

Inclusive Wardrobe - Touching and Wearing Different Types of Fabrics Among Visually Impaired People

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ABSTRACT

Considering the sensory experience of the user as a clothing buyer and taking into account that the sense of touch is extremely important in the recognition of products by people with vision problems, this investigation aims to find out if touch is essentially a decisive buying factor. In this sense, and considering the practical work carried out among visually impaired people on the touch of the fabrics most used in everyday clothing, along with reviewing the existing literature on apparel user and consumer behaviour, this work may benefit the planning of a more inclusive wardrobe.

Keywords: Touch, User, Visually impaired, Clothing, Wardrobe

INTRODUCTION

There are an estimated 253 million visually impaired people in the world (Ackland et al., 2017), a figure that considers the prevalence of sight loss among an aging population as well as the fact that many people lose their sight because of accidents or diseases such as diabetes or arthritis (EBU, n.d.). Nonetheless, despite a decrease in people with visual impairment and blindness over the last 30 years, the growing age of the population means that the challenge of eliminating blindness or creating aids to support those people is greater than ever before. Being that clothing is an important part of the fundamental independent living skill of dressing up, it is certain that it will not be perceived or felt in the same way for those who have disabilities. Given that the traditional understanding of clothing is dominated by visual and linguistic representations of aesthetic changes made by designers to please users' views on shapes, colors, and lines (Fletcher & Klepp, 2017) and that vision is an integrative sense that allows learning through sighted observation such as dressing or buying, it remains to be seen how it works for visually impaired people's processes (Hayton et al., 2020). Therefore, considering that the measurement of aesthetic attributes of clothing is to gather useful and consistent information by questioning people about the clothing or the handle of fabric, this work intends to expose the analysis of the sense

of touch in everyday garments and compare it with other elements explored in a literary review, with the aim of integrating more inclusive constructs in the conception of a systemic design and in the perception of an inclusive wardrobe.

THE WARDROBE AND FASHION CONSUMPTION

The actual wardrobe is a collector of garments created by their users that may mix designer fashion objects with older items that, in their own sense of style, take the place of new ones to show their own representation (Morais et al., 2019). A wardrobe can be a “temporary receptacle of floating material and immaterial meanings” because it is now possible to find objects of fashion in particular items of clothing kept as treasured possessions (Breward, 2003). These user signs are the result of social relationships between objects and people from the past to the future, connecting the time and emotion of when clothes were used or purchased (Skjold, 2016). The reason that many old items are kept in the wardrobe and why some customers pay attention to the aesthetic aspect of the product whereas others prefer conspicuous features. However, this perception of garments is far from being perceived the same way for all people, either because of a lack of communication or because of their dependence on others to choose their own clothes (Pereira et al., 2022). The acquisition of goods is an aspect of contemporary consumption that is emblematic of its materialism, and it is visible in those who develop the social motivation of consumption (Fitzmaurice & Comegys, 2006), a tendency comparable to the factor of fashion involvement (Tiger & Ring, 1976). Nonetheless, recent research indicates that fashion involvement is no longer a significant factor in purchasing decisions. Social media, reference groups, and apparel benefits are significantly linked to purchase decisions, but in addition to that, there is also a large impact on customer cognitive dissonance (Gupta & Yadav, 2021). This is the action of the emotional outcome of the individual’s behaviour and thinking (Harmon-Jones & Mills, 2019). And, as we can see, emotion plays a significant role in consumer behaviour because it manifests itself in both conscious and unconscious manifestations in humans.

The Wardrobe and Fashion Consumption of Visually Impairment People

Considering that the acquisition of a garment depends on the user’s normal vision, on the attention given to the design elements, and on the overall image of the product, which are associated with the colour, shape, and texture of the materials (Seivewright, 2007), the process for the visually impaired is likely to be the same. While normally sighted people can watch, touch the fabrics, and try on clothes easily, in addition to not being able to see the products, they are limited when performing tasks such as buying, selecting, and even matching clothes (Rocha et al., 2022). Finding appropriate clothing to wear is a difficult task that most blind people manage with the assistance of family members or by using plastic braille labels to indicate the colours and features that are tagged on clothes (Yuan et al., 2011). But unfortunately, not all products have

informational labels or store employees have experience with consumers with vulnerabilities, which may cause a critical overall shopping experience. Thus, as visually impaired people's perception of vulnerability in the store where they buy clothes grows, they become more satisfied with the store and, as a result, with the products it sells (Celik & Yakut, 2021). As it is difficult for them to choose clothes with appropriate colors and patterns, there are processes that allow blind users to recognize pattern designs without accurate color recognition (Jarín & Thilagavathi, 2015) and other methods that allow them to absorb the predominant colour of a pattern (Yuan et al., 2011), but while these are not yet settled in points of sale, technological solutions related to verbal and audible communication are still very important.

Fashion and Comfort for All

Most people do not feel creative in their dressing, and when they go shopping, they prefer more basic-style garments with neutral colours and a preference for comfort (Morais et al., 2011). This is probably the common factor in the selection of clothing between people with normal sighted vision and those with visually impaired vision because people, in general, are interested in the "self-actualization" (Perry et al., 1983) of one's appearance (Gurel & Gurel, 1979) to "be appreciated by others" (Lee, 2005) but also in feeling well. Comfort in Fashion is a complex interrelationship involving "garment thermal comfort," "moisture management," "sensorial comfort," "design factors," and "clothing movement comfort," which assessments have been mentioned as perceptions of relative attributes scaled on polar contrasts related to measurable physical data (such as warm-cool, soft-hard, etc.) and psychological factors (such as good-bad, beautiful-ugly, etc.) (Das & Alagirusamy, 2010). Even though the attributes related to aesthetics such as "style," "surface texture," "drape," and specific characteristics of fabrics can be measured by common word pairs used to communicate their values, it is still not easy to describe them for the reason that it is quite possible to have a fabric that is both aesthetically very beautiful and painful from the skin's sensory comfort point of view. As Das wrote, "a tweed fabric may be unpleasant to the skin but pleasant to the eye, or an aesthetically beautiful winter garment may be thermo-physiologically extremely uncomfortable in warm and humid conditions" (Das & Alagirusamy, 2010). Therefore, if comfort is also psychological and above all emotional, and if we turn off the visual factor in the aesthetic evaluation of comfort, perhaps we will achieve a similar emotional value between people with normal vision and people with vision problems.

Emotion in Fashion

Emotions have a direct impact on the personality system, body language, perception, cognition, and behaviour, which in turn affect human behaviour (Demirbilek, 2017). Because of the multisensory characteristics, social considerations, and symbolic associations of clothes, we believe that clothing or garment features might affect happy and negative moods and individual

emotions, particularly during the trying-on stage before buying and throughout wearing in the user's day-to-day life (Moody et al., 2001, 2010; Ryan et al., 2021). Practical and real examples of products related to fashion and emotion are the Marchesa dress used by Karolina Kurkova for the gala of the Metropolitan Museum of Art in New York City. This cognitive dress, designed by Marchesa and International Business Machines, lit up in different colours based on the sentiment of Tweets about the dress. Those feelings were passed through a Watson tone analyser and then sent back to a small computer inside the waist of the dress (McClellan, 2016). The alliance between fashion and technology, which began with the integration of electronic technology and smart materials on the body, has primarily been exploited by interaction designers, performance artists, and electronic and computing technologists (Stead, 2005). The goal is to empower the wearer's abilities by allowing them to control electronic devices for entertainment, communication, or sports monitoring. The process is not always well accepted, however, because many products perform additional functions but lack aesthetic appeal and comfort. The literature review on fashion lets us revalidate the role of emotion.

Emotion on Fabrics Through the Sense of Touch

Cherry (2010) classifies emotion into three main categories: physiological, neurological, and cognitive. In brief, physiological theory holds that emotions are generated by reactions inside the body; neurological theory holds that those felt emotions are engendered by activity inside the brain; and cognitive theory holds that emotions are mainly created by thoughts (Cherry, 2010; Demirbilek, 2017). Therefore, through the sense of touch, it is possible to physically feel a reaction managed by our brain and whose emotion is triggered by our thinking. Field (2014) further adds that touch is a social sense that involves connecting with something or someone physically and is different from all the other senses, which can be experienced alone (Field, 2014). So, texture on the surface is one of the most important elements of tactile feelings (Maallo et al., 2022). And the construction of items that cover, protect, and insulate the human body from atmospheric events and wounds is suggested by, historically speaking, the major use of textiles, which improve the quality of life and comfort (Salvia et al., 2019). Different materials could make the tactile feelings valuable depending on their qualities (Dillon et al., 2001), and these complex multi-sensory, emotional, and cognitive experiences occur when people run their finger over the surface of a fabric or when they go shopping for clothes and engage in a selection process that entails touching and trying on garments (Moody et al., 2001). Textures connect to the patterns in the fabric, and through these patterns, individuals could feel the fabric, using clothing as a tool for controlling mood and appearance by reflecting or managing positive or negative moods (Moody et al., 2001).

METHODS OF PRATICAL STUDY

Analysing the emotion of textile materials through the sense of touch will allow for the discovery of emotional values common to all people in society.

Thus, 20 participants from Jaipur, India, with the ages of 18 and 22, were selected for the research (10 visually impaired individuals and 10 normally sighted individuals), and all of them were in good health conditions. The goal is to take clothes from everyday life and give them to people to touch and interpret. The selection of clothing is based on the various types of clothing made of the main fibers, and the emotions felt are expressed in the questionnaire as the eight primary emotions on Plutchik's wheel (Plutchik & Kellerman, 1983) (Table 1).

The study's goal was accomplished in stages:

1. Participants are blindfolded and make physical contact with a stimulus (5 different types of fabrics).
2. They are focusing on this stimulus (participants are allowed to contact the fabrics with repeated finger pinches and with their dominant hands).
3. They are having an emotional or physiological reaction to the stimulus.
4. Then, they are interpreting the stimulus by questionnaire (the author starts to describe the emotions on the five-point Likert scale and ticks the answer on the questionnaire).

Due to the limitations of some statistical approaches, all the paper-based questionnaire data was converted into a digital format and stored in an Excel file. And to analyse the data, we used SPSS 18.0.

Results of Practical Study

To analyse the results of the practical work, the authors calculated the mean and the confidence interval of each experience of the emotion felt in each tissue.

For people who are normally sighted:

«100% linen casual wear shirt, yellow» has a maximum mean of 3.7 in “loathing,” and the maximum 95% confidence interval is 2.7 to 4.7. This indicates that 95% of people would express this range of loathing toward the “100% linen casual wear shirt, yellow.”

“100% Mulberry Silk Scarf, Beige” has a maximum mean of 3.2 in “ecstasy” and “vigilance” emotions in the 95% confidence interval between 2.4 and 4 for “ecstasy” and 2.3 and 4 for “vigilance.”

Table 1. Work evaluation elements.

Main fabrics to test	Primary emotions of Plutchik's wheel (Plutchik & Kellerman, 1983)
100% Linen casual wear shirt, Yellow	Ecstasy
100% Mulberry silk, scarf, Beige	Admiration
100% Wool scarf, Pink	Terror
100% Cotton T-shirt, White	Amazement
100% Polyester scarf, Brown	Grief
	Loathing
	Rage
	Vigilance

“100% wool scarf, pink” has a maximum mean of 4.1 in “amazement,” and the 95% confidence interval is between 3.5 and 4.7.

“100% Cotton T-shirt, White” has a maximum mean of 3.2 in “loathing,” and the 95% confidence interval is between 1.2 and 4.2.

“100% Polyester scarf, brown” has a maximum mean of 4.3 in “loathing,” and the 95% confidence interval is between 3.6 and 4.8.

For people with a visual impairment:

«100% linen casual wear shirt, yellow» has a maximum mean of 3.3 in “loathing,” and the maximum 95% confidence interval is 2.1 to 4.5. This indicates that 95% of people would express this range of loathing toward the “100% linen casual wear shirt, yellow.”

“100% Mulberry Silk Scarf, Beige” has a maximum mean of 3.7 in “amazement,” and the 95% confidence interval is between 2.9 and 4.5.

«100% Wool scarf, pink» has a maximum mean of 3 in the emotion “vigilance,” with a 95% confidence interval of 2.0 to 4.1.

“100% Cotton T-shirt, White” has a maximum mean of 3.2 in “ecstasy,” and the 95% confidence interval is between 1.2 and 4.2.

“100% Polyester scarf, Brown” has a maximum mean of 2.8 in “ecstasy,” and the 95% confidence interval is between 1.6 and 3.8.

We found that both groups felt «loathing» emotion when they touched the surface of the linen fabric. Normal sighted visually people felt «ecstasy» emotion and «vigilance» emotion when they touched on «100% Mulberry silk scarf beige» while visually impairment people felt only «amazement» emotion, similar feelings. «100% Wool scarf, pink» aroused an emotion of «vigilance» in visually impairment people while aroused an emotion of «amazement» for normal sighted visually people, different feelings. Normal sighted visually people felt «loathing» emotion when they touched on «100% Cotton T-shirt, white» while visually impairment people felt «ecstasy» emotion, very different feelings. And normal sighted visually people felt «amazement» emotion when they touched on «100% Polyester scarf, brown» while visually impairment people felt «ecstasy» emotion as also «amazing» emotion and «loathing» emotion, different feelings in the same fabric and among the same group.

CONCLUSION

Even after taking care to select mono-composite fabrics, no significant data were evaluated regarding the colours or thickness of the fabrics. We hope to carry out further developments, but while the practical work with more fabric samples is still ongoing, the results show that in some fabrics, normal sighted individuals and visually impaired people have different emotions, while in others, they have similar emotions; in this case, the most inclusive fabrics for the inclusive wardrobe would be the linen shirt yellow and the silk scarf beige.

However, these results, as we also found in the literature review, despite being significant in the emotional involvement with the fabrics of the garments, are not decisive in the purchasing process.

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