Empirical Empowerment - Mental Health in the Built Environment

Emily McClure

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Empirical Empowerment
Mental Health in the Built Environment
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Mental Health in the Built Environment

Request for Approval of Thesis Research
Project Book Presented to:

Kathryn Bedette
and to the
Faculty of the Department of Architecture
College of Architecture and Construction Management

by
Emily Kristine McClure

In partial fulfillment of the requirements for the Degree
Bachelor of Architecture

Kennesaw State University
Marietta, Georgia
May 1, 2020

DEDICATION

I am dedicating this book firstly to my mom, Margaret Davis, she has always been my greatest sense of support especially during my weakest moments. I would also like to dedicate this book to all of those who helped me along the way, no matter how small the moment they are all cherished. I would also like to dedicate this book to my friends and family who never gave up on me when I gave up on myself. This book is also dedicated to those who are struggling with mental illnesses, their families, and their friends. You are not alone. Life is precious no matter the journey, the highs or the lows.
ACKNOWLEDGMENTS

This thesis book would not be possible without the mentorship provided to me by my thesis advisor and faculty members who helped me along the way.

Professor Kathryn Bedette - You have been a better thesis advisor and support system than I ever thought I would get for that. I am grateful. Thank you for pushing me to contribute something to the field of architecture.

Thank you to all of my studio classmates through the years and the memories that I will carry with me always.

Lastly, thank you to my wonderful thesis family, I wouldn't have made it through this year without you. Zach Hart and Morgan Frederick.
Chapter 1: Design Theory of Mental Health and the Effects of Our Built Environment
One in five adults in the US experienced a mental illness in 2018 and 19%. Of the adult population, 5% suffers from the damages of poor mental health, affecting family, friends, as well as productivity in the workplace and physical health. The environment we occupy often goes unnoticed as the catalyst of neglecting mental health, while we spend more that 80% of our days on average indoors, there is a direct connection between environment and its impact on our mental health. Health and human services defines mental health as our emotional, psychological, and social well-being, affecting how we think, feel, and act, helping determine how we handle stress, relate to others, and make choices.

While architects vow to protect the health safety and welfare of those they design for, historically this has been interpreted as physical health safety and welfare. Why is it that we have overlooked the impact of the spaces in which we design and the mental health, safety and welfare of those it can impact? Studies have been conducted observing cancer patients, prisoners, and those suffering from physical and mental illnesses showing the effects that a connection to nature has amplified the ability to naturally heal. Visual connection to nature has shown a drastic impact on the chemical balance of the body increasing serotonin levels and relieving stress—a leading cause of furthered mental illnesses. My thesis argues a new outlook on design thinking and methods focusing on the influences of environmental connection to mental health and wellbeing, focusing on four main aspects: introducing “nature” into the space, creating immersive spaces to spark curiosity and exploration, use of natural analogues and implementing unique way-finding tactics to reduce stress. The thesis proposes design guidelines to reduce the negative impacts that the built environment has on mental health.
Stress is defined as the body’s reaction to change, a change that makes an adjustment or response a necessity. Your body then responds to these changes with emotional, mental and physical responses. The word “stress” as we know it today is tied back to Hans Selye’s definition from 1936, he defined stress as “the non-specific response of the body to any demand for change.” Selye gathered data from laboratory animals that were exposed to extreme environments. These extreme environments consisted of extremal physical stresses, such as blinding lights, blaring noises, frustration, and environmental conditions of extreme heat and cold. While they learned that these changes created physical changes in the animals, such as stomach ulcerations, and changes in adrenal glands and lymphatic tissue there were also more persist effects causing the animals to develop various diseases similar to humans, many had heart attacks, kidney diseases, strokes, and rheumatoid arthritis. This goes on to establish the idea that environment had a strain on us mentally, emotionally, and physically. While many organizations for mental health mention common factors that create or are related to our bodies response to change, such as a loved one passing away, a change in jobs, or physical trauma. Many large organizations look over the fact that environment has so much effect on our mental health, in a positive or negative light.

Stress in the built environment has become a focus in environments that are deemed for the greatest amount of need for intervention. These environments are deemed as “extreme environments” where the resources and curiosity for study have been made more commonly available. These environments consist of healthcare facilities, prisons, rehabilitation facilities, and hospitals, because of the very particular circumstances surrounding the unique qualities that make up these spaces there are different results per environment. These environments hold a special need for intervention on the reduction of stress, most commonly these interventions gather studies from physiologists that have developed theories based off of the study Biophilia. Biophilia otherwise known as “love of life” has been a key player in the interaction of occupants and qualities that reduce stress. Several studies that have been reviewed look into the chemical and physical responses that our bodies have to biophilia, and the ornate and undeniable desire for human connection to nature. These studies all suggest that as we desire to connect to the natural world we also spend 80 percent of our time, on average, in doors. While we desire to connect with nature we also have the undeniable desire to stay indoors. This desire then blocks or weakens our connection to the natural world. As we continue to learn from these studies we begin to pull natural design elements into the spaces in which we occupy the most, this is most commonly displayed as a very literal translation and bringing greenery or imagery of nature into spaces. Stress is often developed from common elements such as work, school, financial stability, and even traffic. While we cannot eliminate stress completely from our lives we can try to learn how to minimize it in the built environment before it develops into depression, anxiety, and other more serious mental illnesses.

Stress is completely different from one individual to another, making it impossible to pin down a specific cause for our body’s reaction. These phenomenological qualities that the stress is an individual make for a range in causes, but our bodies have chemical and physical responses that line up with the introduction and prolonged amount of stress or the individual.

As stress increases we see a string of events that begin to lead to a breakdown and a cause of other mental health issues that stem from stress. These events tend to start as health tension,Continued...
Key factors that effect stress in urban environments:

**Urban Fabric**
- Population Density
- Green Spaces proximity
- Public Transport availability
- Traffic congestion
- Perception of Safety
- Noise

**Environmental Trauma**
- Air Pollution
- Noise Pollution
- Social Security

**Financial Stability**
- Unemployment
- Debt Per Capita
- Social Security
- Family Income

**Population Factors**
- Mental Health Care
- Physical Health
- Gender Equality
- Race Equality

**Urban Fabric**
- Taking into account the physical environment and the factors that can cause increase stress or may help reduce stress in the urban fabric, common factors for the built environment that have been known to increase stress and negatively impact mental health vary from culture to culture, but in general, have been related to high population density, low green spaces, and environmental trauma.

**Environmental Trauma**
- Environmental trauma or pollution refers to the impact humans have on the natural environment from a city. When humans feel like they are taking care of life on Earth, they have this idea of living in harmony.

**Financial Stability**
- Financial stability has a large impact on stress levels. Within the field of research, it has been found that higher poverty levels have sometimes more negative results of an inability to access healthcare and lower value of family life.

**Population Factors**
- A city’s ability to maintain a healthy conversation about mental and physical health in schools, workplaces helps open up the conversation about mental and physical health and become aware of the decline of either. With conversation comes awareness of the world of mental health and its impact on our daily lives.

Los Angeles #70
- Miami #71
- Dakar, Senegal #4
- Cairo, Egypt #5
- Lagos, Nigeria #3
- Baghdad, Iraq #1
- Kabul, Afghanistan #2
- Chicago #68
- Washington DC #94
- New York City #67
- Chicago #68
- Washington DC #94
- New York City #67
This study was conducted to express the individual's personal experience of the 6 major mental illnesses most commonly experienced across the world. For this study, 60+ drawings were collected that each individual, experienced, or viewed. All 6 mental illnesses differ in which individuals have them, experiencing spatial qualities differently depending on how we view space, color, fractals, and more. Individual differences were present, but there were common themes that emerged as you analyze the line drawings. Themes like chaos and static, or a focal point that is central and drawn to the edges, and being drawn to the central void. These drawings then begin to inform how we view mental illnesses.

Thank you to all who participated in the visualization of mental illnesses.
**ANALYSIS OF STUDY**

**DEPRESSION**

- **1.1** - CHAOS
  - Shows a direct connection of stress to one self.
  - Represents a strong connection of stress and heart-rate.
  - Indicates a focus on a central point or object.
  - Establishes the common theme of chaos and disarray as a disruption or breakdown.

**ANXIETY**

- **1.4** - TIRAL TO CENTRAL LOCATION
  - Shows a direct connection of stress to one self.
  - Represents a strong connection of stress and heart-rate.
  - Indicates a focus on a central point or object.
  - Establishes the common theme of chaos and disarray as a disruption or breakdown.

**Mood Disorders**

- **5.1** - SCATTERED PATH
  - Shows a direct connection of stress to one self.
  - Represents a strong connection of stress and heart-rate.
  - Indicates a focus on a central point or object.
  - Establishes the common theme of chaos and disarray as a disruption or breakdown.

**ADDICTION**

- **13.04** - TIMING EXPRESSION
  - Shows a direct connection of stress to one self.
  - Represents a strong connection of stress and heart-rate.
  - Indicates a focus on a central point or object.
  - Establishes the common theme of chaos and disarray as a disruption or breakdown.

**STRESS**

- **4.11** - INSTANCES OF CHAOS
  - Shows a direct connection of stress to one self.
  - Represents a strong connection of stress and heart-rate.
  - Indicates a focus on a central point or object.
  - Establishes the common theme of chaos and disarray as a disruption or breakdown.

**POST TRAUMATIC STRESS DISORDER**

- **6.05** - BREAKING LINES
  - Shows a direct connection of stress to one self.
  - Represents a strong connection of stress and heart-rate.
  - Indicates a focus on a central point or object.
  - Establishes the common theme of chaos and disarray as a disruption or breakdown.

**COMPRESSION OR FORCE**

- **12.12** - COMPRESS OR FORCE
  - Shows a direct connection of stress to one self.
  - Represents a strong connection of stress and heart-rate.
  - Indicates a focus on a central point or object.
  - Establishes the common theme of chaos and disarray as a disruption or breakdown.
The article discussing Biophilia and Healing Environments is analyzed through the teachings of Edward O. Wilson who thought of the essence of man was catalyzed by the innate human desire and need for deep connection to nature in the everyday built environment in which we reside. What is described in this article is explored by Wilson in two parallel strands of discourse stating the origin of biophilic effect.

1. Thought to come from inherited memory, from our evolution and development in the environment of the Savannah long ago.

2. Stemming from biological structure itself, the geometrical rules of biological forms with which we share a template.

While we can assume that the absence of nature effects our biophilia in a negative manner, evidence breaks the biophilic effect apart.

Biophilic instinct is thought to come from inherited memory, from our ancestors longing and missing the environment in which they lived. The idea that we have a desire to be in nature because of our ancestors seeking to flourish in design. By having a connection to life in a discreet way can improve through these lenses, and they too will allow mental health to flourish in design. By having a connection to life in a discreet way can improve through these lenses, and they too will allow mental health to flourish in design.

The article Improving Mental Health in Prison Through Biophilic Design is in line with the teachings of Erich Fromm who was looked at through the lens of Erich Fromm who was looked at as the creator of the term biophilia teaching “love of life”, derived from his discovery of the “essence of man”. Fromm’s research began with the discovery of awareness and the idea of “feeling” Fromm’s understanding of our root for our love of life stems from the idea of development of mankind as the disconnect with nature and other life. Fromm sees the idea of development of mankind as the disconnect with nature and other life, and how this separation has created a decay. Fromm believes that we are either in a phase of growth or decay, because these two are outcomes of life. Only one or the other, and the two phases of growth or decay are tied to one connection to life.

LITERATURE REVIEW - “IMPROVING MENTAL HEALTH IN PRISON THROUGH BIOPHILIC DESIGN”

1. Nature in Space - Visual connection with nature
2. Natural Analogues - Non-rhythmic sensory stimuli
3. Nature of the Space - Access to thermal and airflow variability
4. Natural Analogues - Presence of Water
5. Natural Analogues - Non-visual connection with nature
6. Natural Analogues - Visual connection with nature
7. Life or Death, Growth or Decay.

From this the idea of direct connections allowing nature into the space through these three lenses, catalyzing a path of growth or is in danger of decay. The connection of space and nature in design is improved through these lenses, and they too will allow mental health to flourish in design. By having a connection to life in a discreet way can improve through these lenses, and they too will allow mental health to flourish in design.

LITERATURE REVIEW - “BIOPHILIA & HEALING ENVIRONMENTS”

1. Light - eye connections to three-dimensional imagery and depth perception, skin
2. Color - Pigmentation of partial intensity but overall harmony generates a healthy effect that links directly with our emotions
3. Gravity - The idea of balance in growth post the observer at ease with a naturally occurring structure distantly by gravity
4. Fractals - Biological forms are broken down into fractals, like a circulation system or how an arm breaks down to a hand and then fingers, naturally occurring fractals help the brain interpret patterns
5. Curves - Curved forms are commonly found in nature connecting the brain back to naturally occurring parameters
6. Detail - lack of detail creates a disconnect of the observer to nature, perfectly smooth or even systems do not occur in nature
7. Water - the desire to be close to water is a reassurance of connection to other living forms and things creates aspects for survival

Life or Death, Growth or Decay.

From this we gather that the key to awareness and growth is a connection to nature through the key areas, it is broken down into the ideology of connection to nature through unique queues that create a connection to life through nature in the space, exploring nature of the space and how this relationship natural analogues into a space where we can thrive in design. From this the idea of non direct connections allowing nature into the space through these three lenses, catalyzing a path of growth or is in danger of decay. The connection of space and nature in design is improved through these lenses, and they too will allow mental health to flourish in design.

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LITERATURE EXPERIENCE-LITERATURE REVIEWS

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The world of cancer treatment facilities and the way in which they operate and function are being put into question with this article is how we can re imagine a world of care that effects so many people in the United States and all over the world. “In 2015 14 million people were diagnosed with cancer worldwide.” The vast number of those and the extension of their families involved in the care of patients fighting cancer come to effect a large percentage of the worlds population. So this article dives in to the way that patients, caregivers, and facility see the rose, thorn, and bud of the design and environment in which encom passes cancer treatment.

The environment in which we place a healing body has a lot more influence than we think, the environment can be thought of almost like an incubator, if the environment is clean and working successfully the occupant will begin to heal without any negative effects on the body like germs or bacteria. While a sick body in a contaminated incubator will no longer function as it is supposed to as a healing environment. This is a simple way that we can look at a patient and their co-dependence on environment in which they reside.

“Negative patient experiences are common, not due to substandard care but difficulty in understanding medical terminology, feeling lost, stressful built environmental features, or an inability to have emotional needs met to name a few” (Agutter, 2011). As there are many obvious negative aspects to being diagnosed with cancer or any illness our bodies go into a state of shock, and the environment in which we are supposed to heal in becomes a secondary worry as opposed to the medical technology in which will cure you. The way in which hospitals are designed is to create a highly functional structure that can house medical personnel and technology to diagnose and treat those who come in its doors. The programmatic fiction of a hospital or treatment facility primary focus is to heal people through medicine. “Medicine being a broad term but defined as - The science or practice of the diagnosis, treatment, and prevention of disease - begins to question the foundations of treatment facilities and their functionality geared towards the medical personnel in which help it function rather than those who are supposed to find within the environment what it occupies.

The question is raised: “How can we optimize patients’ time & movement within a facility?”

This data was then collected and analyzed as to how we can begin to look at built studies on the idea of stress reduction in the built environment. Looking at how we can begin to look at spaces and understand their abilities to reduce stress for the individual with spatial qualities.

This question then went on to ask how can the awareness of patient experience using design-thinking strategies to examine the physical environment in which patients occupy during cancer care affects patients mental health, the environment, and how it can contribute to negative experiences, and if new design thinking can generate user sensitive design solutions that can help reduce stress. To develop sensitive design thinking through the eyes of the faculty member, the caregiver and the patient. Through workshops the "thorns" were the negatives of patient care and experience, the "buds" were opportunities for improvement and growth, and the "roses" were the positives. As the different roles were represented there were commonalities between the three, which addressed separation of patient and caregiver, the "institutionalized" feel in which older facilities give, the scale and lack of comfortable environments for caregivers or families, and stress of unclear way finding and feeling lost with no awareness of direction.

Through this collaborative design process the final design solution was a concept of individualized Patient Treatment Pods (PTP). These PTP provide "control, privacy, comfort, minimal travel within oncology units." While surrounding the immediate patient needs with "restrooms, patient lounges, exam stations, and nutrition. Utilizing participants’ personal experiences along with design thinking led to a prototype that creates a cancer treatment facility that may better suit patient needs while potentially reduce anxiety.
How does the design approaches of sensitivity to the human scale in an environment attribute to creating a healing environment?

**Light**

High vaulted open ceiling allow the compact design to flood the interior spaces with light and light creating natural lighting in interior patient spaces.

**Green Space**

The Green Space limited and is pushed to the exterior of the spaces presenting a lack of a connection to nature, but focuses on connection to nature with the use of light.

**Environments**

Human scape and the perception of space is a key part of the design to bring a hospital back down to the human scale and reduce stress by overwhelming.

**Basic Circulation**

The circulation is pushed to the walls of the courtyard creating a shared connection to the private courtyard within the design connecting the patients to one another and their shared spaces.
How do the designers rethink way finding and efficiency creating a sense of place within the overwhelming environment of the hospital?

**LIGHT**

With the location of the hospital being in the middle of a busy city the program must be built up and the facade utilized in order to allow light into the space, the skin of NY Presbyterian allows a filtered light to flood into the hall allowing views out and prioritizing the occupant when circulating the building.

**GREEN SPACE**

Green space and the desired connection to nature is diminished in this project, the location of the project does not allow the easy access to green space or nature much like a more suburban project would allow, with a compact design the priority for the design is the occupant and not green space.

**ENVIRONMENTS**

Environments and circulation is a key part of this design with easing stress and the stigma of a hospital hallway, there is a clear consideration and separation of the patient and the staff as well as the visitor and the staff. The environment created is a separation of visitor and staff which helps easing circulation for both parties allowing work and healing to work separately but also in tandem as well.

**BASIC CIRCULATION**

The main circulation is a large hall pushed to the edges of the mass again prioritizing the person circulating the design keeping their orientation as a focus. Separating the circulation of the visitor versus the staff through this design move we see a sensitivity to the stress and environmental factors that go into the idea of healing and care.
How does technology and immersing environments help heal patients rather than overwhelm the occupant?

Light

Light in this project was thought of in a different manner that is sensitive to the occupant and the idea of consistency and uniformity. The center is design with the soldier in mind and traumatic brain injuries and PTSD heavily in consideration. Natural light is limited and defused into spaces allowing patterns of light only in the lobby space while the hallways and treatment areas allow more even artificial lighting the illuminate the spaces evenly.

Green Space

Green space is limited in this design because of the prioritizing of healing through immersive technology. The green space and connection to nature is limited to surroundings and to the simulated environments that the patients occupy in therapeutic immersive therapy.

Environments

The soldier and healing is a priority for this design and the art of healing through simulations and technology in controlled environments allowing the patient to be immersed into a scene. The environments created although very specifically geared towards the occupant allow us to see the cohesion of design and awareness to the occupant being the main goal of healing.

Basic Circulation

Basic circulation is sensitive to uniformity in the main mass of the structure creating straightforward circulation for the occupant and patient in the therapy wing and the patient rooms, but breaks away from straight perpendicular circulation in the auxiliary programmatic areas of the mass where the shared spaces like the auditorium, lobby and other open spaces.
How does the design approach the idea of reinventing hospital design and the way in which we occupy and navigate the hallways we share with patients, faculty, and the caregiver?
**Human Scale**

**Centre for Cancer and Health**

NORD Architects

Question asked: How does the design approaches of sensitivity to the human scale in an environment contribute to creating a healing environment?

Spatial response: Bringing the design down to a human scale makes it much easier to digest for the observer, want to connect to our spatial environments and when we are overwhelmed it becomes harder for the individual to connect and find comfort within the environment that they are occupying. Therefore, bringing the design to a more human scale will help us identify and find comfort within a space.

**Separation**

**New York Presbyterian Koch Center**

HOK + Ballinger + Pei Cobb Freed & Partners

Question asked: How does the design approach the idea of reinventing hospital design and the way in which we occupy and navigate the hallways we share with patients, faculty, and the caregiver?

Spatial response: Separation of chaos and the individual is a key factor in this design to reduce stress for visitors. By separating the “work” aspect of the hospital from the visitor, the environment has a reduction in sound, stimulants, smells, and chaos. Therefore separating the aspects of back or house and the stage while the patients are nested in the middle creates availability for work as well as a buffer for visitors and leisure.

**Environments**

**National Interpid Center of Excellence**

SmithGroup/JJR

Question asked: How does technology and immersing environments help heal patients rather than overwhelm the occupant?

Spatial response: The aspect of environment for healing is amplified in this design when it is calling for an intense immersion for healing. Individuals at this center are immersed in environments with technology in order to heal. Therefore allow in technology and environment to begin to heal the brain calls for the idea that immersive spaces can hold healing qualities.

**Path Variation**

**Northern Beaches Hospital**

BVN

Question asked: How do the designers rethink way finding and efficiency creating a sense of place within the overwhelming environment of the hospital?

Spatial response: This design embodies the idea that way-finding is manifesting a connection of the occupant to space, we desire the ability to break down and understand where we are and how to get where we want to go. Therefore breaking down the design and long hospital hallways into a less repetitive more destination based space we are able to comprehend and way find at a different pace.

<table>
<thead>
<tr>
<th>Centre for Cancer and Health</th>
<th>National Interpid Center of Excellence</th>
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</tr>
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How will this help us begin to design for mental health on a larger scale to combat the immense amount of stress we feel in our day to day lives?
When designing for mental health we have to begin to as ourselves how we can make the spaces and environments we create and design more digestible but also tie in our innate design to connect to nature and other qualities that occur in tandem with nature, such as natural analogs, the expression and attention to the idea of gravity, while implementing attention to natural lighting, feeding into the sense of wander we all crave, and the detailing within fractals often found in nature.

We have a desire to explored as we move through spaces and discover new paths, details, while feeling a sense of comfort and belonging. This will help us embody all of the qualities we desire in design for others on a larger for meta scale rather than designing for specific extreme environments we need to begin to move this to a more urban scale for a larger impact on mental health around the world.

All over the world one out of every thirteen individuals is effected by long term exposure to stress. In the United States alone where there is less wide spared poverty, and higher average income, and a greater sense of security one in every five individuals suffers from the impacts of poor mental health.

The gap where individuals are impacted in our daily lives by stress is within the urban environment, housing dense populations, to suburbia. Majority of individuals have to travel to work, school, or to essential businesses, these paths we take host different levels of temporary or for some long term stress.

Society has a need for stress relief in not only extreme environments but also an urban level where many more individuals are impacted.

This thesis is looking at the gap that needs to be addressed on an urban level and how we begin to design from the first stages of site analysis.

Architects vow to protect the health safety and welfare of those they design for, but how can we begin to expand that statement and design for more than just the client but for the communities mental health safety and welfare.

How will this help us begin to design for mental health on a larger scale to combat the immense amount of stress we feel in our day to day lives?
Chapter 2: Addressing the Gap of Mental Health Awareness When Conducting Site Analysis
cities have been the start of civilizations across the world, housing and connecting multiple micro-environments to one another. Dense urban landscapes host a range of connections and iterations on a daily basis on many different levels such as social interactions, physical connections from one place to another and also connections to the built environment and history. Dense urban environments can not be dwindled down to an exact science of how to design a successful city overnight, the ever changing factor that can make one city successful over another when it is almost an exact replica has to do with the people who occupy a city or a region, streetscapes and parks have been modeled after ancient successes and have fallen short. this is because there is an ornate quality that ties the occupant to the environment that cannot be predicted, fabricated or replicated. the built environment we occupy can either encourage and host interaction or it can become a dead space that lacks interaction. we then have to ask ourselves what qualities make us want to interact with a space and how is that desire then tied back to the feeling or security, safety, and the tie to nature we all desire. this is where we begin to question the beginning stages of design and the sensitivity to our existing surroundings.

why is typical site analysis not enough when it comes to designing for mental health?

how can we use site analysis to create a better built environment and streetscape that better our physical and psychological wellness that is not just by putting a green bandied on an urban wound?

Cities have been the start of civilizations across the world, housing and connecting multiple micro-environments to one another. Dense urban landscapes host a range of connections and iterations on a daily basis on many different levels such as social interactions, physical connections from one place to another and also connections to the built environment and history. Dense urban environments can not be dwindled down to an exact science of how to design a successful city overnight, the ever changing factor that can make one city successful over another when it is almost an exact replica has to do with the people who occupy a city or a region, streetscapes and parks have been modeled after ancient successes and have fallen short. this is because there is an ornate quality that ties the occupant to the environment that cannot be predicted, fabricated or replicated. the built environment we occupy can either encourage and host interaction or it can become a dead space that lacks interaction. we then have to ask ourselves what qualities make us want to interact with a space and how is that desire then tied back to the feeling or security, safety, and the tie to nature we all desire. this is where we begin to question the beginning stages of design and the sensitivity to our existing surroundings.
Architecture does more than provide a simple shelter or space in which activities happen. Architecture creates the backdrop of our lives, and then obtains the representation of our personal “mental-scape.” Can we then assume that then our built environment and architecture also have the power to inflict the same reflection inward?

We can learn from this new approach to site analysis and create categories that reflect the ability for our built environment to induce stress and affect our mental health while we are experiencing the environment. These categories then can begin to simplify site analysis when looking for triggers that change the state of our mental health. These categories are broken into:

**DEGREES OF ENCLOSURE**
- Micro
  - Context Scale
    - Green Space on Site
    - Access to surrounding Green Space
    - Public Views into the Site
    - Private Views out of the Site
    - Levels of Privacy
  - Vehicular Circulation
    - Vehicular Intensity
    - Existing Social Conditions in Context
  - Pedestrian Circulation
    - Pedestrian intensity
    - Organization of Site Scale
  - Sense of Wayfinding
  - Sensory Experience
  - Human Scale
- Macro
  - Density
  - Landmarks / Attractions
  - Crime Rate
  - Average Household Income
  - Age Range
  - Landscape to Green Scape Ratio
  - Public Spaces
  - Historical Areas
  - Construction History
  - Perception of Security

**NATURE**
- Environment
  - Landform
  - Landscape
  - Weather
  - Vegetation
  - Water body
  - Wildlife
  - Noise Pollution
  - Light Pollution
  - Land Pollution
  - Air Pollution
  - Temperature
  - Humidity
  - Natural Light Exposure on Site
  - Amenities
  - Artificial Light on Site
  - Activity beyond 9-5
  - Seating on or near Site
  - Public Transportation Access
  - Character of Site Surroundings
  - Ornamentation of Surroundings
  - Repetitive nature of surroundings
  - Perception of Security

**ENVIRONMENTS**
- Scale
  - Accessibility
  - Choice

We can learn from this new approach to site analysis and create categories that reflect the ability for our built environments to induce stress and affect our mental health while we are experiencing the environment. These categories then can begin to simplify site analysis when looking for triggers that change the state of our mental health. These categories are broken into:

**DEGREES OF ENCLOSURE**
- Micro
- Macro

**NATURE**
- Environment
- Accessibility
- Scale

**ENVIRONMENTS**
- Choice
Marietta Street Atlanta, Georgia

Atlanta Georgia is home to a unique dense environment at the heart of its city that experiences the repercussions of urban sprawl in the greater Atlanta area. Because of this we see a heavy amount of vehicular traffic that is paired with countless parking decks and areas that experience heavy pedestrian traffic. The collision of qualities makes Atlanta an ideal location for the study of mental health in the built environment.

This section of Marietta Street has been chosen to study because of its location to so many different attractions that bring tourists and residence to the area year-round. This part of Downtown is a main artery that feeds into the busy Atlanta area and the predominant attractions that make Atlanta a tourist hot-spot from the Georgia Aquarium to the Centennial Olympic Park, Five Points to the Georgia State University Campus this Street dense with activity.

Introduction to Site

Marietta Street Atlanta, Georgia

Key for context map

- Construction Zone
- Public Space | attractions
- Medical Facilities
- Abandoned Buildings
- Mixed Use | Commercial Residential
- Large Commercial
- Small Commercial
- Government Buildings
- Parking Decks
- Building Masses
- Parks
CHAPTER 3: ANALYSIS AND DESIGN FOR MENTAL HEALTH IN THE BUILT ENVIRONMENT
Utilizing Marietta St, as a main artery for the city of Atlanta, there were a series of “stressors” located along the street, making it a hot spot for damaging mental health in the urban environment. As we begin to further analyze Marietta Street it becomes obvious that there are different fragments of the streetscape that invoke different feelings of stress in the built environment. This then leads to the selection of specific sites that begin to reflect spaces where our mental health has the ability to become compromised.

From issues of lack of sensitivity to scale to an absence of variety in degrees of enclosure, to a complete lack of connection to nature there is a need for intervention along Marietta Street.

Different areas call for different forms of intervention as well as completely different setting for design. Four areas began to show the highest level of density for negative effects on mental health.
SITE SELECTION METHOD

SITE ONE:
LOCATION: Intersection of Ivan Allen Jr Blvd and Marietta Street
CONDITION: Site lacks place and identity. The site backs up the railroad tracks and overlooks the massive dehumanizing rooftops of the World Congress Center, and while the site is abandoned, the lack of social activity and pedestrian movement manifests a lack of life on the street.

SITE TWO:
LOCATION: Between Marietta St and Centennial Olympic Park
CONDITION: Paths mimic the axis of the surrounding streets. While the individual experiences the space it is surrounded by the city, how can you stretch the view out further into the city and change the perspective of the surroundings.

SITE THREE:
LOCATION: Located at Five Points and Woodruff Park
CONDITION: The intersection is composed of organized chaos. While the intersection is geared towards vehicular circulation, there is also a unique flow of pedestrian circulation. How can you give power to the pedestrian and how they view the intersection.

SITE FOUR:
LOCATION: Intersection of Decatur St and Central Ave
CONDITION: On the corner of these two streets stands a sculpture that is surrounded by lifeless surface parking and parking decks, creating a sense of "placelessness." For those who circulate through the site, the area is barren.
SITE ONE:

Intersection of Ivan Allen Jr Blvd and Marietta Street conditions four lanes wide with a shared bike path on outer lanes. Site lacks place and identity. While the site is abandoned the lack of other people or less people makes you feel more safe.

What can be gathered for the site?

With the lack of pedestrian movement on the site I want to create a comfortable place to gather and utilize the heavy structure of the buildings across the tracks as an opportunity to extend green space across the gray rooftop. By implementing a design tactic to create more of a connection to nature, the site will also have a new bus stop and a pavilion with a possible library and a playground.
MODEL DESIGN ANALYSIS

KEY
- CIRCULATION PATH
- DISTORTING PERCEPTION
- INWARD FOCAL POINT
The design approach for the park will be redefining the way-finding in the park, reducing the under-utilized open space and creating a more playful landscape that inspires exploration throughout the entire site. While keeping the existing features using the design guidelines to create a greater connection to nature and reduce stress for those who occupy it. Possible additions of pavilions geared towards easing the stress of common mental disorders experienced by so much of the population.

**SITE TWO:**

Between Marietta Street and Centennial Olympic Park, or paths mimic the axis of the surrounding streets, creating a cohesive plan. While the plan is functional, it restricts nature of the space. The harsh paths restrict creativity and make you feel exposed and watched.
Design Approach Method

Site Three:

Located at five points and Woodruff Park. The intersection is composed of organized chaos. While the intersection is geared towards vehicular circulation how can you give power to the pedestrian and how they view the intersection.

What can be gathered for the site?

The intersection for Little Five and Woodruff Park will be approached in the eyes of a space to make someone who is unfamiliar feel less stressed about entering the space and circulating an unfamiliar area. This will consist of spaces to stand and re-orient out of the way of those rushed to get from one point to another.
MODEL DESIGN ANALYSIS

KEY

- circulation path
- distorting perception
- inward focal point
FINAL DESIGN

FINAL DESIGN AXON

FINAL DESIGN PERSPECTIVE
SITE FOUR:

Intersection of Decatur St and Central Ave
On the corner of these two streets stands a naked sculpture that students avoid. The site consists of surface parking and parking decks creating a sense of "placelessness" for the students on campus.

What can be gathered for the site?

The intersection for Little Five and Woodruff Park will be approached in the eyes of a space to make someone who is unfamiliar feel less stressed about entering the space and circulating an unfamiliar area. This will consist of spaces to stand and re-orient out of the way of those rushed to get from one point to another.
MODEL DESIGN ANALYSIS

KEY
- CIRCULATION PATH
- DISTORTING PERCEPTION
- INWARD FOCAL POINT
FINAL DESIGN

FINAL DESIGN AXON

FINAL DESIGN PERSPECTIVE