Mental Wellbeing & Space Spaces for Mental Health & Wellbeing after Dislocation

Research booklet

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Abstract

Abstract: This research encompasses an exploration on spaces for mental health and wellbeing for newcomers in the Netherlands with a migration background caused by forced dislocation. This group of new Dutch citizens have a higher prevalence for mental disorders such as anxiety, depression, post-traumatic stress disorder and related symptoms of a decreased mental health. The role of architectural spaces and architectonic elements is analyzed and studied through a thorough literature research, supported by case studies to relate to practical executions of the findings. The architectural spaces are defined by necessary activities in preventing and treating mental disorders, creating spaces that support participation, feeling of control, social relations, restoring identity etc. in relation to the integration process on a neighborhood-level. The architectonic elements describe the design considerations for these spaces concerning natural daylight, clear wayfinding, safety through a stable environment, materials for comfortable spaces and atmosphere created through aesthetics that create a home-like and familiar environment for support.

Keywords: Forced, Involuntary, Dislocation, Mental, Health, Wellbeing, Healthcare, Architecture, Healing, Spaces

Preface

Being confronted with health problems, overcoming them and realizing the importance of health has driven me towards a fascination for health and healthcare architecture in relation to my studies. Spending considerable time in healthcare facilities has stimulated an awareness on the effects the built environment can have on you especially.

Additionally, a background of refugee parents, an awareness towards the luxury on the broad possibilities on executing topics of health and wellbeing in the Netherlands and the relevance of this topic, initiated the research. The possibility to create healing spaces and mainly mental healing spaces to improve people's lives and therefore that of the Dutch society and communal wellbeing, is what inspired proceeding studies as this one.

During my studies I volunteered as a board member and chairman at the student board of Engineers4Refugees. This work offered me the opportunity to work closely with Dutch newcomers from whom some I even may call my friends, forced to leave their homes behind. The activities housed by these spaces showed me how architecture can alleviate stress. It was visible that the Dutch lessons that would be provided in the faculties at the campus of the TU Delft would make them proud in becoming part of the TU Delft campus. Being able to use the facilities and becoming familiar with the campus and its people while building on future prospects.

These experiences expanded my knowledge and allowed me to emphasize and understand the importance of this topic. An architect is responsible to be aware of the effect architecture and the built environment have on people's quality of life.

Introduction

The refugee crisis as it is known today, has been an ongoing event for decades. This crisis is the result of involuntary displacement forced upon people caused by natural or political forces. The refugee crisis affects the Netherlands by an average influx of 26.000 refugees per year (UNHCR, 2021). Over the past 10 years this has resulted in the acceptance of an average of 18.000 new citizens per year in the Netherlands (CBS, 2021). Displaced people come from facing hardships and seeking safety and prosperity, to find more hardships to face after they have received a residence permit.

Support is provided for this group throughout the integration process on different levels in relation to basic needs and the integration process. However, statistics show a higher risk on a decreased mental wellbeing and mental disorders in this group in comparison to the average Dutch population (Pharos, 2017). It can be stated that the importance of suitable support stretches beyond housing, safety and security. Physical and mental wellbeing determine the person's quality of life and suitable support should cover these important elements to promote a better quality of life.

1.1 Problem Statement

Research and statistics state that there is a demand for support on mental wellbeing for dislocated people in the Netherlands. After an exhausting timeframe of migration (figure 1) caused by forced dislocation, refugees applying for asylum will spend an adequate amount of time in asylums until their request is processed. Several Statements by the Red Cross (AD, 2021) empha-

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size on the lack of support in the asylums in general, which increases the risks on long-staying effects of mental issues.

Everyone processes their experiences differently and is therefore affected in different ways. The event of dislocation and the stay in the asylum (UNICEF, 2021) are events which are clearly to be dealt with by refugees entering the Netherlands. Unsuitable and insufficient support at crucial moments in the procedure of settling down can lead to large groups of people in the Dutch population risking (long-term) mental health issues such as depression, anxiety, trauma and post-traumatic stress disorder (PTSD) which in the worst-case could result in suicide (Pharos, 2017). Treatment on mental disorders is difficultly reached by this group, due to barriers in information, access and availability. This lack of support on mental health and preventative facilities

causes a higher risk on the deterioration of symptoms of a decreased mental wellbeing and mental disorders. On a long-term perspective, the use of these facilities rises, but is still low in comparison to the higher percentage of mental illnesses. (Pharos, 2016)

Healthcare architecture is the execution of architecture with a focus on its healing effect on physical and mental wellbeing by decreasing psychological stressors that could cause depression, anxiety or stress on patients through architecture.

The aim of this research is to analyze the extents to which architecture can support mental health and wellbeing for dislocated newcomers with an accepted citizenship.

decission —— acceptance -5 years minimum

rejection & return

IND

interview

8 days

COA asylum

6 - 15 months

1.2 Focus group

An important notion must be made in advance, as it is impossible to generalize the dislocated person. However, it is possible to provide support for a wide range of dislocated people and aiming to satisfy their needs as best as possible.

Mental disorders often tend to arise when the dislocated person is allowed to settle down and is assigned to housing (BD,2021) after the complex timeframe of migration and the residency at the asylum. Mental disorders or symptoms of decreased mental wellbeing are often not directly recognizable as physical illnesses are. Therefore, it is impossible to select the exact focus group in need of psychological support. This research will proceed with the assumption that every newcomer from the asylum should be provided support on mental wellbeing as there is a higher risk on mental disorders in this group. The importance in mental health is prevention, early signaling and treatment (WHO, 2021). The longer a person does not treat a decreased mental wellbeing, the higher the chance of resulting in mental disorders and more difficulty in treatment (Trimbos, 2012). This research will focus on the support for dislocated people at the transition from the asylum to housing into their new neighborhood as displayed in the timeline in figure 2.

1.3 A space for mental health

The spatial exploration of the interdisciplinary fields of architecture and psychology on mental health and wellbeing is the perspective from which this study aims to provide a solution for the problem statement. Healthcare architecture, human centered and evidence-based design are acknowledged design ap-

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proaches with successful executions. DuBose et al. (2016) states in his research on healing spaces that architecture itself does not explicitly heal but, it offers the conditions for healing through behavioral and emotional engagement that support the process of healing. In relation to the target group and problem statement this research will analyze the suitable architectural and architectonic elements on the required support for mental health and wellbeing. A space for mental health and wellbeing and its execution on neighborhood level in relation to the assigned housing for dislocated people as a communal integration center in their environment is the scope for the design elaborations discussed in this research.

> Space for Mental health &

> > Wellbeing



decission

acceptance -5 years minimum

2. Methodology

2.1 Aim & Relevance

This research aims to support the field of architecture and providing knowledge on the development of our built environment. The role of architecture is to find spatial solution on social and less tactile problems within human life and society.

This study is in relation to the design assessment of the master track Architecture graduation project in the Explore Lab studio. The interdisciplinarity of this project offers a valuable professional and scientific scope on the proposed problem statement. The project can inspire a stance and approach towards spatial solutions on mental health and wellbeing after dislocation. The project also aims to raise awareness on the general importance of mental health and wellbeing and the role of the built environment. The problem statement defines an issue that crosses several fields within society and social structures with a main focus on the Dutch population. The specific specialization of this project adds a valuable understanding within the field of architecture and the built environment and aims to inspire further research and projects enriching the quality of life through architecture.

2.2 Research Questions

The framework for the research provided in the introduction results in the following research question:

"What architectural spaces and architectonic elements define a space for mental health and wellbeing after dislocation for newly accepted Dutch citizens in providing supporting prevention and treatment?" In answering this main research question, the research will be supported by sub-questions. The introduction offers a brief introduction on the importance of a healthy mental wellbeing and the risks on daily life. To provide a clearer scope onto the problem and the factors that architecture could react to, the following sub-question is described; What are the risks and effects of an affected mental wellbeing of dislocated people on daily life? In relation to the timeframe of dislocated people and the architectural intervention, the context of the problem statement is supported by the following sub-question; What obstacles in the integration process could affect a decreased mental wellbeing after dislocation? These two questions frame the factors and elements upon which the second part of the research is intended to execute research on in relation to architecture.

The research makes a division in architectural spaces and architectonic elements. The architectural spaces are specifically related to the integration process and mental health and wellbeing of dislocated people. This is supported by the following sub-question; What architectural spaces in the integration process of accepted newcomers could treat the symptoms and support a healthy mental wellbeing for dislocated people? The architectonic elements intend to frame the architectural qualities and details in the ensemble of the space for mental health and wellbeing for dislocated people, supported by the following sub-question; What architectonic elements provide relief on the symptoms caused by the effects of dislocation on mental health and wellbeing?

Understanding the role and implementations of architecture in designing spaces for mental wellbeing after dislocation is the goal to achieve in the results of this research.

2.3 Methodology

A thorough literature research and case study analysis on the topics of mental disorders, dislocation and architecture concerning mental health and wellbeing will support answering the research questions of this research. This will be followed by conclusions derived from the obtained information and executed analysis.

2.3.1 Literature

The literature research will provide a framework for the first part of the research concerning the context and the more interdisciplinary topics of mental health, disorders and wellbeing and involuntary dislocation and dislocated people.

International and national Dutch reports on asylum seekers, refugees, newcomers concerning mental health and wellbeing will be studied. For example, the website of the National Health service (NHS) is consulted on accessible descriptions of the common mental health disorders described in the reports. Involuntary Dislocation: Home, Trauma, Resilience, and Adversity-Activated Development, by Renos K. Papadopoulos was consulted as a guide on the psychological impact of this topic. These examples and more literature consulted, allow analyzing and understanding the interdisciplinary elements of this topic to a certain extent within the frame of my architectural understanding.

The specific literature on this topic is often outside the realm of architecture and the built environment. Therefore, as well literature on healthcare architecture and healing spaces for psychological health concerning dislocated people will be studied carefully as these fields of study touch upon the mental healing environment and therefore support answering the research question.

2.3.2 Case Studies

The literature research and the findings will be documented into spatial architectural design elements. Hereby architectural interventions, spaces and architectonic elements that support prevention and treatment for mental health and wellbeing will gain understanding in practical design elaborations. This will be supported by case studies to provide examples on possible executions of these design elements and further understanding on the architectural execution on answering the research question. Analysis of several case studies whom are picked carefully in their relation to the research, will provide an overview on the findings in their relation to the research.

3. Context

3.1 Theoretical framework

This framework provides background information, aiding a clear understanding of the research by an overview of the frequently used terms in this research.

Forced dislocation

The phenomenon of forced dislocation also described as involuntary dislocation. Caused by several external factors affecting the safety of a person leading into a person having to dislocate (Papadopoulos, 2021). These are often political or environmental factors.

Refugee

The event of forced dislocation can cause a person having to flee and seek refuge. This person is named a refugee. This can be within national or international boundaries.

Newcomer

A newcomer is a new citizen. In relation to this research a newcomer is a refugee that applied for asylum in the Netherlands and received an accepted citizenship status. This person is in the integration process to integrate as a Dutch citizen in the Dutch society.

Mental disorder

Mental disorders know a large variation of symptoms and illnesses affecting the mental health and wellbeing of a person. Mental disorders often affect thoughts, perceptions, emotions, behaviours and relationships (WHO, 2019). The effects and symptoms are often intertwined and affect each other.

Mental health & wellbeing

Mental health and mental wellbeing are related but different definitions. Mental wellbeing is the person's own understanding of their experience of life. It refers to one's sense of self and satisfaction in life. Mental health is related to specific signs and symptoms that define a person's functioning in life. (Gega, 2021) Therefore mental health is the frame in which mental disorders can be diagnosed. Mental wellbeing can therefore be affected by mental health. Relationships, physical health and emotional health are controllable factors for one's mental wellbeing. (CABA, 2021)

Anxiety (Generalized anxiety disorder)

Anxiety is one of the common mental health disorders. It is a disorder but also the main symptom of disorders such as: panic disorders, phobias and PTSD. It can encompass mild symptoms of unease, fear and worry which can also be severe and interfere in a person's daily functioning. (NHS, 2021) A more detailed description can be found in figure 3.

Depression

Depression affects mental health extremely by several symptoms. The main symptoms affect the person's mood and perception of life by extreme feelings of unhappiness and hopelessness. (NHS, 2021) A more detailed description can be found in figure 3.

Post-traumatic stress disorder (PTSD)

PTSD is a disorder caused by traumatizing and stressing events. A person who experiences PTSD relives these events through nightmares, memories and flashbacks. This can result in other symptoms such as irritability and isolation. (NHS, 2021) A more detailed description can be found in figure 3.

3.2 What are the risks and effects of affected mental wellbeing of dislocated people on their daily life?

Dislocation forced upon people comes with the exposure of various stressing factors which have an effect on the person's mental health and wellbeing. The timeframe of these stressors stretches from the factors that forced the person into dislocating up until challenges during the integration in their new country. (WHO, 2021)

Mental health disorders such as anxiety, depression and PTSD have a higher risk on prevailing due to these stressors. The lack of access to mental health services (WHO, 2021) to treat the early symptoms of decreased mental wellbeing is an unfortunate fact that leads to long-term effects and suffering from these mental disorders (Trimbos, 2012). The theoretical framework provided a short summary of these disorders. Figure 3 below provides an overview of the symptoms, consequences and risks of anxiety, depression and PTSD on daily life of dislocated people.

As all the symptoms related to mental health disorders, have a certain effect on the person's wellbeing and daily life, the common disturbances on daily life caused by the symptoms will be mentioned briefly as these effects can lead into a circuit of effects.

Anxiety, depression and PTSD are disorders that can affect and stimulate each other when not treated properly (NHS, 2021). The symptoms of these disorders can affect social relations of the person, caused for example by symptoms of unstable emotions or irritability. The social contacts and relations could be affected unintentionally and intentionally to avoid triggers for their symptoms resulting in isolation. (Papadopoulos, 2021)

Fatigue related to a decreased mental wellbeing affects the performance of the person on daily tasks and therefore their development (Papadopoulos, 2021). Especially concerning the integration and education in the new country of accepted citizenship, this can have drastic effects on their life.

Identity and self-worth play a big role in one's wellbeing and quality of life. As dislocated people often must deal with an affected identity due to major changes in their life and environment, security etc. dislocation can affect how a dislocated person can experience himself as an individual (Papadopoulos, 2021). Therefore, it also becomes harder for the person to express himself and engage in social relations.

To conclude, the effects of decreased mental health influence social relations resulting in isolation and fatigue resulting in decreased performances in daily life tasks concerning work and education.

There is no way to prevent mental illness surely (Mayo, 2018), but there might be strategies that could help. This will be elaborated upon in the next chapters.

3.3 What obstacles in the integration process could affect a decreased mental wellbeing after dislocation?

Besides the general struggles and obstacles dislocated people come to face, the integration process brings along many other stressors. Dislocated people come to face doubts and struggles concerning their identity as they interact with the local people. Changing circumstances can lead to a constant change of one's goals and perception towards future prospects. These factors and many others that these people come to face, affect the confidence in one's ability in achieving their goals, affecting their identity further. (Papadopoulos, 2021)

Many newcomers are still waiting, for procedures on education, employment, official documents, possible family reunions and more matters while starting to integrate. (Pharos, 2016) (WHO, 2021) This phenomenon of waiting will be very persistent in the first years. The waiting causes insecurity and impatience and other stressors triggering symptoms.

The phenomenon of acculturation which entails the event of a person trying to maintain their familiar culture while integrating into a new one (Hameed, 2018). An example is something as simple as unfamiliarity with daily tasks and a major factor is the language (Hameed et al., 2018).

This shows that the post-migration period connotates with environmental and emotional stressors whom stimulate the development of mental disorders. (Hameed et al., 2018)

Symptoms

physical pains restlessness & on-edge easily fatigue trouble concentrating irritability muscle tension uncontrollable worry sleeping issues

Anxiety

<u>avoiding triggers</u> <u>panic attacks:</u> <u>d breathing & hyperventilati</u> <u>physical pains such as:</u> <u>headaches & bowel issues</u> <u>fear & sense of danger</u> <u>substance misuse</u> <u>poor quality of life</u> <u>depression</u> <u>suicidal thoughts</u>

Prevention & Treatment

early help <u>staying active</u> <u>positive stimuli</u> <u>social interactions</u> caring relationships avoiding substance misuse

PTSD

avoiding triggers social withdrawal isolation lack of interest detached from reality emotional instability bursts.aggressive behaviour depression anxiety eating disorders uicidal thoughts / action

Symptoms

ags of sadness, emptiness, effulness & hopelessness ability, frustration, anger s of interest in pleasure rouble concentrating sness, aggitation & anxiety sleeping issues lack of energy reduced appetite

Depression

social withdrawal isolation unexplained physical problems iffected development & integration decreased performance unstable emotions (anger, frustration) substance use & abuse suicide, thoughts of death

Prevention & Treatment

<u>early help</u> <u>controlling stress:</u> <u>resilience & boost self-esteem</u> <u>family & friends</u> ong-term maintenance treatment

Symptoms

recurring unwanted memories of traumatic events reliving flashbacks upsetting dreams & nightmares emotional distress, numbness negative thoughts feelings hopeless & detached memory issues

Prevention & Treatment

timely support family & friends whom offer: listening & comfort social support

Figure 3: Consequences and risk of the prevailing mental disorders: anxiety, depression and PTSD. (By author, derived from (Mayo Clinic, 2018) (NHS, 2021)).

4. Research

4.1 What architectural spaces in the integration process of accepted newcomers could treat the symptoms and support a healthy mental wellbeing for dislocated people?

A major part of therapy for mental wellbeing after dislocation is prevention, as this group is known to have a higher risk on developing mental illness over time after their accepted status. This should be supported by treatment and early help when possible if there is a clear indication for a mental disorder. (WHO, 2021) (Mayo Clinic, 2018) (Pharos, 2016) (Trimbos, 2012)

The first step for prevention and treatment to occur is access and information. In relation to the integration process, a space for mental wellbeing related to their new home in their new neighborhood could function as a strong direct link in this process. The importance of this facility, linked to the environment as an essential and familiar building allows the user to build a relationship to it as common as the neighborhood's supermarket. Creating the circumstances for access and information exchange. Lacking access to prevention is caused by barriers in the provided information on mental health and wellbeing and its accessibility. It is important to connect access to attractive locations and activities such as cultural instances and the connection to multiple sectors and systems to support engagement and further development (WHO, 2021).

The approach of Humanity Crew (2020) offers refugees support from a collective culture, as their research and work execution shows that the collective approach is stronger than the individual approach. Support provided in communal settings and activities (Dermaut, et al., 2005) creates a healing environment after dislocation. As most dislocated people come from non-Western backgrounds (Papadopoulos, 2021) it is important to consider their mentality on the importance of family-oriented settings. Mental disorders affect one's confidence, thus empowerment and celebrating the strength of the dislocated people (Humanity Crew, 2020) (Papadopoulos, 2021) are important factors in restoring symptoms such as hopelessness related to mental health. Fighting symptoms caused by acculturation can have a positive effect on the person's identity. This can be achieved by providing the tools that create comfort in expressing their culture on different scales, such as the smells of their self-created foods in a kitchen. (Humanity Crew, 2020) Examples such as support on language can play a huge role in stress-relief (Hameed, 2018) and it fights the phenomenon of social exclusion. More examples and executions will be discussed in the coming chapters. In relation to the context of the Dutch neighborhood and the influx of the current newcomers it would indicate an average of maximum 25-30 people using the building at the same time. To summarize, the main factors that support a healthy mental wellbeing is prevention and treatment through easy access to information and education concerning mental health. This can be achieved on a neighborhood-level approach from a collective and communal perspective. Activities that support identity and familiarity in a positive sense could have a positive effect on many of the symptoms of a decreased mental wellbeing.

4.1.1 Spaces for Therapy

Treatment is the second important factor for mental wellbeing after prevention. When a person is diagnosed or suffers from symptoms affecting their mental health, therapy in forms of individual and group sessions should be provided. Therapy directed by a professional can offer support and healing for this group of newcomers when they need improvement on their mental health. (Dermaut, et al., 2005)

When it comes to the space for individual sessions, a setting where the patient might feel interrogated should be avoided. The asylum procedures can often create a negative association with these settings as they are often emotionally draining. (Dermaut, et al., 2005)

Collective therapy is often offered for couples or families struggling as a collective in their new environment (Dermaut, et al., 2005) and support in family settings are found to be highly effective (Stichler, 2008). This can range in spaces for small groups of 2 up to 8 or more persons in a family.

Therapy in a group setting is a promotor of mental wellbeing and health. The group therapy sessions are organized for a group with overlapping characteristics, such as age, gender or mental disorder. (Dermaut, et al., 2005)

The design requirements for these spaces demand therefore small rooms where safety and comfort are promoted and institutional boundaries such as a desk in the middle are avoided. Safety is provided by acoustic and visual privacy from the inside and outside of the building. Having these intimate spaces on a second floor with no transparent interior walls could offer privacy without closing a room completely off.

Comfort and safety can be achieved by the execution of individ-

ual therapy spaces with a dimension of an average of 6-8m2. As to prevent too small spaces that might come off as oppressive, or too large spaces that can create distractions. Spaces for couples or smaller families are proposed to be on an average of 15m2. Larger families fall into the range of group therapy spaces where a group size of 10 people is advised (Dermaut, et al. 2005) which results in a dimension of about 30m2. (Figure 4).

Group therapy spaces should be connected to playrooms and playgrounds for smaller children as to encourage parents to come to the sessions when their children are not in school yet or after school hours.

Music in therapy spaces for young people can create comfort and support mental health (Mazuch, et al., 2005; Knight & Rickard, 2001). Acoustic privacy to avoid disturbance can be achieved by good insulation and wall characteristics.

Intimate therapy spaces for groups should also be supported by active and more physical sessions as non-verbal expressions are stronger when there are language or emotional barriers for newcomers (Dermaut, et al. 2005). In terms of comfort and logistics it might also be wise to connect larger group spaces to a kitchen.



Figure 4: Dimensions and architectural characteristics of individual, family and group therapy spaces. (by author)

A very important element in therapy is communication and therefore the role of interpreters as newcomers are not directly skilled in expressing their exact feelings in their new language (Dermaut, et al., 2005). Therefore, offices and a conference room would be advised in providing a good execution of the work of interpreters, therapists and aid workers for a space of mental wellbeing. However, here it is also recommended to keep in mind not to create an institutional division between the professional workers and the newcomers. Therefore, it is advised not to design separate communal spaces between the users. It can be concluded that the design interventions consist of spaces for single persons, groups with overlapping characteristics, couples or families. The design should support visual and acoustic privacy and avoid institutional boundaries by the choice of the positioning of the spaces and the furniture. (Figure 4)

4.1.2 Spaces for Physical Exercise

Physical movement is known to be a strong benefactor for mental health (Haith-Cooper et al., 2018). It is found that movement can alleviate symptoms of anxiety and depression, with remaining effects hours after the exercise. (Raglin, 1990) Expressing emotions is of high importance and exercise can relief these tensions especially newcomers (Dermaut, et al., 2005). Exercise can be one of the benefactors in fighting the consequences of mental disorder symptoms such as fatigue (Iliades, et al., 2014).

For the exercise spaces, the maximum of 10 people can be applied derived from the therapy group sizes, see figure 8. Acoustics are an important factor in relation to group sizes as well as materials of the spaces due to sensitivity to stimuli and distractions of dislocated people (Dermaut, et al., 2005). However larger dimensions could be applied in relation to movement. Changing rooms and bathrooms in relation to an exercise space should be designed where comfort and privacy is provided.

For example, the exercise space in the Maggie's Center West London provides a space of 40m2 for 8-10 people with partially enclosed walls, see figure 5. Certain visibility into these spaces can function into attracting others to participate in physical activities.

Movement can also be promoted through the circulation of a design. The bathroom can be placed a little further from the kitchen for example, to promote unnoticeable movement of the body.



Figure 5: Indication for a small (left) and larger (right) exercise spaces within the healing environment. (By author)

4.1.3 Spaces for Education

The WHO(2021) advices education and trainings for newcomers concerning integration, employment and development. These basic needs support the prospects for newcomers after dislocation and therefore, provide control and can fight the symptoms of (beginning) mental disorders. (Dermaut, et al., 2005) Acknowledgement of acquired skills before arriving in their new country and building upon these skills is of high importance as refugees are in general known to be ambitious people (Dermaut, et al., 2005). A part of processing grief which most of the dislocated people come to face in their life (Dermaut, et al., 2005) can be supported by future prospects and gaining confidence again.

The first step in education is on the integration process and learning the local language, this fights barriers in daily life functioning. Therefore, a space for mental health and wellbeing for dislocated people should provide classrooms for language and (cultural) integration courses. This can be complemented by spaces on for example the use of bikes in the Netherlands, supported by biking classes on a square related to the building, biking lanes and bike racks that support the use of them. It is recommended to provide these classes in groups (of around 10 people) as the collective experience can support the learning process (Dermaut, et al., 2005) (Humanity Crew, 2020).

Specialized education for each person should be provided as well, besides the group trainings on integration. Smaller consultation rooms where specialized employees can inform the newcomers and space to research possible future prospects on employment and education should be provided through fitting communal and personal workspaces (Mazuch et al., 2005). Education on mental health is of importance on raising awareness within the collective of newcomers. Thereby, comes that education and information should also be provided to the locals. Locals tend to distance themselves or feel uncomfortable knowing someone experienced trauma or do not know how to communicate with them (Trimbos, 2021). A café with spaces to read or an exhibition space on mental health and wellbeing can provide acces and information. A library can support the information gathering of the newcomers on integration, education and mental health. Spots for meeting in the library could provide informal interaction where the newcomers can support each other and provide information on acquired knowledge and their own experiences. (Figure 6)



Figure 6: Satori Harbor by Wutopia Lab, providing a library, reading space and exhibition space to exchange knowledge. (By author derived from CreatAR Images, (2021)

4.1.4 Spaces for Social Interaction

Social interaction is one of the strongest behavioral factors in promoting mental health and wellbeing (see figure 1). Communal support can function as a strong factor in prevention (Pharos, 2016). Support from family is often a major factor in the identity of dislocated people. This is often one of the large losses of dislocated people in their new country. (Papadopoulos, 2021) (Dermaut, et al. 2005) (Beenakker-Schelee, 2011) This results in the importance of the support offered by their new community, neighbors, friends and aid workers (Dermaut, et al. 2005) (Beenakker-Schelee, 2011). It is of importance that this support is provided to enhance confidence and embrace the person's resilience (Papadopoulos, 2021).

This demands spaces that promote building new relations and coming together in their new environment (Connelan et al., 2013). A public function that promotes interaction with the locals is of importance, this could be a café, library, shop or exhibition space. These communal spaces should support the creation of community (Beenakker-Schelee, 2011). A notion must be made on the controlled and not over-doing of these functions and preventing over-crowding and forcing interaction with too many people in these spaces (Connelan et al., 2013).

Social relations with fellow newcomers from the same background (especially the same country) can provide social support (Pharos, 2016). Therefore, communal spaces within the space of mental wellbeing should promote interactions and creating relationships between the users. For example, Maggie's Centers each have a kitchen table near the entrance where the visitor is allowed to meet people informally (Jencks, 2013). Kitchens provide several positive stimuli which will be discussed in the coming chapters, therefore designing a kitchen as a central and (sensory) visible element in the building can promote several benefits. Informal interactions between fellow dislocated people can occur through the design of the circulation in the building. Transparent hallways and overlapping use of circulation can promote this.

Social contact and relation within families is of high importance in supporting one's mental wellbeing. Spaces that provide comfort and encourage supporting each other prevent social isolation (Stichler, 2008). Therefore, making the use of therapy rooms accessible for independent use can promote this through the flexibility of the spaces.

Executing a variety of spaces that support various kinds of social contacts are preferred (Gross et al., 1998) providing the users control over the interactions. Therefore, smaller and larger communal spaces can be provided as the users wish to use them. Connecting a smaller lounge to the larger communal area can already provide this. Allowing visual views to certain activities can draw attraction without over-stimulating. Acoustics can often create unwanted noise, but glass walls for collective spaces that house activities that do not demand visual privacy can provide this interaction.

Providing contact to family abroad can offer support. This can be provided through digital means such as social media (Pharos, 2016). A computer space, large screens or beamers that make this contact possible would make this experience stronger than the small phone screen for example.

To summarize, social interactions with the public society and neighborhood can be stimulated by a café, library or shop where skills and interactions can be exchanged (see figure 6). Collective support can be provided through communal spaces making formal and informal interactions possible. This can be a kitchen, lounge or simply visual interaction with other spaces. Contact with family can be supported by spaces that provide digital media.

4.1.5 Spaces for Positive stimuli

A space for mental wellbeing is a therapeutic ensemble, expressing therapy throughout the design. The program of the building for mental wellbeing and health should support and provide activities that promote mental health for dislocated people. These activities should promote positive stimuli and fight the symptoms of a decreased mental wellbeing (figure 2). Mental disorders can cause people to be sensitive for certain or too many stimuli which can trigger symptoms. Activities that promote positive distractions, relaxation and personal development that strengthen the identity and confidence of dislocated people (Papadopoulos, 2021) play a large role in the therapeutic environment of a space for mental health and wellbeing.

Rest is known to promote healing and mental wellbeing, especially in balancing sensory or triggering stimuli in relation to sleep deprivation and fatigue (figure 2). Another consequence of the symptoms is isolation. Rest can be provided by spaces with little stimuli, reduced noise levels, suitable lightning and thermal conditions that promote rest (Stichler, 2018). Isolation can be controlled by designing spaces where one can isolate themselves within the healing environment, where a person can rest or avoid the triggers of that moment. The characteristics of this space could be overlapping with the safety and privacy elements mentioned for the therapy spaces, making these spaces multi-functional. Breathing exercises, massages for therapeutic purposes (Dermaut, et al., 2015), meditation or mindfulness could find place in these small 6m2 rooms to promote rest and relaxation. (See figure 7)

The identity of a dislocated person is often affected. An important factor that could restore the identity and relief stress for a dislocated person is found to be spirituality. (Pandya, 2018) In the past, healing facilities would provide a chapel (Stichler, 2008), but diverse demands in spiritual space require a spatial execution of general meditation or prayer rooms. The flexibility of these spaces create space for spirituality and restoring one's mental wellbeing for a wide range of people. As this could be adjusted to the demography of the groups of newcomers and the needed space for spiritual rituals and activities. Planetree hospitals offer spaces for rituals such as celebrations of life, birth and death, easily accessible to its users (Stichler, 2008). This can be for example spaces where meditation, mindfulness, yoga and prayer can be taught and practiced. Spiritual spaces are often collectively used and can create a communal feeling for the users which supports mental wellbeing. In relation to a space for mental wellbeing in a Dutch neighborhood and the influx of the current newcomers it would indicate an average of maximum 25-30 people (see figure 8) using the building at the same time where comfort is maintained. This would demand a space for spirituality of about 70 m2.



Figure 7: A small meditation space by Tadao Ando, example of a small simple space with the expressive materiality of concrete and the organic cylinder shape evoking certain emotions. (By author, derived from Pinterest and AbsoluutMagazine)



Figure 8: Spaces for spirituality and exercise for 10 people and 25-30 people (by author).

Creative activities have a strong positive effect on mental health (Dermaut, et al., 2005). A space for arts and crafts, promotes personal development. Participation and a sense of belonging (Papadopoulos, 2021) are engaged as creations can be exhibited throughout the healing spaces (Connelan et al., 2013; Golembiewski, 2010). This could be a space for gardening where one can grow vegetables for cooking. A kitchen that provides space for cooking where the smell of food is a positive sensory stimulus, providing relaxation from stress (Mazuch et al., 2005). Spaces for pottery that can be used in the communal spaces or a space for woodworking where the works of the users are visible to the public can promote confidence and self-esteem in benefit of the identity of the creators.

To conclude the factors for positive stimuli, it is advised to design spaces for rest, spirituality and creativity in favor of the development of the dislocated person's identity.

4.1.6 Spaces for Routine

Routine is important for mental health and wellbeing as it can reduce stress levels and improve the quality of sleep (Northwestern Medicine, 2016). For a dislocated person, a daily routine is often missing in their new environment. It can result into boredom due to lacking stimuli or sensory deprivation which could result into vandalism (Mazuch et al., 2005 ; Kirk & Reid, 2001). Tensions arise in families due to loss of control and a daily purpose (Dermaut, et al., 2005), this could be risky in this group when they have no clear daily routine yet, future prospects or tasks.

Providing spaces for daily domestic tasks inside and outside the space for mental wellbeing creates a feeling of control and meaningfulness to the person (Connelan et al., 2013). This is an important factor in participation (Beenakker-Schelee, 2011) and increases empowerment in daily tasks in going somewhere on your own and being part of it. (Beenakker-Schelee, 2011; Boevink, 2010)

Architecture can offer spaces where loss can be filled with control over other things and the feeling of control over their own life and participatory in tasks. As this space for mental wellbeing is located in their neighborhood, the kitchen could be designed on an open façade where the three main meals through the day can be consumed and attract the users when walking by to join them. Therefore, the context of the design is of importance and a thorough analysis of the infrastructure and circulation within the neighborhood should provide insights on attractive locations. It is emphasized to place the kitchen in a communal area where the domestic tasks can be executed within the collective. A routine in food and eating habits together with natural light cycles plays a major role in the circadian rhythm of the human body (Connelan et al., 2013; Basinger, 2011) Therefore, creating a routine around eating and having the dining table at visible location can promote this routine. A balance must be found in the architectural design where monotony of activities and the surroundings should not be the result of non-triggering spaces.

This would be enforced by the positioning of the spaces in relation to the solar orientation. A kitchen might provide from sunlight all day, but a terrace mainly at the beginning and the end of the day. The same would be for a garden, maintenance is of importance and therefore located in a visual relation to the interior spaces of the building and preferably positioned on a south orientation.

4.2 What architectonic elements support providing relief on the effects of dislocation on mental health and wellbeing?

As newcomers are confronted with their new surroundings, the factors in the previous chapters describe the essential spaces and activities that support a stable mental wellbeing in the integration process. Familiarity with sensory elements influences our perception of our identity. Better said, the sensory perception is part of our identity. Dislocated people come to face many sensory changes, therefore affecting their sense of identity (Papadopoulos, 2021). These are visual, auditory, olfactory, gustatory and tactile sense perceptions. Unfamiliarity with these elements can cause discomfort and not feeling home (Papadopoulos, 2021), therefore reinforcing the symptoms of depression, anxiety, stress and trauma.

An important note is that the care provided during the integration process must be executed in such a way that the users create a relationship with the facility. The continuity of care is of high importance for the development of the dislocated person's mental wellbeing (WHO, 2021).

By providing architectonic elements that satisfy the senses and attract the users, prevention and treatment can be supported. As architectural spaces facilitate the activities, the architectonic elements support the experience and perception of these spaces. The most influential and persistent architectonic elements in relation to mental health and wellbeing of dislocated people will be discussed in the coming paragraphs.

4.2.1 Elements in Favor of Nature

From early research by Ulrich (1999; Stichler, 2008) the effect of nature on physical and psychological health were scientifically proven (Connelan et al., 2013; Ulrich, 2008). Access and views to nature are known to be stress- and anxiety-reducing treatments to symptoms of mental disorders. Nature is an important element of healthcare architecture in general and therefore support the holistic theme with a strong relation to mental healing environments (Connelan et al., 2013).

Gardens and especially labor in a garden can provide close proximity of the person emerging into nature and experiencing the healing benefits nature can have on mental wellbeing. Views to the outside and images of a nature can function as a positive distraction (Karlin et al., 2006).

Historical designs of psychiatric wards in the 18th and 19th century were often revolving around the garden or a park related to the facility proving the benefit of nature (Mens, 2003). Nature was often provided in such a way that it can be experienced from the inside and the outside. These were design elements of courtyards, parks, verandas, galleries, conservatories and aviaries. (Mens, 2003) (Connelan et al., 2013)

Gardens attached to mental healing spaces can create a relationship between the user and the healing environment resulting in returns by the users to the mental healing space (Connelan et al., 2013; Hickman, 2009) which is beneficial for the continuity of the treatment and prevention.

In conclusion, a garden, park, courtyard or other execution of accessible and visible nature provided within or around the healing spaces support mental health and wellbeing as destressing factors. Therefore, it is a strong asset in support provided by a space for mental health and wellbeing for dislocated people.

4.2.2 Elements in Favor of Daylight

Light and especially daylight has a specific effect on the mood and perception of people (Connelan et al.,2013; Joseph, 2006). Paragraph 4.1.6 mentioned the relation of daylight to the circadian system as it supports the rhythms and cycles of the human body (Connelan et al., 2013). Mental disorders are likely to affect sleep and exposure to daylight would benefit in restoring the quality of sleep of the users. The effect of light exposure during the day, mainly in the morning can have a positive effect especially on depressive symptoms. (Connelan et al., 2013; Joseph, 2006). Lack of windows and connection to the outside are shown to increase stress-levels and depression (Mazuch et al., 2005), therefore this must be avoided.

Architectural elements such as large window frames and proximity of sitting areas to daylight promote the benefits of natural lightening (see figure 6). Window frames can also provide a visual relation and contact with the outside world in seeing nature and movement of the people in the neighborhood which decreases stress and depression (Mazuch, et al., 2005) Views should also be supported by direct access to natural daylight and fresh air. Designing a terrace with an orientation to the south can stimulate the users to use these spaces while benefitting from the daylight. Designing spaces that promote outdoor activities creates beneficial effects on mental wellbeing (Connelan et al., 2013). Outdoor sports fields, exercise squares or labor in a vegetable garden would benefit several factors.



Figure 9: Natural daylight can enter the spaces inside the Maggie's Center West London, all the way to the center of the spaces. This is achieved by little separation walls, open bookshelves, different heights of the ceiling to define places instead of solid separation walls that block out natural daylight. (By author derived from Roger Strik Harbour + Partners (2014)).

4.2.3 Elements in Favor of Safety

Symptoms of anxiety, fear and hopelessness can be related to a lacking feeling of safety. This is due to the (recent) dynamic and unpredictable changes in the life of a dislocated person (Dermaut, et al., 2005). The architecture should react to this by creating a stable and safe environment that does not change too much. Architectural designs with flexible, movable and changeable elements can come off as disturbing and stressful for the users as they expect a familiar environment when they re-visit. The advice would be to avoid too many changing architectural elements such as interchangeable walls, but instead a clear and calm design which the user can create a familiar relationship with. It is the architect's task to apply this principle suitable to the design execution. In relation to acoustic and visual privacy that provide safe spaces for certain activities such as therapy as mentioned in paragraph 4.1.1.

4.2.4 Elements in Favor of Wayfinding

Stress is an easy trigger on a dislocated person's mental health. Wayfinding in spaces can cause increased stress levels caused by their new unfamiliar environments. This can start at the beginning of the parking lot when visiting a healthcare facility. Not knowing where to park the car or no clear access to the building can be the cause (Stichler, 2008).

A comfortable and clear entrance should support the routing of the visitor, see figure 10. Similar looking corridors can have a disorienting effect on the users (Stichler, 2008) as well as narrow corridors with no daylight. Natural lightning at the entrance and the use of natural materials and furniture identifying practical spots (Stichler, 2008). The design should provide supporting perceptual familiarity through furniture and elements that allow the person to identify the use of a space. For example, a kitchen table to identify a cooking area or the couch and a tv for a lounge.

Circulation paths with clear signage and the use of color to support navigating and wayfinding when there might still be a language barrier to overcome. (Dermaut et al., 2005)



Figure 10: Colorful and clear routing towards the entrance at the Maggie's Center West London. (By author derived from Roger Strik Harbour + Partners (2014)).

4.2.5 Elements in Favor of the Application of Materials

The sensory perception as described in chapter 4.2 describes tactility as an important factor. Newcomers come to interact with new materials, utensils, human touch etc. The use of material in a space for mental wellbeing should support comfort and prevent negative triggers on mental health. Comfort can be achieved by mimicking the safeness and 'coziness' of home and avoid institutionalized elements (Connelan et al., 2013).

Dislocated people whom have experienced traumatizing events might tend to lose track of reality in their thoughts, memories or experiences. It is of importance to often remind them of their current reality and surroundings, this could be as simple as the feeling of the ground under their feet. (Dermaut, et al., 2005) (Mazuch, et al., 2005) It is even stated that touch might have a ten times stronger effect than verbal or emotional contact (Mazuch, et al., 2005; Schonberg, 1985) Materials applied in the architecture can play a large role in achieving this. A soft carpet might invite people to take off their shoes and create a home-like feeling and the sense of being in that moment. Materials, furniture or utensils such as the use of a simple doorknob should all be designed carefully. Applying varying types of ways to open up a door allows the thoughts of the person to come back to the current moment. However, keeping in mind that too many variations can trigger symptoms such as frustration and irritability. The importance is that materials are true to their characteristics to prevent confusion and frustration (Mazuch, et al., 2005). Wood is wood and not materials that mimic wood such as plastics.

Acoustic comfort can provide relaxation and prevent stressing stimuli such as noise. Excessive noise can lead to increased stress levels, therefore materials that absorb noise are recommended. (Mazuch et al., 2005) Materials such as, carpets and textile and acoustic ceilings and walls absorb acoustics and have soft sensory characteristics, and the opposite goes for hard and heavy materials.

In terms of color, there are several approaches to its application. However, bland colors are in general recommended to be avoided (Karlin et al., 2006).

The western European culture might come off as cold and hard for newcomers from different cultures. This feeling of coldness can be contradicted by the use of soft and warm materials instead of cold and hard materials. (Dermaut et al., 2005) Additionally the designer should research the background and culture of the users and their understanding of certain colors for a proper execution.

It can be concluded that the use of soft and warm materials benefits acoustics, clarity and an inviting and comfortable atmosphere. In summary, the aesthetics define the atmosphere of the space for mental health and wellbeing of dislocated people and should fulfil the demands for a home-like, warm and safe environment.

4.2.6 Elements in Favor of Aesthetics & Atmosphere

The atmosphere of a space for mental health and wellbeing after dislocation has bierfly been mentioned in the previous chapters. Comfort, home-like feelings, warmth and accessibility are elements that can define the atmosphere of this space. Planetree executes their designs through creating calm, spiritual and peaceful environments that promote the reduction of stress (Stichler, 2008).

Avoiding an institutional atmosphere enhances wellbeing (Karlin et al., 2006) as newcomers often come from stressful and sometimes traumatizing processes before becoming accepted citizens (Dermaut, et al., 2005). For example, a desk or a table at the entrance sets a boundary for the space in belonging and participation.

Artificial lightning should be applied carefully as it could create an institutional atmosphere which might lead to stress (Connelan et al., 2013; Joseph, 2006). Visual monotony can also create stress and therefore dynamic surroundings should be designed (Mazuch, et al., 2005). This can be achieved by the use of colors, materials and the placement of the spaces.

Natural lightning and materials such as stone, woods and plants or a fireplace for a home-like atmosphere can create a comfortable atmosphere (stichler, 2008). Cheerful colors provide a welcoming message for the users and suitable storage spaces that provide calming visuals reduce unnecessary stimuli from equipment that can create chaos (Stichler, 2008).

In summary, the aesthetics define the atmosphere of the space for mental health and wellbeing of dislocated people and should fulfil the demands for a home-like, warm and safe environment.

Architectural Spaces



Architectural Spaces





Cafe ^b



a) Satori Harbor by Wutopia Lab, providing a library, reading space and exhibition space to exchange knowledge. (By author derived from CreatAR Images, (2021) b) Day Center for the Elderly Blancafort by Guillem Carrera, a central communal kitchen which can function as a cafe for social interaction. (By author derived from Adrias Goula, (2013)

47

Architectural Spaces

Social A kiosk, shop or cafe to engage social interaction with the community





Positive Stimuli

Spiritual space / Creative space (10p) Spiritual space (1p)





Communal Spiritual space / Creative space (25-30p)



c) Visualization of a kiosk. (By author derived and inspired from: https://theshophound.typepad.com/.a/6a00d83451e6b169e2017d3be12a55970c.500wi d) Visualization of a small shop. (By author derived and inspired from: https://www.hot-dinners.com/Gastroblog/Latest-news/the-kiosk-cafe-opens-in-bethnal-green-gardens

Architectural Spaces

Routine Structure spaces around daylight & eating



Architectonic Elements



Daylight Smart orientation

Transparancy (interior & exterior) Private functions on higher levels





Architectonic Elements



6. Conclusion

Defining the characteristics for a space for mental health and wellbeing for dislocated people as Dutch newcomers would encompass the aim for this literature and case study research. The importance and the effect of architecture on mental health and wellbeing after dislocation is evident by the architectural and architectonic elements that have been discussed in the research. Architecture can play a major role in facilitating spaces that support fighting symptoms that could result in mental disorders and housing spaces for treatment of mental disorders.

The architectonic elements discussed in the second half of the research define design considerations that would be applicable for the spaces described in the first half of the research. The elements of nature, daylight, safety, wayfinding, materials, aesthetics and atmosphere, can be summarized in being approach as nature-oriented and calming executions in favor of relieving and preventing the symptoms of mental disorders.

For daylight and nature, the essence relies upon physical and visual relations to nature and natural daylight. For safety and wayfinding, it comes down to comfort, visual clarity and rest. The materials, aesthetics and atmosphere should answer the demands in warmth, a home-like environment and familiarity. The ensemble of architectonic elements should provide a balance in a stable and clear environment whereby monotony is avoided. All these conclusions and recommendations are in favor of the space for mental health and wellbeing for dislocated newcomers.

The architectural spaces described in the research house activities that stimulate mental health and wellbeing. Therapeutic spaces can be defined through several typologies and dimensions. Specific spaces for therapy sessions, but also therapeutic spaces such as a creative workshop space. The essence of a successful therapy space is defined by visual and acoustic privacy, comfort in suitable dimensions in relation to the architectonic elements.

Spaces for exercise are of high importance for mental health and wellbeing for dislocated people. The importance of movement can be designed through the entire space or building whereby circulation can promote movement and exercise. This is in favor of relieving symptoms of stress, anxiety and depression and increase energy levels.

The design implementations described for each topic can be applicable into other topics as well. As exercise promotes higher energy levels, a park which provides better mental health through nature can provide views and promote walking. Therefore, a park can provide the benefits of nature and exercise.

This research provides elements and factors for designing these spaces, but also an approach and stance in designing a space for mental health and wellbeing for dislocated people. In reading through the topics, one can find more links on how architectural implementations are intertwined in their effects on various architectural and architectonic scales. For example, the element of control is mentioned throughout several chapters and is an important factor in providing a dislocated person comfort and suitable support. Control can be provided in the use of spaces, movement, visual preferences and for example thermal comfort in balancing triggers and comfort.

In conclusion it can be said that none of the architectural spaces and architectonic elements are independent. The healing environment for mental health and wellbeing after dislocation is a therapeutic ensemble of factors such as control, privacy and participation etc. These factors require a holistic approach in making design choices. The interdisciplinarity of this topic is of high importance in providing a stable background for making design decisions in favor of this diverse and dynamic group of dislocated people.

6.1 Discussion

The study aims to inspire further research into healing architecture for dislocated people and raise awareness on the effect architecture can have on the quality of life in this field.

The constraint for this research is that even though the target group is quite specific, it entails a wide range of various people. Research provides the framework in defining this group until a certain extent, due to the availability in this specific type of research.

Therefore, this research hopes to initiate further execution whereby research on architecture for mental health and wellbeing for dislocated people will grow. From which the first step is the design assessment following this research. Word Count: 9.549

7. Literature

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Images

Figure 1: Timeline of a refugee entering The Netherlands untilaccepted citizenship as anewcomer, by author.

Figure 2: Timeline on architectural intervention, by author.

Figure 3: Consequences and risk of the prevailing mental disorders: anxiety, depression and PTSD. By author derived from (Mayo Clinic, 2018) (NHS, 2021)

Figure 4: Dimensions and architectural characteristics of indi-vidual, family and grouptherapy spaces, by author.

Figure 5: Indication for a small (left) and larger (right) exercise spaces within the healing environment. (By author)

Figure 6: Satori Harbor by Wutopia Lab, providing a library, reading space and exhibition space to exchange knowledge. (By author derived from CreatAR Images, (2021) https://www.archdaily.com/953765/the-satori-harbor-wutopia-lab/5fdfd3fb63c0179859000897-the-satori-harbor-wutopia-lab-photo?next_project=no

Figure 7: Figure 7: A small meditation space by Tadao Ando, example of a small simple space with the expressive materiality of concrete and the organic cylinder shape evoking certain emotions. (By author, derived from Pinterest and A b s o l u u t - Magazine)https://nl.pinterest.com/pin/320107486007022718/ https://abso_luutmagazine.be/2018/10/09/1176/ **Figure 8:** Spaces for spirituality and exercise for 10 people and 25-30 people (by author).

Figure 9: Figure 9: Maggie's Center West London design where natural daylight can enter the spaces inside all the way to the center of the spaces. This is achieved by little separation walls, open bookshelves, different heights of the ceiling to define places. By author derived from Roger Strik Harbour + Partners (2014).

Figure 10: Colorful and clear routing towards entrance at the Maggie's center West London, by author derived from Roger Strik Harbour + Partners (2014).

Diagram a) : Satori Harbor by Wutopia Lab, providing a library, reading space and exhibition space to exchange knowledge. (By author derived from CreatAR Images, (2021) https://www.archdaily.com/953765/the-satori-harbor- wutopia- lab/5fdfd3fb63c0179859000897-the-satori-harbor-wutopia-lab-photo?next_project=no

Diagram b) : By author derived from Adrias Goula, (2013) https://www.archdaily.com/783918/centre-de-dia-i-casalde-gent-gran-de-blancafort-guillem-carrera/5b718fa7f-197cc66a900006a-centre-de-dia-i-casal-de-gent-gran-de-blancafort-guillem-carrera-photo **Diagram c):** Visualization of kiosk. (By author derived and inspired from: https://theshophound.typepad. com/.a/6a00d83451e6b169e2017d3be12a55970c-500wi Diagram d: Visualization of a small shop. (By author derived and inspired from: https://www.hot-dinners.com/Gastroblog/Latest-news/the-kiosk-cafe-opens-in-bethnal-green-gardens

Diagram e): Satori Harbor by Wutopia Lab, a comfortable, calming and relaxing atmosphere created for the library by suitable aesthetic elements (By author derived from CreatAR images, (2021). https://www.archdai-ly.com/953765/the-satori-harbor-wutopia-lab/5fdfd-44963c017985900089f-the-satori-harbor-wutopia-lab-photo