst patients. This will, in turn, aid coping skills and develop new 'clean' relationships.

Extreme sports: such as mountain climbing or freestyle skateboarding build self-reliance. The need for adventure also pushes physiological and mental barriers allowing for patients to combat certain negative emotions such as fear, in a subtle manner. This type of sport can be viewed as a tool to measure patients' risk factors.

Outdoor sports: based in natural environments- enhancing the therapeutic aspect of treatment. The peacefulness and calmness of nature acts as a healing agent. Sports associated with the outdoors include: cross country and cycling. This will also forms part of the rehabilitative process system.

### **c) How can sport contribute to the rehabilitation program?**

A rehabilitation centre is always establishing connections between inner and outer spaces. These environments are to help provide patients with what went wrong and how to work through the therapy models to achieve and build their own strength to surpass physical and psychological obstacles on the road to recovery and social inclusion.

Sport practised in the correct spirit can bring about a positive change in an alternate form of rehabilitation. Family and mentors play a large role in the process, as they act as the main support structures for the patient. Sport automatically introduces a code of conduct which contributes in shaping sporting activities adjunct with supportive environments to build support structures and facilitate rehabilitation.

Sporting activities need to be spatially arranged to achieve different goals and re-integration, which results in self-empowerment. The routine needs to encompass sport on different levels, which progresses the patient through mental, physical and social states. Routines are altered on a daily basis to ensure a mixture of groups to interact on different levels, and this is done through a series of different sport. Sport helps with self-resilience and expression. It gives the patient motivation, strength and positivity. Sport helps keeps the patients mind occupied. It helps integrate the public with the patients. Sport creates bonds within the facility.

**d) How can the spatial configuration of rehabilitation influence the re-integration of recovering addicts into the community?**

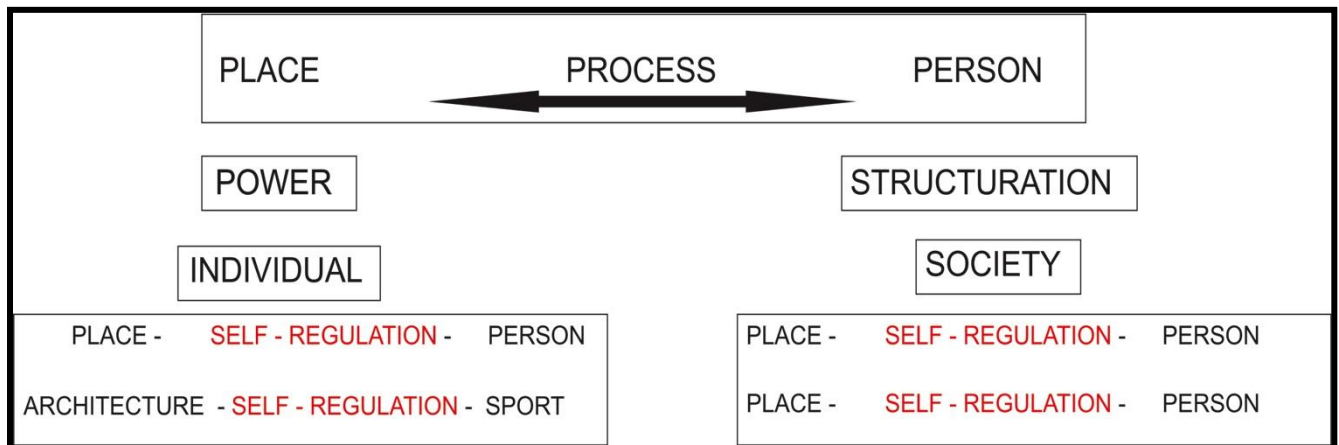
In this dissertation, there are three main aspects that are looked at. The theory of power and structuration interlink, amongst all three aspects of the rehabilitation, recreation and re integration process.

The theory of power is used to empower the individual via means by using the process of rehabilitation as a tool for empowerment by rejuvenating their mind body and social abilities. The theory of power essentially dictates the entire rehabilitation process.

The theory of power in the built form is split into three main categories:

- Enchantment: this is the fusion of material and built expression in creating a space of identity.
- Emplacement: the construction of certain spaces for certain activities for certain people via the built form this leads to separation and ranks.
- Enactment: The way social spaces are lived through the process of mobility, forming routine.

## Relationships between people and the environment:



**Figure 6.1: Illustrating the relationships between people and the environment (By Author, 2015)**

The above diagram illustrates the link between the theory of power and structuration as well as, the concept of self-regulation to achieve rehabilitation and re integration.

The theory of structuration is expressed by instilling social value via practise, which in this case is sport. This can be carried out via the configuration of space dictated by a routine which is derived from the rehabilitation methods.

Theories of power and structuration give depth to the development as to how the user establishes a relationship with a space or structure and the routines which form the structure.

The precedent and case studies have concluded that new social bonds can be created in hospitals, reverberating the essence of de-stigmatizing and aiding the re-integration process, whilst using architectural elements allowing for social interaction. This deals with the fusion of public and private, structuration theory whereby the patient is now introduced to the local community via the means of sports. The fusion of public and private, structuration theory whereby the patient is now introduced to the local community via the means of sports. Elements such as orientation, circulation, natural impacts of volume and space, as well as variables such as light, sound, air, all of which resonate through the specific rehabilitation. The main interactive spaces, which are usually on public domain, located on the ground floor contributing to a strong sense of orientation and the composition of different sporting environments contributing to the concept of self-regulation processes.

Support structures are important. Expanded visitation amongst more than just family, as a support structure. Sport allows for family bonding. A location in the city would be preferable: the city is easily accessible. It has a larger community with different backgrounds- a better re-integration process. It creates awareness

### 6.3) ACHIEVING THE AIMS AND OBJECTIVES

#### AIMS:

The purpose of this research was to investigate and analyse whether sport can be used as a medium of post-hospital rehabilitation amongst substance abusers in order to develop principles for creating an inclusive drug rehabilitation centre. This type of rehabilitation model is used to create an environment that provides for recovering patients a potential of re-integration into society through sport.

Post medical Rehabilitation has been addressed through the variety of sport and comprises of two main variables, society and patients from the rehabilitation centre. Sport and architecture contributes to the rehabilitation and re-integration process, through daily practise routines. Routines are altered on a daily basis to ensure a mixture of groups to interact on different levels, and this is done through a series of different sport. Sporting activities need to be spatially arranged to achieve different goals and re-integration, which results in self-empowerment. The routine needs to encompass sport on different levels, which progresses the patient through mental, physical and social states.

#### OBJECTIVES:

- Understanding the role of the sport in re-vitalising the body in its physical and mental aspects.

Many people believe that various attitudes and social skills can be developed through sport-making it an element that helps prevent substance abuse. Most people enjoy sport when it is presented respectfully and see it as a choice. When sport is presented as an option which allows you to work in a partnership, it sanctions several ways to prevent substance abuse-such as establishing social support structures and boosting self-moral and attaining life skill. Social establishments amongst all race, gender, inequalities, cultures and economic stability and benefits of repairing the body physically, mentally and socially.

- To investigate and understand sport as a possible means of re-integration of drug patients post medical structure.

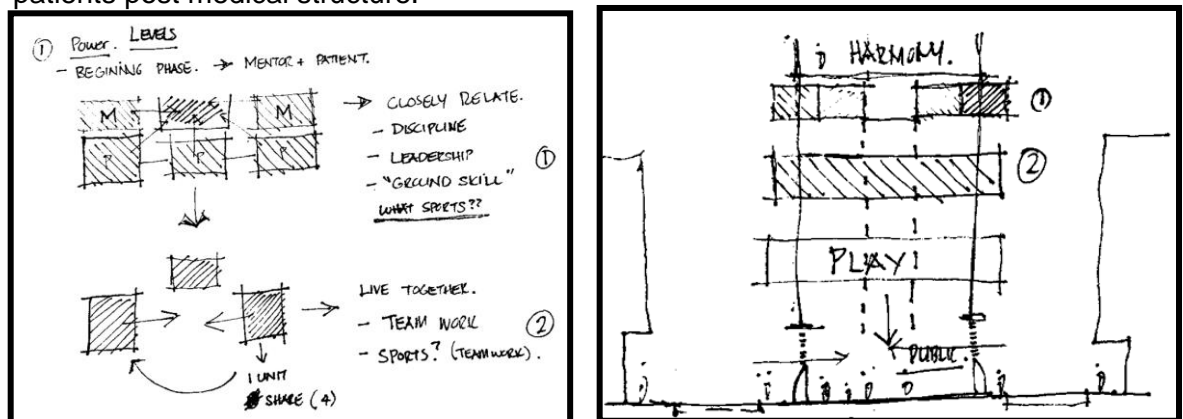
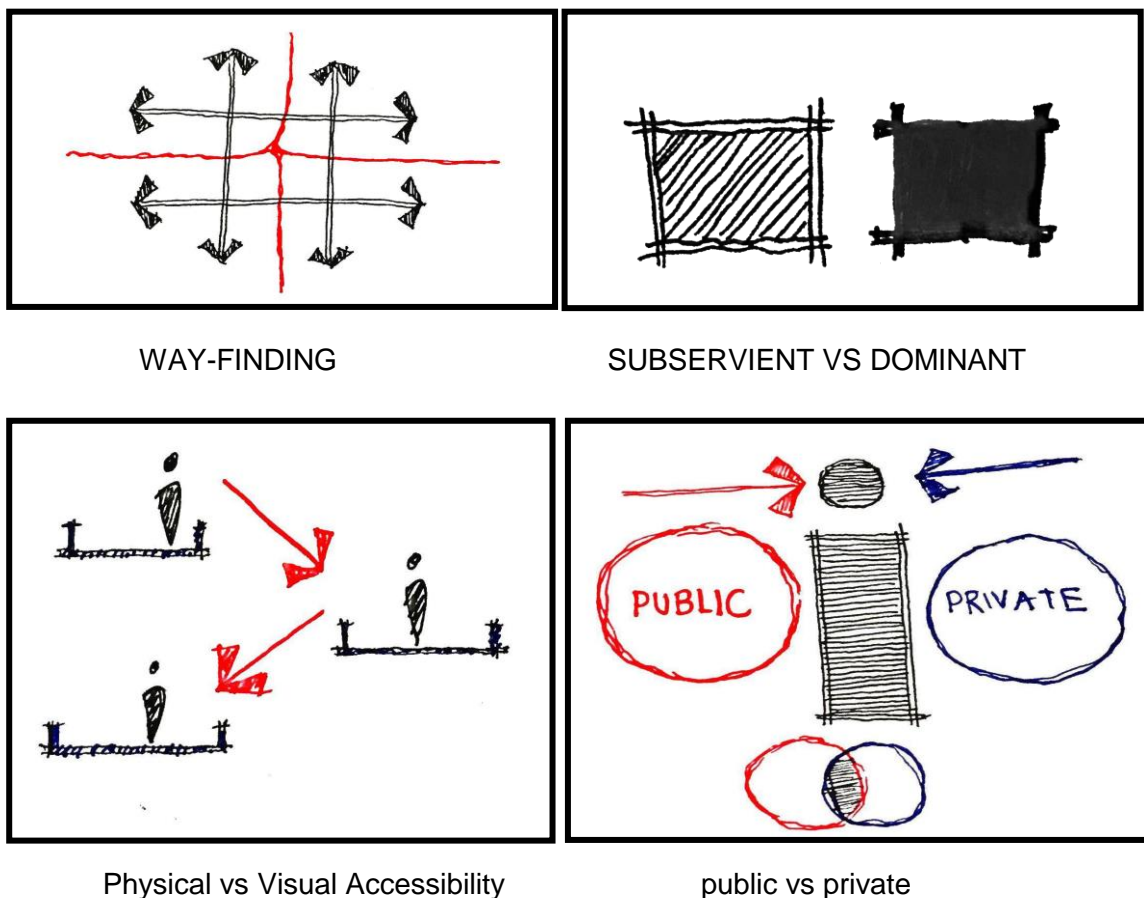


Figure 6.2 Sketches illustrates the rehabilitation and re-integration process within the built form (Sketches by Author, 2015)

Sport impacts the environment in a positive manner in a form to which it can be a diverse space which benefits both the user and outsider. Drug rehabilitation facilities set a notion of positivity and encourage new identity by uplifting spirit and provide environments whereby daily life routines and activities are most effective in the recovery process. Buildings and cities are not just concrete shelters and designed ornaments of art, but are also the act of social construction which has an influential factor on communities and individuals. Sporting activities need to be spatially arranged to achieve different goals and re-integration, which results in self-empowerment. The routine needs to encompass sport on different levels, which progresses the patient through mental, physical and social states.

- To establish a series of principles which could spatially shape the way rehabilitation centres are designed.



**Figure 6.3: Sketches depicting design principles (sketches by Author, 2015)**

- **Way Finding:** The built form can either orientate its subjects through spatial configuration. Way finding also determines identity and differences, and how buildings and places construct and symbolise identity, in essence the built form mediates who we are and where we belong.
- **Subservient vs Dominant:** A large scale built form, deals with mass and volume. This could also be resembled within the power aspect or rehabilitation, the patient being the subservient in both the rehabilitation and in the built form, whilst the mentor and the building both being the dominant.

- **Physical vs Visual Accessibility:** The built form segments space in a manner that places, certain type of people, places and actions under constant surveillance while privileging other certain kind of people, places and actions as private. Spatial segmentation mediator should encounter. The built form has an inertia, generating illusions of permanent which stables social order and the impossibility to change.
- **Public vs private:** Schedule of accommodation, linked to the theory of power, by spreading the notion of private, semi- private and public, via a vertical circulation order, dealing with the theory of power. The main interactive spaces, which are usually on public domain, located on the ground floor contributing to a strong sense of orientation and the composition of different sporting environments contributing to the concept of self-regulation processes. Elements such as orientation, circulation, natural impacts of volume and space, as well as variables such as light, sound, air, all of which resonate through the specific rehabilitation Centre to contribute to the rehabilitation process in the built form. Site selection within a set community setting which served as a destination point and is of accessibility for public.

#### 6.4) CONCLUDING REMARKS:

This dissertation examines that post medical rehabilitation centres should begin to analyse situations to which sport is actively promoted in re-integrating substance abuse patients back into society. The stigmas associated with drug abuse have been explored in this dissertation as an underlining factor which requires mental, physical and social rehabilitation re-integration. Understanding and applying a holistic approach represents the existing frameworks of the theory of power and structuration redefined to meet the needs of substance abusers. An analyst of the existing literature, precedent studies, a case study, and interviews with patients from local rehabilitation centres, have revealed several themes which formed the overall framework of this research exploration and its ensuing conclusions:

Rehabilitation is portrayed as a reformation program is a vital component. The theory of power and structuration, in terms of the self-regulating design, can create a sense of routine and reformation within the built form.

Recreation emphasises that sports creates a sense of belonging and participation and eradicates the stigma associated with substance abusers. The use of sport and its positive attributes, can promote inclusively and interaction within the built form.

Re-integration is portrayed through awareness and sense of normality promotes longer – term recovery. The incorporation of the theory of power and structuration, the concept of self-regulation and sport combined initiates re-integration in a wider society.

In the context of on-going stigma around substance abuse, the design of a post medical rehabilitation program deals with the issues relating to relapse by using sports as a means of self-empowerment and inclusivity before the process of re-integration into the wider society. This dissertation has concluded that recreation through sport aids the recovery of the patients and restores the disconnection that leads to relapse.

## PART B: RECOMMENDATIONS

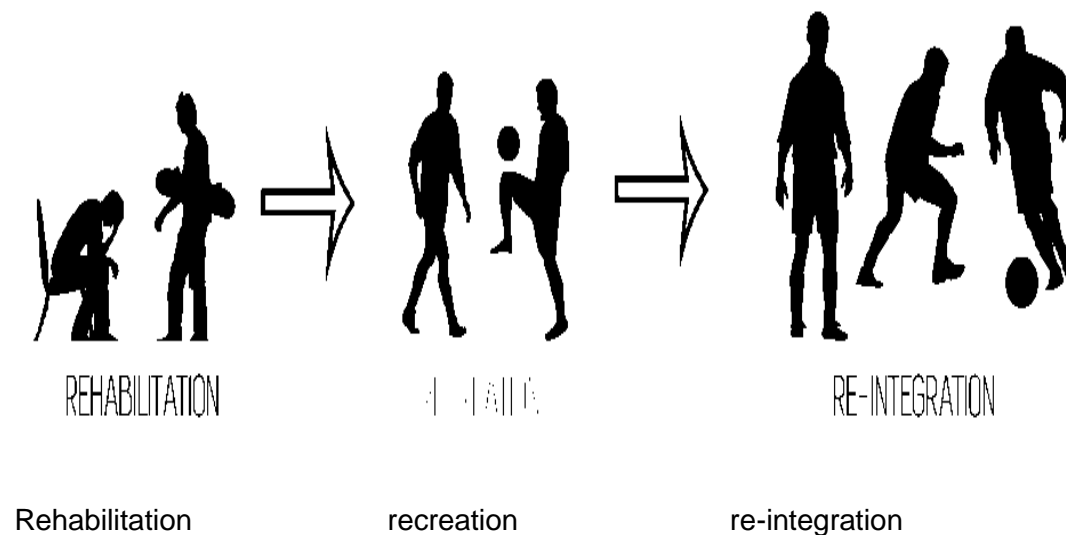
### 6.5) INTRODUCTION:

What follows in this section is an approach taken toward an architectural design that would adequately respond to the needs and the proposals contained in the research document. The approach taken in this type of rehabilitation model is to influence the development of a new post rehabilitation model which enhances an environment that provides for recovering patients a potential of re-integration into society through sport. This typology is formulated through the structured routine of various sports which aids the post rehabilitation, re-integration process.

### 6.6) DESIGN PARAMETERS:

#### Who:

This facility is for patients who have already received pre-medical rehabilitation.



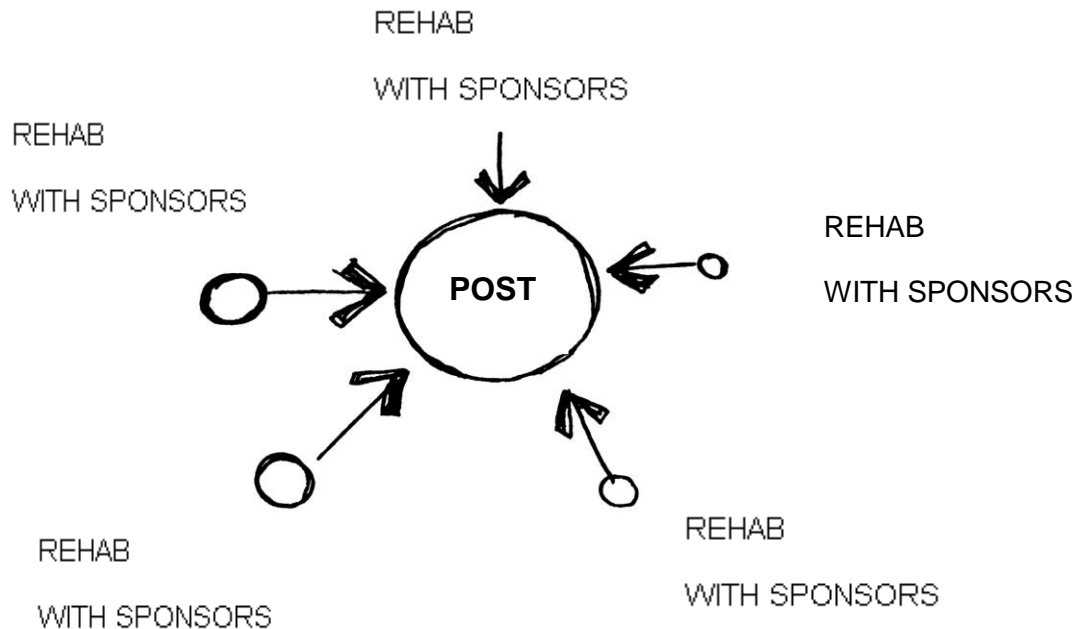
**Figure 6.4, the above figure illustrates the user process of post-rehabilitation (by author, 2015)**

The user will begin his post-rehabilitation treatment conditioning his mind, body and soul as an individual and progress through the built form via a series of sporting activities. This will allow the user to establish relationships amongst users and society enabling rehabilitation and re-integration holistically.



**What:**

Introducing a 'post rehabilitation facility' for all rehabilitation facilities around Durban, both national and international.



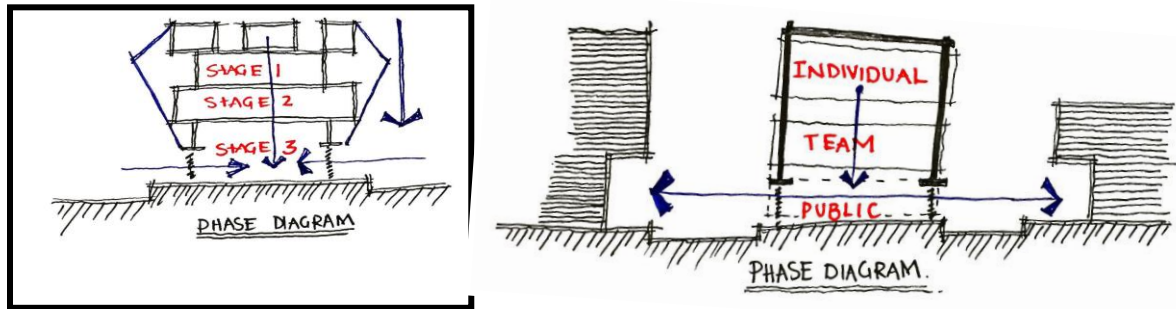
**Figure 6.5: Proposed best cluster Model (By Author, 2015)**

The idea behind this model is that there is an equal platform between the user and society and aids the re-integration process. Rehabilitation facilities in and around the city can use this as a platform to address issues and as an 'add on' facility to the post rehabilitation system for other rehabilitation facilities.

From the data collected, cost is a major reason as to why most of the rehabilitation facilities have short programs and do not negate the chance of relapse. Due to the above factor, there is an opportunity for a consortium of sponsors amongst multiple clients formulating a community based forum. This model also has the potential to act as a 'come-back/ return' facility allowing patients to share experiences and aid each other in combating substance abuse.

## How:

Introducing sport as a method to rehabilitate and re-integrate substance abusers with the aid of the built environment to reduce the relapse rate and de-stigmatisation. There is a distinctive routine based on the type of sport throughout the building based on the current status of the rehabilitation phase the patients are going through.



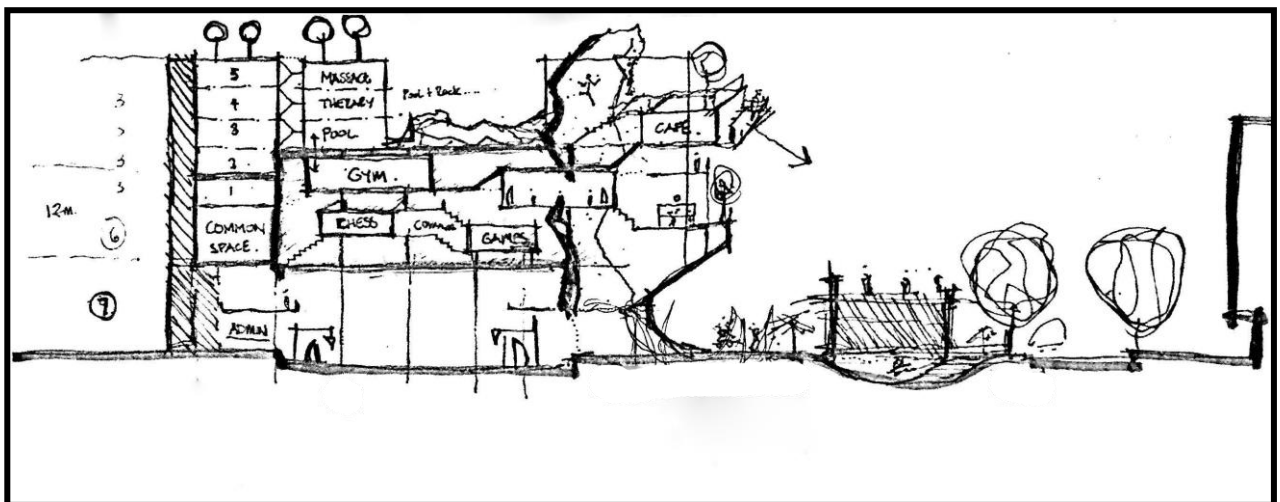
**Figure 6.6: Sketches depicting the above stages (sketches by Author, 2015)**

Rehabilitation system via sport:

**STAGE 1** - individual sports (post medical) - building up of self-resilience via individual sporting activities.

**STAGE 2** – Team sports – building up of social and support structures within the patients at the rehabilitation facility.

**STAGE 3** – Public sporting facilities – Re- integration within society where by the public and patients participate and interact via team sports. Sport is used as the equilibrium perform social construct relating to the theory of structuration.



**Figure 6.7: Sketch illustrating proposed architectural built form and the process of post-rehabilitation via sporting activities (Sketch by Author, 2015)**

## 6.7) PROPOSED CLIENT:

Due to the proposed post-rehabilitation model constituting of sport and substance rehabilitation, the client can be a combination of sporting consortiums and substance rehabilitative associates. Based on interviews, the following clients suggested interest in the proposed model:

- The department of Health – The Department of Health is responsible for reducing drug demand and harm caused by psychoactive drugs, including alcohol and tobacco, through the promulgation of legislation and policy guidelines for early identification and treatment. It collaborates with the Departments of Education and Social Development on national awareness campaigns and also supports treatment centres by advising on detoxification programmes, the appointment and support of medical personnel, capacity building and supervision.  
([http://www.dsd.gov.za/cda/index.php?option=com\\_content&task=view&id=110&Itemid=138](http://www.dsd.gov.za/cda/index.php?option=com_content&task=view&id=110&Itemid=138)).
- Department of sports and recreation - To improve health status through the prevention of illnesses and the promotion of healthy lifestyles and to consistently improve the healthcare delivery system by focusing on access, equity, efficiency, quality and sustainability. (<http://www.health.gov.za/index.php/shortcodes/vision-mission>). This could encourage awareness and to use the model as a space to which sport can be a tool for re-integration
- Super-sport let's play inactive - LP is about enabling children to live healthier lives and through the power of sport we are able to bridge the racial & social gaps in our society and more importantly ensure that our kids have a safer, brighter and better tomorrow. LP therefore encourages participation in physical or sporting activity and brings back the fun and excitement of playing. Super sport is also an international brand and could expose the proposal model to extents around south Africa allowing for more interest in this rehabilitation model and as well as bring in people whole require the usage of this facility to rehabilitate and expand on means and methods on combating substance abuse.
- A host of private NGO's (non-government associations) who are associated with assisting and combating substance abuse schemes. The local NGO's are currently funding local rehabilitation facilities and facilitate the proposed model in the treatment process.

The combination of the above consortiums could set up advertising, branding, exposure, laws and regulations and as well as form a united body in combating substance abuse under a single driven entity.

## 6.8) CRITERIA FOR SITE SELECTION:

In choosing a site for the proposed post-rehabilitation model, the location played in key role in achieving the aims and objectives within the research body. The site selection criteria had to encompass the following:

- Sense of Community
- Densely Populated
  - Ease of Access
- Transport Hub
- Mixed use Functions
- Accessible to All Rehabs
- Walkability is high
- Addresses CBD drug issues

Previous site selection:

Site 1: Tresule sports club – Chatsworth, Durban



**Figure 6.8: Chatsworth, Durban (Source: Google Earth Edited by Author, 2015)**

Site 1 was not chosen due to the following reasons:

- restrictive community to Chatsworth
- limited access to other rehabilitation facilities
- limited transportation options



## Site 2 – Newlands Rehabilitation Centre – Newlands, Durban



**Figure 6.9: Newlands, Durban (Source: Google Earth Edited by Author, 2015)**

Site 2 was not chosen due to the following reasons:

- restrictive community to Newlands
- Attached to existing rehabilitation facility, cost and infrastructure
- limited access to other rehabilitation facilities
- limited transportation options

## Site 3 – Hoy Park, Durban Central, Durban



**Figure 6.10: Durban Central (Source: Google Earth, Edited by Author, 2015)**

Site 3 was not chosen due to the following reasons:

- Lack of community
- limited access to other rehabilitation facilities – site in isolation
- limited transportation options

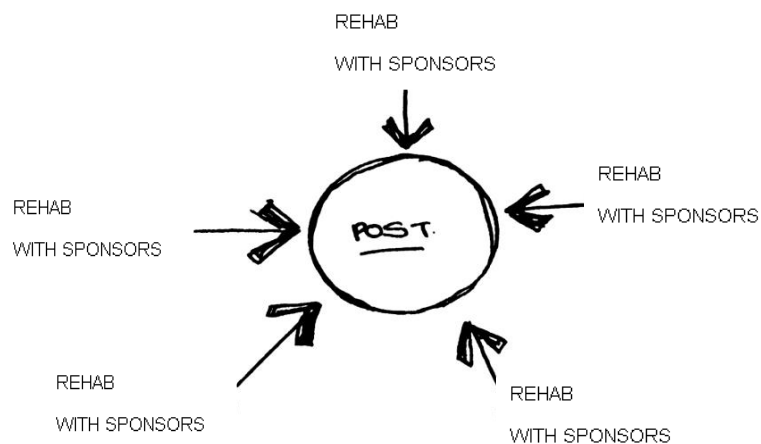
### Site Proposal:



**Figure 6.11: Commercial Road, Durban, South Africa (Source: Google Earth, Edited by Author, 2015)**

Choosing the inner city has the following advantages and conforms to the aims and objectives set out within the research: Commercial Road, Durban. Adapting the proposal to the existing Pine Parkade Building

### Proposed Best Practiced Clustered Model:



**Figure 6.12: Proposed best cluster Model (By Author, 2015)**

The properties of the cluster model, as discussed above and the choice of choosing a site within the inner city adheres to a collective need and a setting vital for social re-integration. The ease of accessibility via public transport routes and central geographical locations allows other facilities to access the site at frequent times. Cities have consist of a diverse range of people across all religions, cultures and race providing an equal platform for people. This is an advantage to the interactive process and also provide publicity to anti-drug campaigns. The 'true test' of an addict is when he has recovered from a rehabilitation treatment process and has to face the real world. With the post-rehabilitation facility located in the city, it would aid the patient to learn and adapt to different scenarios on a daily basis building in a sense of resilience. With sport being the enabler, it builds up support groups and relationships amongst patients within the rehabilitation facility so that support each other through the recovery process. Family life and social support groups are important in the recovery process and with the rehabilitation facility based in the city, it is a common ground eliminating any discrimination or hierarchical order amongst the social construct.

### **6.9) Proposed Schedule of Accommodation:**

Site – Existing Pine Parkade – 5000sqm

#### **Ground Floor Plan Accommodation: (Public Amenities)**

- \_Public Courts
- \_Public Cafes
- \_Rock Climbing Facilities
- \_Skate Park
- \_Public Micro Recreational Courts
- \_Public Retail Outlets
- \_Public Ablution Facilities
- \_Post Medical Rehabilitation Entrance
- \_Public Dance Studio
- \_Cycle Stops
- \_Circulation and Entrance Areas

#### **Mezzanine Floor Plan Accommodation: (Public and Private Amenities)**

1500sqm

- \_Circulation and Entrance Areas
- \_Post Medical Rehabilitation Reception
- \_Public Ablution Facilities
- \_Resource Centre
- \_Induction Room
- \_Staff Work Office
- \_Board Room
- \_Kitchen
- \_Indoor Skate Park
- \_Skate Shop



First Floor Plan Accommodation: (Semi-public and Private Amenities) 1500sqm

- \_Circulation and Entrance Areas
- \_Post Medical Rehabilitation Reception
- \_Public Ablution Facilities
- \_Staff Work Office
- \_Dispensary
- \_Medical Room
- \_Family Visiting Areas
- \_3 vs 3 multi-purpose recreational courts
- \_Recreational and Social Interactive Areas
- \_Multipurpose Courts

Second Floor Plan Accommodation: (Private Rehabilitation Amenities) 1500sqm

- \_Circulation and Entrance Areas
- \_Post Medical Rehabilitation Reception
- \_Public Ablution Facilities
- \_Staff Work Office
- \_Lounge and Gaming Interactive Spaces
- \_Gym – Cardio, Weights and Circuit Spaces

Third Floor Plan Accommodation: (Private Rehabilitation Amenities) 1500sqm

- \_Circulation and Entrance Areas
- \_Public Ablution Facilities
- \_Aerobics Studios
- \_Dance Studios
- \_Running Track
- \_Induction Room
- \_Counseling Rooms
- \_Kitchen and Eating Area
- \_Karate Dojo

Fourth Floor Plan Accommodation: (Private Rehabilitation Amenities) 1500sqm

- \_Circulation and Entrance Areas
- \_Public Ablution Facilities
- \_Massage Rooms
- \_Sauna Areas
- \_Yoga Areas

Typical Residential Floor Plan 5<sup>th</sup> to 6<sup>th</sup> floors: (Private Rehabilitation Amenities) 1500sqm

- \_Circulation and Entrance Areas
- \_Staff Residents
- \_Residents lounge Areas
- \_10 Single Unit per floor (total 20 single units)



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**COLLEGE OF HUMANITIES**

**AZHAR BAYAT**  
**207519789**

**M.ARCH**

**RESEARCH CONSENT FORM**



**COLLEGE OF HUMANITIES**  
**MASTERS/PHD RESEARCH CONSENT FORM**  
**(HUMAN AND SOCIAL SCIENCES)**

*(To be read out by researcher before the beginning of the interview. One copy of the form to be left with the respondent; one copy to be signed by the respondent and kept by the researcher.)*

My name is Azhar Bayat (student number 207519789). I am doing research on a project entitled "Exploring the use of sport as a complimentary mechanism for post rehabilitation: Toward a drug rehabilitation center for Durban.

The purpose of this research is to use sports as a means for post rehabilitation in drug rehabilitation centres in order to contribute to a built form which aids the sustenance of drug addicts.

This project is supervised by Mrs B. Horner at the School of Development Studies, University of KwaZulu-Natal. I am managing the project and should you have any questions my and supervisors contact details are:

School of Development Studies, University of KwaZulu-Natal, Durban

Bridget Horner (supervisor)	Cell: 082 559 2316	Email:
Horner@ukzn.ac.za		

Azhar Bayat (Researcher)	Cell: 074 645 3838	Email:
azharbayat1@gmail.com		

Ethics office	Tell: 031 373 2900
---------------	--------------------

I agree to participate in this project, whose conditions are as follows:

- Interviews will last for about one hour and questions will deal with sport being as a means of post rehabilitation.
- The interview I give and the information it contains will be used solely for the purposes defined by the project.
- At any time, I can refuse to answer certain questions, discuss certain topics or even put an end to the interview without prejudice to myself.
- To facilitate the interviewer's job, the interview will be recorded. However, the recoding will be destroyed as soon as it has been transcribed.
- The participant can withdraw from the interview at any given time.
- There is no benefit of reward for participating in this interview.
- All interview data will be handled so as to protect their confidentiality. Therefore, no names will be mentioned and the information will be coded.
- All data will be destroyed at the end of the project.

Respondent's signature:

---

Date: \_\_\_\_\_

Interviewer's signature:

---

Date: \_\_\_\_\_



COLLEGE OF HUMANITIES

MASTERS/PHD RESEARCH INTERVIEW QUESTIONS  
(HUMAN AND SOCIAL SCIENCES)

**AZHAR BAYAT**

**STUDENT NUMBER: 207519789**

## **RESEARCH PARTICIPANT**

PPlease Initial Box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. ☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason. ☐
3. I agree to take part in the above study. ☐
4. I agree to use my name for the interview ☐

## **RESEARCHER**

4. I agree to the interview / focus group / consultation being audio recorded ☐
5. I agree to the interview / focus group / consultation being video recorded ☐
6. I agree to the use of anonymised quotes in publications ☐

---

Name of Participant

---

Date

---

Signature

---

Name of Researcher

---

Date

---

Signature



COLLEGE OF HUMANITIES

MASTERS/PHD RESEARCH INTERVIEW QUESTIONS

(HUMAN AND SOCIAL SCIENCES)

**AZHAR BAYAT**

**STUDENT NUMBER: 207519789**

The aim of this research is to investigate and analyse whether sport can be used as medium for post hospital rehabilitation amongst drug users in order to develop principles for creating an inclusive drug rehabilitation centre.

**OBJECTIVES:**

1. Understanding the role of the sport in repairing the human mind.
2. To investigate and understand sport as a possible means of rehabilitation amongst drug patients.
3. To establish a set of principles which set out to reshape the way the rehabilitation centres are designed currently.

**Questions:**

- 1) How can sport be used as a means of post hospital rehabilitation?
- 2) What kinds of sport contribute to rehabilitation?
- 3) How can sport contribute to the rehabilitation program and spatial configuration of rehabilitation centers?

## **INTERVIEW SCHEDULE**

### **INTERVIEW GUIDE:**

I would like to thank you for giving up your time to participate in assisting me with my research proposal. I am a student of the faculty of architecture at the University of Kwa-Zulu Natal and I have undertaken the research topic which entails sports as a means of post rehabilitation for drug substance abuse. I would appreciate it if you could answer the questions that I pose to you and if you are willing to give me any additional feedback please feel free to elaborate. Should there be any questions that you feel uncomfortable with, please skip these questions. If the interview is pro-longing its due course, you may stop the interview at any given time.

I would like to further analyze the information you are giving me by recording this interview with your permission. This recording is strictly for myself and my research topic only and will be in my safety. This would also help me to remember the information correctly and to process the information in my documentation. By doing so, I may have to quote some of the information you have given me.

### **ICE BREAKER:**

What are your general views on sport?

Now that I have a better perspective of the person being interviewed and I have introduced myself, it will be easier to conduct the interview. I would now focus on my research topic.

## **QUESTIONS**

### **PRE MEDICAL REHABILITATION**

- 1) What is your view the current rehabilitation process in terms of the facilities and process?
- 2) Can you describe your feelings and experience of the current rehabilitation environment?



## POST MEDICAL REHABILITATION

- 3) How do you view the current post rehabilitation process in terms of facilities and process?
  - What is the daily routine?
  - How would you feel if sport was incorporated into this routine? Would it be beneficial? If so, how?
  - What sort of sport should be incorporated in the process?
  - How could it be incorporated?
  - What equipment and facilities would you require to participate in these sports?
  - How can sport be incorporated into the daily routine?
  - Which sport would have an impact here, if any?
- 4) Do you think the post medical process is successful or can there be improvements to this?
  - In what ways would you change or improve the process?
  - What are the roles that your mentors and leadership personal play?
- 5) Can you describe the post rehabilitation environment?
  - How do you feel in the current environment and what would you like to be changes?
  - How would you feel if this environment included a sports facility?
  - What sport would you like to have if that was possible?

## SPORT

- 6) What are your views and experiences of sport in general?
  - Do you play sport?
  - What sport or sport do you play?
- 7) How do you feel when playing sport?
  - Do you play sport on a competitive level or as a means of recreation?
  - If not, what are types of sport which you do play?
- 8) What are your thoughts on the impacts and benefits of playing sport in the rehabilitation environment or generally?
  - Could sport be a change in impacting the rehabilitation environment?
  - Do you feel sport can assist substance addicts in changing their perception on the recovery process?
  - Would sport benefit you in the recovery process?
- 9) Which sport do you think would be suitable for post rehabilitation? A team based sport or an individual sport?
  - If a team building sport, what and why a team sport?
  - If an individual sport, why and why an individual sport?
  - Would you prefer indoor or outdoor sporting activities? What activity and why?

## **SPORT AND PROGRAMMING**

**10)** Can you comment on sport being introduced as a means of post medical rehabilitation?

- Would you like to be a part of a rehabilitation centre which included a sporting component?
- If so, what sports would you prefer and why would you prefer these sporting activities?
- What sport/sports do you think would be viable in the post rehabilitation process?
- With sport being included in the process of post rehabilitation, do you think it will have a positive or negative impact on a person?
- Can you please elaborate on the positive/negative impact?

## **SPORT AND ENVIRONMENT TYPOLOGY**

**11)** How can sport be incorporated in the current rehabilitation program at the centre?

- Should the sport facility be in the same rehabilitation facility?
- Should the sport facility be separate from the rehabilitation facility?
- Do you think that sport should be played with other users besides the patients at the rehabilitation centres?
- Do you think a sport rehabilitation facility should be inclusive with the pre-hospital rehabilitation phase? If yes, why? Of no, why?
- Where, in your opinion, would be an appropriate location for a sport rehabilitation centre for substance addicts?
- How would you feel in the sport rehabilitation centre would be located in the city centre?
- How would you feel if the sporting post rehabilitation centre was in a public setting?
- Can you comment on sport having the ability to integrate substance addicts into the mainstream society?

Thank you for your time.