KNITTING OUT THE TOUCH HUNGER

A RESEARCH PROJECT TO DESIGN THE OVERCOMING OF POST-PANDEMIC EMOTIONAL FEAR OF TOUCHING

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Abstract

The pandemic has altered human attitudes affecting common gestures: hugs, kisses, hands shaking, all the human behaviors related to touching have become dangerous, generating what scientists called "touch hunger". If with touch we define ourselves as our form of being in the world we are in front of complex touch-related costs that make people today feel lost and distant.
Starting from this premise, the research team in the knit design of ***affiliation*** has been working to relate scientific data and innovative design languages to help people in redefining and rediscover the human attitudes that connect us with others.
Exploiting digital technologies, innovative materials, and tactile surfaces belonging to the world of knitwear and textiles, researchers designed an emotional and sensorial journey to guide participants in overcoming the fear of touching, finding new possible ways of being together.

Keywords: Textile Design, Knit Design, Touch, Human Feelings, Post-Pandemic Behaviors

Introduction

Covid-19 pandemic brought heavy changes for multiple aspects of human life, going far beyond the immediate impacts on physical health. All the collateral circumstances impacted on our daily life, habits, the spaces we live in, our sense of freedom, the way we relate with others. Indeed, the isolation, the restrictions and the fear of contagion with which we became familiar altered so much the human attitudes that they end up in affecting common gestures. Hugs, kisses, hands shaking, all the human behaviors related to touching have been progressively abandoned, generating what scientists called "touch hunger" (Banerjee et al., 2021). To Ghilardi (2016) with touch we define ourselves as our form of being in the world: this highlights the pervasive importance of touching and the burden of touch deprivation on our daily-life as well as on our mental health. To Green and Moran (2020) we deal with complex "touch-related human and emotional costs" that make people today feel lost and distant, no longer able to resort to those ancestral gestures with which they used to know and recognize others at a primordial level.

As designers, the authors of this article are particurarly inclined in observing people's behavior, the way they interact and create bonds with others, objects and places. When the changes they were they were observing was confirmed by scientists, they asked themselves how design – textile design in particular– could help people get closer and gradually abandon the fear of contact. In textile design, the haptic dimension has always been central and is today decisively reaffirming its predominant role in the discussion on the digital transformation. Among the diverse branches of design, researchers found in the intrinsic features of textile and knitted structures a possible medium to guide people in rediscovering the gestures of touching, the relationship with the object –textile– and, not least, the interaction with other human beings. The article presents a research work that started with questioning whether and how design could have a positive impact in the possible recovery from this harmful situation, and that resulted in the use of textile and knitted structures as design tools to be experienced by the public in post-pandemic times.

Background

The Touch Hunger

Pandemics, natural disasters, or other crisis events are known to pose a threat to mental health and affect the cognitive well-being of individuals. Review studies concerning the Covid-19 pandemic (Perna et al., 2020; Wang et al., 2020) have found its negative impact on mental health, resulting in stress, anxiety and depression. The pandemic itself, and the consequent isolation, produced a sense of fragility and uncertainty, and brought physiological and social changes (e.g., in the sleep-wake rhythm, physical activity, nutrition, exposure to sunlight) that have a direct impact on human emotional brain and dysregulate it.

According to these studies, everyone, to a greater or lesser extent, had experienced bad sensations like insecurity, confusion, emotional isolation, fear of being marginalized and felt alone or distanced from others.

The separation and segregation we experienced gave also rise to social touch deprivation: the most common gestures through which we connect with others like hugs, kisses, hands shaking, started to be perceived as dangerous and generate fear (Green & Moran, 2021). They have been progressively abandoned and rejected, generating what scientists called "touch hunger". In their study, Banerjee et al. (2021, p. 2) state that "humans are neurobiologically wired for touch receptivity", and "social touch is a common and mutual way of expressing affection, care, and intimacy". Touch is used by humans to convey reassurance, comfort, support, and empathy (Hertenstein et al., 2006), and the extreme situations reveal the importance of touch as a measure of communication: indeed, "as the physical contact and intimacy have gradually decreased and abolished in some cases, 'touch starvation'or 'touch hunger' has risen" (Banerjee et al., 2021, p. 2). The scientists start from what written by Field (2014) about touch as a form of emotional expression and as a conveyor of affection and positive feedback to the brain; going on discussing how touch deprivation "has shown to increase stress and compound trauma, disrupting psychological resilience and coping" (Banerjee et al., 2021, p. 4). Moreover, to von Mohr, Kirsch, and Fotopoulou (2021) touch deprivation is associated with higher anxiety and greater loneliness.

Despite the opportunities to connect that we have with virtual communication technologies, we see how touch still has a biopsychosocial value that cannot be replaced by digital technologies. In this sense, the pandemic reminds the importance being physically together, of social proximity and expression through 'touch'; it served to bring new attention and awareness to our emotional mechanisms and to the relation with others in everyday life.

From these premises, the research presented here worked to relate scientific data and innovative design languages to design and develop a participatory emotional and sensorial journey that, thanks to the combination of up-to-date technologies, innovative materials, and tactile textile surfaces could guide participants in overcoming the fear of touching and finding new possible ways of being together.

Design, Psychology and Technology in a Mix to Arise the Senses

When Nietzsche states that "body I am in all respects, and nothing else; and soul is nothing but a word to indicate something of the body" (2005), he draws attention to the importance of the sensations that our body warns directly and practically; therefore no longer the celestial, superior and invisible body-spirit but something true, real, made of flesh.

Psycoknit is the will to create an immersive, physical and tactile design project that surrounds the visitor - with his being a physical and spiritual body - in which people could experience a sensory "rebirth" after a long time spent without being able to express their sensations due to the pandemic. The contribution of Design is fundamental.

If it is true that, as Merleau-Ponty observes, what is given is not only the thing, but the experience of the thing, a nature that transpires through a story (Vitta, 2016), then the experience of traveling a space in which different stimuli, and therefore different sensations, were encouraged by the interaction with the fabric was the center of the designers' reflection.

Our relationship with objects is predominantly sensorial in nature (Vitta, 2016) and design, like all cultural expressions, shows that matter does not appear (Flusser, 1993) until it is given a shape, and only once in-formed, begins to appear.

Textile and knitting projects have been used in the last century to convey messages and generate reactions in the public. It is the case of knitting as craft activity, that have been often used as an activism practice to stimulate senses. With its huge visual messages, knitivism replaces the act

of screaming as a protest, by hitting viewers' eyes before their ears and by allowing a different sensory process of storytelling to emerge (Greer, 2008). Same for urban interventions with textile and knitting, that do not mean joyfully embellishing monuments with colorful wool, highlighting the greyness and sloth of institutions in front of destruction. With this action the citizens, feeling unheard by institutions, literally and metaphorically take their space in the dialogue about and this about politics of reconstruction and urban renewal (Baldini & Pietrucci, 2017).

Knitted structures have been also used by artists as a mean of expression to reflect on contemporary themes. It is the case of the artist Threadstories, that creates crochet masks as visual interpretations of how we sanitize, edit, manipulate and manufacture our lives and our appearance on social media, whether intentionally or not.

Moreover, is not novel the connection between knitting and healing of body and mind: the bilateral, rhythmic, and repetitive movements involved in knitting engage brain capacity and appear to facilitate a meditative-like state, a decrease in heart rate, and slower breathing (Prigoda & McKenzie, 2007). Due to these positive effects knitting has been explored as a therapy medium for individuals suffering from a wide array of conditions ranging from depression to chronic illness, anxiety and aging.

Despite being different from a manual exercise for participants, this background served to researchers as a starting point to imagine how knitted structures could convey wider, shared messages and guide the public in rediscovering positive feelings. In the case of Psycoknit project it was essential that the textures of the different fabrics appear and reveal themselves: Unawareness, Detachment, Anxiety, Insecurity, Joy, Affection, Astonishmennt were the sensations to be communicated through the fabrics, so that the audience was immersed in pure psychophysical sensations. Jersey, carpeting, textured fabrics, 3D knits became the material of design which, as in any other sphere of culture, becomes the way shapes appear to become experience.

Knitwear was the most appropriate working method for constructing the sensory journey. In knitting you can use different yarns to enhance tactile sensations, and technology to enhance its characteristics.

To Merleau-Ponty (1945), perceiving means believing in a world and in this case Psycoknit, through textile textures, invited visitors to imagine certain sensations that they had experienced when isolated. Here, imagination, as representation and self-representation, has a fundamental importance as through it human beings establish connections which become stable (Ruggeri, 2004) and give rise to thought through the bodily experience of pleasure and pain.

Methodology

To use textiles and knits to guide people in rediscovering the human attitudes related to touch, researchers needed to relate scientific data with design languages belonging to the field of textile, and consequently to translate the relation into concrete outputs defined with yarns, stitches, volumes, color combinations.

The methodology followed 4 research stages:
1. Literature review on medical and psychology jurnals to identify the predominant post-pandemic human fears, behaviors and feelings.
2. Focus group composed by 3 knit designers and 3 design researchers to find the correlation of the emerged relevant post-pandemic feelings (harmful ones and need of positive ones) with textile and knitted structures, based on tactile and visual sensations aroused by certain textures, materials, and colors.
3. Design of the pilot event as a rehabilitative journey through 7 textile-knitted rooms, each one associated with a feeling, from negative to positive ones.
4. Collection of qualitative and quantitative data combined with the direct observation of participants during the pilot event, to analyze the reflections and changes in the participants' behavior and their responses during the experiential journey.

Psycoknit

The Project

If it is true that, as Kant states, we know nothing other than our way of perceiving objects (Vitta, 2016), then Psycoknit, created by the research group KnitDesign del Dipartimento di Design del Politecnico di Milano e Froy, young project led by knitwear designers formerly students of the School of Design Politecnico di Milano as put together knowledge and methodologies from Design, Psychology and Technology to

build a textile-sensory experience that could arise reflections on the psychophysical changes of interpersonal relationships. Among the traditional and technological materials, textiles are presented as the ones that more than others can make a space sensory (Fiorani, 2003). Therefore, through an imaginary journey from room 1 to 7, 7 sensory experiences were proposed, from the absence of a physical and visual relationship to that of a tactile relationship, passing through an immersive interactive space that related to the visitor through the materiality of knitted fabrics. To Maggiore (2016) the living beings are embodied natures that would not exist without their body, since only through it they are linked to the materiality of the world and can recognizes the world in all its manifestations. From here, Psycoknit wanted to demonstrate, by using the practices of design together with the theories of cognitive psychology and textile technologies, the close relationship of our "being body" only through the sensations we experience and perceive.

The Design of the Pilot Event: the Path through Psycoknit

Psychoknit event was designed as an individual and choral experience proposed during the Milan Design Week 2022, hosted at the Fabbrica del Vapore of the Municipality of Milan.
By projecting the visitor into a playful dimension, the installation aimed to raise the awareness of the public on the importance of interpersonal relationships after the Covid-19 pandemic. On the one hand, it brought mental health disconfort to the fore, highlighting the altered dynamics that the global pandemic situation has generated; on the other hand, it guided visitors in rediscover the physical dimension of the relationship with others, making them pay greater attention to listening to the other and becoming aware of one's self, in order to be able to create a new way of being together to find each other as a community.
To narrate today's sociological and cultural changes, the authors have chosen an ancient, material language that has its roots in the history of humans: knitting, namely the intertwining of a yarn that turns back on itself and gives life to the material. This project frees itself from the idea of fashion and textile as a product and instead starts from the roots, from the raw material, the yarn, to tell a story of emotions and let visitors discover the infinite potential of knitwear firsthand.
The different knit textures built a chromatic and

Fig. 01

sensorial journey that arise the emotions that affected everyone during the pandemic and are still experienced on a daily basis. The journey started from the most negative ones, guiding visitors in a progressive recovery where they leave bad sensations behind and prepare themselves to welcome back positive ones.

The path was structured in seven rooms, dedicated to seven emotional states [Fig. 01].

Unawareness: The room shows the Cap_able technology, a patent of the Design Department of the Politecnico di Milano, that has studied a opposing jacquard knit fabric which confuses facial recognition systems, protecting the biometric data of those nearby. The visitor enters the path finding himself in front of a screen that immediately identifies him with a facial recognition program. Only behind the Cap_able knitted fabric we can protect what is most vulnerable and intimate about us, our person, identity and privacy. It is a reflection on the improper use of technology against human rights and freedom of expression.

Detachment: Visitors are channeled in two distinct paths and find themselves able to communicate by speaking only through knitted fabric. The fabrics prevent the eye and the hand contact in a non-linear way, leaving very small portions of empty space where people can check the presence of the other without properly seing or touching him. It takes us back to when we were allowed to interact only on digital platforms in a non-physical dimension and often interrupted by bad connection issues.

Insecurity: The two paths converge, but remain divided by a part in elastic knit. Upon entering, visitors find themselves in a literally destabilizing environment: they sink into the padded floor, lean against walls that cannot support them. The dividing wall being elastic allows visitor X and Y to touch each other, without having direct contact.

Anxiety: The two paths continue becoming dark, narrow, cramped. Visitors have to make their way through a knitted tunnel pressing up them.

Joy: The paths lead to a single common area. Visitors gather collectively in a large central room with calm and enveloping colors. The space is large and comfortable, welcoming. Visitors can stop for a few minutes and rest. Here they are pushed to interact and look for each other, to recognize the people who shared their same path and continue together [Fig. 02]

Affection: An environment covered in a thermo-sensitive fabric. Touching, embracing, approaching the room, the visitors transfer their warmth and can see their imprint fixed for a few seconds on the fabric [Fig. 03].

Astonishment: A jungle of knitted fringes to overcome with ease. The visitors emerge from the installation full of emotions, finding themselves reflecting on the feelings generated by the interaction with others and the space.
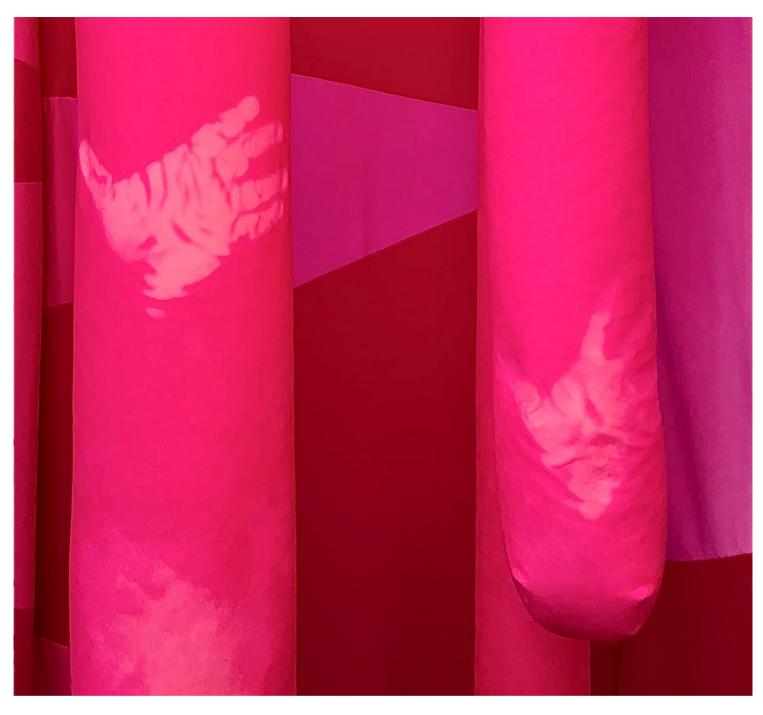

Fig. 02

Fig. 03

Results and Discussion

The event was attended by 1200 people in 6 days. Among the 1200 people experiencing Psycoknit, researchers collected feedback from a sample of 50 people, to verify the correpondance between the physical features of the textiles and the feelings they were supposed to evoke.

All the 50 people in the sample walked through Psycoknit twice:

- 1st time they walked independently, being told they were allowed to touch everything (walls, floor, objects) and to spend all the time they need in each room.

- 2nd time they walked with a mentor that encouraged them to interact with the installation and guided them in a reflection on the feelings they were experiencing. During the path, the mentor observed visitors' behavior. At the end of the path, the mentor collected explicit feedbacks.

The diagram below [Fig. 04] shows the results of the evidences collected combining explicit feedbacks with direct observation.

The results confirmed the ability of materials and textures to arise feelings, and the important role of touching as a means of emotional expression and a conveyor of affection and connection with others.

The fact that a large number of people in the

sample recognized their feelings in every room, confirmed not just how materials, textures, and colors can arise feelings, but also to what extent those feeling and common and shared. This commonality made evident to the participants how the bad sensations are not an exclusive of the individual but they unite us all as human beings. From the standpoint of design researchers in the field of textile-knitwear, the evidences demonstrated how and to what extent these specific areas of design can relate to more scientific aspects of mental and body health, and which levers designers can use to address the contemporary distress of the human body and mind. Textile design can make a considerable contribution certainly not in substituting medical treatments, but in helping people taking care of their emotional well-being and in offering opportunities to relate and connect with others.

Conclusions and Future Perspectives

"Could fashion objects become agents for positive change, to reweave the web of life which, in recent years, we have so recklessly torn apart?" (Manzini, 2022, p.2). Today this question is being answered by two different approaches, apparently in contrast but profoundly interconnected, of 21st century fashion design: on the one hand, repositioning man at the center of design, rediscovering the value of the human in its links with the technological

72%
2nd round confirmed the sensations they identified during 1st round

22%
2nd round gave name to some feelings they were unable to identify during 1st round, and that they found themselves in those sensations

76%
Confirmed they felt precisely the suggested sensations

66%
Felt the need to go over the path for a 3rd time to reflect on what they were experiencing

62%
Said they recognized the bad sensations they encountered in pandemic and post-pandemic times

36%
Walked through the negative rooms in silence, interacting with the textiles but not with other people

86%
Connected the physical instability generated by the floor in "Insecurity" with emotional insecurity they experienced during the pandemic

44%
Felt they wanted to escape quickly from "Anxiety" room

72%
Felt confortable in spending some time in the positive rooms

96%
Had positive reactions (smiling, enthusiasm, surprise, excitement) in the positive rooms

100%
Communicated openly their feelings to others while walking through the positive rooms

70%
Established a dialogue with with previously unknown people while walking through the positive rooms

48%
Said the most effective room was "Affection"

24%
Communicated spontaneously their satisfaction about the experience, saying they could definitely recognize a meaning in it

28%
Came back during the week bringing more people to visit Psycoknit

■ Negative feelings
■ Neutral feelings
■ Positive feelings

Fig. 04

dimension; on the other, the body in search of new forms of collaboration with the non-human, including nature. In this return to nature and to the matter (Fiorani, 2021), there is also the recovery of manual activity and the intelligence of the hand, essential not only in artistic work but also in the most sophisticated technologies and above all to the sense of ourselves and of our doing.

The other question that arises in the contemporary debate on fashion is what fashion is or what fashion represents or, again, which object - if there is an object - we can define as a fashion product. Fashion (Fiorani, 2003) is not just change, trend, spirit of the times, a succession of styles but the evolution of a historical, social, economic phenomenon, of a postmodern industrial culture: which implies examining the various social spheres which it invests and modifies. The dress has always been the protagonist of this speech; and the body-dress, the habitus in Bourdieu, has always been the object of fashion par excellence. In reality today the boundaries are blurred and placing man at the center again leads us to rediscover important relationships. One of these is that of the body immersed in a space, an operation that always fascinated artists and designers; since Oskar Schlemmer's first studies for the Bauhaus in which the moving body determined the relationship with space and vice versa. Ruth Richards (2007) argues that creativity can improve physical and mental health, and develop healthy, "evolving" societies and cultures.

Psycoknit made visitors immerse themselves in textile tactile spaces where the goal was to reflect on the relationship with others and, even more, with themselves towards others; those "sensuologies" that Eleonora Fiorani defines as those social formations (2003, p. 148), a new fragile and ephemeral planetary bond, in which the emotional, cultural and symbolic aspect is essential. Therefore we return to the emotions, to both positive and negative sensations, felt during the absence of bodies, or body-to-body. "Emotions modify the way in which human mind solves problems", claims Donald A. Norman (2004) in his book Emotional Design. "The emotional system modifies the operative modes of the cognitive system" (ibid., p. 71). Emotions are defined as vibrations that slip into the body and provoke curiosity, which, in turn, facilitates learning.

The body, the dress and the space therefore return to being the protagonists of an interconnected design discourse whose emotions become design elements; fashion as we have known it today is changing its paradigm even more, and the designer, capable of reading those weak signals expressed by the community, has the task of going beyond the dress. Considering fabrics as the words of an articulated language, leaving them the role of communicating through touch, redefines the very role of the fashion designer today. Anthropocentrism falls in the face of the awareness that every existence is the incomplete result of continuous mutations and ethics (Fiorani, 2021) becomes the way of living and existing starting from a place that shares with others and the culture it is ethical responsibility towards the community and care for the place. And space is the lived time of little stories, of moments which by successive sedimentations make concrete culture, a shared way, a carnal bond.

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Figure Captions

Fig. 01: Drawings representing the succession of the seven rooms: Unawareness, Detachment, Insecurity, Anxiety, Joy, Affection, Astonishment. Authorship: Froy.
Fig. 02: People spending time in the Joy room and interacting with the textile balloons. Property of the author.
Fig. 03: The body heat left traces on the textiles in the Affection room after visitors embraced the objects hanging from the ceiling. Property of the author.
Fig. 04: Graphic representation of the emerged evidences from the explicit feedbacks and direct observation during the pilot event. The colors in the diagram identify whether the arised sensations were positive, neutral, or negative. Property of the author.