

A MATTER OF TOUCH - APPENDIX

Designing clothing to address touch deprivation among young adults

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Master thesis

Design for Interaction
Faculty of Industrial Design
Delft University of Technology

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Author:
Flóra Kürti

Chair:
Dr. Gijs Huisman

Mentor:
Tingting Wang

(Unofficial) Mentor:
Dr. Sima Ipakchian Askari

A

PARTICIPANT OVERVIEW

(The participant coding indicates the activities the individual participated in: B - filled in the sensitizing booklet, I - gave an interview, S - participated in the creative session, T - tested the prototype. They also got color coded to show later in the creation of statement cards (Synthesis) which participant is quoted.

INTERVIEW PARTICIPANTS

PARTICIPANT	BI - 1	I - 1	BI - 2	I - 2	BI - 3
SENSITIZED	yes	no	yes	no	yes
AGE	28	22	25	25	23
GENDER	Male	Female	Female	Male	Female
NATIONALITY	Italian	Belgian	Colombian	Indian	Indian
RELATIONSHIP STATUS	single	single	was in a long-distance relationship (now in a relationship)	single	in a long-distance relationship
EXPERIENCING TOUCH DEPRIVATION	yes (currently)	yes (in the past)	yes (in the past)	no	yes (currently)
INITIATING TOUCH	finds it hard to initiate	often initiates	initiates	doesn't initiate often	doesn't initiate often
PHYSICAL CONTACT	likes physical contact	really likes physical contact ('touchy person')	likes physical contact	doesn't mind physical contact	doesn't like physical contact
ADDITIONAL INFO	-	has an identical twin	hobby: high-contact combat sport	-	difficulties in relationship due to long-distance

	BIS - 1	I - 3	BIS - 2	BIS - 3	BIS - 4
	yes	no	yes	yes	yes
	24	60+	20	23	26
	Female	Male	Male	Male	Female
	Indian	Dutch	Dutch	Dutch	Indian
	in a long-distance relationship	married	single	was in a long-distance relationship	single
	no	no	yes (currently)	yes (currently)	yes (currently)
	doesn't initiate often	doesn't initiate often	finds it hard to initiate	finds it hard to initiate	doesn't initiate often
	doesn't mind physical contact	doesn't mind physical contact	likes physical contact	likes physical contact	doesn't mind physical contact
	-	-	social anxiety	-	BPD (borderline personality disorder)

GENERATIVE SESSION PARTICIPANTS

Session 1

PARTICIPANT	BIS - 3	BIS - 4	S - 1	S - 2
AGE	23	26	25	25
GENDER	Male	Female	Female	Female
NATIONALITY	Dutch	Indian	Norwegian	Indian
RELATIONSHIP STATUS	was in a long-distance relationship	single	in a long-distance relationship	single
ADDITIONAL INFO	-	BPD (borderline personality disorder)	-	-

GENERATIVE SESSION PARTICIPANTS

Session 2

PARTICIPANT	BIS - 1	BIS - 2	S - 3	S - 4	S - 5	S - 6
AGE	24	20	28	25	26	25
GENDER	Female	Male	Male	Male	Male	Male
NATIONALITY	Indian	Dutch	Swiss	Spanish	Chilean	Indian
RELATIONSHIP STATUS	in a long-distance relationship	single	in a long-distance relationship	in a long-distance relationship	was in a long-distance relationship	single
ADDITIONAL INFO	-	social anxiety	-	-	-	-

EVALUATION PARTICIPANTS

PARTICIPANT	S - 2	T - 1	S - 3	BI - 2	T - 2	T - 3
DESIGN THEY TESTED	level 3	level 2	level 2	level 1	level 3	level 1
AGE	25	30	28	25	28	25
GENDER	Female	Female	Male	Female	Male	Female
NATIONALITY	Indian	Mexican	Swiss	Colombian	Persian	Indian
RELATIONSHIP STATUS	single	in a relationship	in a long-distance relationship	was in a long-distance relationship (now in a relationship)	in a long-distance relationship	in a relationship
ADDITIONAL INFO	-	-	-	hobby: high-contact combat sport	-	-

B

SENSITIZING BOOKLETS

Filled in sensitizing booklets with the participant codes.

BI - 1

MY CONTACT MAP

DAY 1

DAY 2

Welcome back! Please answer the questions then continue on the next page.

Are you a touchy person?
(A touchy person likes to have physical contact, feels comfortable with touching others and doesn't mind being close to them.)
Place yourself on the scale below.

I don't want to be touched. I avoid physical contact. I don't mind being touched. I like physical contact. I'm a touchy person.

How do you feel about the amount of touch you got and gave this past week?
Think back to the past week. Are you satisfied and happy with the amount of physical contact you had? Was it too much or too little?
Mark it on the scale.

It was way too little. I would want a bit more. It was the right amount. I would want a bit less. It was way too much.

Dear dad
I am sending you this hug!
I think you are a good "hugger" because...
I always know how to support me and when I am sad you always give me a hug and you are always there for me. I love you and we will be always together.

(Write only their first name)
Dad

Dear brother
I wish I could hold your hands, because holding your hands feels:
 soft strong
 comforting rough
 warm safe
 other: _____
 other: _____

(Write only their first name)
Brother

Dear mom
I am sending you this kiss, because...
I love you and you are the best mom in the world and you always give me a kiss and you are always there for me and you are always there for me.

(Write only their first name)
Mom

Dear brother
I wish we could link arms! We could do this while...
we are always together and we are always together and we are always together and we are always together.

(Write only their first name)
Brother

DAY 4

Think back to yesterday. Try to remember the touches you gave or received that day, from waking up in the morning to going to bed at night. Below you will find a timeline. Use this timeline to trace your day and note down 4 touches you gave or received (for example: pat on the shoulder, a hug from a family member/friend, bumping into a stranger).

Step 1 - In the circles draw and/or write down the touch experience.
Step 2 - Color the bodypart that was touched on the figure below the timeline.
Step 3 - Mark the icon to show how you feel about this touch - sad, neutral or happy.

See the example if you need help.

I wake up and started the day. I went to sleep.

Example 1: A hand on the shoulder. "Hello! How are you?"

Example 2: A hand on the shoulder. "Goodbye! See you tomorrow!"

Example 3: A hand on the shoulder. "Goodbye! See you tomorrow!"

Example 4: A hand on the shoulder. "Goodbye! See you tomorrow!"

BI - 2

MY CONTACT MAP

DAY 1

DAY 2

Welcome back! Please answer the questions then continue on the next page.

Are you a touchy person?
(A touchy person likes to have physical contact, feels comfortable with touching others and doesn't mind being close to them.)
Place yourself on the scale below.

I don't want to be touched. I avoid physical contact. I don't mind being touched. I like physical contact. I'm a touchy person.

How do you feel about the amount of touch you got and gave this past week?
Think back to the past week. Are you satisfied and happy with the amount of physical contact you had? Was it too much or too little?
Mark it on the scale.

It was way too little. I would want a bit more. It was the right amount. I would want a bit less. It was way too much.

Dear Nahia
I am sending you this kiss, because...
I miss you a lot.

(Write only their first name)
Nahia

Dear Caro
I wish I could hold your hands, because holding your hands feels:
 soft strong
 comforting rough
 warm safe
 other: _____
 other: _____

(Write only their first name)
Caro

Dear Brother
I am sending you this hug!
I think you are a good "hugger" because...
you do it from the heart!

(Write only their first name)
Santyo

Dear Caro
I wish we could link arms! We could do this while...
Walking in the street.

(Write only their first name)
Caro

DAY 4

Think back to yesterday. Try to remember the touches you gave or received that day, from waking up in the morning to going to bed at night. Below you will find a timeline. Use this timeline to trace your day and note down 4 touches you gave or received (for example: pat on the shoulder, a hug from a family member/friend, bumping into a stranger).

Step 1 - In the circles draw and/or write down the touch experience.
Step 2 - Color the bodypart that was touched on the figure below the timeline.
Step 3 - Mark the icon to show how you feel about this touch - sad, neutral or happy.

See the example if you need help.

I wake up and started the day. I went to sleep.

Example 1: A hand on the shoulder. "Hello! How are you?"

Example 2: A hand on the shoulder. "Goodbye! See you tomorrow!"

Example 3: A hand on the shoulder. "Goodbye! See you tomorrow!"

Example 4: A hand on the shoulder. "Goodbye! See you tomorrow!"

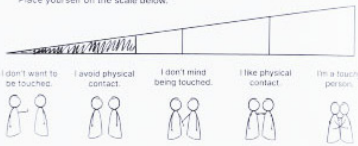
MY CONTACT MAP

DAY 1
DAY 2

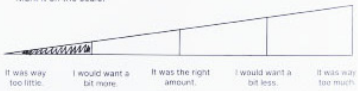
less contact ————— most contact

Welcome back! Please answer the questions then continue on the next page.

Are you a touchy person?
 (A touchy person likes to have physical contact, feels comfortable with touching others and doesn't mind being close to them.)
 Place yourself on the scale below.



How do you feel about the amount of touch you got and gave this past week?
 Think back to the past week. Are you satisfied and happy with the amount of physical contact you had? Was it too much or too little?
 Mark it on the scale.



Dear Yash .

I am sending you this bag! I think you are a good 'hugger' because...
I know we are going through a tough patch, we will get back at

(Write only their first name)
Yash

Dear Naadyn .

I am sending you this kiss, because...
You are getting up very fast and I wish I could be present to experience all of it physically

(Write only their first name)
Naadyn

Dear Bob .

I wish I could hold your hands, because holding your hands feels:

<input type="checkbox"/> soft	<input checked="" type="checkbox"/> strong
<input type="checkbox"/> comforting	<input type="checkbox"/> rough
<input type="checkbox"/> warm	<input checked="" type="checkbox"/> safe
<input type="checkbox"/> other: _____	

(Write only their first name)
Bob

Dear Arijun .

I wish we could link arms! We could do this while...
walking the road and going out in the market when I had your with you for some drinks

(Write only their first name)
Arijun

DAY 4

Think back to yesterday. Try to remember the touches you gave or received that day, from waking up in the morning to going to bed at night.

Below you will find a timeline. Use this timeline to trace your day and note down 4 touches you gave or received (for example: put on the shoulder; a hug from a family member/friend, bumping into a stranger).

Step 1 - In the circles draw and/or write down the touch experience.
Step 2 - Color the bodypart that was touched on the figure below the timeline.
Step 3 - Mark the icon to show how you feel about this touch - sad, neutral or happy.

DAY 4

See the example if you need help.

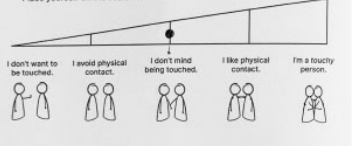
MY CONTACT MAP

DAY 1
DAY 2

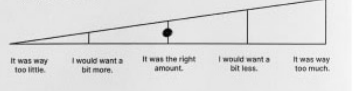
less contact ————— most contact

Welcome back! Please answer the questions then continue on the next page.

Are you a touchy person?
 (A touchy person likes to have physical contact, feels comfortable with touching others and doesn't mind being close to them.)
 Place yourself on the scale below.



How do you feel about the amount of touch you got and gave this past week?
 Think back to the past week. Are you satisfied and happy with the amount of physical contact you had? Was it too much or too little?
 Mark it on the scale.



Dear Swathi .

I am sending you this kiss, because...
I love your smile when I just want to talk. I just want to talk to you. I love your smile when I just want to talk to you.

(Write only their first name)
Swathi

Dear Nisha .

I am sending you this bag! I think you are a good 'hugger' because...
when you hug me you feel like I'm not alone. You hug me when I'm sad and you make me feel better. I love your hugs.

(Write only their first name)
Nisha

Dear Saiya .

I wish we could link arms! We could do this while...
walking a road or walking in the market when I had your with you for some drinks

(Write only their first name)
Saiya

Dear Robin .

I wish I could hold your hands, because holding your hands feels:

<input type="checkbox"/> soft	<input checked="" type="checkbox"/> strong
<input checked="" type="checkbox"/> comforting	<input type="checkbox"/> rough
<input checked="" type="checkbox"/> warm	<input type="checkbox"/> safe
<input type="checkbox"/> other: _____	

(Write only their first name)
Robin

DAY 4

Think back to yesterday. Try to remember the touches you gave or received that day, from waking up in the morning to going to bed at night.

Below you will find a timeline. Use this timeline to trace your day and note down 4 touches you gave or received (for example: put on the shoulder; a hug from a family member/friend, bumping into a stranger).

Step 1 - In the circles draw and/or write down the touch experience.
Step 2 - Color the bodypart that was touched on the figure below the timeline.
Step 3 - Mark the icon to show how you feel about this touch - sad, neutral or happy.

DAY 4

See the example if you need help.

DAY 2

Welcome back! Please answer the questions then continue on the next page.

Are you a touchy person?
(A touchy person likes to have physical contact, feels comfortable with touching others and doesn't mind being close to them.)

Place yourself on the scale below.

How do you feel about the amount of touch you got and gave this past week?

Think back to the past week. Are you satisfied and happy with the amount of physical contact you had? Was it too much or too little?

Mark it on the scale.

Dear Barbara,

I am sending you this kiss, because...
you are a good great mom and I love you

(Write only their first name)
Barbara

Dear Barbara,

I wish I could hold your hands, because holding your hands feels:

<input checked="" type="checkbox"/> soft	<input type="checkbox"/> strong
<input checked="" type="checkbox"/> comforting	<input type="checkbox"/> rough
<input type="checkbox"/> warm	<input type="checkbox"/> safe
<input type="checkbox"/> other:	
<input type="checkbox"/> other:	

(Write only their first name)
Barbara

Dear Anwaral,

I am sending you this hug! I think you are a good 'bigger' because...
you are big and very helpful

(Write only their first name)
Anwaral

Dear _____,

I wish we could link arms! We could do this while...

(Write only their first name)

DAY 4

Think back to yesterday. Try to remember the touches you gave or received that day, from waking up in the morning to going to bed at night.

Below you will find a timeline. Use this timeline to trace your day and note down 4 touches you gave or received (for example: pat on the shoulder, a hug from a family member/friend, bumping into a stranger).

Step 1 - In the circles draw and/or write down the touch experience.

Step 2 - Color the bodypart that was touched on the figure below the timeline.

Step 3 - Mark the icon to show how you feel about this touch - sad, neutral or happy.

DAY 4

See the example if you need help.

DAY 2

Welcome back! Please answer the questions then continue on the next page.

Are you a touchy person?
(A touchy person likes to have physical contact, feels comfortable with touching others and doesn't mind being close to them.)

Place yourself on the scale below.

How do you feel about the amount of touch you got and gave this past week?

Think back to the past week. Are you satisfied and happy with the amount of physical contact you had? Was it too much or too little?

Mark it on the scale.

Dear _____,

I wish I could hold your hands, because holding your hands feels:

<input type="checkbox"/> soft	<input type="checkbox"/> strong
<input type="checkbox"/> comforting	<input type="checkbox"/> rough
<input type="checkbox"/> warm	<input type="checkbox"/> safe
<input type="checkbox"/> other:	
<input type="checkbox"/> other:	

(Write only their first name)

Dear _____,

I am sending you this kiss, because...

(Write only their first name)

Dear Wouter,

I am sending you this hug! I think you are a good 'bigger' because...
you could really use one!

(Write only their first name)
Wouter

Dear _____,

I wish we could link arms! We could do this while...

(Write only their first name)

DAY 4

Think back to yesterday. Try to remember the touches you gave or received that day, from waking up in the morning to going to bed at night.

Below you will find a timeline. Use this timeline to trace your day and note down 4 touches you gave or received (for example: pat on the shoulder, a hug from a family member/friend, bumping into a stranger).

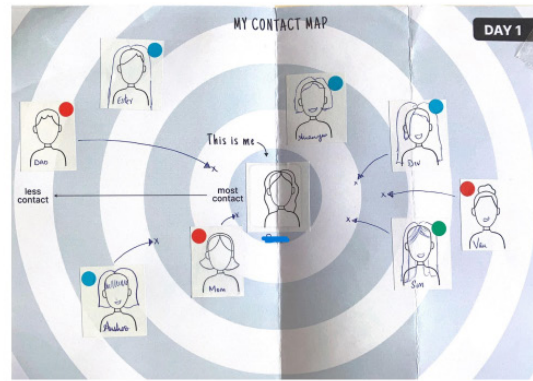
Step 1 - In the circles draw and/or write down the touch experience.

Step 2 - Color the bodypart that was touched on the figure below the timeline.

Step 3 - Mark the icon to show how you feel about this touch - sad, neutral or happy.

DAY 4

See the example if you need help.



DAY 2

Welcome back! Please answer the questions then continue on the next page.

Are you a touchy person? (A touchy person likes to have physical contact, feels comfortable with touching others and doesn't mind being close to them.)

Place yourself on the scale below.

How do you feel about the amount of touch you got and gave this past week?

Think back to the past week. Are you satisfied and happy with the amount of physical contact you had? Was it too much or too little? Mark it on the scale.

Dear Dio

I wish I could hold your hands, because holding your hands feels:

<input type="checkbox"/> soft	<input checked="" type="checkbox"/> strong
<input checked="" type="checkbox"/> comforting	<input checked="" type="checkbox"/> rough
<input checked="" type="checkbox"/> warm	<input checked="" type="checkbox"/> safe
<input checked="" type="checkbox"/> other: <i>preferred</i>	
<input checked="" type="checkbox"/> other: <i>desire</i>	

(Write only their first name) Jonas

you are so full of love and positivity I feel calm and happy with you

Dear Mien

I wish we could link arms! We could do this while:

- we enjoy the view together
- we stroll around the world
- we go on long walks with deep conversations
- we do a fun activity like walk a mouse

(Write only their first name) Shanle

Dear Aubus

I am sending you this hug! I think you are a good 'bugger' because:

(Write only their first name) Aubus

Dear Strangere

I am sending you this kiss, because:

you're adorable and I love you like a sister

(Write only their first name) Strangere

DAY 4

Think back to yesterday. Try to remember the touches you gave or received that day, from waking up in the morning to going to bed at night. Before you will find a timeline. Use this timeline to trace your day and note down 4 touches you gave or received (for example: pat on the shoulder, a hug from a family member/friend, bumping into a stranger).

Step 1 - In the circles draw and/or write down the touch experience.

Step 2 - Color the bodypart that was touched on the figure below the timeline.

Step 3 - Mark the icon to show how you feel about this touch - sad, neutral or happy.

C INTERVIEW SCRIPT

Flexible script depending on the other activities they participate in (creative session, booklet beforehand) and their situation (long-distance relationship, or just loneliness).

INTRO

Welcome and thank you for your time and participation!

My name is Flóra, I'm a Master's student at TU Delft, studying design. For my thesis project, I'm researching the role of touch (physical contact) in the everyday lives of people who might experience the impact of touch deprivation which then might affect their quality of life. Touch deprivation might sound a bit too serious or medical, but the experience might not be that severe. It can often refer to the simple feeling of longing for touch or desire to touch, like wanting a hug from a certain someone. However, in severe cases, it can affect one's mental or even physical health. My goal is to learn about people's stories and experiences and later hopefully design something that can improve this situation.

Before I continue with the practicalities and the interview. Can you tell me a bit about yourself? Your name, where are you from, and what made you interested to participate in my research? Are you in a long-distance relationship? (How old are you? - for having info about participant age range- get to know if are they dutch, relationship situation)

Thanks for sharing. So, some practicalities...

During this interview, I'm interested in your experience, view, thoughts, and feelings about the topic. There is no right or wrong answer to any of these questions, just your answer. If anything is unclear, feel free to ask questions. You can skip any questions or end the interview and withdraw your participation together without giving me an explanation or reason. Also, I might interrupt you due to the limited time, please take no offense in it.

I would like to audio record this interview (and if you use any of the materials to explain something, I might record or take photographs... I have provided some materials for you if you want to express something and have some difficulties you can always use/refer to these: two puppets - if you want to explain/show or act out a touch interaction, these emotion icons - if you have difficulty naming your emotions.) All data will be secured safely, and used without revealing your identity. All data will be anonymized and deleted after the study.

Can you please go through and sign this form? Take your time. Thank you! Before we start do you have any questions? #start recording#

Materials to have at hand:

- puppets
- emotion guide (to help them articulate the emotions - PREMO)
- examples of haptic devices and other tools and technology

SECTION - missing connections back home

So, you have told me that you are from...

- Can you tell me how touch plays a role in your culture or where you are from?
- Do you resonate and are comfortable with this in your culture?

- » How do you usually show affection? Private? Public?
- » What's the norm for greetings, couples?
- What about your family? Do you show affection through touch?
- Do you see any differences here in the Netherlands?
- Did you adapt in any way to this touch culture? How? What changed?
 - » Have you been back home since? Did that experience change after living here for a bit?
- Are you missing the touch experiences from back home?
 - » What touch experience do you miss the most?
 - » Is there any that you might not miss?
- Can you tell me a bit about your social life?
 - » How socially active are you here? Do you consider yourself more extroverted or introverted?
 - » Are you more active socially (extrovert or introvert)? Are you seeking out human connections? → to see how social life relates to touch deprivation and also to initiating touch

SECTION - *long-distance*

- How long have you been in a long-distance relationship?
- Where is he/she living?
- How often do you see him/her?
- Normally when you are together, can you tell me a bit about your touch habits as a couple?
 - » Do you normally hold hands while walking, cuddle, hug, etc?
 - » How did it change over the course of your relationship? In the beginning, later, now being far and meeting more rarely...
 - » Who touches who more? Who initiates hugs, hand-holding, etc?
- How did the long-distance change your relationship?
 - » How did it change your touch habits as a couple?
 - » Do you touch more now when you meet than before when you were a non-long-distance couple? (Trying to make up for the missed touches...)
 - » Does this affect you or your well-being in any way (negatively)?
- What do you miss the most daily? Which aspect of the relationship cannot be fully fulfilled?

SECTION - *booklet*

Thanks for filling in the booklet and bringing it with you! Let's take a look at it. On Day 1, I asked you to map out the people you have physical contact with.

- Is there anyone who is not on the map but you would want them to be?
- Where would you place them?
 - » Was there anything surprising or unexpected about your map?

Let's look at the stickers (who initiates the touch)

- » I gave a definition in the booklet about being a touchy person. But how would you define being (physical-contact wise) touchy?
- » So do you think you are/see yourself as a touchy person? Why do you think that? How do

you know you are a touchy person?

- » So do you not initiate touch that often? Why? Does that also mean you don't enjoy it or need it? How do you feel about showing affection through physical contact? (Comes natural or not...)

» Is this something you were aware of before? Initiating (or not) touch?

Let's see the postcards...

- Did the people you addressed them are on your map?
 - » Who did you want to send them to and why? What's your relationship to them?
- What's the meaning or the message of these touches? What do these touches mean to you?

On Day 4, I asked you to think back to 4 touch experiences.

- Was it hard to recall 4 touch experiences? Could you remember more?
- How aware are you in general about your daily touch experiences?
 - » Do they affect your day in any way? (Obviously, I'm not referring to a harmful experience)
 - » Do you anticipate any touch during the day? What's the meaning of that touch?

SECTION - *positive touch experience (will be covered during creative session)*

- (no booklet - How aware do you think you are about your daily touch experiences?)
- What do you think makes a good or positive touch experience (for you)?
 - » Can you think of factors that might influence a touch experience? Try to think back maybe the same touch received at a different time, from a different person... they must have been different in many ways. Can you remember in what way? What contributed to them?
- What messages or meanings do good touch experiences have?
- Can you tell me about certain emotions you experience during a good touch experience?

Try to recall a memorable positive touch experience. I'll give you a second.

- Can you tell me about it? What made it memorable? (you can act it out with these puppets if you want to)
- How did it make you feel? What was the meaning behind the touch?
- What qualities did this touch have? Can you describe the touch itself?

SECTION - *COVID-19*

- How was your Covid-19 experience? Having less contact with people, staying home, isolation, etc...
- How did it affect your touch habits and experience?
- What were you missing the most during that time?
 - » How did that make you feel?
- Did it affect your well-being, or mental health in any way? How?
- What was your main form of keeping contact with others during this time?

SECTION - *touch initiation and deprivation*
(no-booklet extra part)

- How would you define or describe a (physical-contact wise) touchy person?
- Do you identify as a 'touchy person'? Why, why not? (you enjoy and initiate physical contact and enjoy being physically close to others)
- How do you feel about showing affection through physical contact/touch?
- How often do you initiate touch? Is this something you are aware of? Initiating (or not) touch?
- Have you heard about this phenomenon before? Touch deprivation or longing for touch?

I can explain it a bit more if it's not clear...

- Do you think this is something that you experienced before?
 - » When? Can you describe the experience?
 - » What do you notice about yourself when you lack physical contact? How does it affect you?
 - » Do you think there are any other things happening in your life that can contribute to feeling this way?
 - » Do you actually miss the contact with the people? or the interaction with the people or both?
- What do you miss most about touch?
- What helps you when you experience this?
 - » Is there anything that you do actively against it?
- What are some of the touches you miss? Can you describe or give examples?
 - » (Is it the touch or the person or something else? Why?)
 - » if mostly the person → what kind of touch do you share with those people? What meanings or messages do you share through those touches? How do these touches make you feel about this person?

SECTION - *about solutions - haptic devices, tools, technology*

- Have you heard about haptic devices and tools that can help with touch deprivation? (examples)
- Have you heard about haptic devices and tools that can help connect people? (examples)
- What do you think of using these to help connect or feel better?
- In your opinion can it have the same or similar effect to receiving real-life touches and connections? Why, why not?
 - » What qualities could it translate? What qualities are not?

Thank you that was all my questions. It was really helpful!

- Is there anything I didn't ask about or missed but you thought of and think would be interesting for me or anything you would like to share?

Thank you again!

D

GENERATIVE SESSION(S) MATERIALS

SCRIPT

GOAL OF THE SESSION: To understand what makes a good touch experience, its qualities, and important factors

INTRO (8 MINS)

Hello, welcome! Thank you for joining me in this creative session and helping me with my project! As you know, my name is Flóra, I'm a master's student at IDE, and I'm working on my master's thesis. So for my thesis, I'm researching how touch plays a role in our lives and mostly in our personal relationships. So we all have a certain amount of touch that we are used to and we want. And when we receive less than we would like, we can experience the effects of touch deprivation. Touch deprivation might sound a bit clinical or serious, but it can refer to the simple feeling of wanting a hug from someone or longing for a physical connection. When this need is not satisfied for a long period of time, we might see it affect our mental health or well-being, leading to depression, loneliness, and anxiety. This might be something we all experience at one point in our lives, moving to a new country away from our loved ones, or being in a long-distance relationship, but even during Covid, when making new connections with others was almost impossible. So today, during this creative session, I will ask you to participate in certain tasks. My goal is to understand what qualities good touch experiences have, what factors are important when having physical contact with others, what can influence it etc., and in the second half, try to imagine what can help when feeling or experiencing the effects of touch deprivation.

So, some guidelines...

- Only share whatever you are comfortable sharing.
- Safe space - personal info stays in this room.
- (You can withdraw participation, or skip any tasks.)
- No right or wrong answer, be open-minded.
- Try to reflect, and be active.
- Build on each other's ideas, feel free to ask others... let the creativity flow

Okay, let's start with a quick round of introduction by sharing your name, what you study, and why you joined this session...

Hi, I'm...

- topic (mention that it's about positive touch experience, but non-sexual)
- what will happen
- safe space,
- (Consent form)
- introduction round - name, share briefly about the relationship, (how the touch or the lack of it affected their connection/mental health/is it something you are aware of...)

PART 1 - *Factors dumping (10 mins) ~16:15*

GOAL: getting them started on thinking about the influencing factors of a touch experience post-its

Material: keyword cards

Before we start does anybody have some questions? Okay, so as a first task, I would like to ask you to think of all the things that can influence how you feel about a certain touch with someone or something. Of course, there are simple things like, who is touching you and where... but receiving or giving a touch is complex and can be influenced by many things. So, please take some post-its and try to think of things that can impact a touch experience and how you feel about a certain touch experience... It might help to think back to the same type of touch, but maybe at different times, from different people. Please write down everything, even if it seems obvious, like the person you are touching, where you touch, etc.

It might help if you recall some different experiences, and break them down. Do you have any questions? Take your time...

- What can influence a touch experience (with someone)?

Okay, let's see what you put down and we can cluster them...

I'm going to write certain categories down on these cards, and we will use them in the next activity.

Discuss → cluster → make the cards with the keywords like:

- Relationship with the person
- Mental/emotional state
- Body part, body area
- Sensation of the touch
- Duration of the touch
- Message/meaning behind the touch
- Gender, age
- Physical place/context
- Surrounding people
- Event, occasion
- Initiation of the touch
- Touchy-ness of the person
- Other senses (see, hear, smell...)
- Body language

→ using these as cards to later map out the positive touch experience (+ ones I made ahead that I don't want to be missed)

PART 2 - *Special touch experience (30 mins) ~16:25*

GOAL: Map out the touch experience - reflect on qualities, motivation, values and needs

Materials: blank A3 paper for mapping out, pens, markers, scissors, glue, keywords, images, words, emotions

Pick a special and memorable positive experience where touch played a role (like holding a baby for the first time, hugging someone you haven't seen in a while, a first kiss, holding hands...), use the materials on the table to represent that experience. Draw, write, add images, words,

emotions - whatever makes sense and helps you explain/visualize this experience. Feel free to think in metaphors. I will hand out these cards that we just made, and when creating the collage or representation of the memory, try to add elements on it to the applicable factors. After a minute I will ask you to hand over the card to the one next to you.

Take your time (10 mins), after that, I will ask you to share the story. I have these puppets here, feel free to use them to reenact the experience. Or explain something. ~16:40 start explaining (2-3 mins per person)

Thanks for sharing...

PART 3 - *In need of touch & solving (15-25) ~16:55 start*

GOAL: Ideation for solving issue

Materials: Paper to fill in..., random objects + images

Okay, now think back to a moment where you were in need of touch, a stressful day or feeling down, a sad moment... take your time to remember back. (you won't have to share this with others, just write it down)

Fill in this:

I was in need of touch when...

I wanted (person)... to (act of touch(es))...

You can flip the paper.. ~17:00

Now try to think of how an object could have help you or support you in that moment. It doesn't need to be realistic, it can use a future technology, or no technology at all...

I have some random objects on the table, feel free to use them as a start to create a helpful tool/object, or use them as an inspiration. But also some images of existing tools and devices.

It doesn't have to be a perfect idea, whatever you think could have helped. Feel free to draw, and write to explain how it works.

(Some examples for non-designers, existing tools and devices)

- How would it work?
- How would it help in that situation?
- Why do you think this could help you?

Let's share what you came up with that could have helped you in 1 minute. Feel free to build on each others' ideas.

PART 4 - *speculative design method (last 8 minutes) ~17:20 start*

GOAL: learn about worries, possibilities, and outlooks of people

Materials: Papers to fill in...

As the last part of this session, I would like to finish with a short activity. Think of this question How would our relationships with others look like if touch would be mediated by tools or technology? - and try to finish this sentence:

'In a world where...[insert provocation]

People... [insert what people do in response]'

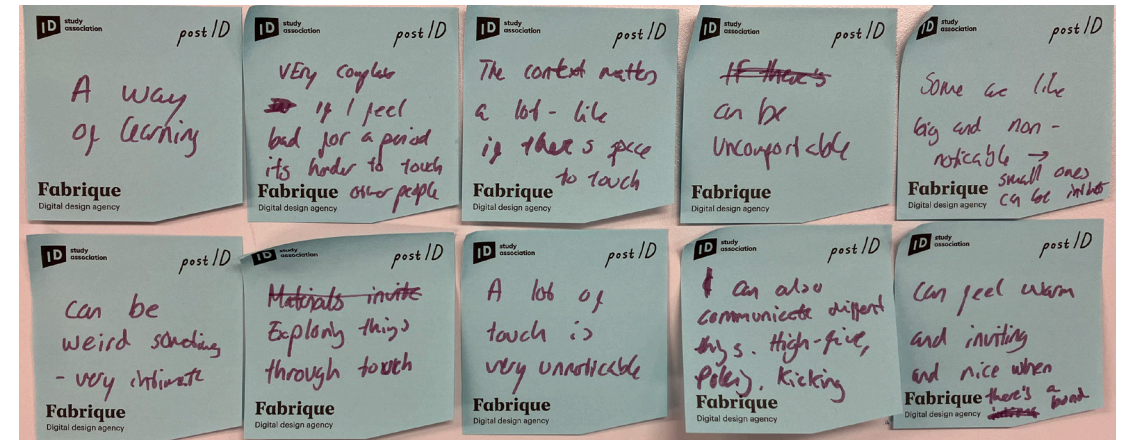
Example: In a world where you can send real touch through a device, people will form relationships with the device instead of the person behind it.
 Based on the previous ideas and the main question, try to come up with ideas for this sentence...
 It can be something extreme, positive, or negative. Write as many as comes to mind. (Share and discuss).

Thank you so much!! That was my last activity for you!

- Is there anything you would like to share with me, any ideas, thoughts, or feelings about the topic or the session itself?

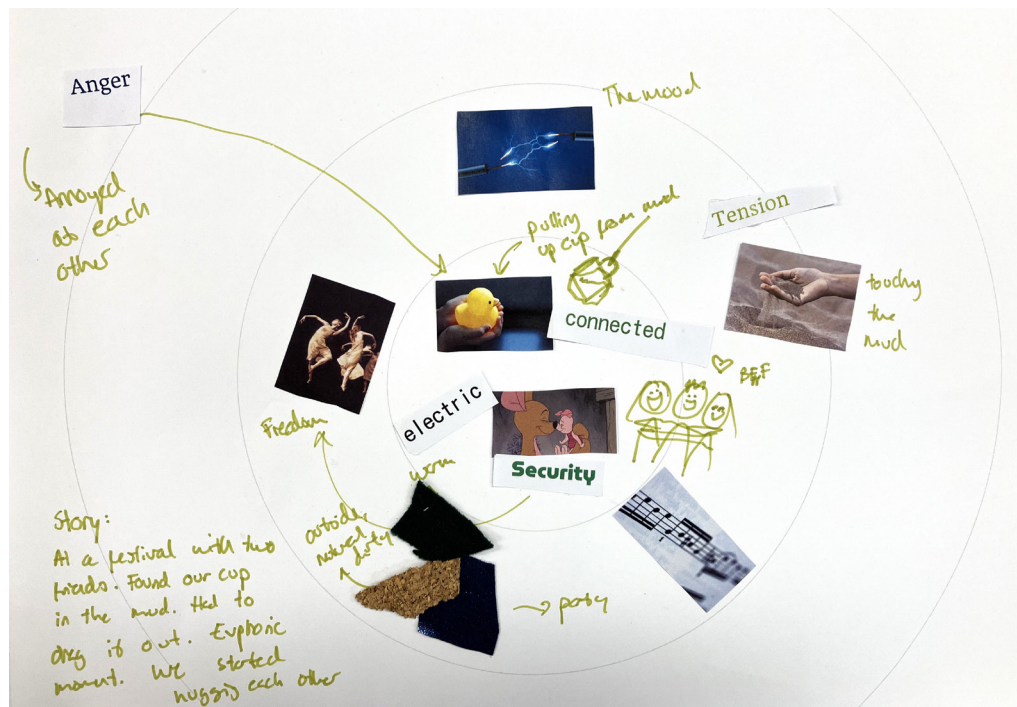
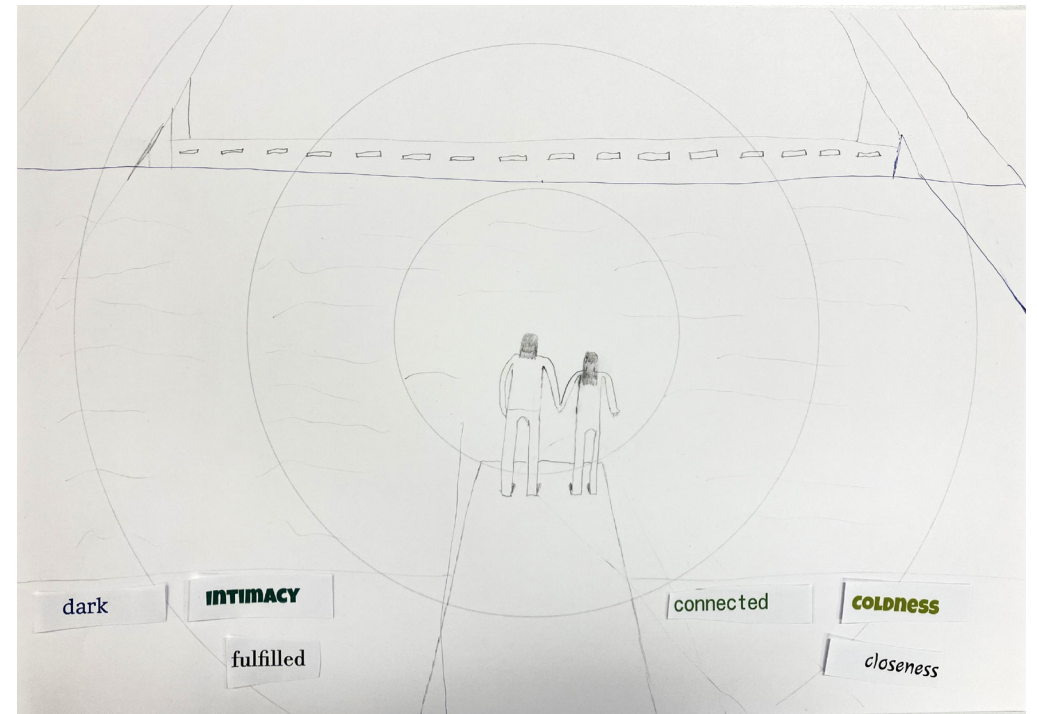
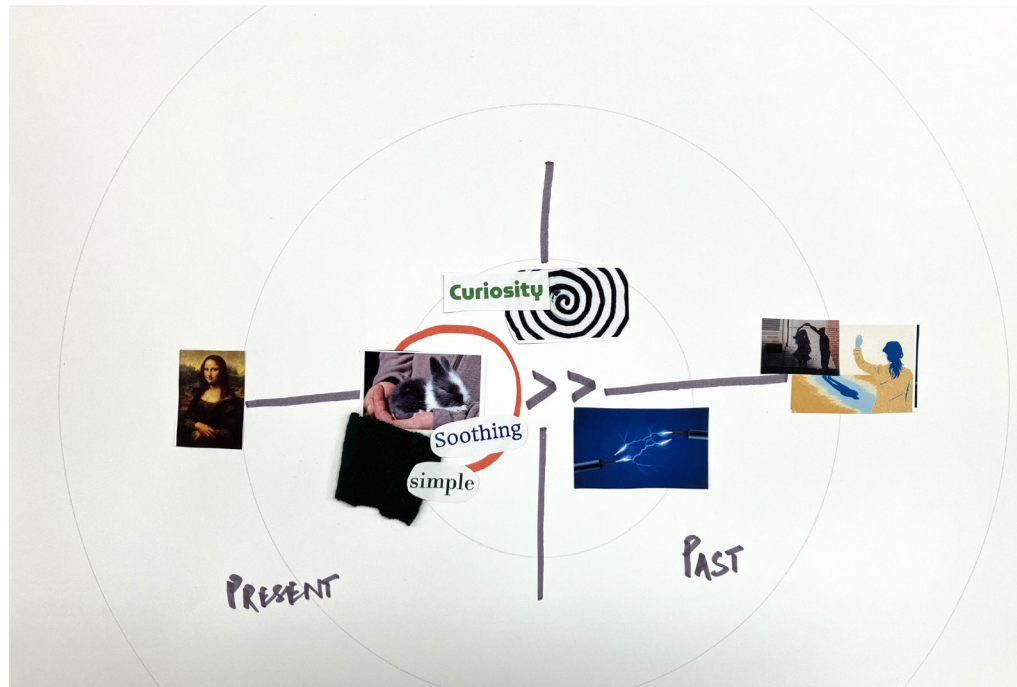
GENERATED MATERIALS - SESSION 1

Post-its from PART 1 activity



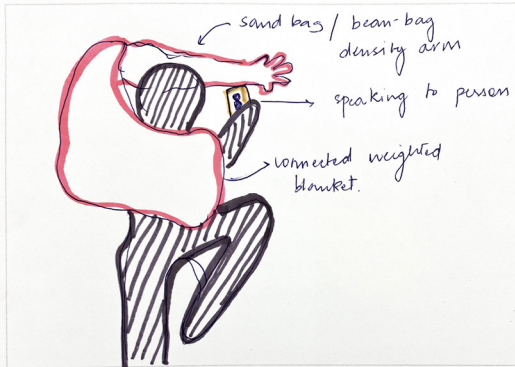
Keyword cards from PART 1 activity

Maps of memorable touch experiences (PART 2 activity)



Ideation (PART 3 activity)

• How does it work? (feel free to draw or write)



• How would have it helped in that situation?

source of comfort.
calm me down, put me to sleep

• Why do you think this could have helped you?

• How does it work? (feel free to draw or write)

Hologram video call where you can also touch the person?

↳ Call through your mobile, swipe them off the screen to project in front of you. Looks and feels lifelike. You can interact with them.

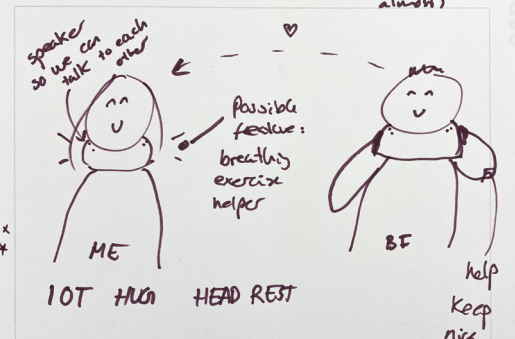
→ Or ~~you~~ a teleporting machine works too ☺

• How would have it helped in that situation?

I'd have called them up, crawled up to them and cried ~~my~~ my burden away. This would have felt like they were physically there to share my pain. Virtual has its limits.

• Why do you think this could have helped you?
I would feel closer to them - like they are only one call away, LITERALLY.

• How does it work? (feel free to draw or write)



• How would have it helped in that situation?

been a warm and comforting feeling from my BF

• Why do you think this could have helped you?
Maybe it would be soothing ~~and~~ in a stressful time

• How does it work? (feel free to draw or write)

A weighted blanket, it ~~could~~ ^{generate heat from electricity} ~~create~~ ^{and create} some pressure

• How would have it helped in that situation?

the pressure and warmth would have a comforting effect

• Why do you think this could have helped you?
the comforting effect could help me calm down

Speculation (PART 4 activity)

In a world where touch can be replicated kilometers away...
people will have long-lasting and happy relationships.

In a world where touch can be ~~highly~~ ^{high-level} delivered virtually...
people wouldn't be afraid to explore the world.

In a world where ^{recreating} touch is always possible...
people will forget the fondness that comes with memories.

In a world where touching is ^{prioritised as} the only way of feeling closeness...
people will seek all means to fulfill that need.

In a world where touch application can be translated to devices...
people will be happier, healthier and safer.

In a world where ~~VR~~ ^{AR} apps are virtual...
people ~~will~~ ^{need} ~~not~~ ^{live} with each other in the Metaverse.

In a world where ^{high-level} satisfaction from touch depends on technology...
people who cannot afford it will be left behind.

In a world where objects can give the comfort/safety love human need...
people will stop communicating with each other.

In a world where technology can re-create the real-deal/feel/emotion...
people will lose (the need) for people at all (the value).

In a world where an exact sensation can be recreated...
people would evolve different ways to feel deprivation.

In a world where androids exist...
people could be comforted by robots, perhaps even form relationships with them.

In a world where simulations are connected to our brains...
people could be completely content without real interaction.

In a world where another person's brain's ~~own~~ ^{own} touch can be emulated...
people would have an easier time being in lockdown.

In a world where ~~you~~ ^{you} can have a touchable AI assistant...
people ~~will~~ ^{treat} digital assistants better?

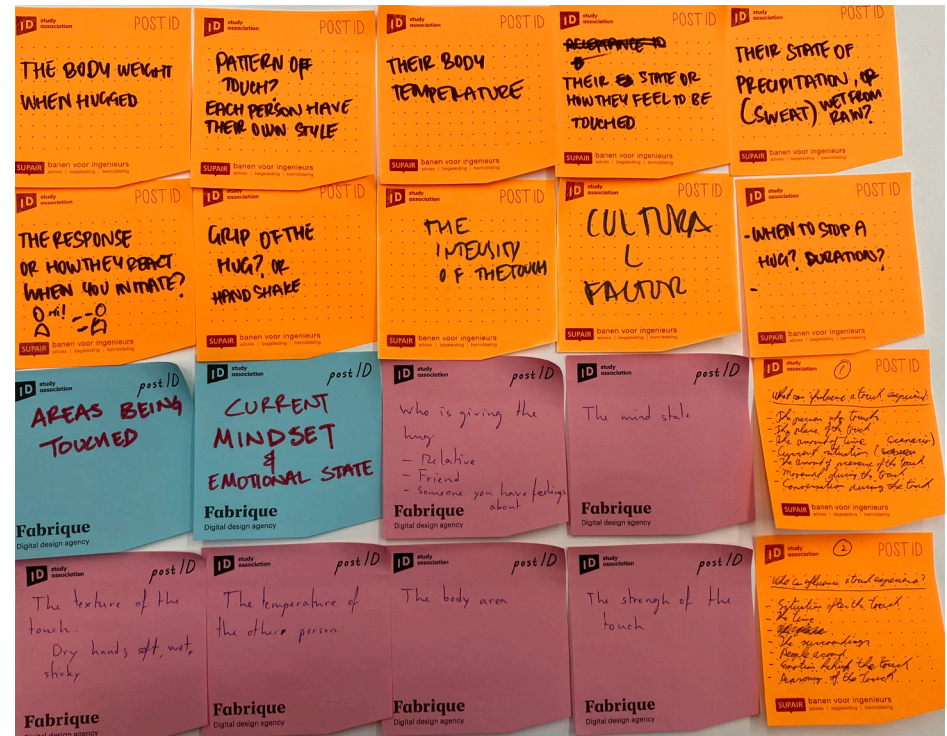
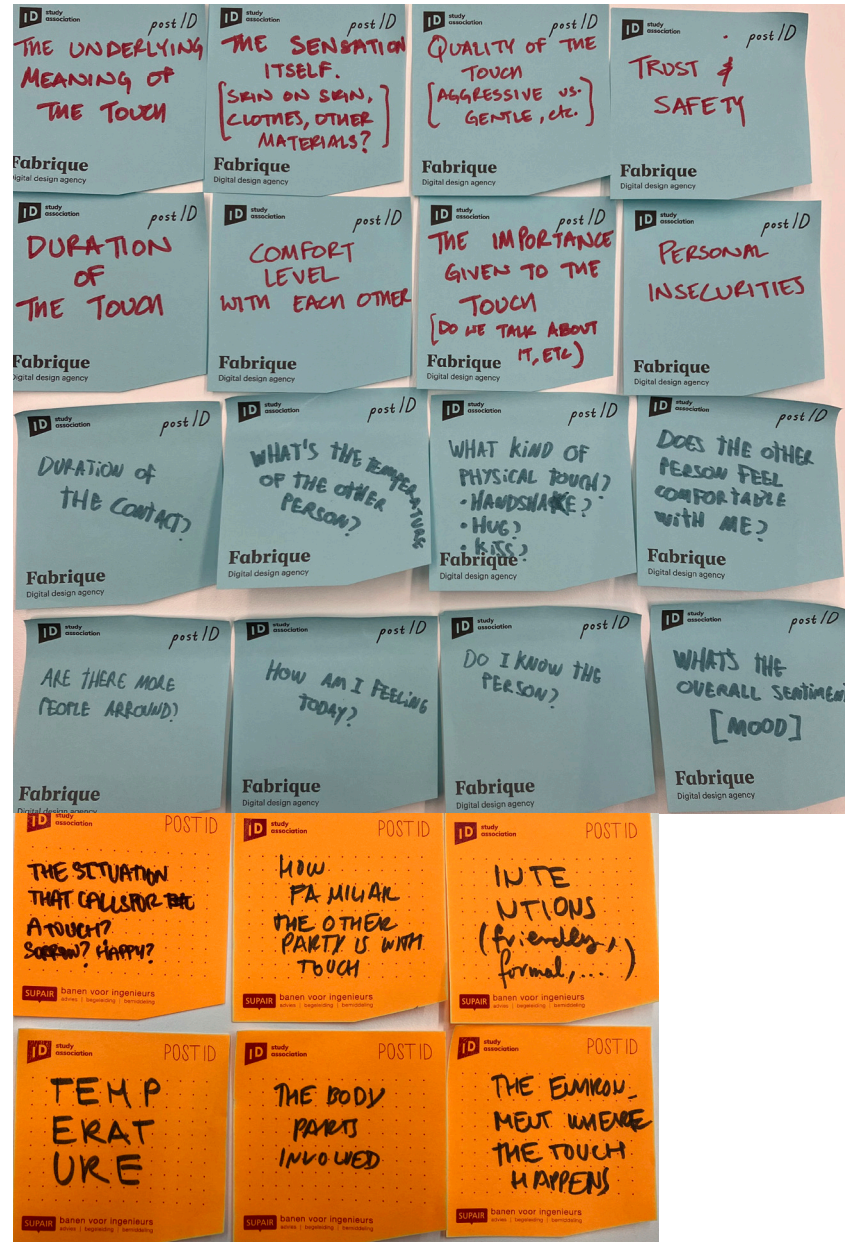
In a world where ~~doors, chairs, windows are~~ ^{things are} IoT connected...
people ~~will~~ ^{hack} them to emotionally confuse people.

In a world where ~~VR feels real~~ ^{virtual} A touch in VR feels real...
people ~~can~~ ^{develop} ~~learn~~ ^{VR} pom apps.

In a world where holograms + people IRL walk around...
people ~~will~~ ^{start} internet screaming at each other IRL.

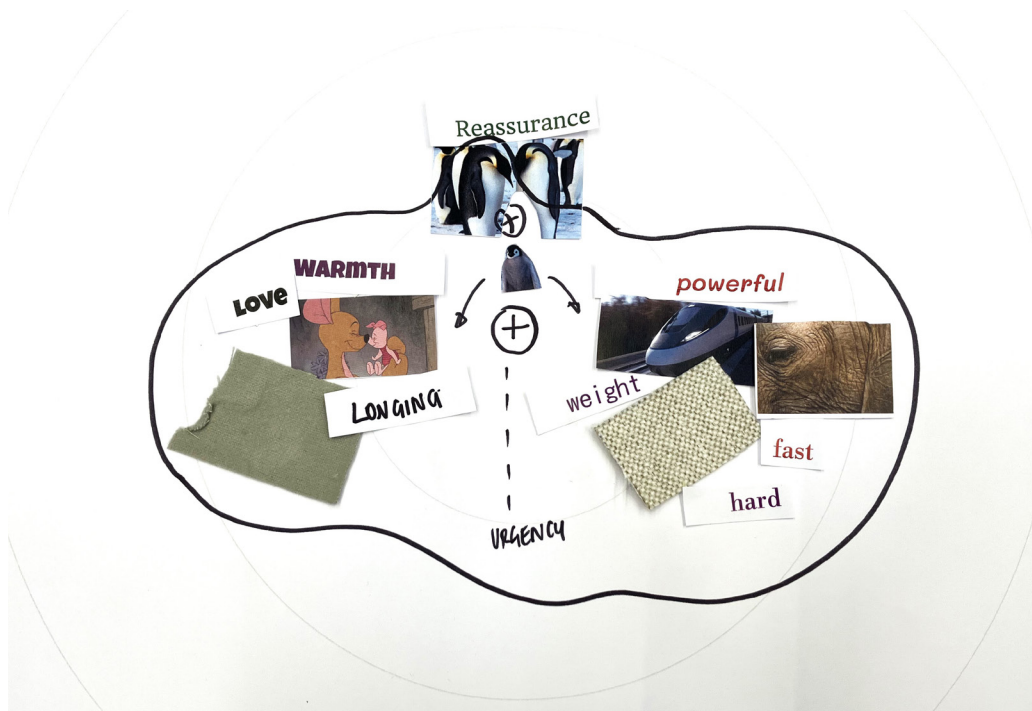
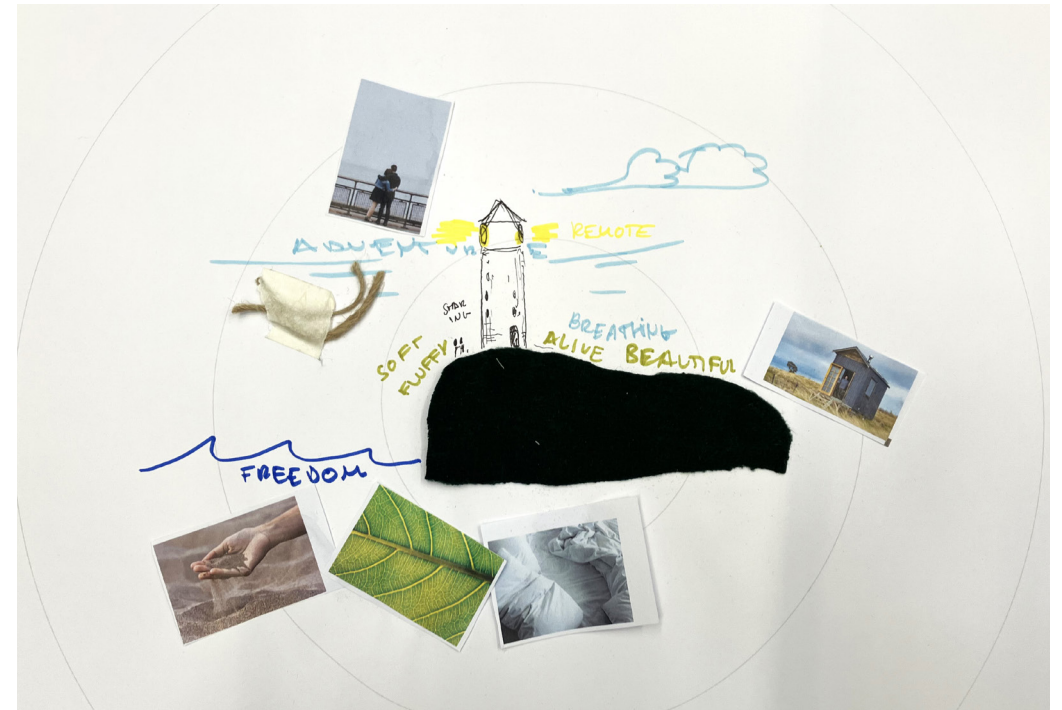
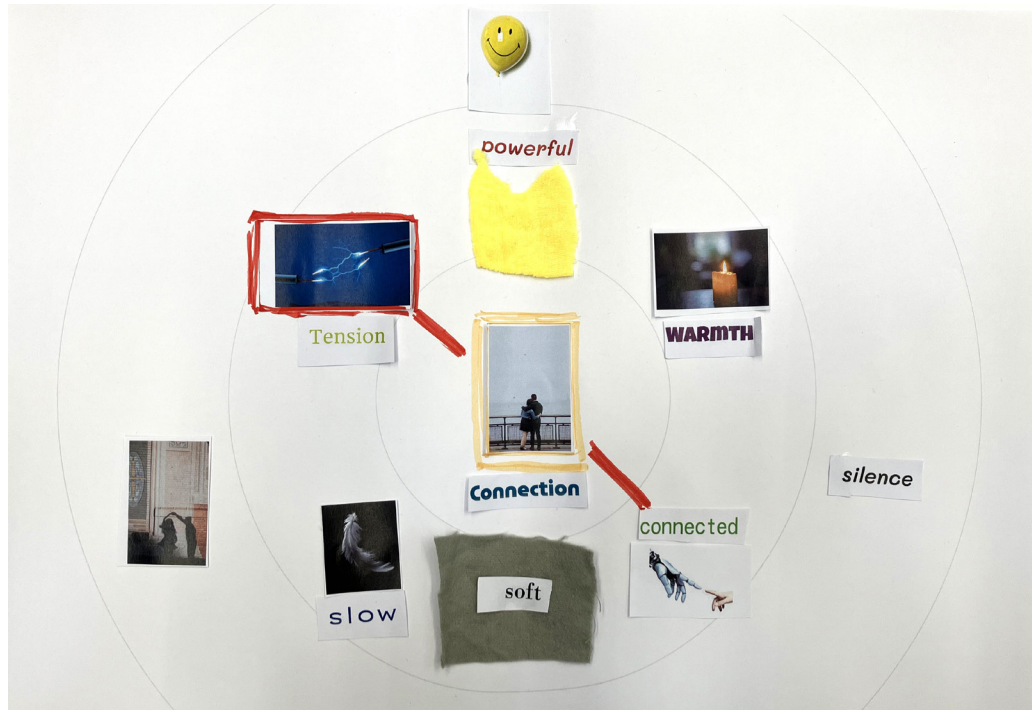
GENERATED MATERIALS - SESSION 2

Post-its from PART 1 activity



Keyword cards from PART 1 activity

Maps of memorable touch experiences (PART 2 activity)





• How does it work? (feel free to draw or write)

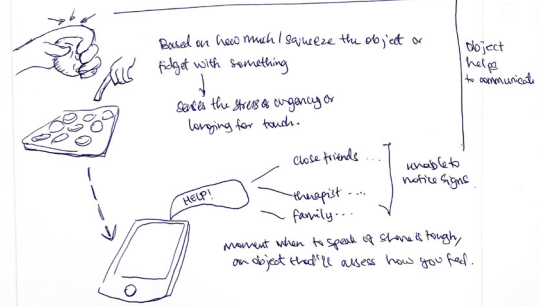
An object carved in wood by yourself (maybe on a trip with friends) as a reminder of them & that moment. Like a talisman. I like the weight (rather heavy) and the tools of it. Wooden objects make me think of warmth & home.



• How would have it helped in that situation? ☹️

• Why do you think this could have helped you?
Because it would have connected me more vividly to them. I think it would be stronger as just thought / digital means.

• How does it work? (feel free to draw or write)



• How would have it helped in that situation?
to find my way through the chess with object, get a response from close to help choose something you aren't comfortable with family/friends w/o questions asked.

• Why do you think this could have helped you?
- security, comfort

• How does it work? (feel free to draw or write)

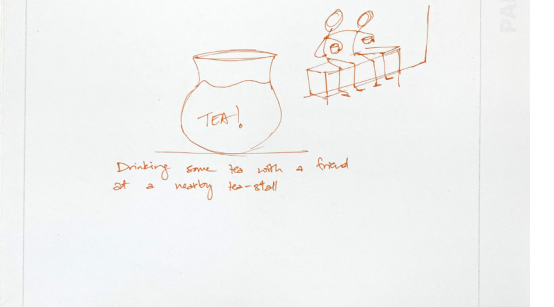
Going inside the vase. Then it turns into a space ship and I leave planet Earth. Inside the vase I carry a wood piece with the shape of a heart.



• How would have it helped in that situation?
Release the pressure from the people around me. Asking questions for example.

• Why do you think this could have helped you?
Being absent for a while from the world could have given me some time to calm down without pressure.

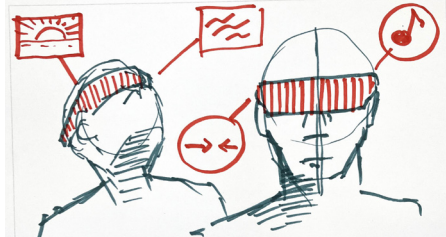
• How does it work? (feel free to draw or write)



• How would have it helped in that situation?
→ The warmth of the tea + the feeling of comfort.
→ The conversations that take place.

• Why do you think this could have helped you?
→ could have made me feel comfortable.
→ distracted me.

• How does it work? (feel free to draw or write)

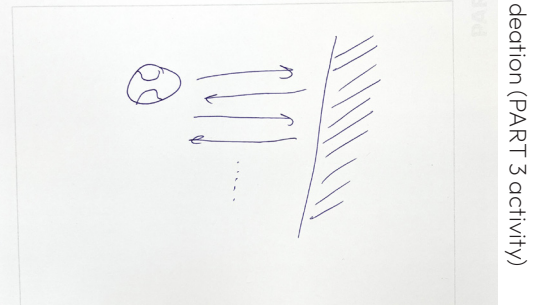


BLIND FOLD/GOOGLE GLASSES THAT IS WARM, TIGHT, DISPLAYS IMAGES AND MUSIC

• How would have it helped in that situation?
HELP ME TO REFLECT THE SITUATION IN ANOTHER CONTEXT.

• Why do you think this could have helped you?
AT THAT MOMENT I JUST WANTED TO ESCAPE REALITY. MAYBE THIS COULD HAVE HELPED.

• How does it work? (feel free to draw or write)



• How would have it helped in that situation?
Get my mind away from it

• Why do you think this could have helped you?
Mind is overwhelmed with music, filling it up will soothe the mind.

Speculation (PART 4 activity)

In a world where the arms are robotic (insert provocation),
people would feel cold hugs (insert what people do in response).

In a world where people have four arms (insert provocation),
people would enjoy more meeting others (insert what people do in response).

In a world where humans wear a protective suit (insert provocation),
people would not enjoy relationships as much (insert what people do in response).

In a world where you can send emotions through internet (insert provocation),
people would not see each other (insert what people do in response).

In a world where robots interact like humans (insert provocation),
people would become solitary (insert what people do in response).

In a world where ALL ~~OTHER~~ INTERACTIONS ARE WITH ROBOTS (insert provocation),
people NEED TOOLS TO MEET PEOPLE (insert what people do in response).

In a world where WE TALK WITHOUT SEEING EACH OTHER. (insert provocation),
people WILL APPRECIATE MORE HUMAN TOUCH (insert what people do in response).

In a world where YOU LIVE, WORK AT HOME. (insert provocation),
people WILL NEED AN "ALTERNATIVE" TO A HUMAN (insert what people do in response).

In a world where ~~EVERYONE~~ YOU DON'T NEED TO TALK DIRECTLY IN YOUR DAILY LIFE. (insert provocation),
people NEED HELP COORDINATING HUMAN TOUCH. (insert what people do in response).

In a world where robots do everything (insert provocation),
people will ~~stop using~~ ^{only do things they enjoy} (insert what people do in response).

In a world where tools & technologies can adapt to your new likes & dislikes and constant change (insert provocation),
people will feel like they are given attention to, noticed. (insert what people do in response).

In a world where Touch could be experienced remotely (insert provocation),
people might be less inclined to spend time in real life (insert what people do in response).

In a world where Touch would be controlled by the state (insert provocation),
people would feel the real value of ^{human} physical sensation. (insert what people do in response).

In a world where ^{human} touch could be mimicked by technology (insert provocation),
people who ~~do~~ ^{leave} touch may find it easier to cope (insert what people do in response).

In a world where ^{human} touch could be mimicked by technology (insert provocation),
people might form strong relationships with the technologies (robots, machines, etc) (insert what people do in response).

In a world where you can send a hug (insert provocation),
people can be close to you no matter the distance (insert what people do in response).

In a world where you can ^{live} autonomously at home (insert provocation),
people will stop interacting with each other (insert what people do in response).

In a world where a device is used for feeling of touch (insert provocation),
people can cope through sexual situations (with a partner or find solace in things like "AI" adult content) and gratitude (insert what people do in response).

In a world where a device is replaced by a human for touch (insert provocation),
people don't would form superficial relationships although a ancient one (insert what people do in response).

In a world where tools & technology is just a mediator of emotions / feelings (insert provocation),
people will feel less attachment to the object and create a ^{secure coping} mechanism ~~for~~ ^{to} use it (insert what people do in response).

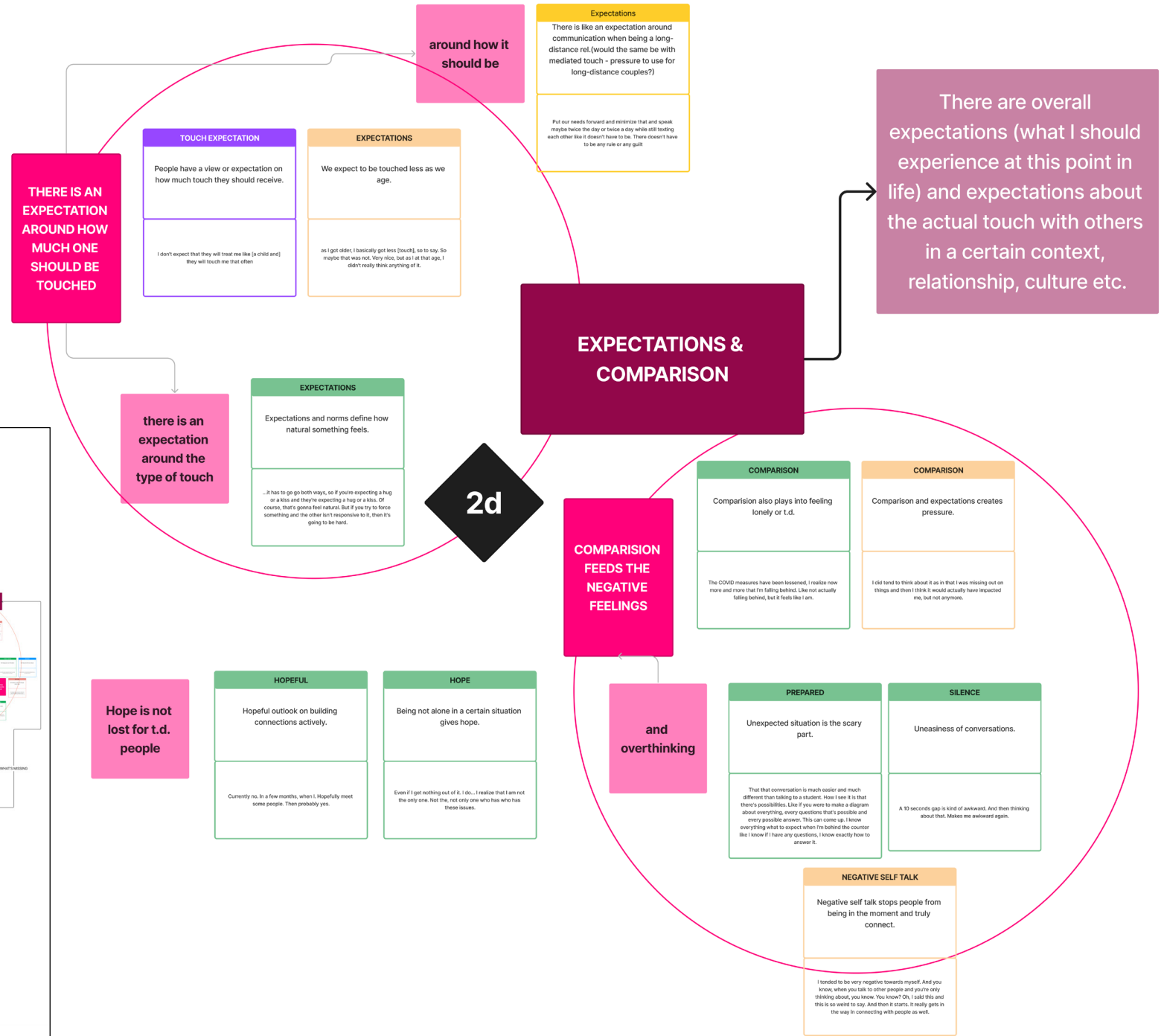
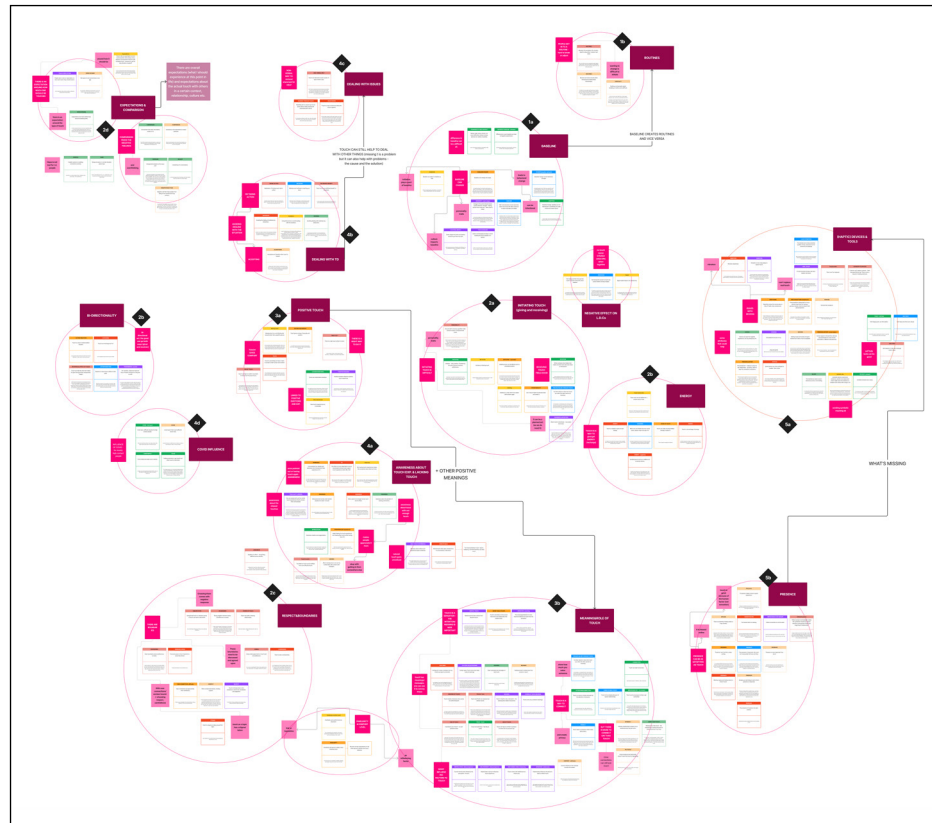
In a world where touch can be perfectly ^{cool} mimicked by technology (insert provocation),
people would feel close to each other even if they're distant (insert what people do in response).

In a world where touch can be measured to infer intentions (insert provocation),
people would touch each other much less (?) (insert what people do in response).

In a world where people have chips implanted in their brains (insert provocation),
people will use touch to exchange files & digital actions (insert what people do in response).
people will touch more & more & way we perceive it. ^{would change the}

E SYNTHESIS

After creating all the statement cards, they were clustered (see image below). In the coming pages we zoom in all the clusters hoping to provide a clear visual of all of them.



BI-DIRECTIONALITY

2b

Bi-directional act, the good can go both ways (giver and receiver)

ACTION-REACTION	EXCHANGE
Touch is a way to evoke positive emotion.	Touch is an exchange sort of.
<small>You hug each other and then also smile. So it's kind of automatic. It's also a way to cheer someone up.</small>	<small>You're supposed to give more than you receive.</small>

RECIPROCAL EFFECT OF TOUCH	ACTION-REACTION	TRANSMISSION -reaction
Touch can help the other but makes the giver feel good also (empowered, happy).	Reaction to touch has an effect on the giver.	Act-reaction, reciprocal nature of touch. Positive emotions to the giver as well.
<small>It feels really nice because it's the sensation that you can you have managed to really help this little person. And on top of that is empowering because, for a moment, you really, truly need to believe that you have it under control. You can protect this tiny person. So this uncomplicated moment of assuming the responsibility and being happy with it.</small>	<small>Whenever I kiss him on the cheeks, he has like a little smile on his face and I find that really, really cute and very comforting that, you know, like my kiss would like affect you to be like ohh smile.</small>	<small>You induce some feeling in the other, right? that used to transmit a good feeling in me that I'm making her happy I'm making her laugh so I think that like the call it the quality of transmission of that feeling but it's also the receiving the feedback kind of like you are. Translating something and you receive a response</small>

4d

COVID INFLUENCE

INFLUENCE OF COVID - for mostly high contact people

COVID - low touch	COVID
Covid was a difficult situation for high contact people.	Covid wasn't that much different touch wise.
<small>That was actually terrifying, it was really, really, really, really hard and that went on for like half a year.</small>	<small>It wasn't that big of a difference for me when it comes to touch because it wasn't that much before.</small>

COVID IMPACT	COVID
Covid influenced daily touch routines.	Feeling powerless to get needs met when touch is restricted.
<small>Actually, we used to greet each other with like a kiss on the cheek or something but it didn't come back. [Covid-16]</small>	<small>I'm a happy person, so I'm not really like depressed per say, but I was definitely in a lower state of mind. Also because of it and of course, people started to break it because it's not normal for people to not being able to touch anyone. So I think feelings of sadness and not having the power to change anything.</small>

2c

RESPECT & BOUNDARIES

THERE ARE BOUNDARIES

Crossing them comes with negative response

UNEXPECTED	BOUNDARIES	POWER OF TOUCH
Unexpected touch or unknown source of touch can lead to discomfort.	Strong negative emotions when boundaries are crossed.	Touch can build or destroy relationships.
I am comfortable with physical contact, but I need kind of heads up.	It really, really changed my perception of that person very quickly... how much something that was not objectively wrong really generated rejection. Maybe because now I have mistrust of this person and her ability to just judge a situation and respect other people's boundaries.	Good touch builds a relationship. Bad touch. Yeah, it's just...

BOUNDARIES	PERSONAL SPACE
Clear boundaries about preferences on body.	Personal space is more important to some than others.
I have boundary so. Open season for everybody. Below my knees also perfectly fine. Everything can touch it. On top of my knee, this part of. My arm private. This part is open. This part is not. Head is very private. You know, especially here like this part face...	My personal space is very important to me.

These boundaries need to be discussed and agreed upon

VERBAL	COMPROMISE
Using verbal agreement on touch wish and preference.	Touch is also a compromise.
It's of course something like I kind of discussed like, hey, can I hug you just am a hugger. And then, if it's funny.	so I'm helping them meet me halfway through. So that, like, so that I'm also not missing. And they're also not missing out, like I don't want to make them too uncomfortable at the same time, but I push it to the extent that I know they're comfortable with.

With new connections/ unclear bound. → choosing respect, carefulness

NEW CONNECTION - difficulty	RESPECT	RESPECT
New connections are approached with carefulness.	When unclear boundaries, choosing respect.	Touch is intimate (due to the closeness), need to be considerate and respectful.
Things are less enjoyable in the meaning there is always a little bit of "Oh, we've seen the territory."	So also things like boundaries were also very unknown to me like because I tend to be very I want to be respectful boundaries like very much. So I tend to be more on the other end where I you know, I tend to be more safe than sorry instead of on the other end of the spectrum, so I was very restrictive.	I don't like to invade somebody else's privacy space without that person being comfortable.

STIGMA
there is a stigma or taboo around the topic.
But I feel like it's not spoken about because people get embarrassed in a way.

touch as a topic has a stigma/ taboo

link to boundaries

Familiarity & comfort level
Familiarity and comfort level are important.
If I'm comfortable with somebody, I don't have a problem. But if somebody is new to me, me or like, I don't know the person, then I resist.
FAMILIARITY
Familiarity with person matters when initiating touch.
We have certain expectations of the other person's reaction and touch behavior.
It's very hard for me, sometimes to initiate, especially with people that yeah, that don't know that well.

FAMILIARITY & COMFORT LEVEL

MEANING&ROLE OF TOUCH

TOUCH IS A SENSATION - THE INTENTION/ MEANING IS MOR IMPORTANT

MENTAL TOUCH Mental touch is also a kind of non-physical touch. I would say that mostly for me touches always mental it's less physical but more mental, somebody can touch me through mental brain waves kind of thing without actually touching me. It's even better. It's always the message and the intent and the mental models you try to create in the person. Like those were the touches for me.	MORE THAN A TOUCH Touch is secondary to the actual interaction and relationship that people share. touch doesn't have so much importance to me. It is more the relationship and the interaction.	INTENTION -receiving The message/intention is more important behind the touch than the sensation. I think it's always the intention, right that. If a person is showing kindness, or if a person is, yeah, just just has good intentions towards you, then you feel it in the touch.
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touch has meanings/ messages, one can use it to convey these

LINK ARMS Linking arm is easy, creating a not too intense yet good connection. Just holding her arms and like feeling like clothes, it's like I don't look at her. So I have difficulty looking at people's eyes. But for me it's just another way and this feels like that person. It's a way to hold on.	CULTURAL BELIEFS/NORMS Certain type of touch acts have deep cultural meanings. "But if there are elders, you would touch the feet like bow down and touch the feet and the elders would then touch your head to give you blessing. This was because you want to sort of show respect for their wisdom and their experience and their knowledge. So you're sort of saying that your greatness is near your feet and they are also sort of transferring that wisdom into you."	MEANING Clear meanings and messages of touch acts. holding hands is easier, but a hug is stronger (emotional)	MEANING Holding hands is making sure that person is 'yours'. [holding hands meaning] Fear of abandonment very much during the relationship. I think it has to do with that as well, but also just because like the physical sensation that touch you know
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MEANING OF TOUCH Touch creates closeness and a sense of comfort/support. the way you give love is through touch, you know. So I have felt indeed the need for closeness and support and the comfort that you get when a person touches you.	TOUCH = love Touch (and food) can express love without words. often the main relationship you have with these people that you love is food and touch. So my uncles are not very good at expressing themselves, but they help me and they give me food. That's how I know they love me. There's like a a very important part of our language of love. I would say.	MEANING Touch in itself is only a sensation - the meaning that makes it important. Like touch is important. I wouldn't say it's not important, but always the intent and the message and the mental thinking around it, that's the primary thing that makes the brings the value of touch in you.	SYMBOLIC TOUCH MEANING Touch acts carry symbolic meanings. 'touch is also symbolic sometimes. So if you want to convey some kind of emotion to the other person...'
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USE OF TOUCH Intentional use of touch - to calm someone down. especially if he's heated by the problem after that, he kind of like regulates back [from the hug]. And then we can talk about it and find a proper solution. But it's like we use touch to 'I feel bad. I need support.' I'm giving you support and then when the person calms down then we can talk.	TRUST - touch Touch can build trust - feel like an invite. This made me feel like very welcome and made it very easy for me to trust them. Because maybe it's also a sign of trust. And that, like made a big difference for me in who I chose as friends.	USE OF TOUCH Touch can help to comfort or protect. Or show that 'im proud of you'. I was always like on eye level if she was standing. I would kneel down. If I was standing, I would put her in a table. It's a comforting thing. Or when she was very proud of something... kind of like a protection thing like it's alright. I support you.
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MANY INFLUENCING FACTORS TO TOUCH

MENTAL STATE -influencing factor Current mental state influences the perception of touch. Thoughts that are going on that also matters. So I think thoughts are going on. Yeah, in your head at that moment... I think mental state plays the most important role.	RELATIONSHIP - influencing factor Relationship to person influences touch experience. I think the main thing for me and also the relationship to the person.	NON-VERBAL CUES -influencing Touch comes with additional non-verbal cues. And it's also it's not like touch is never independent. It's always along with some facial expression with eyes with yeah body language.	INTENTION -relationship Relationship influences the person's habit to initiate touch. I like initiate [with family] and I'm very like yeah, I like to show affection through touch, but when it comes to non family members, I don't initiate so much.
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show how much you value someone

FEELING VALUED THROUGH TOUCH
You feel valued or show how much you value the other person by touching.

my friendship or something like that could impact the way that you touched me. So I think now I do feel like I touch more because I just wanna know, like in terms of how much I am of value to you. But you are of a value to me.

CONNECTION
Touch can build connection.

when they let me do it, I feel like it's like a connection.

TOUCH IS A WAY TO CONNECT

ATTENTION&CONNECTION
Touch is a way to connect and get the full attention of someone.

I would just wanted to have, like, attention and connection with someone. [reaching out and touch]

UNREPLACEABLE TOUCH
Touch is the unreplaceable part of human relationships.

[touch] I do miss most because everything else we can just really manage online now.

IMPORTANCE OF T - to connect
Touch can be necessary to feel a real connection.

it's just like I feel really lonely and not connected to people when I'm not able to like get a hug or something. It really makes me feel close to a person and I'm somebody who likes to have close connections and a feeling of being understood comes with touch in some reason.

and create privacy

PRIVACY
Touch leads to closeness which helps with privacy.

We kind of just link arms and then walk faster away from my parents. So we don't want them to hear what we are talking about. Yeah, mostly to gossip. And so we usually just uh, try to be in a closer space so that they don't really uh disturb us.

BUT THERE IS MORE TO CONNECTION THAN TOUCH

INTIMACY
Intimate relationship is desired on an emotional level not just touch.

I feel very strong need for intimate relationship as in not necessarily related to touch but related to emotion so that. To really feel that connection. So that's could be why the touch is more important to me as well

MORE THAN TOUCH
Missing more than touch - the experience of having someone to share moments of our lives.

It's more like just having people. To talk to, I guess. Because I don't really have anyone to share my experience with. If something fun happens but I'm doing that I don't really, I don't have anyone to share it with if anything. But happens, I don't have someone to share it with.

close connections can still lack touch

NO TOUCH
Close interpersonal relationship doesn't mean that touch is happening.

We almost never touch each other actually, even though he's my best friend.

CONTEXT - inf factor
Context influences how intimate touches are shared.

...when the context is more intimate than the touches are usually also a little bit more [intimate].

as influencing factor

4a

AWARENESS ABOUT TOUCH EXP. & LACKING TOUCH

+ OTHER POSITIVE MEANINGS

once pointed out or having touch again - AWARENESS

AWARENESS Once pointed out, people gain awareness over the issue and their experience of it.	TD The effect of touch deprivation can go unnoticed until you have a good touch experience which lifts it off.	Awareness Not having touch experiences makes the occasional ones stand out more.
<small>So I didn't think about that, umm to be honest, but now that you pointed out it's something, 'yes, I noticed that I feel a lot and it has an influence, also feel without touch.</small>	<small>Mom came and I like hugged her and I felt like weight off my shoulder and I was like, oh, this is what's been missing in my life, the last six months.</small>	<small>since I don't touch, like, I don't hug anybody here myself. Maybe that's why I remember if if somebody hugs now, if I hug somebody.</small>

awareness about the missed touches

TOUCH ACT & PERSON One can easily point out the certain touch experiences that he misses from certal people.	AWARENESS More personal touches (with familiar people) are easier to recall.	AWARENESS Worry about not enough human touch and its effect.	AWARENESS Awareness about the problem of lacking connections.
<small>I do miss a lot. Like I was very close to my mom and my sister, and we used to like all the time we hugging or some form of, you know, yeah. Just like putting a hand on cheek or something. Instead that a lot, like, it's been a long time I've gone back to home. So I've not been able to interact with them.</small>	<small>the ones [touches] in the morning [were easier to recall] because they were more personal, yes.</small>	<small>I'm kind of deprived because I'm not that close to anyone so I think my interaction here that became like really low ... of it's kind of alarming in a way, because I feel like that can't be a good thing for the human mind, right?</small>	<small>I'm kind of an introvert. So I didn't mind it at that much [university Covid]. But it's now that I'm looking back. At it and ... find it more of a problem.</small>

awareness about issue with not enough touch

APPRECIATION Awareness creates more appreciation.	INTENTION with experiences Really feeling the touch experiences and making them count when having less of it.
<small>it's more intense now, I would say because I realized that this is what I need. And then when when somebody gives me a hug, I really like, appreciate it.</small>	<small>Also like a hug more tense during the time, more intention and when I feel hugged there, I feel like a more relaxed.</small>

makes people appreciate it more

natural touch goes unnoticed

DAILY TOUCH EXPERIENCE Awareness about daily touch experiences goes unnoticed.	UNNOTICABLE Natural touch often goes unnoticed as it a unconscious, natural act.
<small>I don't really realize, there's a very less amount of attention. So that's not in the touch space. Uh to more, mostly in terms of like people saying things or people doing some activity or something like that.</small>	<small>I never would have noticed it before because it's something that naturally happens, right?</small>

Too much awareness is bad - lead to hesitancy, too little awareness can lead to t.d.

Touch is touch... The effect of touch can be fulfilled from non-affective touch.	MISSING When missing touch, one can be comfortable with contact with strangers.
<small>You don't need a relationship to have contact so I was getting my human interaction from there [contact sport] which which was really life saving [we] I was really really missing it.</small>	<small>Maybe because I don't touch people that often, I'm not bothered that people seem very close to me ... So I'm I'm quite comfortable, apparently with people standing close to me.</small>

okay with getting in from somewhere else

AWARENESS Adapting to others - recognizing different touch cultures.
<small>I realized that I need to be a little bit more aware because other cultures might be different. And sometimes I notice myself kind of like restraining.</small>

2c

RESPECT & BOUNDARIES

POWER OF TOUCH Touch can build or destroy relationships.
<small>ns when sed.</small>

TOUCH IS A SENSATION - THE

MENTAL TOUCH Mental touch is also a kind of non-physical touch.	MORE THAN Touch is second interaction and r people
---	--

3a

POSITIVE TOUCH

TOUCH GIVES COMFORT

Missing touch

Missing touch on a comforting and security level. And a specific person.

I crave hugs like those comforting hugs like I want to be. I want to feel protective when I'm walking on the street or just crossing the road for that matter. And I like, yeah. Really long these touches from a specific person.

TOUCH

Touch is something we have to learn to accept to feel 'human' and comfort.

It's something that I continue to learn that, you know what is safe, what is not safe, that I keep the safety and comfort like completely important to me, when it comes to touch.

USE OF TOUCH

Touch can help to comfort or protect. Or show that 'im proud of you'.

I was always like on eye level if she was standing, I would kneel down. It was standing, I would put her in a table... it's a comforting thing. Or when she was very proud of something... and of like a protection thing like it's alright, I support you.

SECURITY & COMFORT

Touch gives a sense of security and comfort.

Less safe and more tense, but tense in the way, like, more. Yeah, unrelaxed because I feel. Not that protected. [feeling of td]

RIGHT ACT

There is a right way (rhythm) to touch.

you're trying to soothe. You go soft and slow. Like music, a metaphor. You can find the right rhythm.

THERE IS A RIGHT WAY TO DO IT

LINKED TO POSITIVE EMOTIONS AND EXP.

EVOKING EMOTIONS

Touch can evoke latent emotions.

We hugged each other several times, and then we both spontaneously started crying. So there was actually some realization, like I didn't realize I was missing her that much. Feelings of happiness and also it's a relief.

POSITIVE FEELINGS

Positive emotions linked to positive touch experiences.

So extreme joy, extreme happiness, extreme love. Uh, cuteness. It was more of always affection and spending time together.

New experiences

New touch experiences are memorable.

that was something that was very new to me, like nobody's ever done that to me.

TOUCH CAN STILL HEL
WITH OTHER THINGS (missi
but it can also help with
the cause and the s

4b

OR TAKING ACTION

TAKING ACTION

Realization of missing touch led to action.

I became aware of that and took some measures to adjust it. And then after that, I think I've been aware of how touch was so important for me.

INITIATING

Missing touch will lead to reaching out more.

I did [touch when meeting after a long time] also quite a bit, which was very surprising for myself and for him. Yeah, he's usually the one who initiates more.

SECONDARY BENEFIT

Touch can be an additional benefit to exercise.

I miss using my body. And then that translating into touch being helpful more than directly using touch.

AVOIDING DEALING WITH THE SITUATION

AVOIDANCE

Avoiding the feeling of loneliness by distraction.

mainly I try to take my mind off it by watching something like being watching tv. It's something that I know it's not good to me because I'm, it's not a healthy way of dealing with it.

Avoidance

Using distractions to avoid dealing with the emotions.

I used to paint also and I reconnected with painting and watching Netflix was always an option. So just getting a bit out of situations or keeping your mind somewhere else. I started distracting myself by just watching any show or just was just watching Netflix the entire day yesterday, and I kept making something for myself to eat and. Yeah, I studied for some time.

AVOIDING

Avoiding dealing with loneliness by distraction.

Suppressing the problem. So I just sat behind my computer all the time, and as soon as it like it [lecture], like it over. I would just start up the game and play some games.

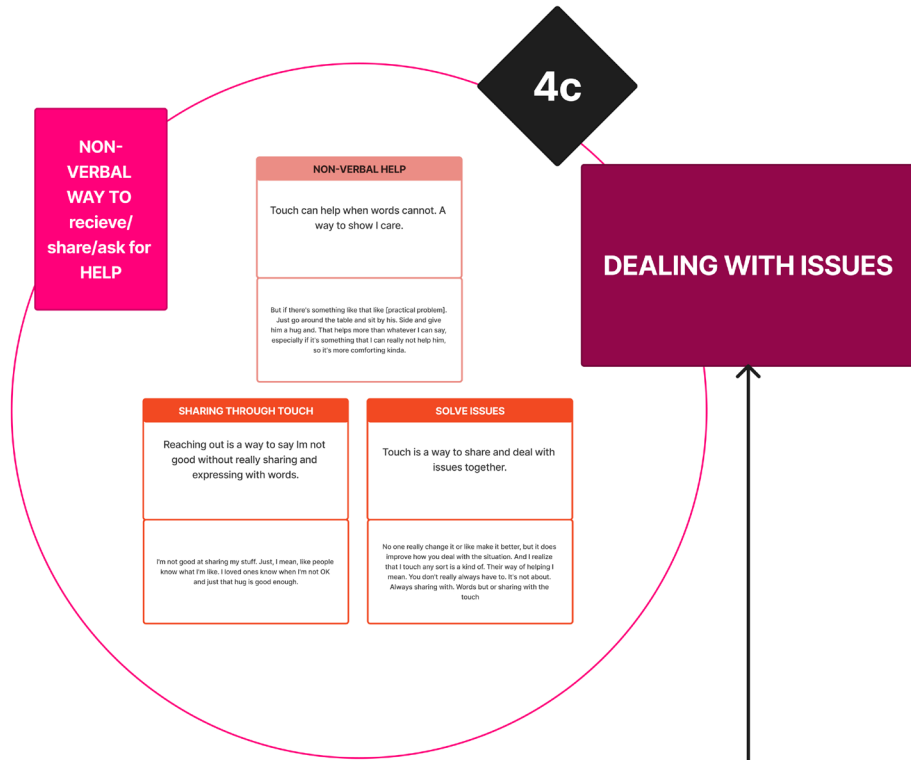
ACCEPTING

ACCEPTANCE

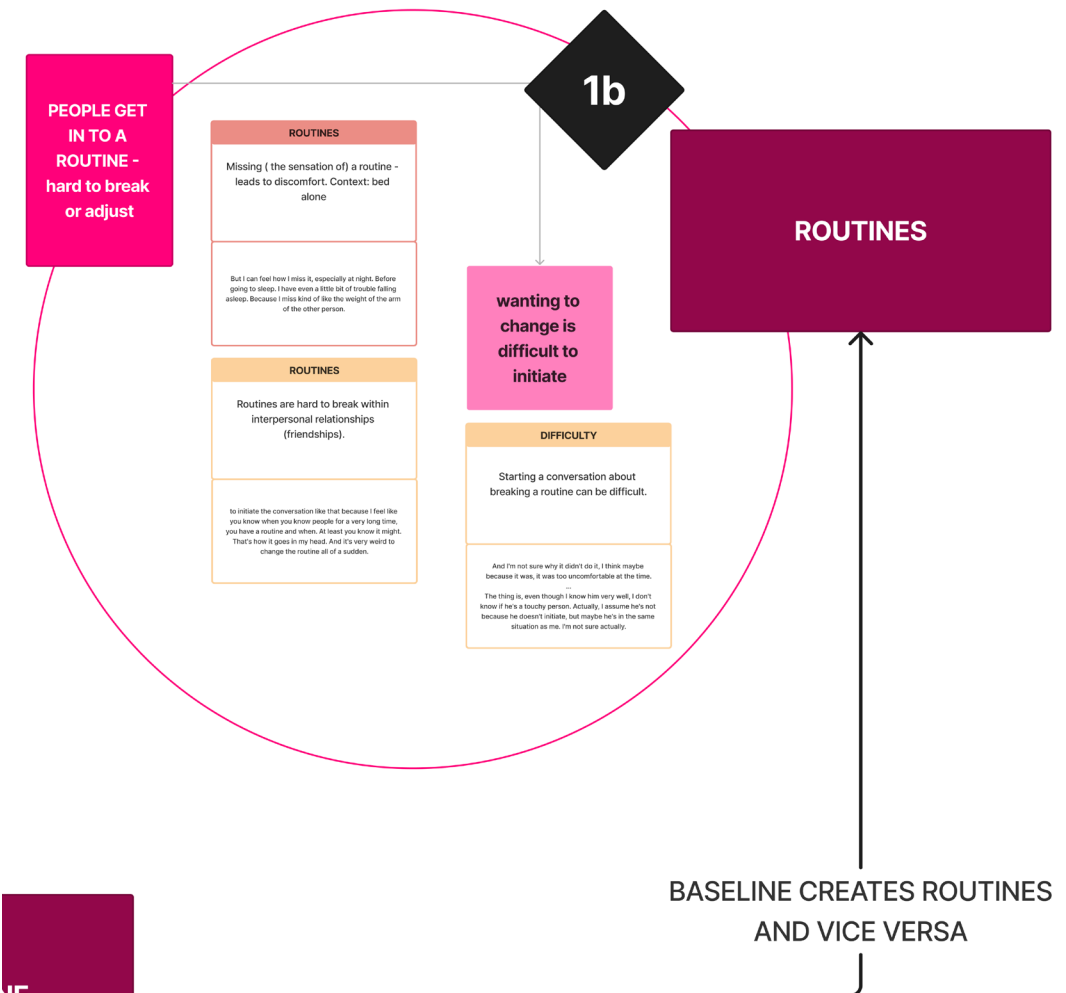
Acceptance of situation when touch is missed.

I noticed that I feel the need for it [touch]. But I'm not sure if it impacts. My mental health, so I would probably say, you know, but that could also just be because it's just a matter of accepting it.

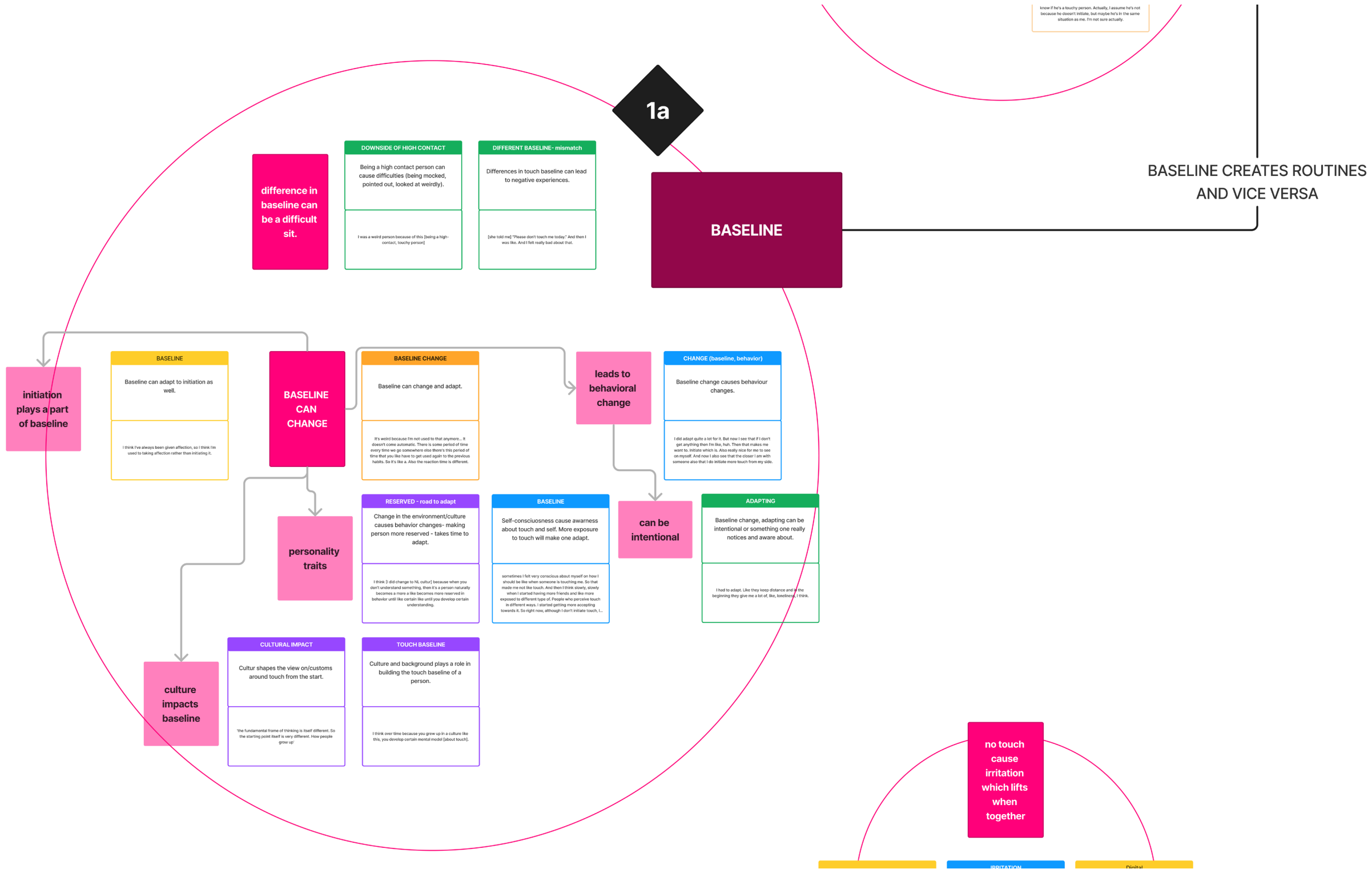
DEALING WITH TD



TOUCH CAN STILL HELP TO DEAL WITH OTHER THINGS (missing touch is a problem but it can also help with problems - the cause and the solution)



BASELINE CREATES ROUTINES AND VICE VERSA



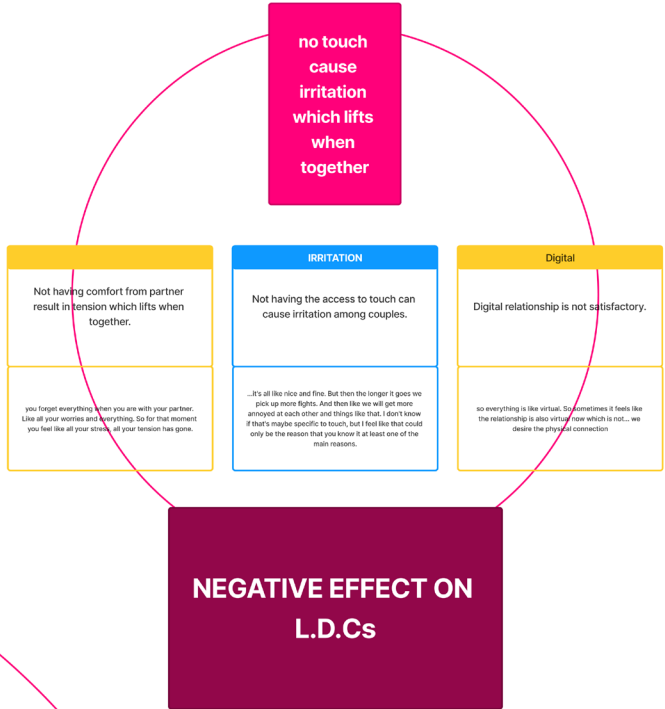
baseline

the fundamental frame of thinking is itself different. So the starting point itself is very different. How people grow up?

I think over time because you grow up in a culture like this, you develop certain mental model (about touch).

2a

INITIATING TOUCH (giving and receiving)



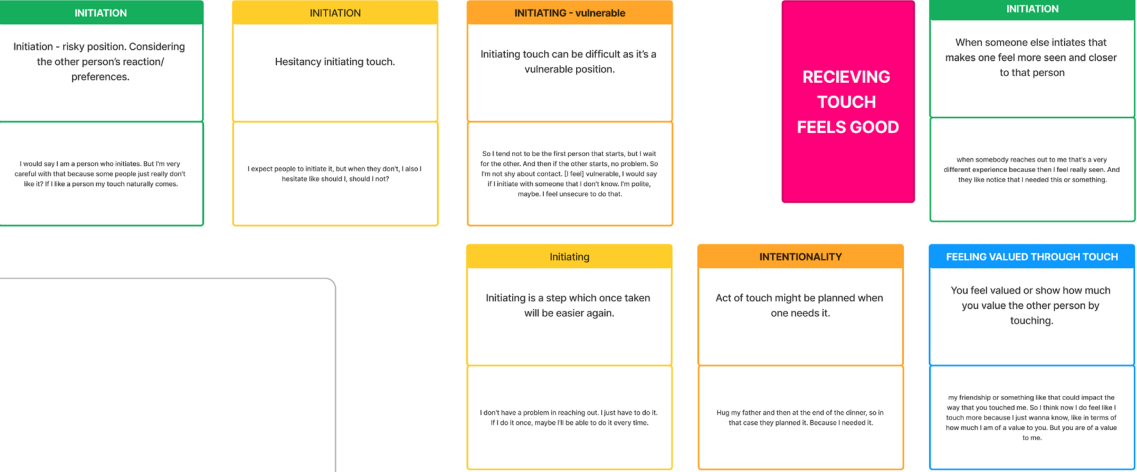
personality traits

PERSONALITY

Shy and self-conscious qualities make someone aware of interpersonal touch.

I think I'm aware of it (ouches). Uh, that's the shy part of me like. Very conscious, sometimes other, sometimes yes, sometimes no. With this middle ground of friendships, I'm very, very aware of how the other people is feeling, and I might know with them and I don't want to do anything to. Annoy them, so I become either aware of these things.

INITIATING TOUCH IS DIFFICULT



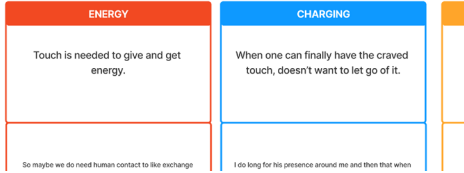
It can be a planned act (as we do need it)

AWARNESS & INTENTION

When touch is intentional - very aware of process.

I have the intention of conveying something, then I'm really aware. So suppose I want to go to a formal setting and then my mind is, you know, thinking formally. Then I want to. Then I'm really aware about it. But there are cases where I really not be aware. For example I'm working...

2b



2b

ENERGY

Touch wish & time

Touch wish can be fulfilled for a certain amount time.

I felt secure. I felt safe. And yeah, like my desire for the physical touch was fulfilled for some amount of time.

TOUCH IS A WAY TO GIVE/GET ENERGY (recharge)

ENERGY	CHARGING	DOSE OF TOUCH	ENERGY
Touch is needed to give and get energy.	When one can finally have the craved touch, doesn't want to let go of it.	Touch can make one feel fulfilled (energy, comfort?).	Touch is an exchange of energy.
So maybe we do need human contact to like exchange kind of energy between each. Other to you know. To like feel better about ourselves.	I do long for his presence around me and then that when we are together in some occasions or those specific times that. Yeah, we don't want to leave our place.	They're [hugs] recharging the batteries.	I feel like sharing my energy with them and giving. Them something that I like, that that can actually help them. So it makes me feel useful.

ENERGY - negativity

Avoiding touch can be a selfless act to protect others.

I feel like I don't deserve it, if that makes sense. Like I don't wanna like... Because I feel like there's way too much negativity in me. And I just like I don't want to suck them dry? So I'm trying, I avoid it.

5b

PRESENCE

touch is good because of the human factor (not sensation)

PRESENCE

The person makes a touch a good experience.

feeling or experiencing that person is close to you is more of the experience and if the person isn't there, you can't really emulate that.

it is missed online

PRESENCE CAN BE AS SATISFYING AS TOUCH

OFFLINE	HUMAN FACTOR	IMPOTANCE OF IN-PERSON	Online/in-person
There is something missing online to truly connect.	The human factor is missing.	Online connection is not the same.	Online contact is not enough to keep the connection natural on a touch level (for a long period of time and beginning of relationship).
seeing each other offline is better or more fun, because online is there's something missing. At least I can. It's still fun, but there's something missing and I think it's better for connecting as well that you see each other and you know, do something together.	Like a lot of products that are also fancy, but then. You don't realize what's missing in the human factor in it too. I feel like with these devices the human factor is absolutely missing so.	But then suddenly everything was online. And yeah, I mean that kind of you don't create memories that way.	I always needed to get used to him again... it was weird to for me to adjust again and remember. OK, this is the person that I've been speaking to. This is the person that I adore. The more time I spend, the weirder it was, you know, trying to get used to again.
PRESENCE	PRESENCE	PRESENCE	
'Presence' can't be felt in online setting.	The presence is important, the touch isn't necessarily the focus all times.	Presence is more important than touch.	
it's completely different because also you feel the presence of the other person, the attention, the and even if it's less distant. So it's something that you even if there is no touch, you feel like more the connection because the distance.	it seems like you were sharing the same experience together like you were just being in the presence of each other, but doing something from an external factor, which makes it kind of different that you're. You're in it together for something external...	when she moved out, you could realize that her presence is gone. Yeah, and it was also much more comfortable at home with my sister.	
PRESENCE	PRESENCE	PRESENCE	
Sharing a space and being close is a kind of touch.	Hanging out and being in each other's presence is important.	The presence of a person can give comfort.	
Physical touch is more about, I don't know, like sitting close to someone that I said yesterday. I said that that even close proximity to me is kind of a touch for me. Just I think somebody in your private area.	Not just not being able to cuddle or hug or you know, hold hands or kiss or anything like that, but also not being able to go sitting or go see movies together or anything like that. It was just, yeah, we always talked online and of course that was also fun, but it's a very restrictive in a way.	sometimes just close proximity itself. It's just so calming for me.	

(HAPTIC) DEVICES & TOOLS

LACK OF EMOTION

The devices can convey 'practical qualities' (temp, pressure) but not emotions and feelings.

More practically, physical qualities than like the feelings. Like because I wouldn't assume you can put feelings through the sort of [devices].

REAL TOUCH

If it has function it's okay, but won't replace real touch.

people use it for the functional reason and it won't replace the real thing. So if you can find functional reasons, I think that's what you're looking for. I think it's a quality of the machine or something.

Irreplaceable

Touch can't be replaced.

he would start speaking and saying all the wrong things. Like I don't want you to talk. To me, I wanna hug.

AVERSION TO DEVICES

A device can't replace a person - feels disrespectful/wrong. There is also a beauty in missing someone.

It's like I don't get interested in the electronic mediation of that relationship. The idea to me sounds like you're replacing this person machine. It kind of feel disrespectful. For me, it's better to lack touch with dignity.

vibration

VIBRATION

Vibration skepticism.

for the vibration just send them a text. Your phones gonna vibrate too. Like like, why do you need that here?

VIBRATION

Vibration is not a natural way to replace touch.

we have always seen vibration with something like maybe a motor or mixer and it's an unpleasant thing in your house because it creates noise and even the vibration of a car. But you're like, OK, it's a quality of the machine or something.

can't replace real touch

ISSUES WITH DEVICES

SKEPTICISM

Skepticism about the actual value or help of haptic tools and devices.

it's the medicines for a disease. Like they can't help, but at the very end it's your immunity system that has to reply. [Devices, tools] they can help, but they don't solve the problem. They cannot really substitute the humans at the very end.

PRECONCEPTIONS (skepticism)

Preconceptions (skepticism) of such devices stop them from having a genuine reaction. Hard to detach from preconceptions.

the problem is in my head, so the problem is not the touch itself - I already have preconceptions. [something is created artificially]

DEVICES

Devices feel unnatural.

But it would feel a bit unnatural to me. At least that's what I would expect right now.

some attributes that could help

DEVICE

Device can ease the negative experience, but only temporary fix.

I would think it's kind of a temporary fix, a Band-Aid. It's like when you temporarily cannot do it. So you have something to kind of fill the [gap]. But it's not a permanent solution.

OPENNES

Bit skeptical but open to try.

I have to use it and see. I'm open to trying it out. Ohh but I don't know if it will give me the same qualities.

DEVICES

Adding visuals and audio and good material can make it more acceptable.

If you can hear or see the other person, it would make it feel more natural. UM. But it also really depends on the yeah on the design guess because. The material I think we. To the most when it comes to. Touch if the material feels unnatural, then it's gonna ruin the experience

PERSONALIZATION- human aspect

Human aspect is missed from devices - personalization as every human interaction is different and personal.

There is a lack of humanity. → lack of personalization, representation of diversity (in qualities)

TOOLS - self help

Self helping tools can feel helpful.

It's not like trying to impersonate someone, it's just like something that makes you feel good.

SELF HELP

Self-help tools feel more natural.

like in some form, it just feels natural compared to, like, a very electronic device

self help tools can be good

SELF HELP

Self support or help with analogue tools is okay.

more analogue tools, you know. That I feel they are more. More respectful in the sense we are not pretending to be another thing. We are just supporting.

PERSONALIZATION

Personalization - making it unique to the relationship - can give it value to help the connection at distance.

Devices precisely created for that, so that everybody can use, like a mobile phone. But it's something purposeful. I use this for you. So I give it to you. I give it to you as a gift because so that you know that... even if we are 2000 kilometers of distance. So having that connection... So if there is kind of, translating this kind of connection in some gestures.

DEVICES

Some devices are more suitable for couples than others.

this is more something. Like for relationships like like you're. Someone that's nice, but then I wouldn't know the friend because that's just weird to me. Same goes to the pillow.

DEVICE

The intention to want to use it [devices] can be a nice feeling.

it could transfer like the thought behind it. Like even if it's not like real, or the same, you can still have the feeling behind it, like the kissing, that's OK, there is someone wanting to kiss.

Symbolic dev.

symbolic devices could send presence, warmth, and assurance which might ease the loneliness or irritation that comes with a long-d. rel.

they can translate presence, not physically, but that I am there with you. I'm thinking about you... it will translate some kind of warmth, we'll give you the assurance also that if you are like the other person is also thinking about you, might ease the irritation or the loneliness.

DEVICES- symbolic

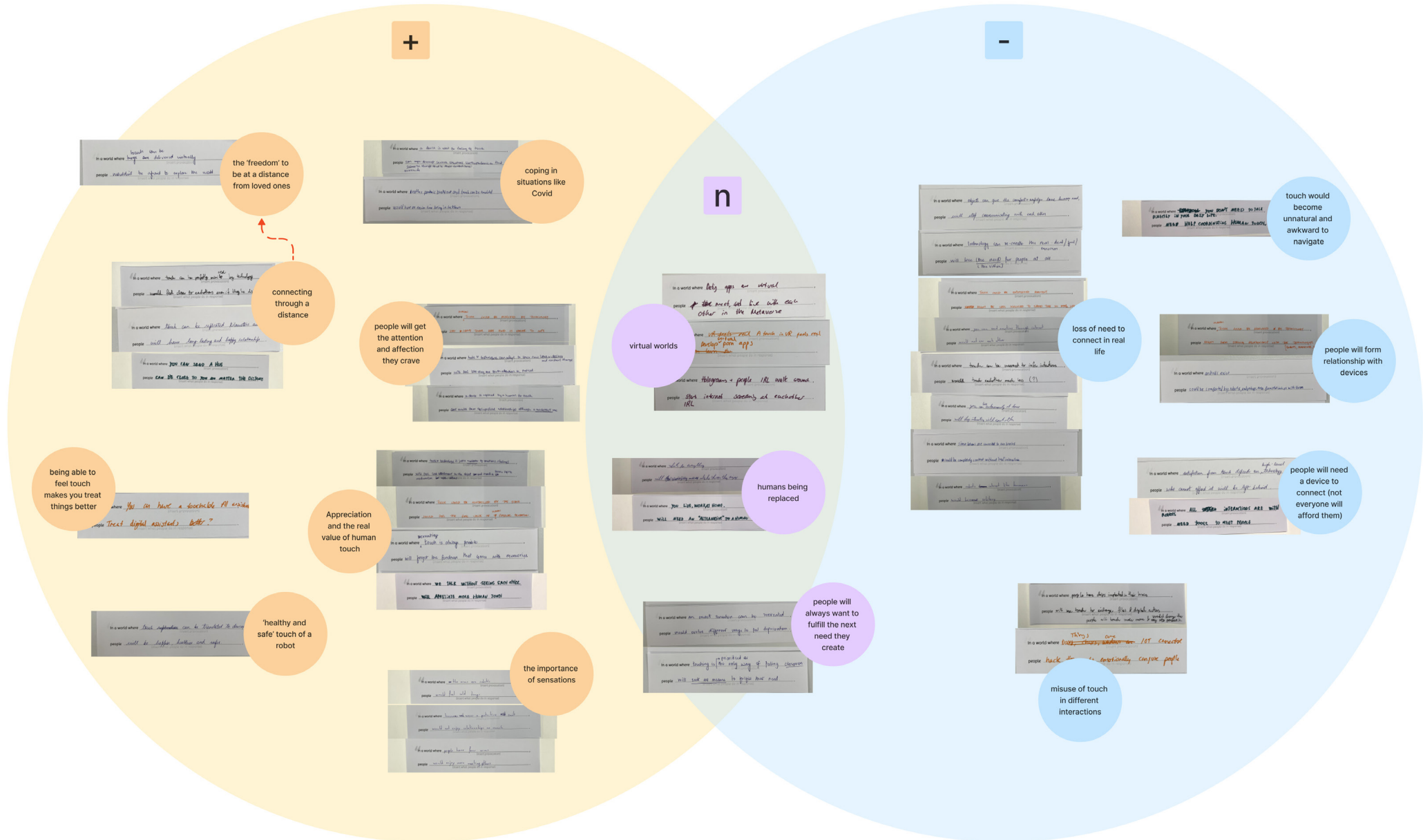
Symbolic devices has a value.

it's more like a thought. I have the feeling if somebody else is involved then it's more like a hug. Thinking of me or, but not really a hug.

sending symbolic meaning ok

5a

Synthesis of the speculations (PART 4 activity of the generative sessions).



Synthesis of the touch experience mapping
(PART 2 activity of the generative sessions).

Bittersweet moments - some negative emotion is linked

Use touch as a last resort to calm someone - pressure, calming, synchronized

hugging loved one after long time - weight lifts off of shoulder

WHAT HAPPENS (INTERNALLY)

How It Feels

Connection complete

Soothing, Healing

Love

light

pleasure

slow

connected

closeness

complete

love

weight, pressure

nurturing

simple

soothing

powerful

fulfilled

Flóra Káti

a moment in time filled with positive feelings

slowdancing with stranger - fully connected and lost in moment

gratulation from teacher - handshake - personal visit

change

urgency

anger

tension

difficult

Flóra Káti

soft

light

slow

hard

warmth

rough

Flóra Káti

shared moment with loved one - satisfying touch experience

special moment with stranger

shared moment with loved one - satisfying touch experience

soft and textured textiles

roughness of human skin

softness of act and skin

Anger

Precept as each other

The mood

Politeness of face and

Tension

holding the hand

connected

Electric

Security

Stay!

At a festival with two friends. Had our cup in the hand. Had to stay it out. Exploring around. Let's stretch around. Suggests each other.

hugging loved one good bye - contrast in the emotion and the act

Reassurance

LOVE

WARMTH

LOWERING

weight

fast

hard

absence

hugging loved one good bye - inner conflict of emotions

EMOTIONAL

powerful

soothing

simple

PRESENT

PAST

hard

LOVE

difficult

WARMTH

weight

hug

PRESENT

PAST

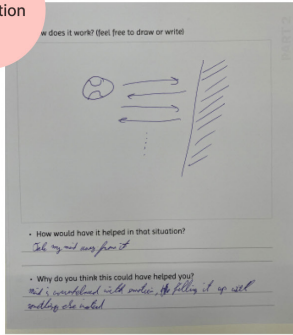
Curiosity

Soothing

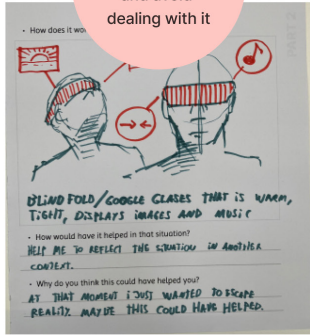
simple

Synthesis of ideation (PART 3 activity of the generative sessions).

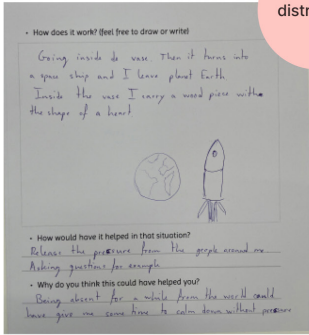
distraction



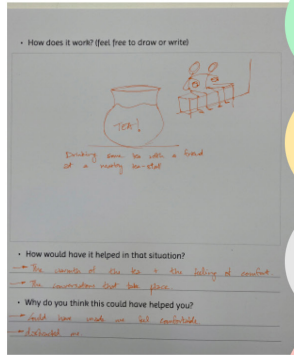
distraction -
escape reality
and avoid
dealing with it



distraction



nostalgia

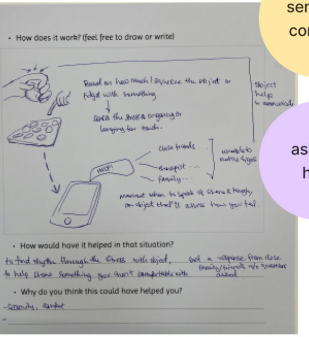


sensory comfort

talk about it

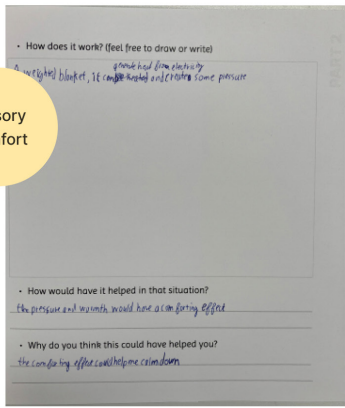
distraction

sensory comfort



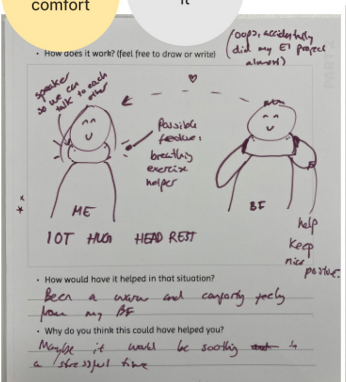
ask for help

sensory comfort



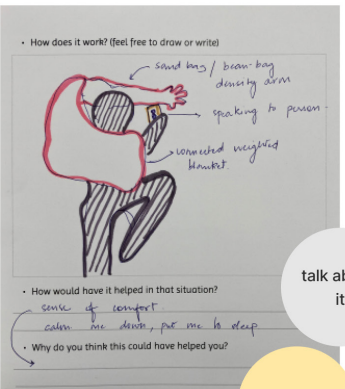
sensory comfort

talk about it



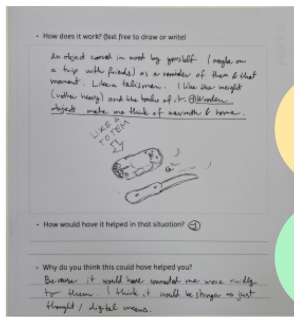
talk about it

sensory comfort



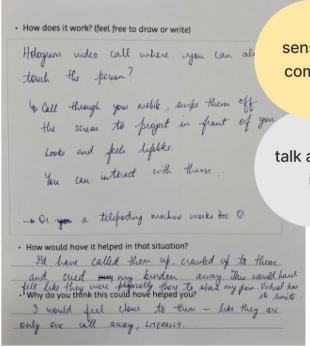
sensory comfort

nostalgia



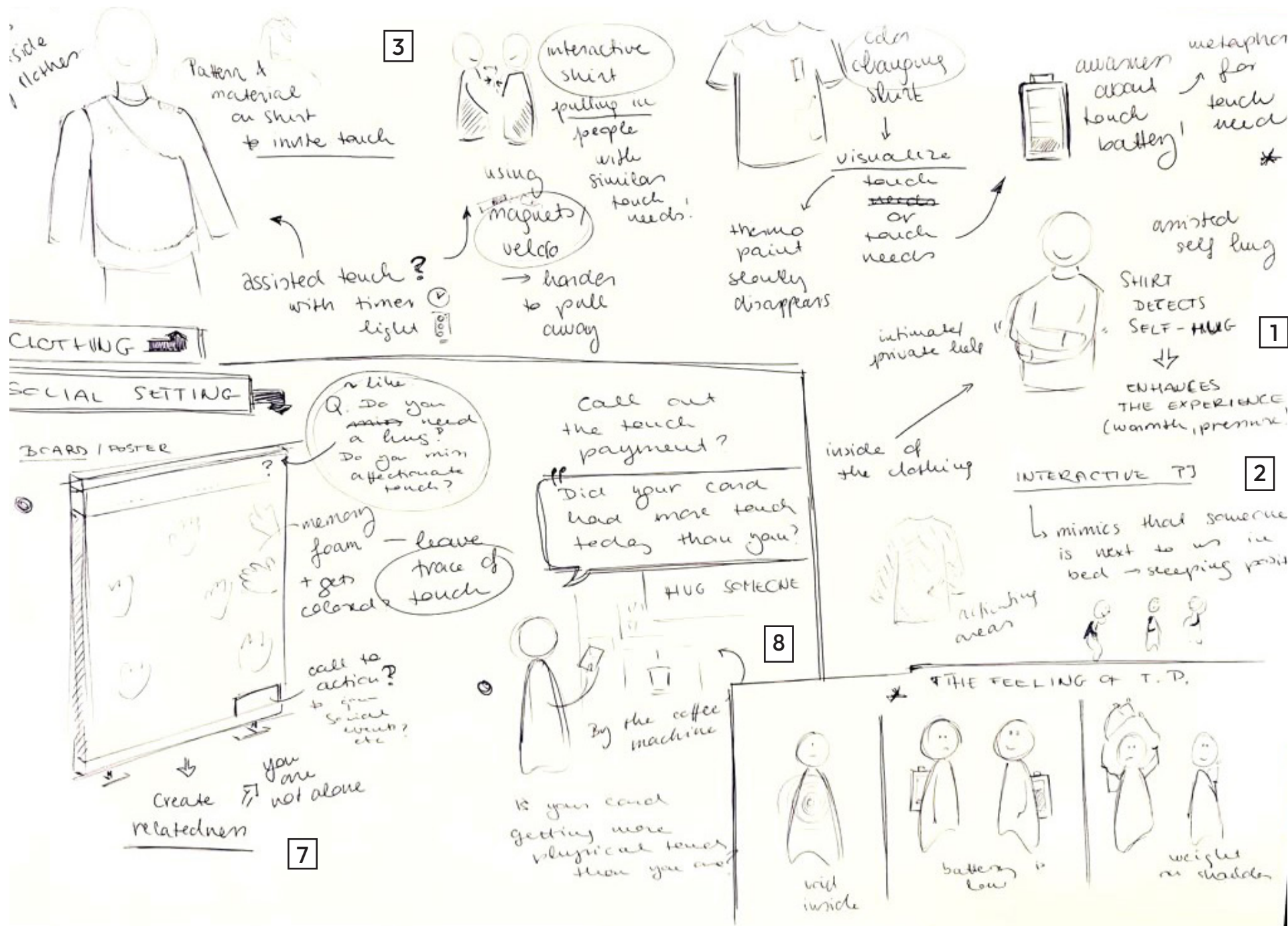
sensory comfort

talk about it



F

FIRST ROUND OF IDEATION



1 - SELF-HUG SHIRT

The shirt is meant to detect and enhance self-hug through sensations such as temperature and pressure, offering an intimate and private help to its wearer. The design is on the inside, hidden from the outsiders.

2 - INTERACTIVE PJ

This pajama is supposed to help fall asleep by mimicking the hug and cuddling of someone. The design is offering comfort in a context that is often the place of contemplation. Depending on the sleeping position the sensation fits.

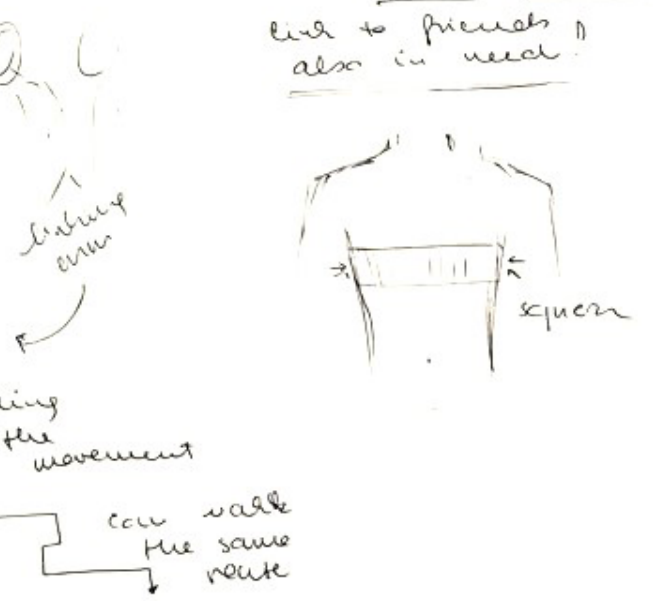
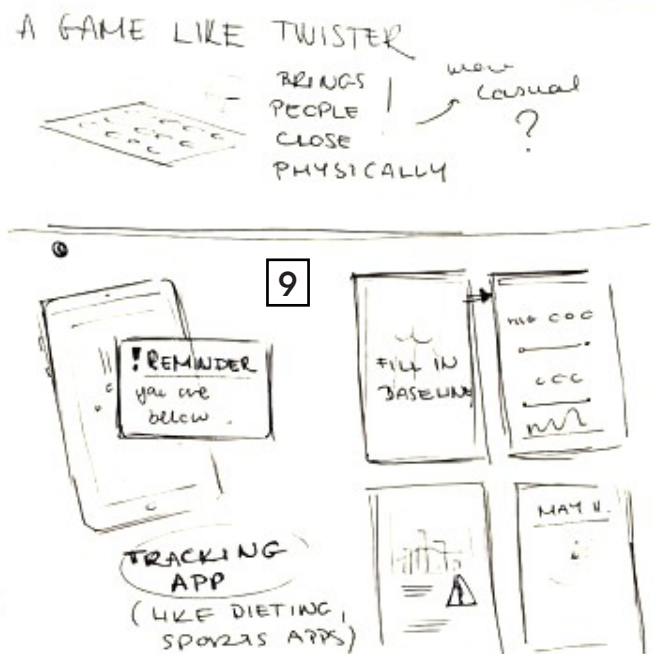
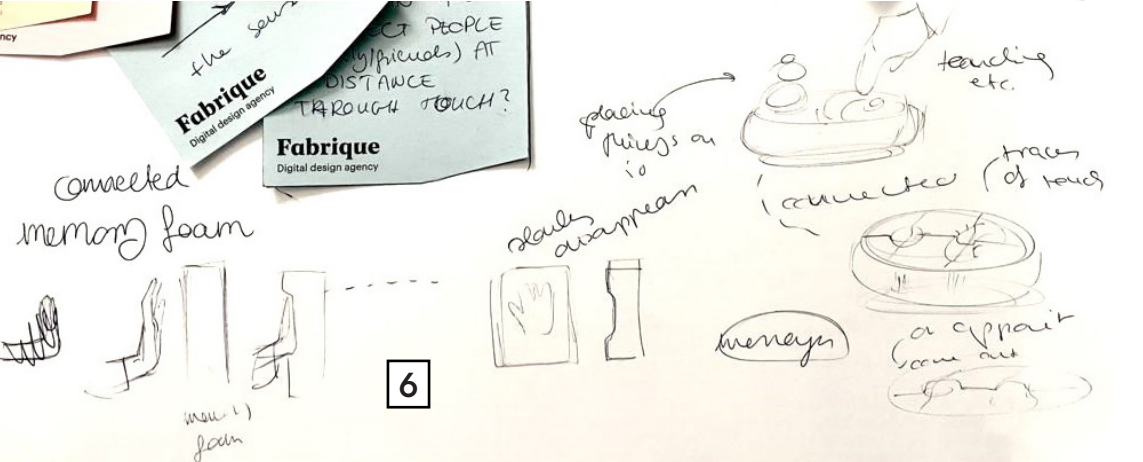
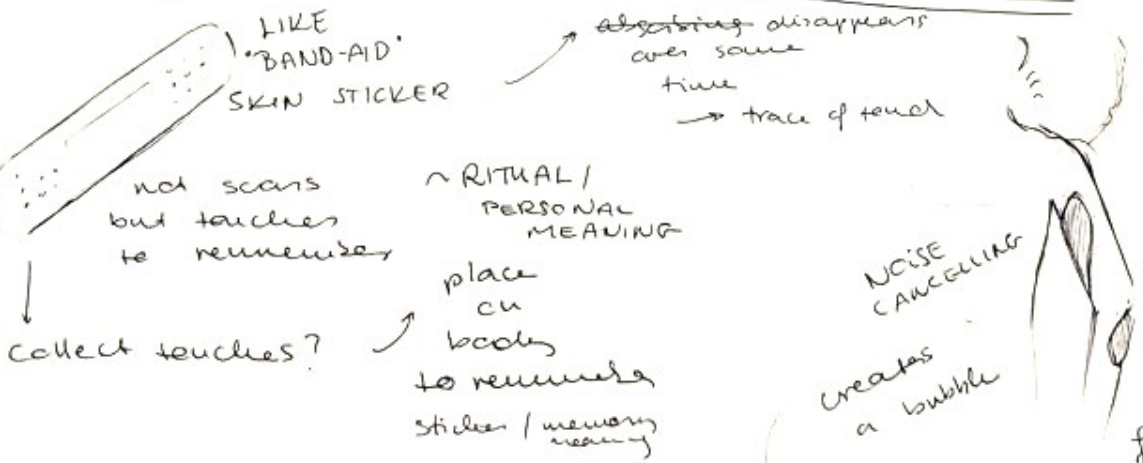
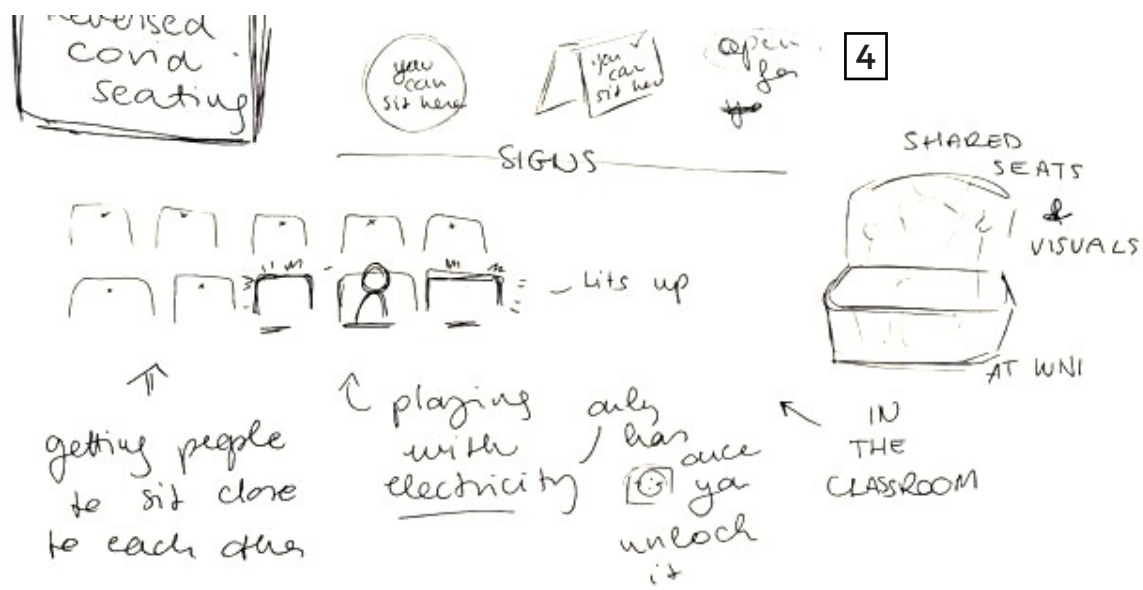
3 - INTERACTIVE CLOTHING

Multiple ideas are in this category of interactive clothing.

- Adding elements to assist touch (timer, light) - indicating and helping the flow of the interaction.
- Adding magnets or velcro to make the touch longer by creating difficulties to pull away.
- Adding patterns, textures and visual elements to invite touch.
- Playing with touch-reactive color change (e.g. thermo paint) which slowly disappears to visualize touch and the needs of it as well.

4 - REVERSED COVID SEATINGS

During the Covid-19 pandemic, in universities, especially seating arrangements were made to avoid the spread of the virus. Certain seats were marked and blocked - making students sit one-by-one further from each other. This design would do the opposite. With playful elements like lights, visual illustrations, or by limiting electricity, the students would be encouraged to sit next to each other and interact.



5 - 'WALK WITH ME'

(next page) The design could be classified as an Affective Haptic Device. The tool perfectly fits the users' hand - mimicking the feel that their partner is holding their hands. It's connected to the other user as well, their hand movement (back and forth) is felt in the device so their walking speed can get synchronized. It is also connected to headphones, so the two walkers can communicate. It's a private device, only visible as jewelry to the outside, making the experience intimate.

6 - MEMORY FOAM OBJECT

The design is meant to be placed in two homes - connecting a couple or families at a distance. The object is playing with the quality of memory foam - the slow reshaping process to its original state. The users could place objects, draw or place their hands on one of the pair, which then would replicate the form on the other one - creating the presence of the individual - then slowly disappear. This way the users can connect at a distance in subtle ways and create their presence at each other's home.

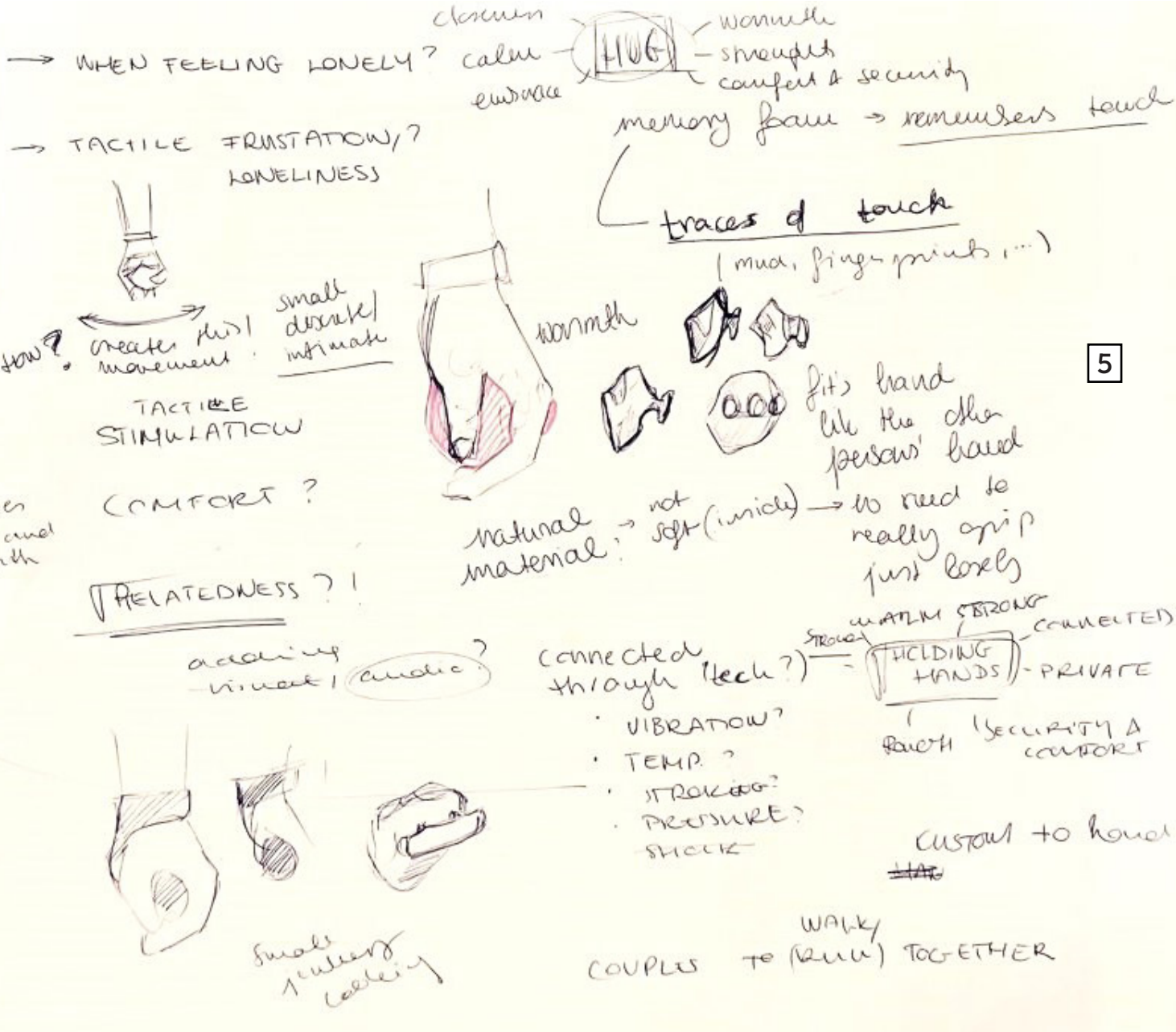
7 - TOUCH POSTER

This design also uses memory foam. It's also more of an exhibition piece, aimed to raise awareness. and provide a sense of relatedness. The poster raises the questions like: Do you need a hug? And people could indicate 'yes' by leaving a mark on the memory foam - their hand print gets colored but the form would snap back slowly. The poster would slowly fill up with hand prints. It would also guide the individuals to connect by informing them on the matter.

8 - PROVOCATIVE CALL-OUT

This design aims to raise awareness and start a dialogue. A provocative question or statement would pop up at paying, e.g. Did your card have more touch/contact than you today? pointing out the distanced behaviors.

ID study association
 (INTERVENTION) ID
CONNECT PEOPLE AT A DISTANCE
 (long-dist. cop./family/ friends)
 THROUGH TACTILE TOUCH!
Fabrique Digital design agency
 - symbolic user



5

9 - TRACKING APP

An app that would track the amount of touch the user gets a day. It would work similarly to a dieting/fitness app, since we also need „a daily dose of touch“. It could send reminders and show statistics. It would also provide researchers with data about touch behaviors and help define touch deprivation better.

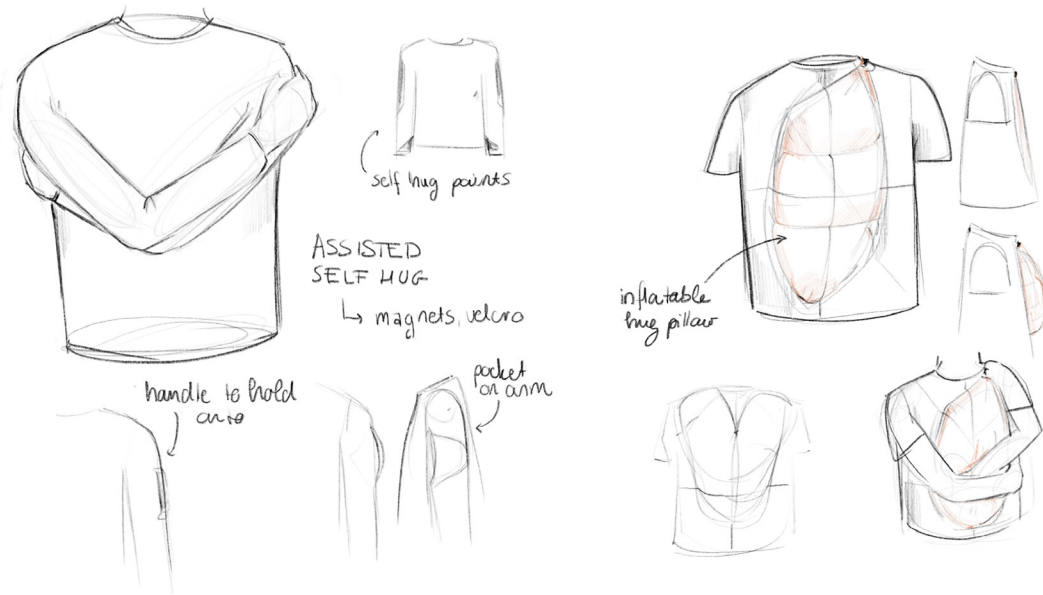
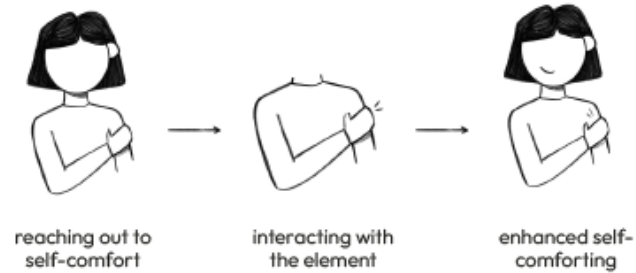
10 - BATTERY

The design is meant to raise awareness of the needed touch amount to ‚feel charged‘. It would visually present the individual’s need of touch to themselves and also others - inviting them to interact when someone is ‚low‘.

G

CLOTHING IDEATION

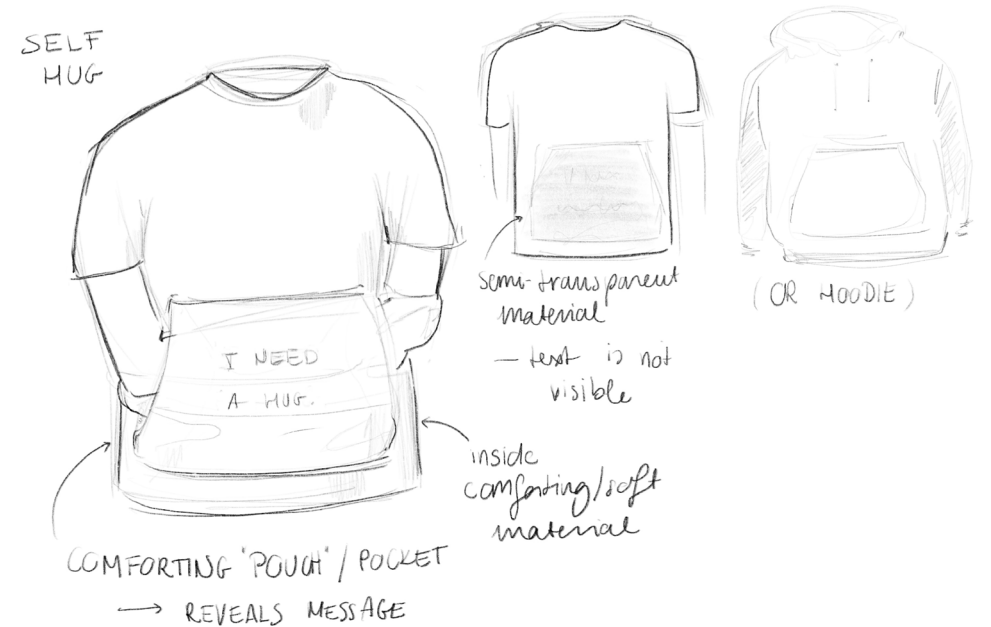
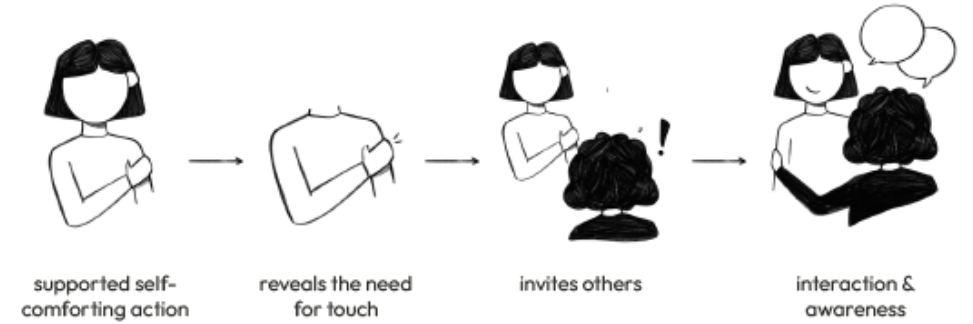
SCENARIO 1 - ENHANCED SELF-COMFORT



Idea 1 (left) - The design is meant to support self-comforting action. Strategically placed interactive elements, such as magnets, velcro, handle, or pockets are there to assist a self-hug. These would be placed on the shoulder area, beneath the arms, and the wrists. By the use of these elements, the act will feel easier, supported, and prompted resulting in the comfort of the person.

Idea 2 (right) - The shirt has an inflatable stomach part, resembling a life jacket. In a deflated position, it's not visible or noticeable to the outside. But when in need of comfort, the individual wearing it can inflate it, it will then provide a calming amount of pressure on the chest, with a huggable part on the belly. Once the individual is comforted they can deflate the part.

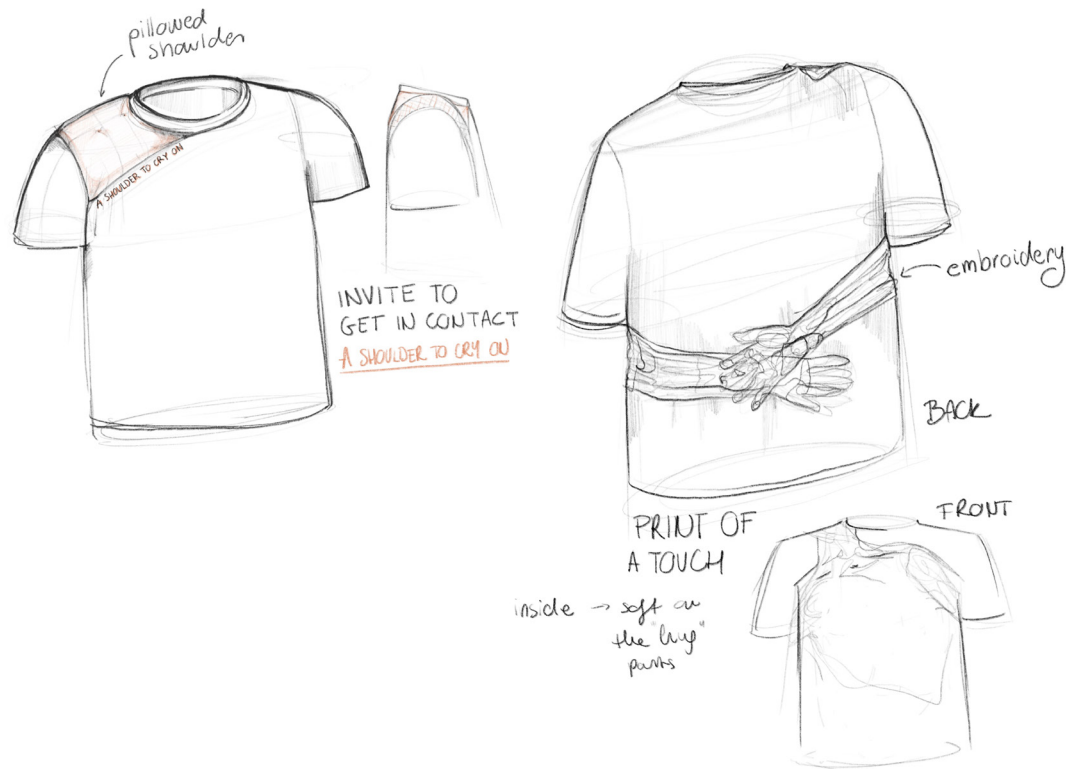
SCENARIO 2 - INTERACTION & AWARENESS THROUGH SELF-COMFORT



Idea 3 - The design uses a semi-transparent material on the surface of the same colored not-transparent shirt. When the individual comforts themselves with a self-hug, they are guided and supported by the semi-transparent material. Once they do so, a message will be revealed on the semi-transparent material because of the change in colors (skin of the individual) beneath it.

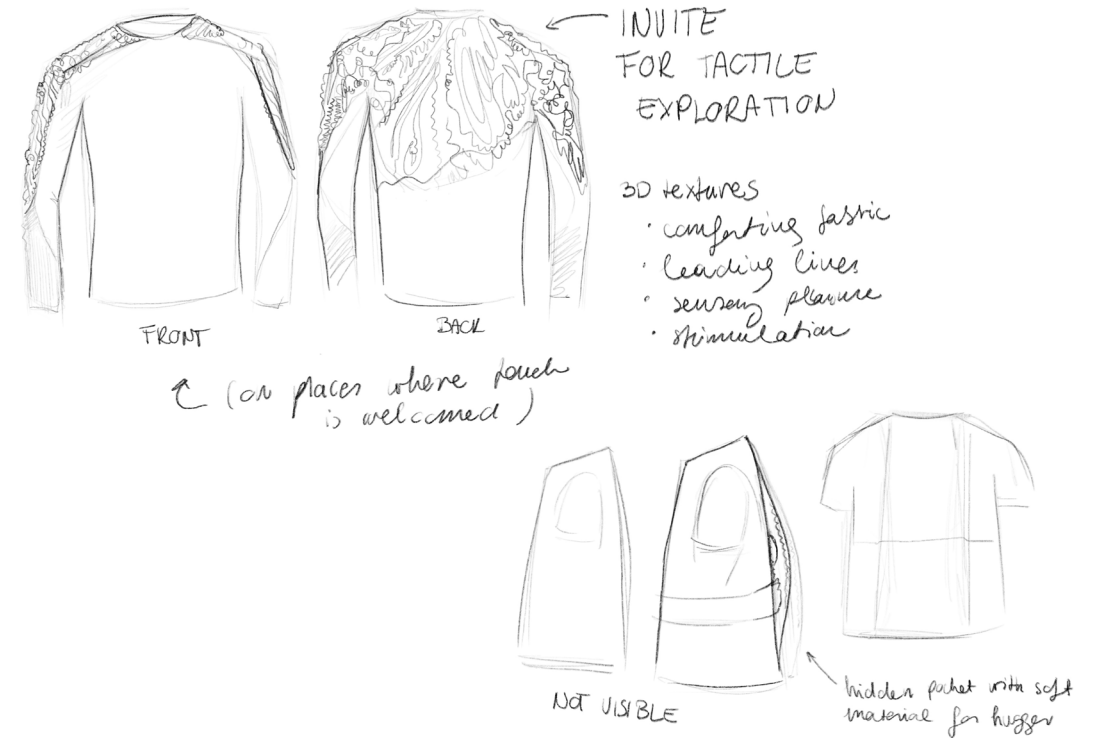
The message revealed is prompting others to act and reach out. This could also lead to a conversation. Giving the wearer comfort through self-touch, and inviting others to touch as well while also raising awareness.

SCENARIO 3 - INTERACTION & (AWARENESS) THROUGH CLOTHING



Idea 4 (left) - The shirt has a pillowed shoulder, with the metaphorical text 'a shoulder to cry on'. This meant to serve as an invite for others to try out and place their heads on the wearer's shoulder. The design is meant to spark curiosity to try out and also end in a touch act, with the possibility to start a conversation about touch deprivation.

Idea 5 (right) - The shirt has a pillowed/ticker material and the embroidery creates a 3D texture in the shirt. The embroidery is the imprint of a hug. Act as an invitation for others to mimic the position presented on the shirt in a more subtle and artistic way. The wearer could engage in touch acts invited by the shirt and feel comforted.



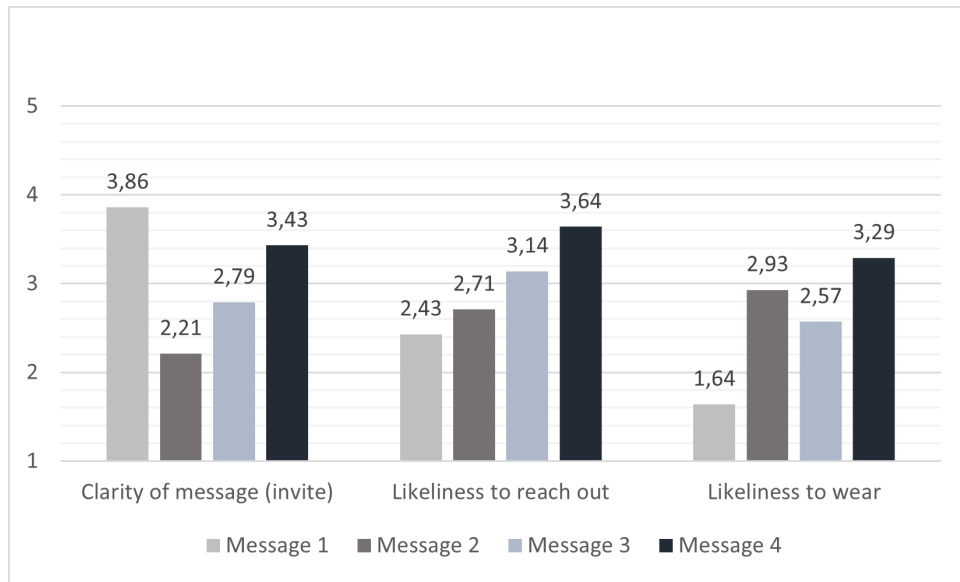
Idea 6 (left) - This design plays with textural elements in the places of the upper body where touch is welcomed and preferred. The fascinating textures will invite tactile exploration and interaction. These interactive and sensory elements will invite the standbys to reach out.

Idea 7 (right) - This hidden pocket is meant to be discovered by the hugger. It has a different, pleasant material that will elongate the duration of the hug giving comfort to the wearer. This surprise can be a conversation starter, but mainly act as a surprise for the hugger.

H

MESSAGE - SURVEY RESULTS

The diagram below show the results of the ratings of the messages (on a scale of 1 to 5) based on the different qualities - clarity, likeliness to reach out and to wear.



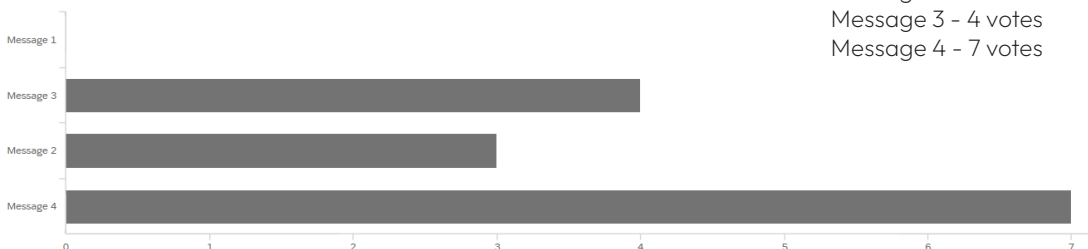
message 1

message 2

message 3

message 4

Which message was the most liked overall:



Message 1 - 0 votes
 Message 2 - 3 votes
 Message 3 - 4 votes
 Message 4 - 7 votes

I

PROTOTYPING



Message prototyping

For the making of the prototypes simple oversized white T-shirts were used as a base. As the initial step, the fabrics (semi-transparent and plush) were cut to the desired size and form. The hems of the semi-transparent layer were stitched on the sewing machine. The small comforting sections made from the plush fabric were added first to the shirts on the predefined self-soothing spots. Then the semi-transparent material was sawn over the comforting section, covering the desired area. Lastly, the messages were scaled to the optimal size and optimal placement (can be revealed by an average-sized hand and readable at a few meter distance) and painted on the shirts by hand.



J

EVALUATION QUESTIONNAIRE

Questionnaire

before / after

Initials: _____

How would you describe your overall mood today? (circle the one that's most true)

Rebellious	Vigorous	Productive	Serious	Jubilant	Aggitated
Gloomy	Lethargic	Relaxed	Peaceful	Stressed	Anxious
Cheerful	Grumpy	Giggly	Amiable	Dreamy	Sentimental

On a scale of 1-10, how would you rate your current level of stress?



Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.					
I frequently crave physical touch and closeness with others.					
I feel satisfied with the amount of physical touch I receive in my life.					
Physical touch plays an essential role in my overall well-being.					
I am satisfied with my physical appearance.					
My self-image doesn't impact my daily interactions with others.					
I prioritize physical comfort when choosing clothing.					
Uncomfortable or restrictive clothing makes me feel frustrated.					
Clothing choices can influence my mood and confidence.					
I am very aware of the clothing I am wearing.					
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.					

Questionnaire

before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious	Vigorous	Productive	Serious	Jubilant	Aggitated
Gloomy	Lethargic	Relaxed	Peaceful	Stressed	Anxious
Cheerful	Grumpy	Giggly	Amiable	Dreamy	Sentimental

On a scale of 1-10, how would you rate your current level of stress?



Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)

the T-shirt and a cold that doesn't want to go away

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				✓	
I frequently crave physical touch and closeness with others.			✓		
I feel satisfied with the amount of physical touch I receive in my life.			✓		
Physical touch plays an essential role in my overall well-being.					✓
I am satisfied with my physical appearance.				✓	
My self-image doesn't impact my daily interactions with others.		✓			
I prioritize physical comfort when choosing clothing.			✓		
Uncomfortable or restrictive clothing makes me feel frustrated.				✓	
Clothing choices can influence my mood and confidence.					✓
I am very aware of the clothing I am wearing.				✓	
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.			✓		

participant T - 1

Questionnaire

before / after

Initials: _____

How would you describe your overall mood today? (circle the one that's most true)

Rebellious	Vigorous	Productive	Serious	Jubilant	Aggitated
Gloomy	Lethargic	Relaxed	Peaceful	Stressed	Anxious
Cheerful	Grumpy	Giggly	Amiable	Dreamy	Sentimental

On a scale of 1-10, how would you rate your current level of stress?



Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)

stuffy, a bit too warm

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				✓	
I frequently crave physical touch and closeness with others.				✓	
I feel satisfied with the amount of physical touch I receive in my life.			✓		
Physical touch plays an essential role in my overall well-being.					✓
I am satisfied with my physical appearance.				✓	
My self-image doesn't impact my daily interactions with others.		✓			
I prioritize physical comfort when choosing clothing.			✓		
Uncomfortable or restrictive clothing makes me feel frustrated.					✓
Clothing choices can influence my mood and confidence.					✓
I am very aware of the clothing I am wearing.				✓	
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.				✓	

5 - not too warm

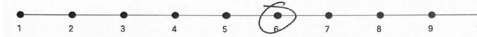
Questionnaire

before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious	Vigorous	Productive	Serious	Jubilant	Aggitated
Gloomy	Lethargic	Relaxed	Peaceful	Stressed	Anxious
Cheerful	Grumpy	Giggly	Amiable	Dreamy	Sentimental

On a scale of 1-10, how would you rate your current level of stress?



Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)

NEGATIVE: Super uncare of myself :D

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.		✗			
I frequently crave physical touch and closeness with others.				✗	
I feel satisfied with the amount of physical touch I receive in my life.			✗		
Physical touch plays an essential role in my overall well-being.					✗
I am satisfied with my physical appearance.			✗		
My self-image doesn't impact my daily interactions with others.				✗	
I prioritize physical comfort when choosing clothing.					✗
Uncomfortable or restrictive clothing makes me feel frustrated.				✗	
Clothing choices can influence my mood and confidence.					✗
I am very aware of the clothing I am wearing.		✗			
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.					✗

participant S - 2

Questionnaire

before / after

Initials: _____

How would you describe your overall mood today? (circle the one that's most true)

Rebellious	Vigorous	Productive	Serious	Jubilant	Aggitated
Gloomy	Lethargic	Relaxed	Peaceful	Stressed	Anxious
Cheerful	Grumpy	Giggly	Amiable	Dreamy	Sentimental

On a scale of 1-10, how would you rate your current level of stress?



Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)

NEUTRAL: I got distracted on how to behave with the t-shirt on

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.		✗			
I frequently crave physical touch and closeness with others.				✗	
I feel satisfied with the amount of physical touch I receive in my life.			✗		
Physical touch plays an essential role in my overall well-being.					✗
I am satisfied with my physical appearance.			✗		
My self-image doesn't impact my daily interactions with others.		✗			
I prioritize physical comfort when choosing clothing.					✗
Uncomfortable or restrictive clothing makes me feel frustrated.					✗
Clothing choices can influence my mood and confidence.					✗
I am very aware of the clothing I am wearing.		✗			
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.					✗

participant S - 3

Questionnaire
before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious, Gloomy, Cheerful, Vigorous, Lethargic, Grumpy, Productive, Relaxed, Giggly, Serious, Peaceful, Amiable, Jubilant, Stressed, Dreamy, Agitated, Anxious, Sentimental

On a scale of 1-10, how would you rate your current level of stress?
1 2 3 4 5 6 7 8 9 10

Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)
SOME WORRY FOR HEADACHE. HAPPY/ISS / ELECTRIC DAY ON CAMPS WITH FRIENDS.

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.					X
I frequently crave physical touch and closeness with others.				X	
I feel satisfied with the amount of physical touch I receive in my life.			X		
Physical touch plays an essential role in my overall well-being.					X
I am satisfied with my physical appearance.				X	
My self-image doesn't impact my daily interactions with others.	X				
I prioritize physical comfort when choosing clothing.				X	
Uncomfortable or restrictive clothing makes me feel frustrated.					X
Clothing choices can influence my mood and confidence.				X	
I am very aware of the clothing I am wearing.			X		
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.				X	

participant BI - 2

Questionnaire
before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious, Gloomy, Cheerful, Vigorous, Lethargic, Grumpy, Productive, Relaxed, Giggly, Serious, Peaceful, Amiable, Jubilant, Stressed, Dreamy, Agitated, Anxious, Sentimental

On a scale of 1-10, how would you rate your current level of stress?
1 2 3 4 5 6 7 8 9 10

Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)
Yes. I'm feeling excited about the work I'm doing

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				X	
I frequently crave physical touch and closeness with others.					X
I feel satisfied with the amount of physical touch I receive in my life.				X	
Physical touch plays an essential role in my overall well-being.					X
I am satisfied with my physical appearance.			X		
My self-image doesn't impact my daily interactions with others.	X				
I prioritize physical comfort when choosing clothing.					X
Uncomfortable or restrictive clothing makes me feel frustrated.				X	
Clothing choices can influence my mood and confidence.					X
I am very aware of the clothing I am wearing.				X	
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.				X	

Questionnaire
before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious, Gloomy, Cheerful, Vigorous, Lethargic, Grumpy, Productive, Relaxed, Giggly, Serious, Peaceful, Amiable, Jubilant, Stressed, Dreamy, Agitated, Anxious, Sentimental

On a scale of 1-10, how would you rate your current level of stress?
1 2 3 4 5 6 7 8 9 10

Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)
I FEEL CURIOUS / SELF-AWARE, BECAUSE WHEN SOMEONE @ME I LOVE TIME I WONDER IF THEY'LL INTERACT WITH THE SHIRT

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				X	
I frequently crave physical touch and closeness with others.				X	
I feel satisfied with the amount of physical touch I receive in my life.		X	X		
Physical touch plays an essential role in my overall well-being.				X	X
I am satisfied with my physical appearance.				X	
My self-image doesn't impact my daily interactions with others.		X	X		
I prioritize physical comfort when choosing clothing.				X	X
Uncomfortable or restrictive clothing makes me feel frustrated.					X
Clothing choices can influence my mood and confidence.				X	X
I am very aware of the clothing I am wearing.			X		
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.				X	

Questionnaire
before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious, Gloomy, Cheerful, Vigorous, Lethargic, Grumpy, Productive, Relaxed, Giggly, Serious, Peaceful, Amiable, Jubilant, Stressed, Dreamy, Agitated, Anxious, Sentimental

On a scale of 1-10, how would you rate your current level of stress?
1 2 3 4 5 6 7 8 9 10

Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)
Yes. A bit tired from work

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				X	
I frequently crave physical touch and closeness with others.				X	
I feel satisfied with the amount of physical touch I receive in my life.				X	
Physical touch plays an essential role in my overall well-being.					X
I am satisfied with my physical appearance.				X	
My self-image doesn't impact my daily interactions with others.		X			
I prioritize physical comfort when choosing clothing.				X	
Uncomfortable or restrictive clothing makes me feel frustrated.				X	
Clothing choices can influence my mood and confidence.					X
I am very aware of the clothing I am wearing.				X	
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.				X	

participant T - 2

Questionnaire
before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious, Gloomy, Cheerful, Vigorous, Lethargic, Grumpy, Productive, Relaxed, Giggly, Serious, Peaceful, Amiable, Jubilant, Stressed, Dreamy, Agitated, Anxious, Sentimental

On a scale of 1-10, how would you rate your current level of stress?
1 2 3 4 5 6 7 8 9 10

Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				X	
I frequently crave physical touch and closeness with others.				X	
I feel satisfied with the amount of physical touch I receive in my life.				X	
Physical touch plays an essential role in my overall well-being.					X
I am satisfied with my physical appearance.				X	
My self-image doesn't impact my daily interactions with others.				X	
I prioritize physical comfort when choosing clothing.				X	
Uncomfortable or restrictive clothing makes me feel frustrated.					X
Clothing choices can influence my mood and confidence.					X
I am very aware of the clothing I am wearing.				X	X
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.	X				

participant T - 3

Questionnaire
before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious, Gloomy, Cheerful, Vigorous, Lethargic, Grumpy, Productive, Relaxed, Giggly, Serious, Peaceful, Amiable, Jubilant, Stressed, Dreamy, Agitated, Anxious, Sentimental

On a scale of 1-10, how would you rate your current level of stress?
1 2 3 4 5 6 7 8 9 10

Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)
Just a combination of stress + motivation to work. In the end, emotions are just high overall.

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				X	
I frequently crave physical touch and closeness with others.				X	
I feel satisfied with the amount of physical touch I receive in my life.				X	
Physical touch plays an essential role in my overall well-being.				X	
I am satisfied with my physical appearance.				X	
My self-image doesn't impact my daily interactions with others.				X	
I prioritize physical comfort when choosing clothing.				X	
Uncomfortable or restrictive clothing makes me feel frustrated.				X	
Clothing choices can influence my mood and confidence.				X	
I am very aware of the clothing I am wearing.				X	X
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.				X	X

Questionnaire
before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious, Gloomy, Cheerful, Vigorous, Lethargic, Grumpy, Productive, Relaxed, Giggly, Serious, Peaceful, Amiable, Jubilant, Stressed, Dreamy, Agitated, Anxious, Sentimental

On a scale of 1-10, how would you rate your current level of stress?
1 2 3 4 5 6 7 8 9 10

Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				X	
I frequently crave physical touch and closeness with others.				X	
I feel satisfied with the amount of physical touch I receive in my life.				X	
Physical touch plays an essential role in my overall well-being.				X	
I am satisfied with my physical appearance.				X	
My self-image doesn't impact my daily interactions with others.				X	
I prioritize physical comfort when choosing clothing.				X	X
Uncomfortable or restrictive clothing makes me feel frustrated.					X
Clothing choices can influence my mood and confidence.					X
I am very aware of the clothing I am wearing.				X	X
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.				X	X

Questionnaire
before / after

How would you describe your overall mood today? (circle the one that's most true)

Rebellious, Gloomy, Cheerful, Vigorous, Lethargic, Grumpy, Productive, Relaxed, Giggly, Serious, Peaceful, Amiable, Jubilant, Stressed, Dreamy, Agitated, Anxious, Sentimental

On a scale of 1-10, how would you rate your current level of stress?
1 2 3 4 5 6 7 8 9 10

Are you experiencing any specific (positive/negative/neutral) emotions or feelings right now? If yes, please explain. (optional)
Pretty neutral, nothing special I would say

Please select a response next to each of the statements to indicate how much you agree or disagree with each statement.

	strongly disagree	disagree	neutral	agree	strongly agree
I am able to effectively manage my emotions and cope with daily challenges.				X	
I frequently crave physical touch and closeness with others.				X	
I feel satisfied with the amount of physical touch I receive in my life.				X	
Physical touch plays an essential role in my overall well-being.				X	
I am satisfied with my physical appearance.				X	
My self-image doesn't impact my daily interactions with others.				X	
I prioritize physical comfort when choosing clothing.				X	
Uncomfortable or restrictive clothing makes me feel frustrated.				X	
Clothing choices can influence my mood and confidence.				X	
I am very aware of the clothing I am wearing.				X	X
I often do self-soothing activities like fidgeting, massaging my arm/shoulder/neck, rubbing my chest, etc.				X	X

DESIGN FOR OUR future

6258

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT
 Download again and reopen in case you tried other software, such as Preview (Mac) or a web browser.

STUDENT DATA & MASTER PROGRAMME
 Save this form according to the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy".
 Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1!

family name <u>Kürti</u> initials <u>EK</u> given name <u>Flóra</u> student number <u>5618169</u> street & no. _____ zipcode & city _____ country _____ phone _____ email _____	Your master programme (only select the options that apply to you): IDE master(s): <input type="checkbox"/> IPD <input checked="" type="checkbox"/> Dfl <input type="checkbox"/> SPD 2 nd non-IDE master: _____ individual programme: _____ (give date of approval) honours programme: <input type="checkbox"/> Honours Programme Master specialisation / annotation: <input type="checkbox"/> Medisign <input type="checkbox"/> Tech. in Sustainable Design <input type="checkbox"/> Entrepreneurship
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SUPERVISORY TEAM **
 Fill in the required data for the supervisory team members. Please check the instructions on the right!

** chair <u>Dr. Gijs Huisman</u> dept. / section: <u>HCD/HICD</u> ** mentor <u>Tingting Wang</u> dept. / section: <u>HCD/AED</u> 2 nd mentor _____ organisation: _____ city: _____ country: _____	<p>Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v.,</p> <p>Second mentor only applies in case the assignment is hosted by an external organisation.</p> <p>Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.</p>	<p>comments (optional)</p> <hr/>
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Procedural Checks - IDE Master Graduation

APPROVAL PROJECT BRIEF
 To be filled in by the chair of the supervisory team.

chair Dr. Gijs Huisman date 23 - 02 - 2023 signature

CHECK STUDY PROGRESS
 To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: 21 EC YES all 1st year master courses passed
 Of which, taking the conditional requirements into account, can be part of the exam programme 21 EC NO missing 1st year master courses are:

List of electives obtained before the third semester without approval of the BoE

name Robin den Braber date 27 - 02 - 2023 signature

FORMAL APPROVAL GRADUATION PROJECT
 To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

Content: APPROVED NOT APPROVED
 Procedure: APPROVED NOT APPROVED

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks?
- Does the composition of the supervisory team comply with the regulations and fit the assignment?

comments

name Monique von Morgen date - KE 6/3/2023 signature MvM

The Impact of Touch Deprivation on Elderly in Care Facilities _____ project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 23 - 02 - 2023 _____ end date 18 - 08 - 2023 _____

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

The sense of touch (our first sense to become functional) plays a fundamental role in human development, growth, health and wellbeing. Touch is our most social sense, therefore interpersonal and affective touch are critical in social interactions, communication, building and maintaining interpersonal relationships. (1) Despite its importance, touch is often overlooked when it comes to research.

The phenomenon of touch deprivation, also known as skin hunger, refers to the result of experiencing less physical contact from others than desired (see figure 1 for its negative consequences on wellbeing). Touch deprivation is a global issue (roughly 70% of people feel touch deprived (2)) that affects people of all ages. Its impact has been experienced first-hand by most people and heightened by the regulations implemented during the Covid-19 pandemic, such as social distancing and isolation. (3)

Elderly are a high-risk group and often impacted by touch deprivation, mainly due to their living situation(s), decrease in social interactions and lack of opportunities for physical touch (4), but also social and cultural norms can influence the amount of physical contact they receive and give (1). Many elderly individuals live in nursing homes or other care facilities where they have limited access to engage in interpersonal touch and highly reliant on caregivers and staff. This change of living conditions can be a limitation for maintaining a desired level of social contact with others, which in result could influence the wellbeing of residents. As Ashley Montagu wrote: "Tactile needs do not seem to change with aging - if anything, they seem to increase."(5)

The stakeholders (see figure 2) are primarily the elderly residents of care facilities (target group and the 'expert of their own experiences', will be involved in research, co-creation and testing of ideas/prototypes), then their caregivers (valuable insights to current situation, crucial role in implementation and integration of solution), family members (interest in the wellbeing of their loved ones, additional perspective on the issue), the care facility, Vilans (organization for knowledge management for healthcare and support (6)), TU Delft (host of the project/assignment).

The main limitations of the project are the potential language barriers faced as a non-Dutch speaking student in the Netherlands and the time frame of 100 working days.

References:

- (1) Field, T. (2014). Touch (Second edition). The MIT Press. <https://doi.org/10.7551/mitpress/9959.001.0001>
- (2) Beßler, R., Bendas, J., Sailer, U., & Croy, I. (2020). The "Longing for Interpersonal Touch Picture Questionnaire": Development of a new measurement for touch perception. International Journal of Psychology, 55(3), 446-455. doi: <https://doi.org/10.1002/ijop.12616>
- (3) Meijer, L. L., Hasenack, B., Kamps, J., Mahon, A., Titone, G., Dijkerman, H. C., & Keizer, A. (2021, June 8). Out of touch: Touch deprivation and affective touch perception during the COVID-19 pandemic. <https://doi.org/10.31234/osf.io/peq7m>
- (4) Hollinger, Linda M. "Perception of touch in the elderly." Journal of Gerontological Nursing 6.12 (1980): 741-746.
- (5) Montagu. (1986, 393).
- (6) Vilans. (2023, February 3). Kennisorganisatie voor zorg en ondersteuning. <https://www.vilans.nl/>

space available for images / figures on next page

introduction (continued): space for images



image / figure 1: Effects of touch deprivation



image / figure 2: Stakeholder map

PROBLEM DEFINITION **

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

Touch deprivation is a global phenomenon, and elderly (a growing population) are a highly affected group. The scope and solution space of my design will be care settings where the senior residents are at risk of experiencing the negative effects of lack of physical touch and interpersonal contact.

This context is interesting to explore and design a solution for, as the residents live in a controlled environment with limited autonomy, reliant on the caregivers and the facility. These elderlies are often in a more vulnerable position and in need of specialized care and support, with limitations in mobility, cognitive function, or sensory perception. The setting and the circumstances of their lives has changed - compared to elderly living home, and touch plays a different role (often impersonal from caregivers).

This project aims to explore the role of touch in the lives of elderly in nursing homes and to address the problem of touch deprivation and its effects by researching and designing solutions to improve the wellbeing and residential experiences of these seniors.

ASSIGNMENT **

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

The goal of this project is to research the effects and impact of touch deprivation among the elderly in care facilities and explore the role of touch in their everyday lives (in communication, interpersonal relationships, caregiving, and supporting wellbeing). The project will result in the development of a design intervention/product that can be implemented in these facilities, which aims to improve the lives of residents through touch.

The project will be mainly research focused - investigating the role and meaning of touch, the impact of touch deprivation on wellbeing and the available haptic tools tackling these issues, while focusing on elderly in a defined context (nursing homes and care facilities) to explore the needs and values of this target group.

Using research through design approach to generate new knowledge by understanding the current situation and then suggesting an improved scenario in the form of a design (product and/or design intervention).

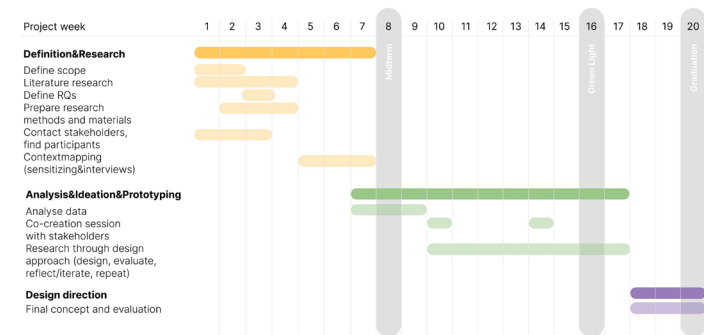
The deliverable of this project will highly depend on the research outcomes, but the final concept will include the results of the research in a report with a suggested solution that can be implemented in the context of nursing homes and in the form of a tangible prototype.

I plan to include a tangible part in the final deliverable, because as seen before (especially in times of Covid-19) tangible products can support wellbeing and health (e.g. hands of love - warm gloves) and create connection between loved ones being separated (e.g. hug curtain, MST devices). These examples show that something tangible can truly help and necessary when addressing touch related situations - even if not fully solve them. The physical prototype will aim to mediate and aid (social and/or affective) touch between elderlies and their caregivers in the context of care facilities to ease the negative effects of touch deprivation.

PLANNING AND APPROACH **

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 23 - 2 - 2023 end date 18 - 8 - 2023



The holidays taken during the work period:

- April 5-12 (Easter holiday); 27-28 (Kings Day)
- May 5 (Liberation Day); 18-19 (Ascension Day); 29 (Whit Monday)
- July 20 - August 8 (Summer holiday)

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, Stick to no more than five ambitions.

I chose to explore the topic of touch (and more specifically touch deprivation) because as a sense often goes unnoticed or unrecognized, yet it highly influences our lives. Social touch is essential in our development and plays a crucial role in our daily lives in maintaining our interpersonal relationships and our overall wellbeing. While people who are deaf or blind from birth can live fulfilled lives, those who do not receive social touch at a young age, as seen in Romanian orphanages, may experience a decrease in development, growth, and later have mood and cognitive disorders.

The COVID-19 pandemic has further highlighted the importance of social touch, as we could all experience first-hand how limited social interactions have negatively impacted our mental and physical health. This 'invisible' issue can influence our wellbeing without being able to clearly understand or explain how and why.

As someone with a personal interest in psychology, social sciences, and wellbeing, I find this topic fascinating. By exploring this subject I get the opportunity to touch upon all of them. I hope to gain a better understanding of the role touch plays in our lives and explore potential solutions to address touch deprivation.

This project will let me work closely with people, which makes the topic more meaningful and inspiring to me. I plan to put to practice and apply the abilities I've acquired during the master program (like Contextmapping skills, principles of positive design), get more experience in facilitating co-creation/generative sessions and using research through design approach. I also plan to get better at prototyping with electronics.

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.

L

HREC APPROVAL

Date **07-Apr-2023**
 Contact person **Dr. Cath Cotton, Policy Advisor**
Academic Integrity
 E-mail **c.m.cotton@tudelft.nl**



Human Research Ethics
 Committee TU Delft
 (<http://hrec.tudelft.nl>)

Visiting address
Jaffalaan 5 (building 31)
2628 BX Delft

Postal address
P.O. Box 5015 2600 GA Delft
The Netherlands

Ethics Approval Application: The Impact of Touch Deprivation on Elderly in Care Facilities
Applicant: Kürti, Flóra

Dear Flóra Kürti,

It is a pleasure to inform you that your application mentioned above has been approved.

In addition to any specific conditions or notes, the HREC provides the following standard advice to all applicants:

- In light of recent tax changes, we advise that you confirm any proposed remuneration of research subjects with your faculty contract manager before going ahead.
- Please make sure when you carry out your research that you confirm contemporary covid protocols with your faculty HSE advisor, and that ongoing covid risks and precautions are flagged in the informed consent - with particular attention to this where there are physically vulnerable (eg: elderly or with underlying conditions) participants involved.
- Our default advice is not to publish transcripts or transcript summaries, but to retain these privately for specific purposes/checking; and if they are to be made public then only if fully anonymised and the transcript/summary itself approved by participants for specific purpose.
- Where there are collaborating (including funding) partners, appropriate formal agreements including clarity on responsibilities, including data ownership, responsibilities and access, should be in place and that relevant aspects of such agreements (such as access to raw or other data) are clear in the Informed Consent.

Good luck with your research!

Sincerely,

Dr. Ir. U. Pesch
 Chair HREC
 Faculty of Technology, Policy and Management

M

INFORMED CONSENT FORM

Participant Information
<p>You are being invited to participate in a study titled <i>The Role of Touch and the Impact of Touch Deprivation</i>. This study is being done by Flóra Kürti, a Master's student at the Faculty of Industrial Design Engineering, Delft University of Technology.</p> <p>The purpose of this research is to investigate the role of touch in the daily lives of people who might experience the impact of touch deprivation on their quality of life. You are invited to participate in an in-person interview and a creative (generative) session. Before the interview, you will be asked to fill in a workbook for a maximum of 10 minutes every day for 4 days leading up to the interview. During the interview, you will be asked to bring and present the workbook and express your thoughts, and share your experiences about the topic. It will take you approximately 40 minutes to complete the workbook and 60 minutes to complete the interview. The creative session will be around 1.5 hours.</p> <p>The data gathered during the activities will be analyzed and then used for insight and knowledge generation to design possible solutions for the discovered opportunity space, it will be anonymized and potentially included/quoted in a Master's thesis report.</p> <p>As with any online activity, the risk of a breach is always possible. To the best of my ability, your answers in this study will remain confidential. I will minimize any risks by anonymizing or removing any identifiable data and by using password-protected, secure data storage.</p> <p>Your participation in this study is entirely voluntary and you can withdraw at any time. You are free to omit any questions. On request, your data can be removed from this research until the 2nd of May 2023.</p> <p>If you have any questions, concerns, or issues, please feel free to reach out to Flóra Kürti at F.Kurti@student.tudelft.nl.</p>

Explicit Consent points

PLEASE TICK THE APPROPRIATE BOXES	Yes	No
A: GENERAL AGREEMENT – RESEARCH GOALS, PARTICIPANT TASKS AND VOLUNTARY PARTICIPATION		
1. I have read and understood the study information dated [DD/MM/YYYY], or it has been read to me. I have been able to ask questions about the study and my questions have been answered to my satisfaction.	<input type="checkbox"/>	<input type="checkbox"/>
2. I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time, without having to give a reason.	<input type="checkbox"/>	<input type="checkbox"/>
3. I understand that taking part in the study involves: an audio-recorded interview, which will be transcribed as text – after which the audio will be deleted, an audio-recorded creative session (with occasional video recording) and the collection of created materials, and the answers given to the activities in the 'workbook' also referred to as 'sensitizing booklet' will be saved after the interview.	<input type="checkbox"/>	<input type="checkbox"/>
4. I understand that the participation will take overall approximately [] minutes.	<input type="checkbox"/>	<input type="checkbox"/>
B: POTENTIAL RISKS OF PARTICIPATING (INCLUDING DATA PROTECTION)		
5. I understand that taking part in the study might involve the following risk: emotional distress. I understand that these will be mitigated by avoiding sensitive topics, and providing the option to skip questions/stop the study at any point.	<input type="checkbox"/>	<input type="checkbox"/>
6. I understand that the following steps will be taken to minimize the threat of a data breach, and protect my identity in the event of such a breach: (pseudo-) anonymization of data, transcription of audio recording, secure data storage of all data with limited access (only the study team).	<input type="checkbox"/>	<input type="checkbox"/>
7. I understand that personal information collected about me that can identify me, such as my name, phone number/email address will not be shared beyond the study team.	<input type="checkbox"/>	<input type="checkbox"/>
8. I understand that the (identifiable) personal data I provide will be destroyed by 18 th of August 2023.	<input type="checkbox"/>	<input type="checkbox"/>
C: RESEARCH PUBLICATION, DISSEMINATION AND APPLICATION		
9. I understand that after the research study the de-identified information I provide will be used for potential reports and publications.	<input type="checkbox"/>	<input type="checkbox"/>
10. I agree that my responses, views or other input given during the interview, creative session or in the workbook can be quoted and used anonymously in research outputs.	<input type="checkbox"/>	<input type="checkbox"/>
D: (LONGTERM) DATA STORAGE, ACCESS AND REUSE		
11. I give permission for the anonymised transcripts extracted from the audio recordings of the workshop to be archived in TU Delft repositories so it can be used for future research and learning.	<input type="checkbox"/>	<input type="checkbox"/>
12. I understand that access to this repository is restricted only to TU Delft researchers.	<input type="checkbox"/>	<input type="checkbox"/>

Signatures

Name of participant [printed] Signature Date

I, as researcher, have accurately read out the information sheet to the potential participant and, to the best of my ability, ensured that the participant understands to what they are freely consenting.

Researcher name [printed] Signature Date

Study contact details for further information:
Flóra Kürti, +36202580039, F.Kurti@student.tudelft.nl

N

POSTERS (SHOWCASE)

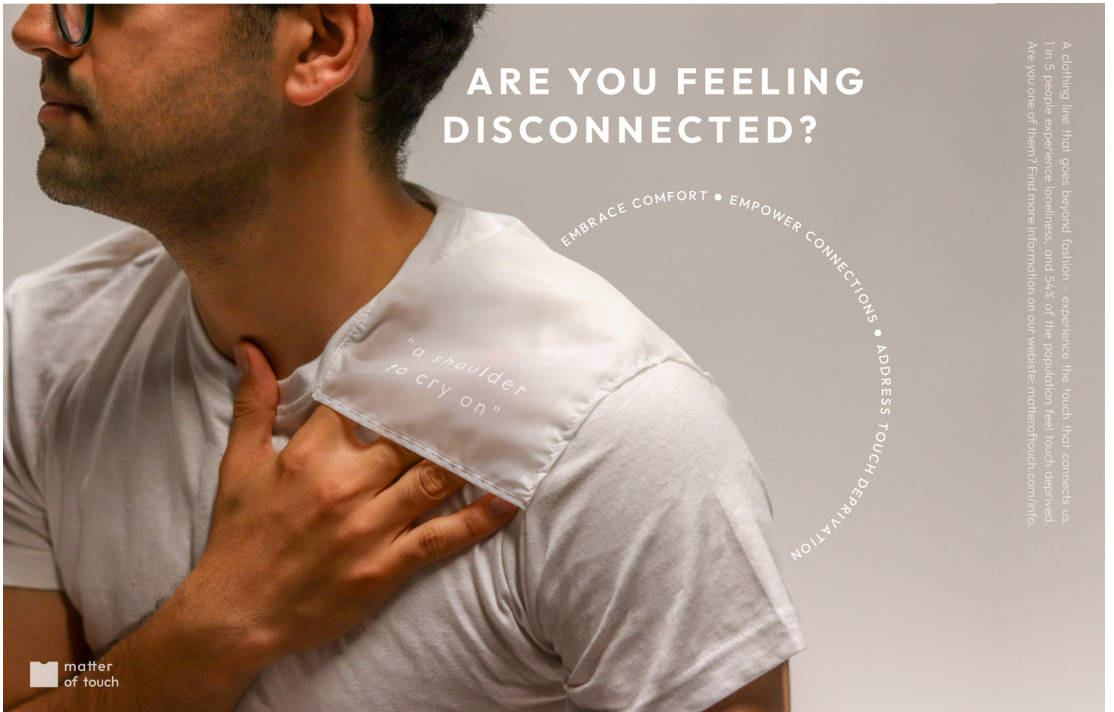
Three posters were created as part of a marketing campaign showcasing the designs and the purpose. They hold information about the brand, has a clear message what the brand stands for and encourages individuals to learn more and connect.



Poster 1



Poster 2



Poster 3