DESIGNING EXPERIENCES EMOTIONS, EMPATHY

A speculative project exploring how to create empathy and break stigma in mental illness

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02 Abstract

At least 10% of the world's population suffers from a mental or neurological disorder. (Ritchie, Roser, 2018). But not nearly all are receiving the help they need. Despite all the progress in mental health awareness, stigmas are, to this day, still preventing care and treatment from reaching people suffering from a mental disorder, making it a challenge to seek help. ("NMH Communications", 2001).

To address these challenges, this study puts forth a speculative exhibition with the aim to establish understanding and empathy as a stepping stone to a more effective communication between people suffering from a mental disorder and their caregivers, and to create a healthier environment for everyone involved.

The exhibition explores how visual communication design can provide a more accurate and comprehensive portrayal of symptoms caused by psychosis[1]. Immersive experience design is used as a practice, mirroring – as accurately and safely as possible – a selection of sensory perception deficits through virtual and dimensional environments. Seven installations are strategically distributed, forming a cyclical journey of a psychotic episode. An intelligible navigation system is designed to properly guide the participants throughout the exhibition.

Prior to the exhibition design process, an experiment was developed to test if the addition of visual and auditory sensories to an experience would increase the understanding of and empathy towards people who are mentally healthy.
The experiment revealed that a sensory induced, synchronized with first-person perspective, experience has a large impact on comprehension and empathy. However, the results also showed that empathy may not lead to social inclusion, especially for people who do not have an immediate family member or close friend diagnosed with psychosis.

Keywords

Empathy — Stigma

Mental Illness — Psychosis
Visual Distortion — Visual & Auditory Hallucination

Social Cognition — Social Inclusion

Immersive Experience Design — Exhibition Design
Installation Design

(1) Psychosis is a condition affecting the mind. It is caused by several mental and neurological disorders, where people lose touch with reality, e.g. believing things that are not true (i.e. delusions), and experiencing sensory activities that appear real but are created by one's mind (i.e. hallucinations).

03 Introduction

The mainstream perception of 'insanity' is formed from false depictions of severe mental illnesses across many forms of media. The stigmatization of mental illness has had major consequences on affected people including caregivers, immediate family members and close friends (Rössler, 2016). The most prominent prejudice includes perceived violence, when in fact they are more at risk of being attacked or harming themselves than other people.
These stereotypes elicit generalized response patterns to people suffering from a mental disorder (ibid.).

This project explores an effective way of visual communication in relation to mental illness. It consists of two parts:
1- Testing
2- Designing an exhibition proposal

The exhibition is designed to properly portray selected symptoms' definition, look and feel. The main medium explored is immersive experience design.

Testing is an important aspect to consider before designing an immersive experience. Testing in this project helped define the levels of accuracy and intensity of the experiences and avoid potential emotional or social damage. The interview process consists of 12 participants, in which two distinct forms of communication were investigated in relation to understanding and empathy: literary fiction and virtual reality.

Several studies zoom in on how virtual reality is used to enhance empathy and break social biases. One such relevant study discusses the incorporation of virtual reality to battle implicit stereotypes of severe mental disorders. Participants were exposed to symptoms of schizophrenia and the results showed a great increase in empathy. However, the virtual reality simulation alone increased social distancing. (Louie, et al., 2018)
The difference between the aforementioned study and the one conducted for this project is the inclusion of affected and non-affected[2] people to the interview.

(2) In this paper, "Affected people" or "Affected person" refers to caregivers, immediate family members and close friends of a person who is suffering from a mental illness. Whereas a "Non-Affected" person is someone who has never had a close person with a severe mental illness.

03

Growing up with two family members struggling with psychotic disorders made me aware of the stigmas and miscommunications surrounding mental illness within my family, among close friends and in society.

Fast-forward to the beginning of this year, my interest in visual perception and psychology progressed when delving into the history of Aesthetics and Psychology after the Age of Enlightenment. Prior to the current factual findings of how neurological and mental disorders can bring about changes in vision and eye motion (Woo, 2019), prominent researchers and psychiatrists of the 20th century had already hypothesized that vision alters when suffering or being prone to a mental disorder. Hermann Rorschach (1884–1922), a Swiss psychiatrist and psychoanalyst known as the creator of the Rorschach inkblot test, theorised that the way people unconsciously perceive the holistic, before going into the details, or how colors and movement are perceived differently, is influenced by a person's mental state, inferring that a visual process may be neural as well as optical (Birren, 2016, p. 169).

Indeed, research has shown that neurological injuries and mental disorders, such as multiple sclerosis, a traumatic brain injury, schizophrenia, etc., can physically damage the retina and optic nerve. Dr. Laura Balcer, a neurologist and epidemiologist at NYU School of Medicine, stated:
"Anything that affects a person's brain — be it a disease or a blow to the head — has a strong chance of affecting their sight".
(Woo, 2019)

My objective with past, present and future projects is to find a clearer and more effective visual language that speaks to people with a mental disorder, affected and non-affected people.

04 Response to Programme

In the early stages of the project, the concept was to design a safe space, where a patient suffering from a mental disorder would explain their experiences with the disorder to immediate family members. They would use visual communication tools and informative elements designed to mirror the symptoms and personal experiences. The meeting would be assisted by a specialist in the field of psychology.

Unfortunately, due to the pandemic, the lockdown and restrictions that followed, interviews with people suffering from a mental disorder became highly impractical.
That is why the focus shifted to immediate families, close friends and caregivers instead.

05 Theory

05.01 Hypothesis

This project investigates how adding visual and auditory sensory inputs with synchronised first-person perspective to an experience increases affected people's understanding, empathy and inclusivity towards people with a mental disorder.

The proposed hypothesis is a first step towards understanding how visual language can ultimately break self[3] and family-stigma[4], and be a gateway to reaching effective communication among affected people and patients with a mental disorder, fostering a healthy environment for everyone involved.

05.02 Empathy - A Way to Break Stigma

Many forms of stigmas concern issues of race, ethnicity, sexuality, gender, mental health, and others. But how are stigmas created? Typically, a stereotype is an over generalised opinion and attitude towards a particular group or class of people. Stereotypes are not necessarily negative, they help people construct and use categories in navigating the social world. They help to rapidly deal with or adapt to a specific situation.
However, having a fair and rational opinion of individuals requires more than calling upon a stereotype. Disregarding the particularities of a person and relying exclusively on a stereotypical lense in perceiving them creates stigma (Hodges et al., 2007).

Empathy may be a starting point for combating stigma (Finnerty, n.d.). Research has consistently shown that experiencing another person's point of view, rather than just one's own, plays a major role in establishing relationships and behaving compassionately. Empathy enables helping behaviors that come from within, rather than being forced. Empathic individuals are more willing to help stigmatised people, even when helping requires personal, social and economic sacrifices. (Hodges et al., 2007)

(3) Self-stigma is when a person internalises prejudices and discrimination in regards to mental illness, even before being affected by it, resulting in low self-esteem and self-efficiency, hindering chances of recovery. (Goffman, as cited in Rössler, 2016)

(4) ´Family members living with a person with a mental disorder face many difficulties, including the stress of coping with bizarre behavioral changes, dealing with external accusations of creating an unhealthy environment, the feeling of shame, guilt, self-blame, etc. (Rössler, 2016)

05

05.03 Psychosis as a Case Study

Stigma in Mental illness

For the last millenia, people with mental illness were treated similarly to slaves and criminals. They were imprisoned, tortured and killed. Mental illness was and still is regarded as a punishment from God and being possessed by the devil in some extremely religious societies. (Rössler, 2016)
Lack of understanding of mental illness is still common and universal. For unknown reasons, social interaction with people with schizophrenia has decreased during the 21st century (ibid.). Misinformation about mental illness in the media is resulting in misunderstandings that can have considerable and very real consequences, regardless of whether the portrayal is positive or negative. For example, an inaccurate depiction of schizophrenia, often confused with multiple personality disorder, can lead to false beliefs, confusion, conflict, and a delay in receiving treatment.

Understanding Psychosis

Many factors can cause psychosis, including substance abuse, extreme stress, trauma, etc. A common misconception about mental illness is that psychotic episodes occur unexpectedly, which rarely happens. A typical psychotic episode consists of three phases: prodrome, acute, and recovery, respectively. During an episode, gradual non-specific changes show in the person's thoughts, perceptions, behaviors, and functioning. The symptoms of each phase vary from person to person. ("Phases of Psychosis", n.d.)

05.04 Designing Experiences, Emotions, Empathy

Immersive Experience Design

Technology is in constant growth. This presents an opportunity for designers to explore many ways of storytelling across all media, creating images, journeys, and environments within which users are completely absorbed.
The design form explored in this project is interactive installation design. The goal is to create hands-on experiences, where different factors like touch, sight, hearing, motion, direction, and environment are introduced. The focus is on the quality of the user experience and culturally relevant solutions.

05

A Designer's Moral Obligations

The visual depiction of stereotypes reflect and shape the perception of people with a mental illness. Sander Gilman, a professor of Humane Studies at Cornell University, explained in his book *Seeing the Insane* how mental illness has a history that is rooted in the visual image. It is the designer's responsibility to properly convey information and be aware of unethical misuse of aesthetics, thereby avoiding negative connotations and creating detrimental visuals that feed into stigma and discrimination.

06 Methods

This project relies on primary sources such as academic and research papers, online testimonials, and novels as ultimate references on the topic offering legitimacy and a factual foundation from which the study is made possible.

Following the collection of required information, an interview process was designed where 12 participants are selected and interviewed to measure understanding and empathy, comparing two distinct forms of communication:

- Form A is literary fiction, a form of storytelling where imagination and mental processing play major roles in creating empathy.
- Form B is virtual reality, with visual and auditory senses added to the storytelling experience.

07 Testing the Hypothesis

A qualitative research was conducted to test the hypothesis in question. Two distinct forms of communication are applied as apparatus to evaluate understanding and empathy. These forms are subsequently assessed based on an interviewee's emotional experience throughout the interview process.
The aim is to conclude whether visual and auditory sensory inputs, synchronized with the first-person perspective would improve understanding and empathy.

07.01 Theory

Form of Communication (A) - Reading

Literary fiction helps enhance empathy through its complexity. Reading fiction is an act of engagement, requiring mental processing for interpretation and critical thinking, to infer the feelings and thoughts of characters, and disrupt stereotypes. (Kidd, Castano, 2013)

This form of communication is presented in visual (letters, words) or tactile forms (braille). The senses are used as tools to send the necessary data to the brain for information processing of a written content. Seeing/touching a word does not act as an emotional stimulus. It is the meaning behind the word that triggers the reader's emotions, activating the imagination, creating a vision of everything in the mind, without any external sound effect, visual element, texture, etc.

Form of Communication (B) - Virtual Reality (VR)

An experience shifts when two significant sensories are applied to a story. Sensories synchronized with first-person perspective heighten the overall experience. The multisensory stimuli evoke a blurriness in the self-identity perception. People describe feeling as if they swapped bodies with another person. (Bertrand, et al., 2018)
Immersive experiences come in many forms, VR was selected for this experiment because of its accessibility and ability to transport a person from one identity to another.

07

07.02 Participants

In order to measure the level of understanding of the story more accurately, we divided the experiments into two groups

A: Form of communication A
B: Form of communication B
1: Story 1
2: Story 2

A1B2	A2B1
Healthy Affected - 3 participants	Healthy Affected - 3 participants
Healthy Non- Affected - 3 participants	Healthy Non- Affected - 3 participants

Due to the difficulty of finding participants in the pandemic, nine participants were interviewed and included in the report. Testing will proceed until we have the total of 12 interviews.

07

07.03 Stimuli

Storytelling

I found the fictional semi-autobiographical novel *I Never Promised You A Rose Garden* written by Joanne Greenberg to be a proper apparatus for this experiment. The writer was diagnosed with schizophrenia in the early 1930s. Joanne experienced psychotic episodes and was admitted to a psychiatric hospital. She describes her struggles with visual and auditory hallucinations in great detail. The book is autobiographical by nature and non-lyrical.
It is written with an accessible language, an important factor to consider for this kind of experiment.
The main character of the story, the patient, is the character in question in both tests.

Reading Material

Two short excerpts written in english; 1600 to 1800 characters, ca. two minute read per excerpt; depending on the reader's pace.
The excerpts are based on two parallel stories, each describing visual and auditory hallucination experiences, both happening in a clinic where a patient (the character in question) and her psychoanalyst are discussing the hallucinations.

Virtual Reality

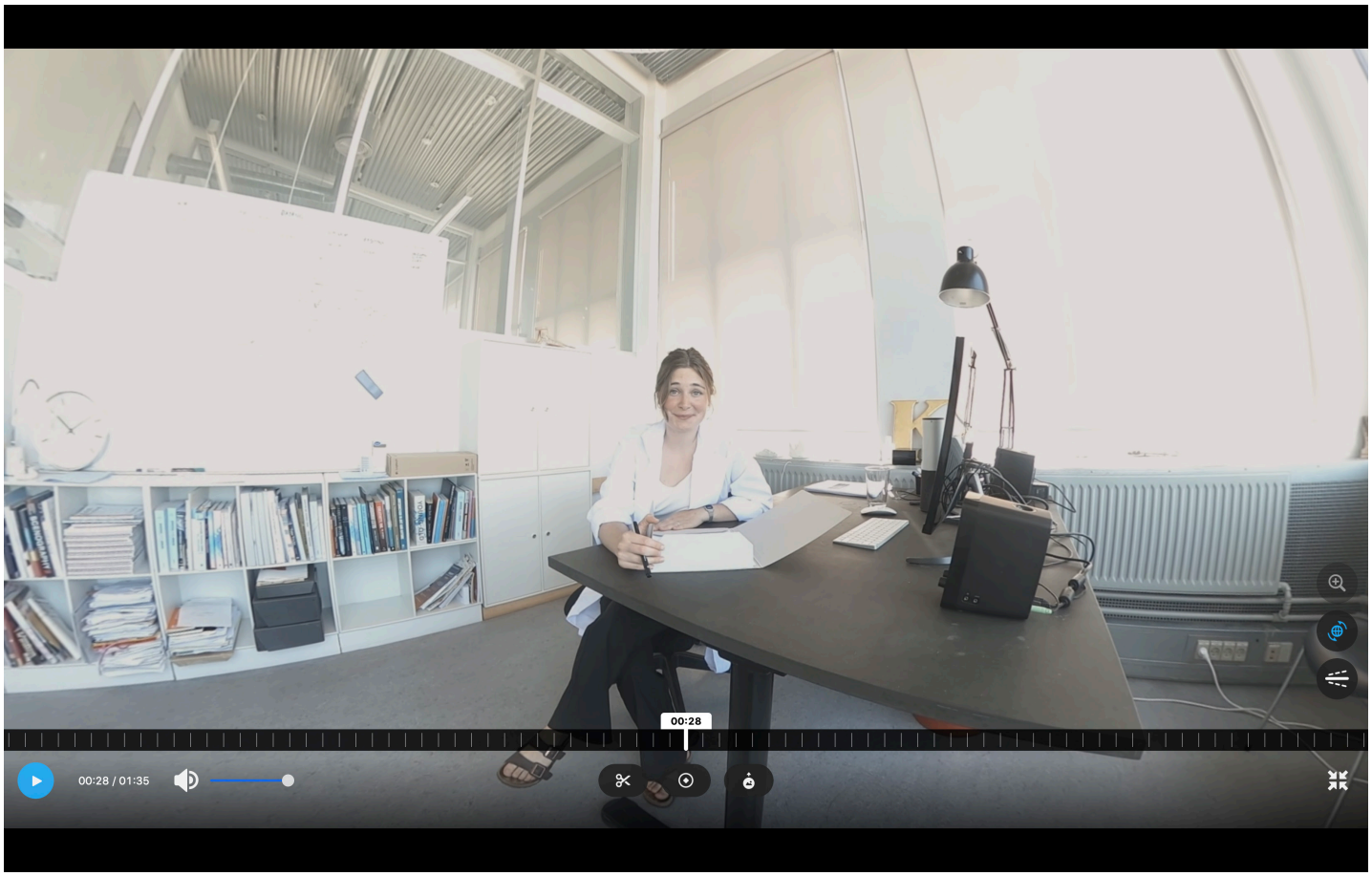
Two short scenes filmed in 360° field of view, depicting the excerpts extracted from the novel. Each scene is 1:35 minutes long.
The scenes are in English and had to be edited from a two way to a one way conversation, where the participant embodies the identity of the character in question (patient).

07

A GoPro Max 360° camera was used to film the scenes.
The camera is user-friendly and effective in terms of its cost.
A volunteering actress played the part of the psychoanalyst, conversing with the camera lens as if addressing the patient, or, in this case, the participant. The shots were taken in a medium-sized school office, surrounded by daylight to ensure good lighting.
Filming took one workday. One-shot film is required in such cases, so the scenes were recorded several times to optimize the acting and experience plausibility.

Three people volunteered to participate in recording sound effects and voices of the auditory hallucination characters. Loud screams, malicious laughs, whispers, filled the recording space.
The audio was designed to be a virtual surround sound, where different voices/sounds would appear in the background, the front left, front right, back left, back right of the participant, to give the illusion of reality and of whispers behind the ear.

Several softwares were used for the editing of the scenes, including GoPro Player, Adobe Premiere CC, Adobe Audition CC, Illustrator CC.



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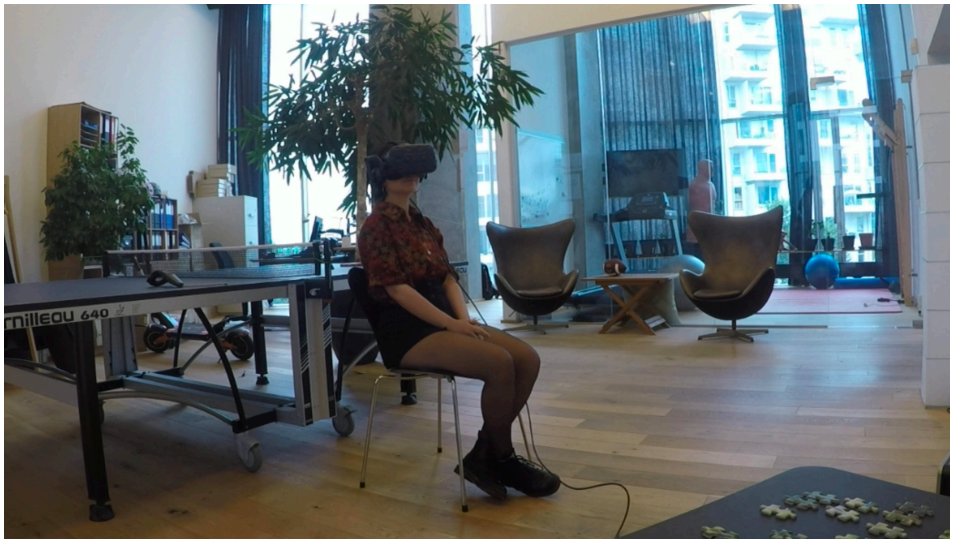
07.04 Methodology / Procedure

To gather data, this qualitative study relied on interviews.
The estimated time for each interview was around 40 minutes.
Face-to-face interviews were conducted in a private room.
The VR system was set up in a public space as it was not possible to move it to a private room. Therefore, the VR experiences were conducted publicly.

After receiving consent to film and record the interviews from the participants, the interview process began with an introduction of the project and the purpose of the experiment. The participants were informed of their rights to abstain from participation in the study or to withdraw consent at any time.

A set of questions was prepared to be asked after each test, to measure understanding, empathy and the outcome in regards to social inclusion. The first test was with Form of Communication A, an excerpt of the novel printed on a A4 landscape size paper.
The participants were given 2 to 3 minutes to read through the material. After the reading part, the participants were asked a set of questions to measure understanding, and empathy.

Following that, the participants were guided to a room to experience the 1:35 minutes VR scene (Form of Communication B). After the experiment, the participants were asked the same sets of questions to measure the same criterias in regards to VR. Few conclusive questions of VR versus reading were asked at the end of each interview.



07.05 Results

Three main findings were extracted from the interviews.
The findings are based on understanding, empathy, self-distancing and social inclusion, respectively. These results were measured in regards to reading versus experiencing through virtual reality.

Finding #1

Comprehension of a written content is necessary to tap into understanding others' emotions.
Prior to both reading and VR experiences, the participants were asked if they usually have a hard time focusing while reading.
Four out of nine participants who can easily focus, understood the given excerpt. Four out of nine participants who find it difficult to focus had a hard time understanding the content. Whereas, the content through virtual reality was unanimously understood.

"I didn't really get everything"

"[...] a bit difficult to understand"

Participants		Reading	
		Focus level	Understanding
Affected	1	High	Yes
	2	High	Yes
	3	High	Somewhat
	4	Low	Somewhat
Non Affected	1	Low	Somewhat
	2	Low	Yes
	3	Low	Somewhat
	4	Low	Somewhat
	5	High	Yes

Table 1 - Comparison between focus level and understanding in Reading

Finding #2

The participants were then asked if they empathised with the patient in the written content. All participants who did not completely understand the text, answered no to empathising with the patient. Two out of four affected participants who understood the text empathised with the patient while the other two did not. Whereas, after the VR experiment, all participants felt empathy towards the patient.

"[...] her heartbeats just made vision blurry at the end and [...] feeling your body doing that. "

"I felt withdrawn , like you are in your own world, like you are cut off from the real world. "

"I felt like I was the person, that this was happening to me [...]"

Participants		Reading		VR	
		Understanding	Empathy	Understanding	Empathy
Affected	1	Yes	Yes	Yes	Yes
	2	Yes	Yes	Yes	Yes
	3	Somewhat	No	Yes	Yes
	4	Somewhat	No	Yes	Yes
Non Affected	1	Somewhat	No	Yes	Yes
	2	Yes	No	Yes	Yes
	3	Somewhat	No	Yes	Yes
	4	Somewhat	No	Yes	Yes
	5	Yes	No	Yes	Yes

Table 2 - Empathy in Reading vs VR
Empathy in this context is the ability to share someone else's feelings or experiences, meaning looking at the experience through the other person's perspective

Finding #3

Following findings #1 and #2, personal questions were asked in order to measure the aftermath of understanding and empathy, that is if the participants would feel sorry, reach out, or help a person suffering from a mental disorder. All four affected participants responded a firm yes to supporting a person with a mental disorder.

"I would help definitely"

"100% yes"

Four out of five non-affected participants would distance themselves further from people with psychosis, especially if they weren't immediate family members.

"If it affects me a lot emotionally, maybe I would distance myself."

"If it was somebody in the circle of friends who suddenly were very weird and had such a thing. Yeah, probably would stay a little bit away."

Participants		Reading		VR	
		Self-Distance	Social Inclusion	Self-Distance	Social Inclusion
Affected	1		•		•
	2		•		•
	3		•		•
	4		•		•
Non Affected	1	•		•	
	2		•		•
	3	•		•	
	4	•		•	
	5	•		•	

Table 3 - Self-distance & Social inclusion: Reading vs VR
Self-distance: participants would distance themselves farther from a person with a mental disorder after empathising with the character in question
Social inclusion: participants would support and help people with a mental disorder after empathising with the character in question

07

07.06 Discussion

Understanding

At the early stage of the study, all participants were asked if they have a problem focusing while reading. Almost half, or four out of nine, affirmed that they do. When the reading experiment was over, the same four participants reported that they did not understand what they read. Hence, their understanding was limited with their focus ability given this medium (reading) and the experiment timeframe (2-3 minutes). Whereas, most (four out of five) of those who reported being able to focus while reading, understood the content.

All participants showed understanding when experiencing the VR scene. This shows that reading is not the medium of choice for everybody. A visual and auditory experience seems to be more engaging. Additionally, VR gave the ability to experience a first-person perspective, whereas reading was limited to giving a third-person point of view. A first-person perspective allows the participant to literally be in the other person's "shoes", making it easier to understand reality. Almost half the participants had a problem focusing while reading, thus showing that those people should be reached through other mediums than written information such as articles, research papers, flyers, catalogues, etc.

07

Empathy

Empathy is at the core of this experiment. Within the means and limitations of the experiment, empathy was measured during face-to-face interviews, giving the participants a follow-up questionnaire after the end of each individual experience. Personal questions tapped into their feelings to see whether they could relate to the character in question in both forms of communication. Participants who understood both media showed empathy towards the character as evident in the results section.
For example “I feel sorry for the people, it must be hard”, showing pity and understanding of the situation.
The participants who had a hard time understanding the written content, did not empathise with the character. However, they showed empathy after experiencing VR. This could probably be explained by the fact that they were able to shift into the first-person perspective of the character in question.
The participants were indeed able to experience things as the character in question, allowing them to literally see things through the character’s eyes. This shows that experience and empathy are highly linked, and could inform our design for mental illness indicating that first-person perspective narratives have a high probability of depicting a more accurate picture of mental illness. When someone sees things from a third-person perspective, they have to use their own imagination to relate to the character. This is a subjective understanding that is based on personal experiences. Whereas, a first-person perspective allows you to have a more immediate and concrete experience of mental illness.

Moreover, for all participants, whether affected or non-affected, it was hard to empathise with the character in the text. Only half of the affected participants were able to empathise, probably by relying on their personal experiences.
Once again, this shows that, when seen from a third-person perspective, it is not a guarantee that one would empathise with the character. However having a first-person perspective has a higher probability to establish empathy.

By these two metrics, understanding & empathy, the hypothesis – that visual and auditory sensories synchronised with first-person perspective leads to an increase in understanding and empathy – stands valid.

07

Self-distancing vs social inclusion

The study also shed light on how people react to mental illness after an increase in empathy. As the results show, all four affected participants would most likely reach out to a person with mental illness, whereas four non-affected participants would probably distance themselves even further.
For example “If it was somebody in the circle of friends who suddenly were very weird and had such a thing. Yeah, probably would stay a little bit away.” This example shows that even if the person is somewhat close, the participant would establish distancing. Two of the four non-affected participants mentioned that they would distance themselves for fear of being affected or too involved emotionally. This shows that over exposure might lead to more distancing out of fear of experiencing too much emotion. Future experience design should take that into consideration, with a goal to build empathy to lead to social inclusion, not distancing.

08 Exhibition Proposal

08.01 Experience Design

The experiment proved that the concept of a sensory based, first-person perspective experience has a high probability in establishing understanding and empathy when it comes to psychosis. It showed the importance into moving forward with the exhibition proposal.

However, refinement of the target audience was done following the preliminary results of the experiment, which revealed that people who have never encountered mental illness, were taken aback by it. Most admitted to the probability of them distancing themselves from the patient, after experiencing a firsthand view of what hallucination may look and feel like. Whereas, most affected participants answered a definite yes to extending a helping hand. Thus the shift in target group, from it being a wide non-affected audience, to one more focused on affected people and non-affected stakeholders (such as therapists).

The aim is to portray the unseen, the unheard, the incomprehensible. The immersive experiences are designed based on either science facts, patient experiences mentioned in medical articles or both. They convey intelligible potential views of the selected symptoms. The participants are encouraged to “fill in the blank” and picture what it would feel like to undergo a similar experience on a daily basis.

08.02 Target Audience

The target audience of this exhibition is the affected person. Non-Affected professionals within the field of psychology and other similar fields can be considered as a target group.

08

08.03 User's Wellbeing

Precautionary measures must be taken into account in regards to the wellbeing of the participants. Attention must be paid to the audience for whom we are creating these experiences. Affected individuals have probably endured major life changes and disturbing events, causing emotional vulnerability.
An immersive experience may trigger harmful or unwanted feelings, and professionals need to be prepared for assistance at all times in case of an unprecedented event. Shocking and scary experiences need to be finely calibrated. We need to avoid throwing participants into an intense experience. Thus the added cautionary signs at the entrance, next to each installation and at the exit of the exhibition. Participants are required to read these signs before undergoing any experience. Furthermore, the space is designed to have an available exit whenever the user feels overwhelmed and needs to discontinue the journey.

08

08.04 Stimuli

Exhibition design

The exhibition simulates the three phases of psychosis. The idea is to take the participants on an experiential journey into how a typical psychotic episode could manifest itself. The phases of a psychosis consist of:

Phase 1: Prodrome

The symptoms include changes in mood, perception beliefs, cognition and behavior (e.g. isolation, changes in perceptual experiences where visual and auditory experiences may alter, etc.). Experiencing prodromal symptoms may not necessarily indicate an early onset of a psychotic episode. (ibid.)

Phase 2: Acute

This phase is described as critical, where clear psychotic symptoms emerge (i.e. hallucinations and delusions). The person going through these experiences can become extremely distressed and develop atypical behaviors. Appropriate treatment is necessary in this phase. (ibid.)

Phase 3: Recovery

Given the right treatment, recovering from a psychotic episode is highly probable. People are generally able to cope with daily life after a successful treatment. However, some of the symptoms from the acute phase may linger with less intensity during recovery. (ibid.)

Most of the symptoms discussed in this exhibition are sensory based, emphasizing visual and auditory perception defects. Most of the selected symptoms are very common in psychosis. The symptoms under study are:

Phase 1: Isolation - Visual Distortion
Phase 2: Visual and Auditory hallucination
Phase 3: Recovery (back to social life)

08.05 Symptoms as Installations

Installations #1 & #7 — Isolation vs Back to Social Life

Humans are social beings by nature. Social withdrawal arises from feeling sad, hopeless, ashamed, fatigued, apathetic, etc. It makes it hard on someone to face social interaction. Long term isolation can be detrimental to someone's mental wellbeing. This type of isolation is a downward spiral, triggering loneliness and sadness. It feeds into depression and increases the risk of more severe mental issues like psychosis. (Ellis, 2019)
Isolation is a vicious, self-perpetuated cycle. It limits the surrounding connectedness and important emotional support, resulting in an increased risk of a psychotic episode, further social disengagement, and so forth. (Da Rocha, et al., 2017)

Both installations #1 & #7 are based on the sense of touch. Installation #1 is an interpretation of a person withdrawing from the social surrounding, whereas installation #7 illustrates the opposite, a recently cured patient trying to go back to social life.

Installation #2 — Visual Distortion — Contrast Sensitivity impairment

Persons with different psychotic disorders have reported difficulties in vision, including abnormalities in contrast sensitivity, visual acuity, form, motion and color processing. (Silverstein, et al., 2015). Visual impairment may vary from a mental disorder to another.

Due to a large number of studies on schizophrenia, the following installations are based on psychotic episodes experienced by patients suffering from it.

There have been several studies on many of the mentioned abnormalities. Installation #2 is based on two research papers with comparable data.

08

Contrast sensitivity[5] (CS) alteration is explored in installation #2. CS is the visual ability to distinguish an object from its background. Some studies show a decrease in CS in schizophrenia, whereas others demonstrate an increase. Many factors play a part in the variability of CS. One possible explanation of the contradiction in these data is provided by the effects of treatment and the duration of illness on CS. (Shoshina, et al., 2015)

The installation portrays four different CS alterations during a particular timeframe:

- Healthy person with a balanced CS
- Untreated patient during an acute psychotic episode, with a partial[6] increase in CS, compared to normal
- Patient with less than 10 years of treatment, with a partial decrease in CS, compared to normal
- Patient with more than 10 years of treatment, with an overall decrease in CS, compared to normal

(5) The CS alterations were extracted from two research papers:
Contrast Sensitivity in Patients with Schizophrenia of Different Durations of Illness, by Shoshina and Yu. E. Shelepin, 2015
Schizophrenia and the eye, by Steven M. Silverstein and Richard Rosen, 2015

(6) What is meant by the term "partial" in this context is the contrast variation of low vs intermediate to high spatial frequencies. The definition of spatial frequency can be difficult to comprehend. A simple yet loose way to describe low versus high spatial frequency is the following: high frequency is the texture and details of an image, whereas low frequency is the shadows and color in the background.

08

Installations #3 & #4 - Visual Distortion - Alice in Wonderland Syndrome (AIWS)

AIWS is a disorder characterized by the distortions of visual perception, body image and a disturbed sense of distance and time. Studies show that many conditions contribute to AIWS, including migraines, viral infections, epilepsy, psychiatric disorders (e.g. depressive disorder, depersonalization disorder, schizophrenia, etc.) (Blom, 2016). So far, studies have included 42 AIWS visual symptoms (ibid.). Two of those symptoms are highlighted in this section of the exhibition:

Installation #3 - Facial deformation without the self-identity being affected: The installation portrays the distortion of extrapersonal visual self-image.

Installation #4 - Altered self-recognition: The installation highlights a common characterization of disturbing experiences in patients with schizophrenia who are not able to recognize themselves in the mirror. (Sandsten, 2020)

08

Installations #5 & #6 - Visual & Auditory Hallucination

Visual distortion is the distortion of an existing external element/ stimulus, whereas, visual hallucination (VH) is the perception of a non-existing external element. Many conditions can cause VH. People suffering from an organic disorder experience different visual hallucinations than people suffering from a mental disorder. VHs in psychosis are described as often life-sized, detailed and solid. They have three dimensional shapes, with depth and shadows and distinct edges. Frightening content like bugs, spiders, snakes, distorted faces are common. They can be colorful or in black and white. (Waters, et al., 2014)

Studies show that visual and auditory hallucinations are common features in psychosis caused by schizophrenia. Eighty-four percent of individuals with schizophrenia have VH co-occurring with auditory hallucinations. However, important factors were considered while designing this section of the exhibition:

- VHs never occur in psychosis without the presence of auditory hallucinations. (ibid.)
- Visual and auditory hallucinations are rarely simultaneous, and, in most cases, they are experienced in different times. (ibid.)
- In case of a concurring event, the hallucinations are typically unrelated. (ibid.)
- VHs are perceived to be definitely present in a concrete sense. (ibid.)

Installation #5 is designed based on a first-time experience of visual and auditory hallucinations, whereas installation #6 showcases a real life scenario, where the real and the inner worlds collide. The installation demonstrates how difficult it can be to manage both worlds simultaneously.

09 Conclusion

The experiment and exhibition proposal bring us one step closer to finding a way to break stigma around mental illness.
Following the findings of the experiment conducted, we can now conclude that an exhibition of first-person perspective experience design has a high probability to elicit empathy and encourage social inclusion. This applies mostly to caregivers, immediate families and close friends of people with a mental disorder. We have an opportunity to explore other visual forms of communication that could resonate with people who have never experienced or witnessed a psychotic episode. We have to be careful when designing experiences of mental disorder symptoms to non-affected people to avoid creating more distancing and some forms of phobia.

Many people have problems focusing while reading, especially when the topic does not interest them. Not being able to focus makes it really hard to understand what is written, therefore empathising with it. Following this observation, designers have the opportunity to challenge the traditional methods of raising awareness, such as flyers, leaflets, etc. These communication products can inform the reader of what mental illness is. However, there should be a paradigm shift and our focus should move from raising awareness to removing stigma and advocating for inclusion.

For future studies that go beyond empathy, designers should explore visual languages that can promote effective communication between affected, non-affected people, and people with a mental disorder.

The world today, during the pandemic, has come to experience what it means to have your mental health compromised, what it means to experience isolation, anxiety and depression. Mental health has become in the spotlight. We, designers, need to be prepared with the right visual language to go beyond passive awareness to active outreach when it comes to mental illness. Visual language will support in making this shift possible.

10 References

Birren, F. (2016). *Color Psychology and Color Therapy - A factual study of the influence of color on human life*. Pickle Partners Publishing. (Originally published in 1961).

"Early signs of Psychosis" (n.d.). Center for Early Detection, Assessment & Response to Risk. Available from: http://www.cedarclinic.org/index.php/understanding-early-psychosis/early-signs-of-psychosis [accessed March 2020]

Finnerty, S. G. (n.d.). *Stigma and empathy: an organising principle for the continuum of social understanding.* Available from: http://ceur-ws.org/Vol-1751/AICS_2016_paper_53.pdf [accessed July 2020]

Hodges, S.D., Myers M.W., (2007). *Empathy. Encyclopedia of Social Psychology*. Available from: https://pages.uoregon.edu/hodgeslab/files/Download/Hodges%20Myers_2007.pdf [accessed April 2020]

Kidd, D.C., Castano, E. (October 2013). Reading literary fiction improves theory of mind. Available from: https://www.researchgate.net/publication/257349728_Reading_Literary_Fiction_Improves_Theory_of_Mind [accessed April 2020]

Louie, A.K., Coverdale, J.H., et al. (October 2018). *Enhancing Empathy: a Role for Virtual Reality?* Available from: https://link.springer.com/article/10.1007/s40596-018-0995-2 [accessed May 2020]

NMH Communications. World Health Organization, Geneva. (2001). Mental disorders affect one in four people. Available from: https://www.who.int/whr/2001/media_centre/press_release/en/ [accessed January 2020]

"Phases of Psychosis" (n.d.). *BC Early Psychosis Intervention Program*. Available from: https://www.earlypsychosis.ca/phases-of-psychosis/ [accessed March 2020]

Ritchie, H., Roser, M. (April 2018). *Mental Health*. Available from: https://ourworldindata.org/mental-health [accessed July 2020]

Rössler, W. (September 2016). *The stigma of mental disorders.* Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5007563/ [accessed February 2020]

Sandsten, K.E., Nordgaard, J., et al. (April 2020). *Altered self-recognition in patients with schizophrenia.* Available from: https://www.sciencedirect.com/science/article/pii/S0920996420300384 [accessed July 2020]

Shoshina, I. I., Shelepin, Yu. E. (June 2015). *Contrast Sensitivity in Patients with Schizophrenia of Different Durations of Illness.* Available from: https://www.researchgate.net/publication/335105852_Contrast_Sensitivity_in_Patients_with_Schizophrenia_of_Different_Durations_of_Illness [accessed July 2020]

Waters, F., Collerton, D., Ffytche, D.H., Jardri, R., Pins, D., Dudley, R., Blom, J.D., Mosimann, U.P., Eperjesi, F., Ford, S., Larøi, F. (June 2014). *Visual Hallucinations in the Psychosis Spectrum and Comparative Information From Neurodegenerative Disorders and Eye Disease.* Available from: https://academic.oup.com/schizophreniabulletin/article/40/Suppl_4/S233/1875426 [accessed March 2020]

Walther, S., Stegmayer, K., Sulzbacher, J., Vanbellingen, T., Müri, R., Strik, W., Bohlhalter, S. (March 2015). *Nonverbal Social Communication and Gesture Control in Schizophrenia*. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4332963/ [accessed March 2020]

Woo, M. (April 2019). *Eyes hint at hidden mental-health conditions*. Available from: https://www.nature.com/articles/d41586-019-01114-9 [accessed January 2020]