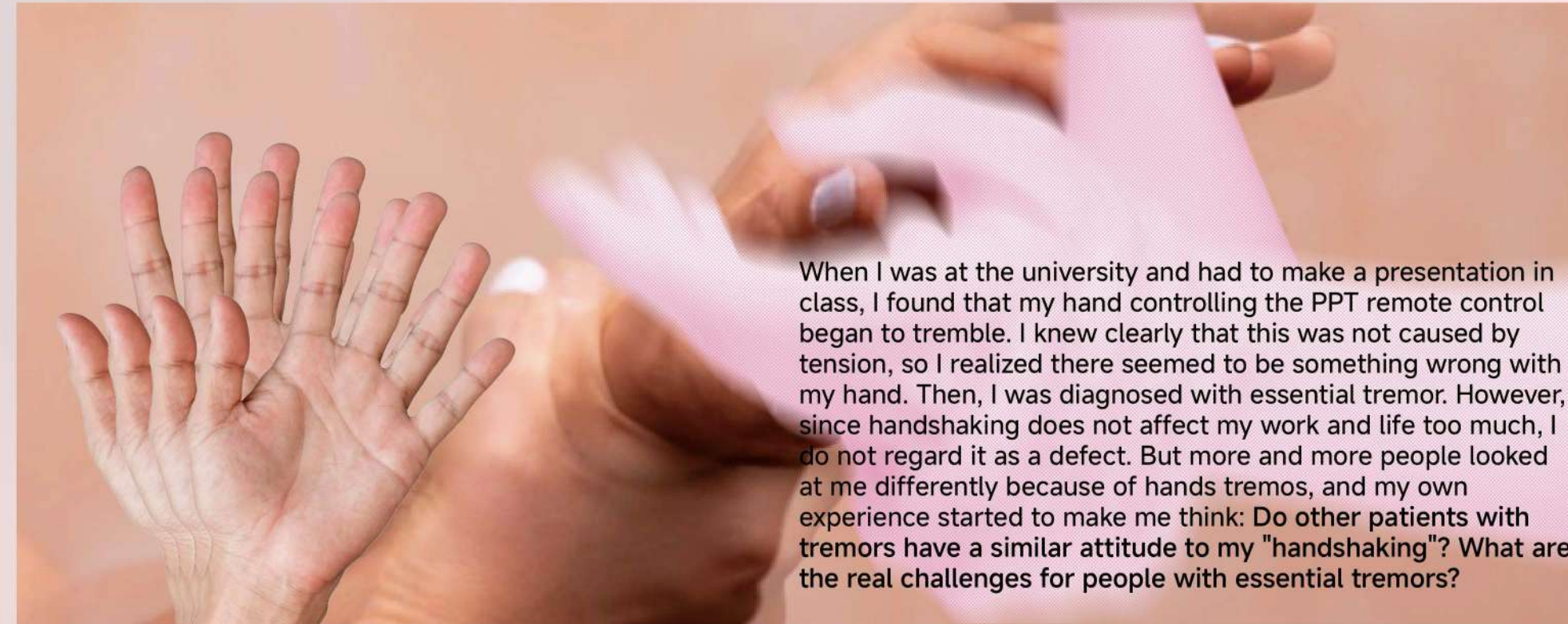


# 01 SIMULTANEOUS RESONANCE

Through this project, The goal is to explore how the public's perception of "normal" and "abnormal" affects individuals with tremors and to gain insight into the genuine attitude of those with tremors towards their shaking hands.

I aspire for this project to prompt the public to reevaluate whether their scrutiny contributes to the distress of tremor patients. As someone living with tremors, I aim to narrate my story with a more optimistic perspective.

## INSPIRATION



When I was at the university and had to make a presentation in class, I found that my hand controlling the PPT remote control began to tremble. I knew clearly that this was not caused by tension, so I realized there seemed to be something wrong with my hand. Then, I was diagnosed with essential tremor. However, since handshaking does not affect my work and life too much, I do not regard it as a defect. But more and more people looked at me differently because of hands tremors, and my own experience started to make me think: Do other patients with tremors have a similar attitude to my "handshaking"? What are the real challenges for people with essential tremors?

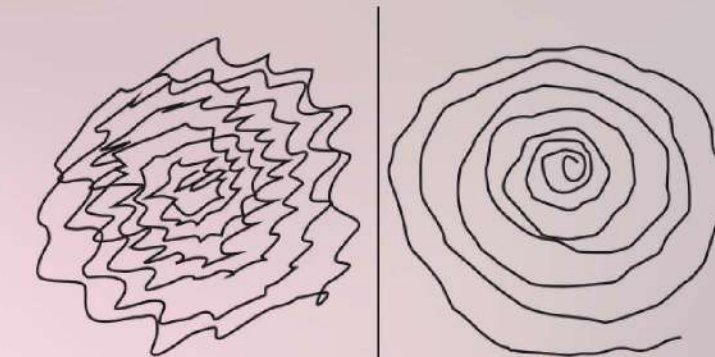
## BACKGROUND

### #What is Essential tremor?

Essential tremor (ET) is a disorder of the nervous system that typically causes involuntary shaking of the hands, head, and voice. Hand tremor is the most common clinical symptom.

#### Reference:

According to the "Guidelines for the Diagnosis and Treatment of Essential Tremor in China (2020)", essential tremor primarily affects adolescents aged between 20-30 years and middle-aged individuals aged between 50-60 years. The report also indicates that about 30%-70% of patients have a family history of the disease. Currently, the number of essential tremor patients in China is estimated to be over 10 million.



## RESEARCH

### #What are the specific life effects of essential tremor on patients?

#### Self-Observation record:

#### Daily life:

Hands tremor may be noticed when making coffee, but they don't cause spills.

When using mobile devices, such as phones and computers, tremors in the hand can slightly affect fine motor skills. However, this issue can be resolved through debugging.

#### Working:

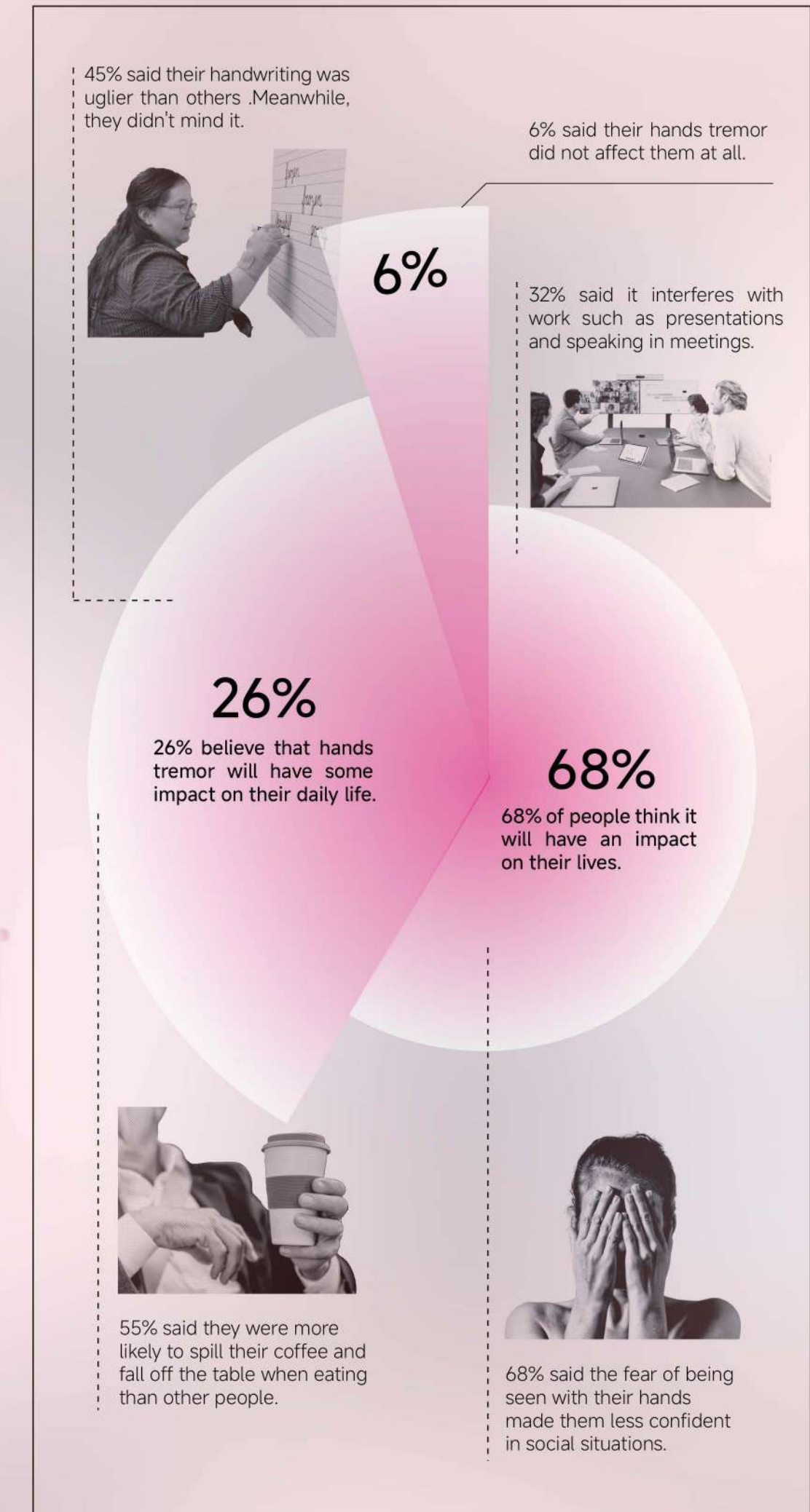
If you need to complete a task that requires delicate manipulation, such as drawing or operating a mouse, hands tremor may have a bad influence on efficiency. However, hands tremor can also make you more focused while working.

#### Social:

I used to hide my hands tremor constantly, fearing attention. Despite my efforts to react naturally, I still feel embarrassed.

## #Questionnaire 01

After conducting self-observation and raising questions, I posted a questionnaire on forums for sick people, Weibo, and Tieba, a total of 800 responses has received, out of which 726 were valid.



# RESEARCH

## #Interview 01

To gain a deeper understanding of tremors, I interviewed multiple questionnaire respondents to explore their experiences.



"I have the habit of drinking coffee every day. When I hold the coffee cup, I can't help but feel the trembling of my fingertips. But when people around me noticed my hand shaking slightly, they would ask me why I was nervous. It was very embarrassing for me, and I didn't like people looking at my hands."



"I was diagnosed with essential tremor when I was 13. When I was a teenager, I had a hard time doing things like painting my nails because my hands were so shaky. I still remember when I took the exam, because of my shaking, I was told that I could use the laptop to answer the questions, but I was used to writing by hand, so I refused. However, in the end, I got a good grade."



"I gradually became comfortable with my hand shaking and found coping methods that enabled me to continue my daily activities. For example, by adjusting the way I move, I can say that, for now, shaking hands does not cause me any difficulties in life."

## Reference:

It has been reported that holding things and hands tremor may be attributed to a condition known as "essential tremor". Although this condition can persist for a long time, it is not necessarily a cause for concern. Patients should focus on adjusting their mentality and maintaining a positive outlook on life.



According to interviews and references, external factors can have a greater impact on one's quality of life than the hand shaking itself.

## Analysis

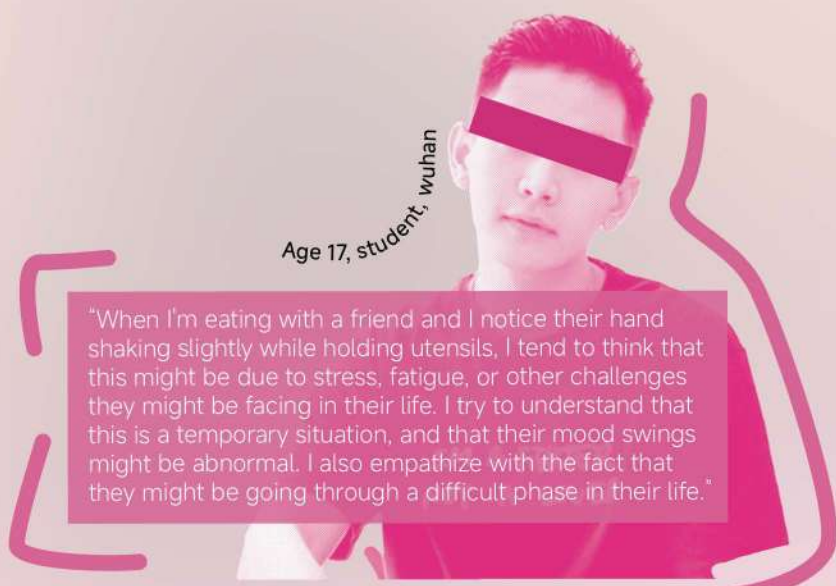
After conducting thorough interviews with several patients suffering from tremors, I discovered that most of them didn't consider their hand shaking to be negatively impacting their lives. **Some even believed that it had no impact on their daily routine.**

However, speaking from personal experience, I found myself wondering why there is so much concern around this condition that doesn't seem to cause discomfort to most tremor patients. **For those who do feel that their hand shaking is affecting their daily lives, I'm curious to know what kind of impact it**

## #Interview 02

I found some friends of people with tremors and interviewed them.

When you first noticed that his hands were shaking, what was your initial reaction?



"When I'm eating with a friend and I notice their hand shaking slightly while holding utensils, I tend to think that this might be due to stress, fatigue, or other challenges they might be facing in their life. I try to understand that this is a temporary situation, and that their mood swings might be abnormal. I also empathize with the fact that they might be going through a difficult phase in their life."



"I thought he was too nervous, so I asked him how he was doing and offered my concern and sympathy."

"He could be shaking from lack of sleep, hunger, overwork, caffeine, or alcohol. In that case, I would advise him to take a break, get some nutrition, or cut back on caffeine or alcohol."

## #Experimented on Mental illness

In 1972, Stanford University psychology professor David Rosenhan experimented on mental illness to find out why ordinary people are diagnosed with mental illness.



The concept of normality is often shaped by societal expectations, stereotypes, and personal biases. Consequently, people may label behaviors or characteristics that deviate from the norm as "abnormal" simply because they do not align with the consensus of what is considered "normal".

Based on his experiments, He explained that medical professionals have a mindset that if someone comes to a mental hospital, that should be a mental patient. It is easy to diagnose as a psychopath, and once you're diagnosed as a psychopath, that is settling down.

## #Summary

People with essential tremors may experience doubt in their abilities and self-worth due to external attention and evaluation of their tremors. This can aggravate their already low self-esteem and lead to negative self-perceptions.

Additionally, when treated as patients or with compassion, they may feel as though their place in society is diminished, which can result in decreased confidence in social interactions and increased shyness. The negative effects of essential tremors on their self-esteem and mood can have a long-term impact on their overall happiness and life satisfaction, regardless of the severity of their shaky hands.

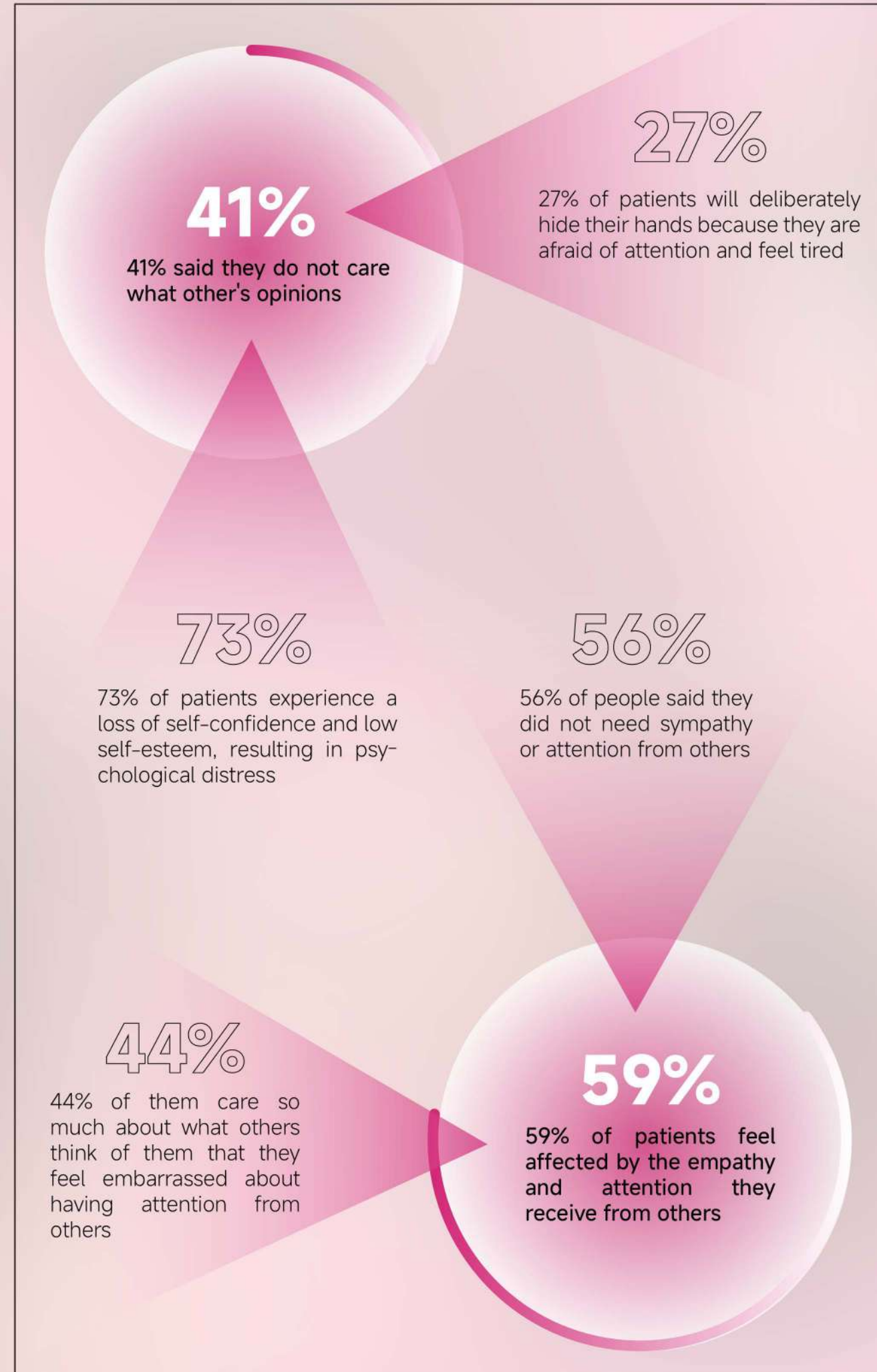


## RESEARCH

### #Questionnaire 02

How is the sympathy and concern from the outside world affecting patients with hands tremor?

With this question, I published a total of 500 questionnaires on the sns platform and received 391 valid answers.



### #Interview 03

I conducted interviews with patients who felt affected by compassion and attention from others.

When you first noticed that his hands were shaking, what was your initial reaction?

	<p><b>Age 22, finance, Guangzhou</b></p> <p>"I feel that my status is exaggerated or overly focused when people express too much concern for me. This can damage my self-confidence and make me doubt my abilities, causing me to see myself as vulnerable or inadequate in the eyes of others."</p>
	<p><b>Age 28, software development, Beijing</b></p> <p>"Sometimes I feel abnormal when people pay attention to me, causing me to lack confidence and fear being seen."</p>
	<p><b>Age 30, marketing, Shanghai</b></p> <p>"I often feel uncomfortable when people see my hand shaking. It's not because I feel inferior, but rather because I'm afraid of the questions they may ask me. This makes me feel very stressed out."</p>

### #The Patient's Psychological

Reference:



The article "Essential Tremor Diagnosis and Treatment: Starting from a New Consensus" highlights that the severity of essential tremor symptoms, their impact on the patient's quality of life, and the patient's own will should be considered when determining treatment.

Although there are no medications that can cure or slow the progression of essential tremor, symptoms can be managed effectively by reducing the patient's psychological burden. Rather than focusing solely on the quality of life, considering the patient's psychological state can be more helpful in identifying effective treatment options as this addresses the root cause of the problem.

### #Summary

People with essential tremors may experience doubt in their abilities and self-worth due to external attention and evaluation of their tremors. This can aggravate their already low self-esteem and lead to negative self-perceptions. Additionally, when treated as patients or with compassion, they may feel as though their place in society is diminished, which can result in decreased confidence in social interactions and increased shyness. The negative effects of essential tremors on their self-esteem and mood can have a long-term impact on their overall happiness and life satisfaction, regardless of the severity of their shaky hands.

### #Yale Open Class: PSYC 110: Introduction to Psychology

Reference:



Lecture 18- What Happens When Things Go Wrong: Mental Illness, Part I (Guest Lecture by Professor Susan Nolen-Hoeksema)

- Distress** Causes person or others significant distress
- Dysfunction** Prevents person from functioning in daily life
- Deviance** Behaviors or feelings highly unusual

### #Summary

Psychological standards have a process that goes from a casual personal judgment to a clear and uniform one. However, the most important criterion is still whether the person is doing well on their own. The criterion of distress and dysfunction is primarily focused on that. *If a person is feeling fine and not causing harm to anyone else, except for the perception that they may be "abnormal", then others who "sympathize" and "care" for them in the name of "the person is abnormal" are likely to hurt them.* When it comes to normal or abnormal, it's best to avoid self-righteousness as it can be a source of pain.

## CONCLUSION

Patients with tremors might behave differently from what is considered normal by others, which leads to them being labeled as "abnormal." Society's definition of normal is often based on the consensus of the majority. For instance, bystanders might perceive the hands of essential tremor patients as "abnormal." However, research shows us that this is mainly due to the social definition of most people's hands-free state. This definition neglects the differences between individuals.

People with essential tremors are generally able to maintain a positive attitude towards the tremor of their hands. However, the perception of their tremor as abnormal by onlookers can cause more psychological damage than the tremors themselves. This can make them feel different and affect their self-esteem and self-confidence. Through this project, the aim is to discuss the impact of the public's perception of "normal" and "abnormal" on people with tremors and to understand the proper attitude of people with tremors towards their handshaking. I hope that this project will encourage the public to reconsider whether their gaze is a source of suffering for tremor patients. As someone who experiences tremors, I would like to share my story in a more positive light.

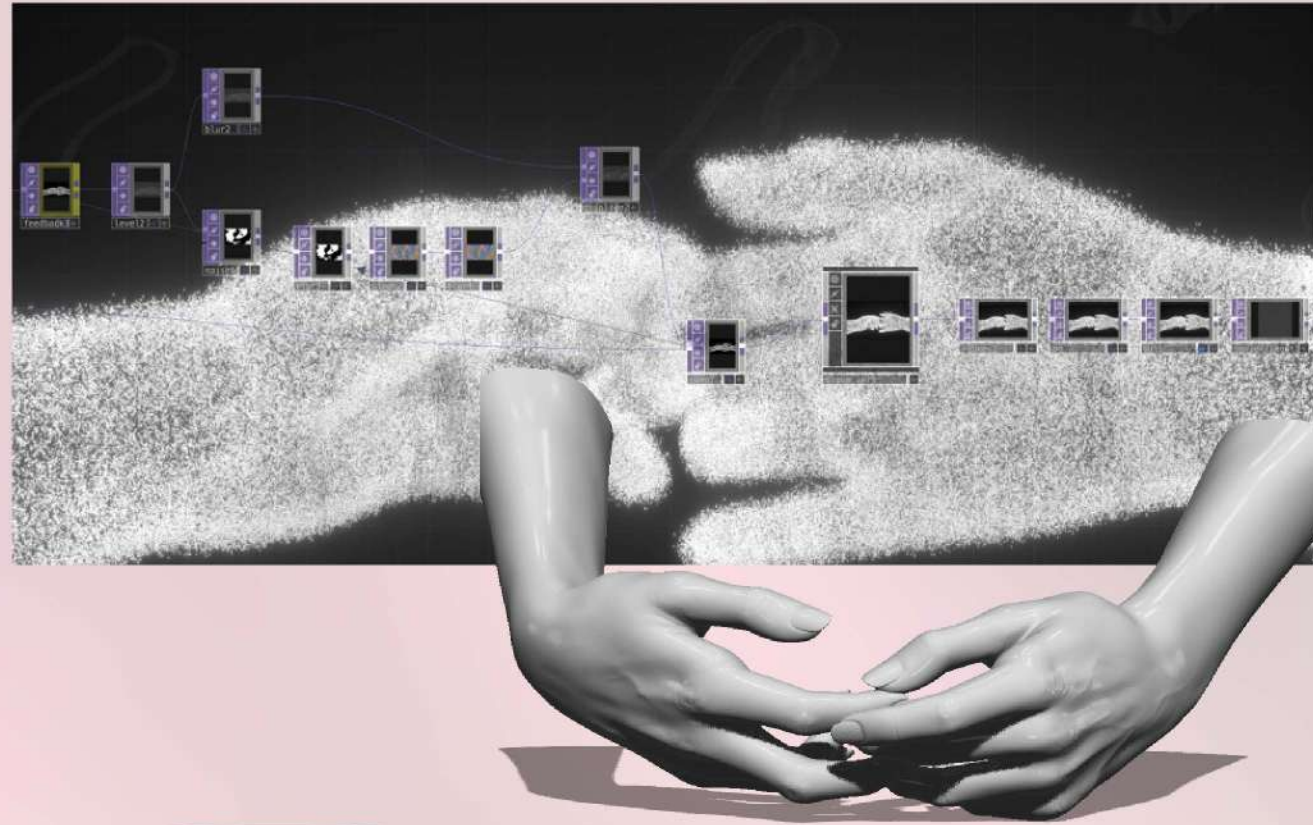
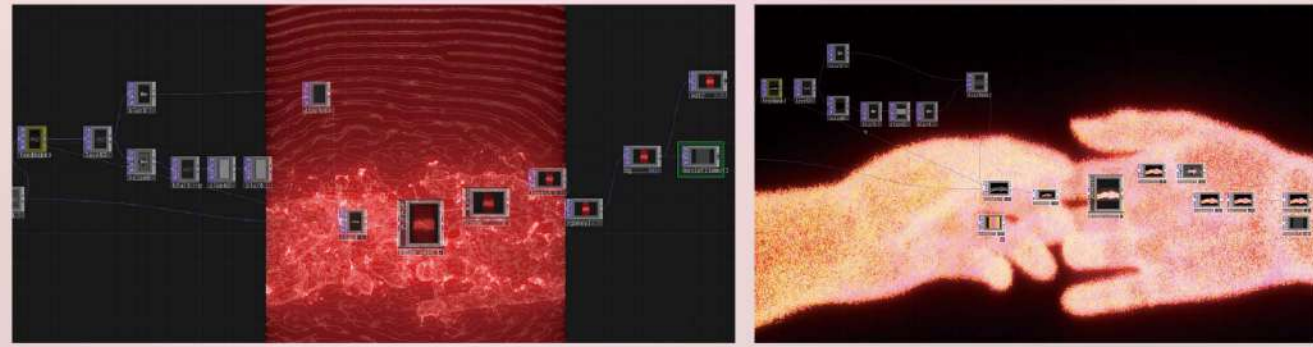
# EXPERIMENTAL PROCEDURE

#Experimental-workshop #Process

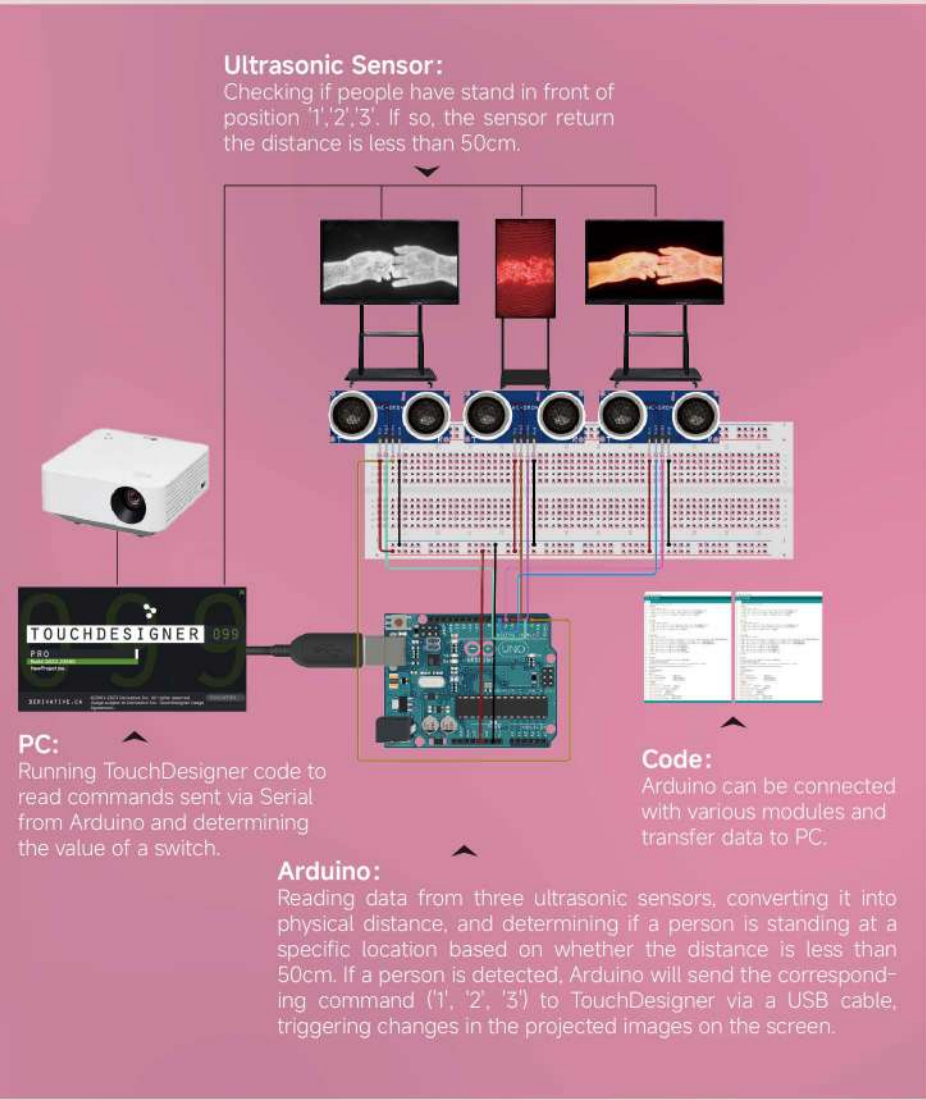
To better understand how hands tremor affects patients with tremors, I organized a workshop and invited six patients to participate.

During the workshop, I observed the patients performing various tasks involving using their hands, such as eating, writing, smoking, Etc. I documented and analyzed the state of their hands while using these everyday objects.

## Engineering Images



## Circuit



## On-site construction

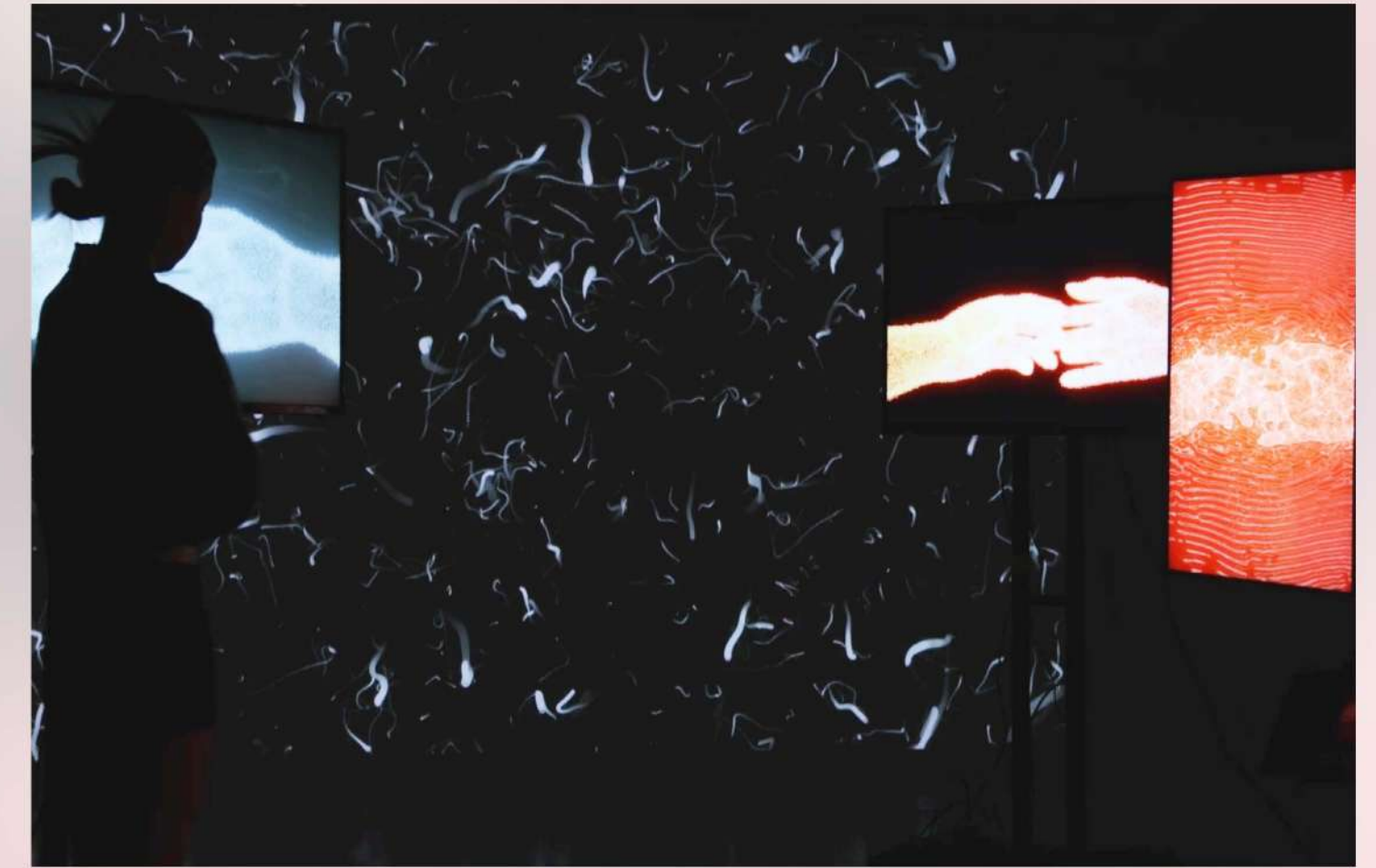


# OUTCOME

#Interactive video

I used the data collected from the workshop to create a visual design of the handshaking patterns of the participants. The purpose was to present the inner world of tremor patients and the psychological effects of hands tremor.

The design was created as an interactive image to allow viewers to become observers and better understand the patients' experiences.



## Flow of the workshop

**01** Invite patients with hands tremor

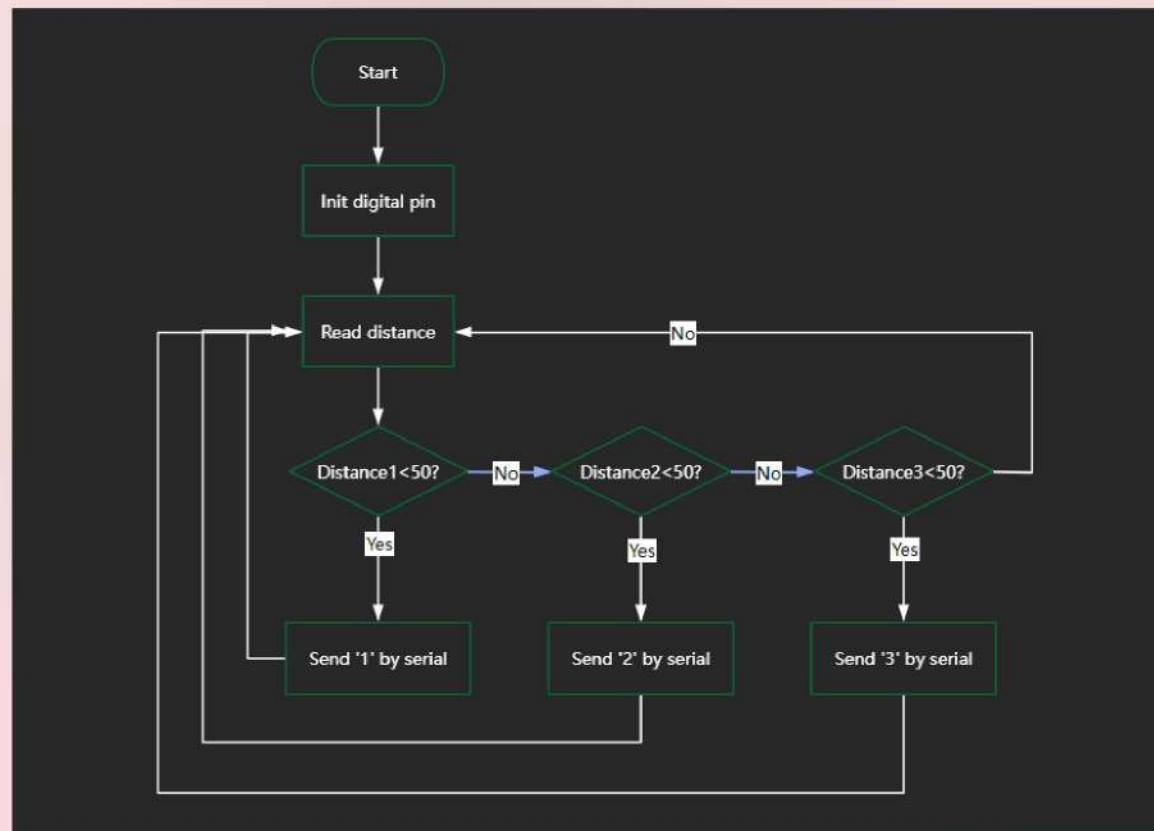
**02** Let the patient do different hand movements  
Writing Eating Smoking Holding

**03** Record their hands tremor

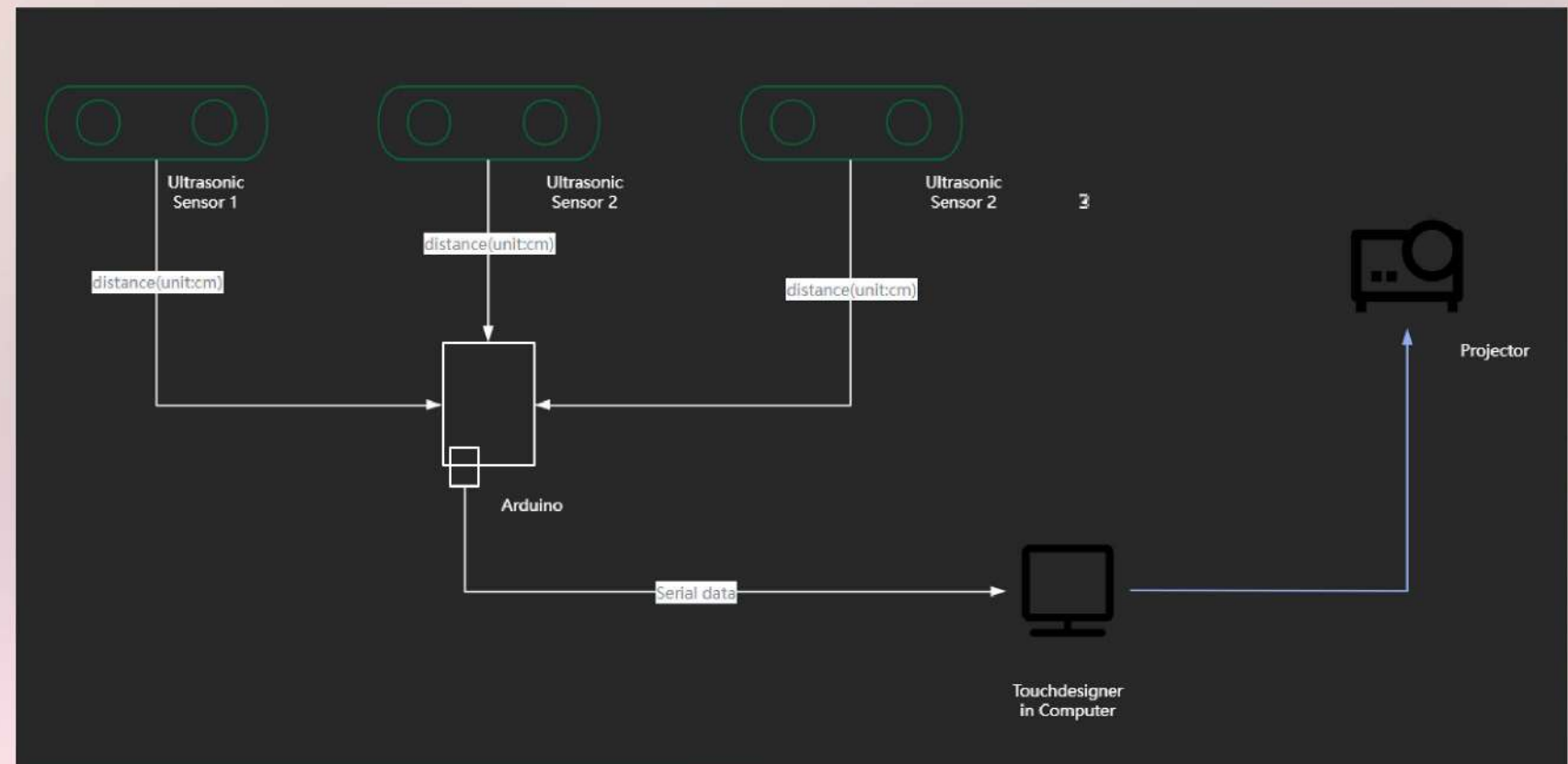
**04** Capture the track of the hands tremor

**05** Analyze the state of their hands

## Arduino program logic



## User flow



# ■ **OUTCOME**

## #Interactive logic

The image is divided into three parts based on tremor patients' attitude towards hands tremor.



01

### Numb - On standby

Hand tremors can have a significant impact on the lives of most patients. To demonstrate the actual level of hands tremor, I presented the hand movement tracks collected during the workshop visually.

02

### Escape - Disguise

At this stage, patients with tremors are observed, creating psychological resistance and aversion to hands tremor. The tremor patient also tries to disguise themselves as normal since the track of tremor is unappealing.

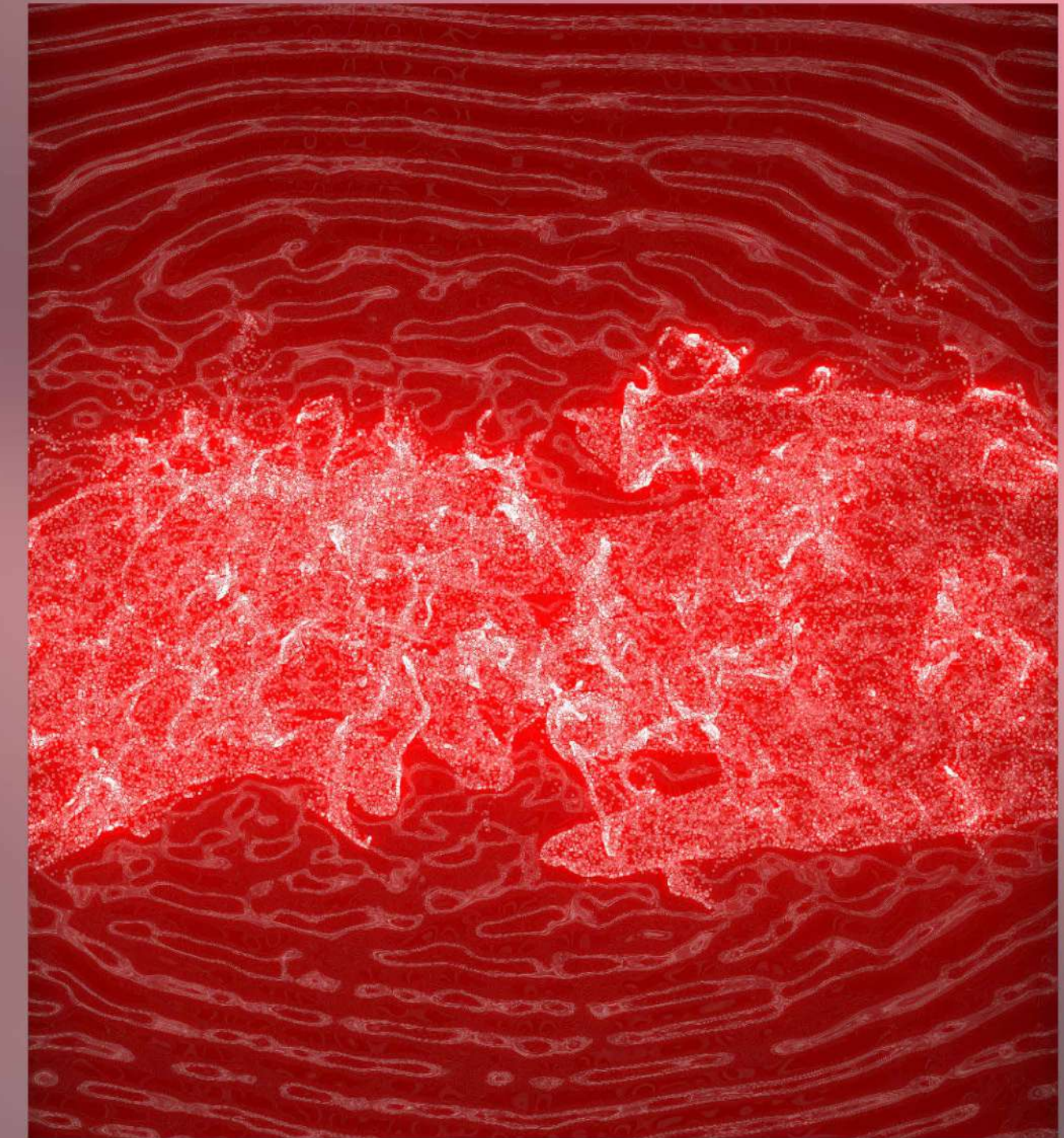
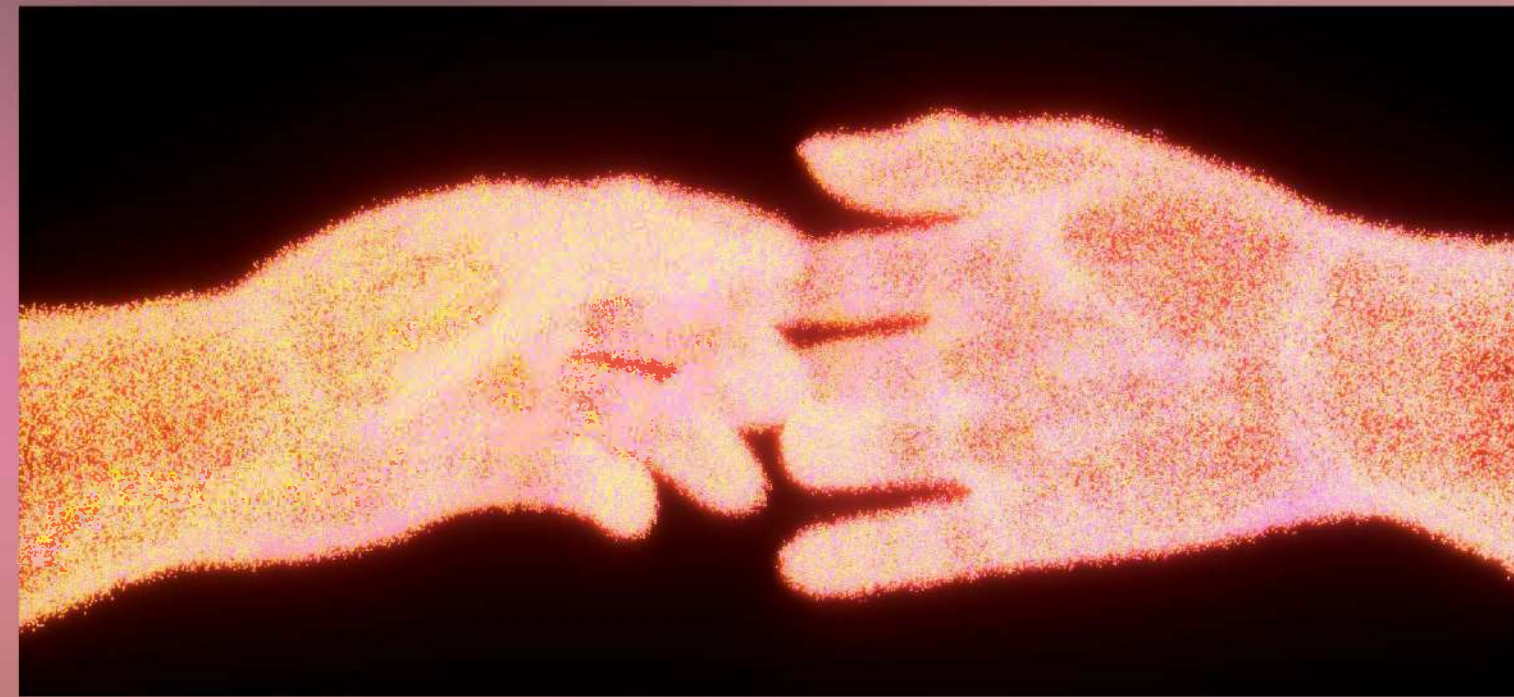
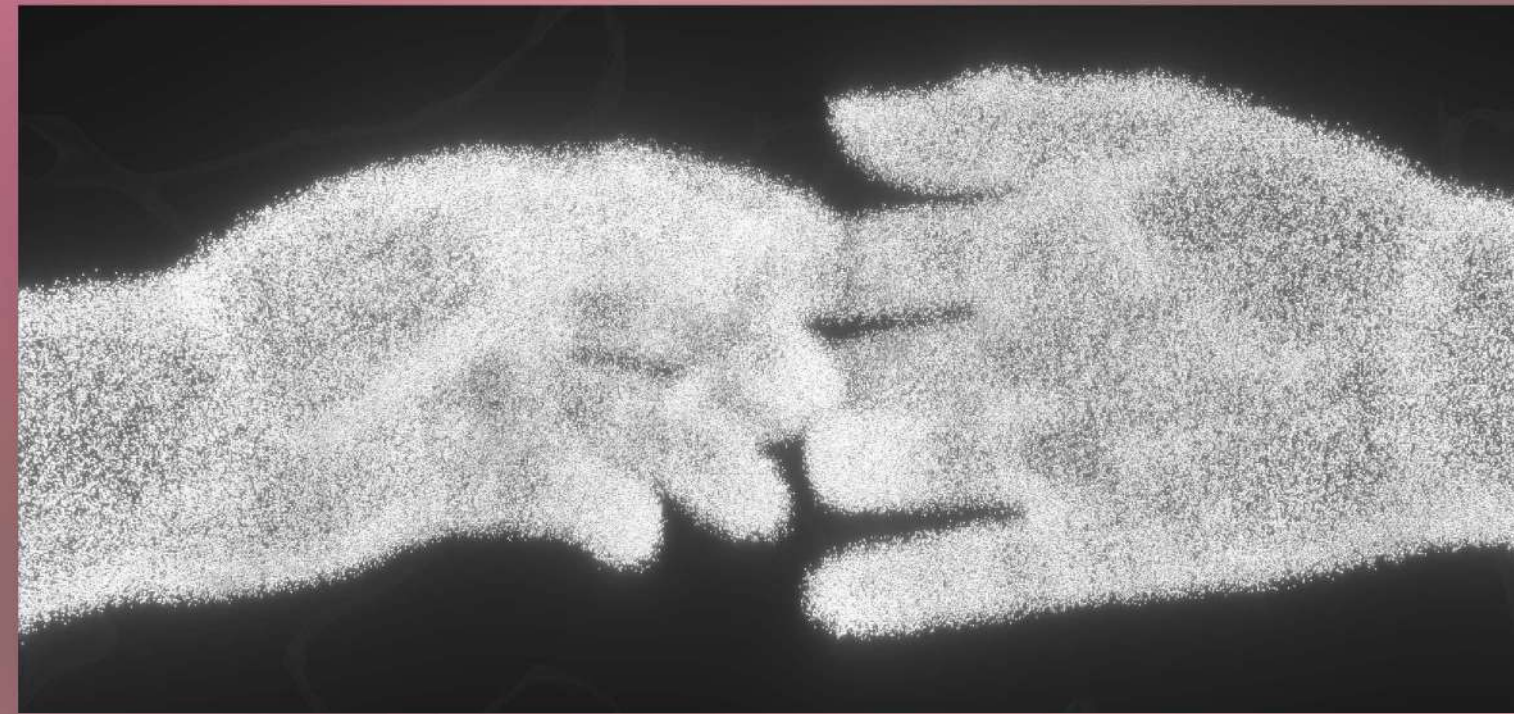
03

### Relief - Rhythm

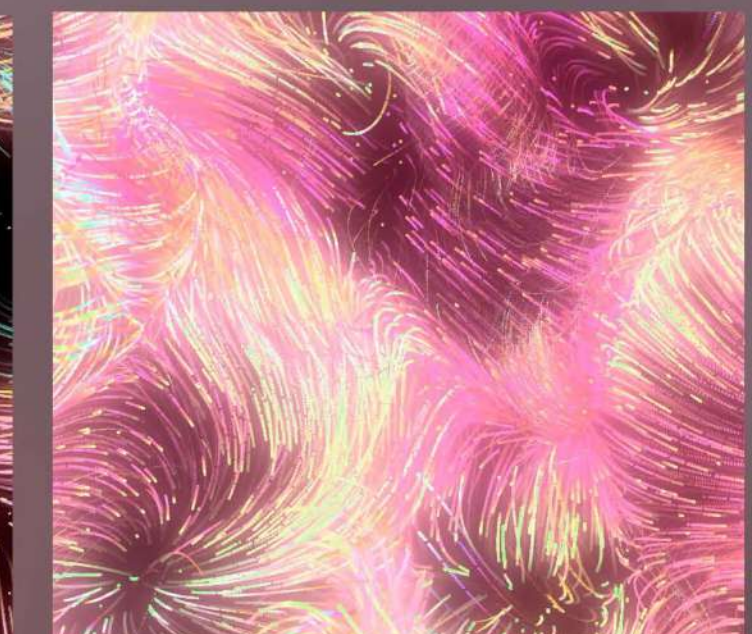
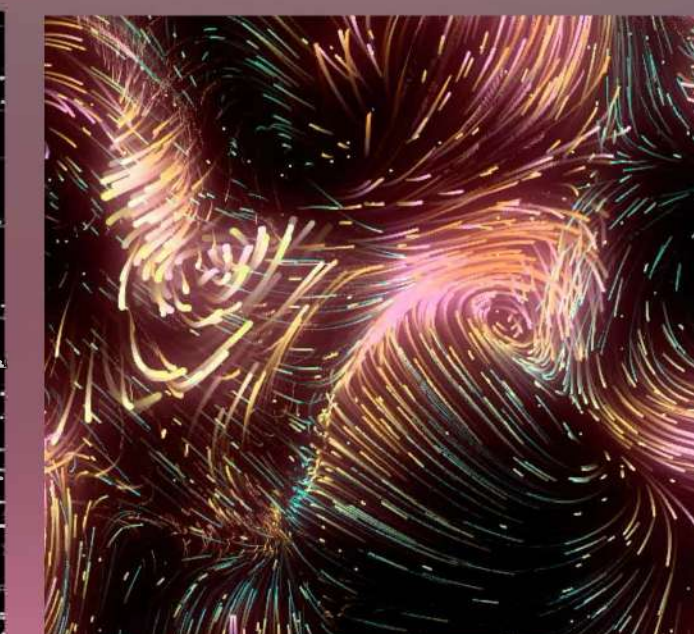
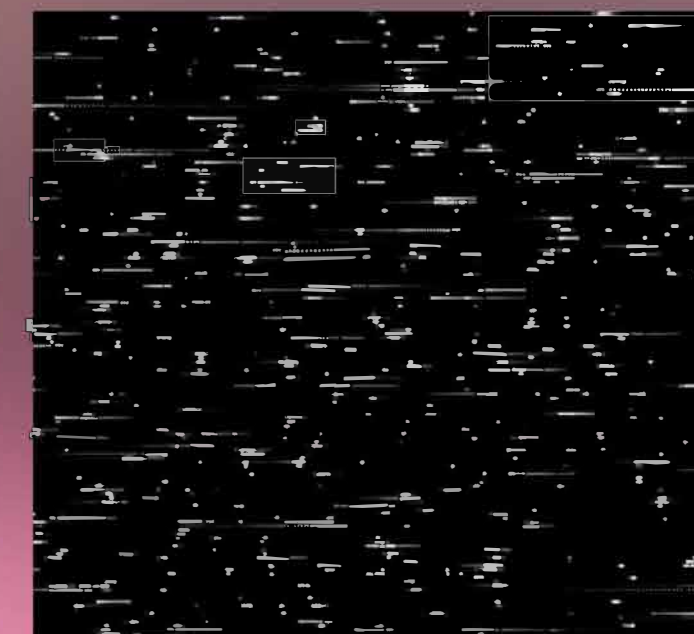
For most people with tremors, hands tremor alone is not the source of their distress. At this stage, through the "positive" visual processing of the hands tremor trajectory, we try to lead the "observer" into the "rhythm" world of tremor patients: the hands tremor is not a kind of trauma but a kind of aesthetic rhythm.



## ■ **INTERACTIVE VIDEO DETAILS**



## ■ **SCENE DETAILS**



■ **VIDEO LINK: [HTTPS://VIMEO.COM/883001831](https://vimeo.com/883001831)**