

The emotional experience with intimate fashion clothing in childhood

<https://doi.org/10.21814/uminho.ed.139.18>

**Inês Camaño Garcia¹, Ana Margarida Ferreira²,
Banu Hatice Gürcüm³**

¹ *University of Minho, inescamanogarcia@gmail.com*

² *LabCom & University of Beira Interior, margarida.gomes.ferreira@ubi.pt*

³ *Ankara Haci Bayram Veli University, banu.gurcum@hbv.edu.tr*

Abstract

Among the various areas of design, fashion design can evoke emotions by wearing clothes. Clothing can bring emotions to life through a user's experience with the product. Although intimate fashion has evolved considerably in recent decades, children's intimate fashion has followed a different path, and more research needs to be done in this field. As an ongoing PhD work, this paper highlights the need for a new line of research in children's intimate fashion. This perception enhances the importance of a study on the experience with intimate clothing in childhood, namely how fashion design can incorporate emotional value from the point of view of user experience. To address the issue, a quali-quantitative research methodology is proposed through a case study to analyze the problems of child incontinence and to understand the levels of interference that pathology has in the perception of the emotional value of intimate clothing by its user. This analysis will allow for the developing of a new innovative and sustainable intimate fashion product that promotes better intimate hygiene in childhood.

Keywords

Child Incontinence; Intimate Fashion; Fashion Design; Emotional Experience; Comfort Well-being

1. Introduction

The aesthetic preferences of children and adolescents regarding their intimate apparel have yet to be fully explored. Moreover, from a phenomenon-related point of view and considering the absence of studies in this area, the experience with the textile protecting the intimate areas of children and adolescents' bodies is also an unexplored field in research. One of the most basic functions of fashion design is to place itself at the service of society to respond to needs and create products with a solid aesthetic dimension so that the products can be experienced in a fusion between emotions and senses (Lerpiniere, 2013). Childhood and adolescence are fundamental parts of life where individuals create their emotional and conscious being (Thompson, 1991). For this reason, a deeper theoretical reflection on the symbolism the experience assumes in the relationship with intimate apparel in these ages is essential to further research.

The need for studies on the evolution of intimate fashion design, namely intimate fashion in the children's segment, can provide new knowledge on intimate fashion products and open new research areas on the emotional experience that aesthetics can bring to children's intimate clothing. Furthermore, developing a study that contributes to the availability of a product able to respond to the problems arising from incontinence, particularly faecal, will bring benefits not only from the user's point of view but also from the caregiver and health systems.

The study presented in this paper sets out its primary objective to explore the experience of intimate fashion in childhood, namely how fashion design can incorporate emotional value from the user experience perspective.

This objective is expected to be achieved through the following specific objectives outlined for the proposed study:

1. To explore whether children and adolescents value the aesthetic dimension and if it influences their intention to wear a particular item.
2. To analyze if children and adolescents identify emotional value in intimate fashion products.
3. To analyze if children and adolescents with incontinence identify emotional value in intimate clothing.
4. To study how the context of pathology can condition the emotional value added to children's and adolescents' intimate fashion clothing.
5. To explore pathology's problems and deepen the understanding of emerging textile materials/technologies that may contribute to a product solution for paediatric incontinence.
6. To develop and test a sustainable intimate fashion product for children and adolescents with incontinence (focusing on faecal incontinence), promoting better intimate hygiene in childhood.

Finally, the need to investigate non-disposable products for child incontinence that incorporate a solid aesthetic component might lead to the sustainable development of a new fashion product with a vital component of social responsibility. Developing innovative intimate fashion products for incontinence might contribute to a positive experience with intimate fashion, resulting in a sense of normalcy, reducing stigma, and promoting social well-being in children suffering from incontinence.

With the role of fashion as a polluting industry, the various agents that operate in it are forced to take urgent measures to reduce environmental impacts. Several authors have recently highlighted the importance of sustainable design and responsible consumption in the fashion industry (Fletcher & Tham, 2019; Khandual & Pradhan, 2019; Niinimäki et al., 2020; Payne, 2021). Niinimäki et al. (2020) argue that the chain in the industry is being forced to adopt more sustainable practices due to public attention increasingly turning to the climate and environmental crisis. These practices are extended to the consumer, who has changed his behaviour over the years, not only because of increasing access to information about new materials and production processes but also because of the need to contribute positively to society (Khandual & Pradhan, 2019).

The fashion designer's perspective is no less critical, which has a fundamental role in ensuring a conscious product from the creation process through the manufacturing process, sales and purchase processes, consumption process, and finally, the product's end-of-life process. According to Payne (2021, p. 257), the eye of the designer of the future should focus on a more minimalist vision, where the important thing is to "understand what abundance and progress and human dignity can mean in times of scarcity and uncertainty" and how this translates into resource management. Fletcher and Tham (2019, p. 20) also point to minimizing impacts as a significant opportunity for the designer across the product life cycle.

2. Theoretical Background

2.1. Intimate Fashion

Suppose we remove all the symbolic, emotional, cultural, and social meaning from the garment and focus only on its practical use; intimate clothing protects the most intimate parts of our body (Willet & Cunnington, 1992, p.14). Willet and Cunnington (1992, p.11) state that, to understand the essence of this typology of garments, it is necessary to contextualize them in the "spirit of their epoch" given their "psychological interest".

Intimate fashion clothing was used in pre-history and was especially adopted in the Middle Ages. However, only in the 20th century did it have an evolutionary leap regarding design, modelling, meaning, production processes, and materials. There is a consensus among various authors on the need to broaden research in ergonomic aspects of intimate clothing, notably for the male body, to develop a more comfortable,

intimate fashion that emphasizes usability and comfort. (Kitsch and Golanowski 2011; Kuzmichev and Cheng 2016; Cheng et al. 2022). Chen et al. (2022, p. 08) state that "most underwear products are not developed in combination with the ergonomic theory". Ergonomic studies are scarce in intimate fashion for children and adolescents, and knowledge from adult intimate clothing is often applied to child garments without thoroughly examining the potential benefits.

2.2. Design and Emotional Experience

A product designer's responsibility is to have deep knowledge of how the user relates to and lives the experience, namely from an emotional point of view. Damásio (2020, p. 108) defends the idea that the perception of 'things' generates feelings (full of emotions), which are later verbalized. The author also states that "feelings are interactive perceptions" (Damásio, 2020, p. 111). This idea reinforces the need for the designer to be concerned with the essence of the experience from an emotional point of view.

Zhou et al. (2020) argue that, when using the product, the user evaluates the experience and whether the product fulfils their needs. Also, according to these authors, a positive experience generates a positive emotion, which the user perceives as a concrete emotion (Bonsiepe 2013, cited by Martins 2019). According to Martins (2019), the comfort assessment in clothing is associated with physiological, physical, and psychological levels.

Desmet and Hekkert (2007) identify the emotional experience as one of the three levels of product experience, alongside the aesthetic experience and the product experience. It is also argued that several internal and external factors affect the experience with the product as the user's characteristics and the product itself, the contexts in which it is used, or the cognitive processes resulting from using the product (perception, comparison, ...). It is, therefore, essential to understand the contribution of the different functions of the product itself to the emotional experience between the user and the intimate fashion product.

2.3. Childhood Incontinence

Incontinence can be separated into urinary and faecal. Faecal incontinence is characterized by the involuntary loss of stool in children and adolescents aged 4 to 17 years (Ferreira-Maia et al., 2016; Robin et al., 2018; Rajindrajith et al., 2021). The initial treatment involves drug therapy, particularly laxatives, a fibre-based diet and establishing a daily routine to re-educate the anal sphincter muscles (Rajindrajith et al., 2021).

The pathology falls under the group of gastrointestinal disorders. In a recent study presented by Rajindrajith et al. (2021), faecal incontinence is classified into two groups, Faecal Incontinence (FI) and Organic Incontinence (OI). The group with the highest prevalence is the first one, with a higher incidence in males. In the same

study, the authors refer to constipation as one of the primary reasons for faecal incontinence. Another study conducted by Scarpato et al. (2018) in school settings (sample of 13,750 children and adolescents) in European Mediterranean countries showed a prevalence of gastrointestinal disorders of 20.7% in children between 4 and 10 years old and 26.6% in adolescents between 11 and 18 years old, among these cases 11.7% and 13.1% re- respectively were related to constipation. In a systematic literature review, Levy et al. (2017) found a different prevalence of constipation depending on the regions of the globe. In North and South America, a prevalence was found between 10% and 23% in children and adolescents; in Europe, the prevalence is around 0.7% and 12% only in the group of children; in Asia, the prevalence is estimated between 0.05% and 29.6%. Ferreira-Maia et al. (2016) report that faecal incontinence is one of the main reasons for children's referral to gastrointestinal consultations. Inan et al. (2007) state that faecal incontinence is common in childhood and should be considered a common problem.

According to Levy et al. (2017), constipation (most often resulting in faecal incontinence) has an estimated average prevalence of about 15% of the child population. There is a consensus that this pathology affects the quality of life of children and families, impacts healthcare systems, and contributes to a decrease in the psychological well-being of these children (Joinson et al., 2006; Rajindrajith et al., 2013; Rajindrajith et al., 2021).

2.4. The importance of fashion design in a comfortable well-being product for childhood incontinence

Although an undergarment will not solve the problem of incontinence, particularly faecal, several starting issues can be solved or mitigated by developing a tailored fashion design product. Four significant issues related to faecal incontinence are identified in an initial analysis: storage, odour, tactility, and emotional comfort. A new design product could help solve or minimize their impact. Stool storage is problematic, as involuntary stool loss results from the loss of anal sphincter movement, and children and adolescents are often unaware that they are defecating (Levy et al., 2017). It is important to understand how we can decrease the time the child's skin is in contact with faeces, along with the daily hygiene routine suggested in therapy. The unpleasant odour of faeces is a social factor that leads to stigmatization and exclusion (Joinson et al., 2006; Rajindrajith et al., 2013). Many of these children lose their sensitivity to faecal odour and cannot identify it after some time. When designing a new solution, neutralizing the odour released and accumulated in intimate fashion clothing should be a point to consider. According to McNichol et al. (2018), frequent skin exposure to faeces can cause what is defined as 'incontinence-associated dermatitis'. Therefore, it is essential to consider that tactile comfort should be a priority in designing a new intimate fashion product. Tactile comfort could prevent atopic dermatitis in children due to frequent contact with faeces, mainly because this tactile comfort will impact the user's experience and emotional comfort.

3. Methodological Approach

According to Sampieri et al. (2013, p. 101), studies such as the one proposed should follow an exploratory nature. In an analogy with everyday life, the authors argue that exploratory studies are like

A journey to an unknown place, of which we have not seen any documentary or read any book, but we learned about because someone simply made a quick comment about the place (Sampieri et al., 2013, p. 101).

The methodological approach for the proposed study is understood as the same, acknowledging the different and multiple terminologies existing in the fashion industry, using the term “intimate fashion clothing” to refer to underwear, undergarment, and intimate clothing. Under that framework, the study will be supported by a mixed-method approach to collecting and analysing quantitative and qualitative data in the following phases.

First Phase

- Surveys will be applied to a probabilistic sample, and Portuguese children and adolescents represent the sample between 8-11 and 12-14 years old. This sampling method integrates the two stages of Piaget's child development (1964): concrete and formal operative. The sample will be selected from a randomized selection of schools in the metropolitan area of Oporto.

Second Phase

- In the second methodological phase, some research techniques will be considered, such as a focus group discussion with paediatric gastroenterology and child psychiatry;
- Specialists and in-depth semi-open interviews in an exploratory and phenomenological approach to understanding the main problems related to faecal incontinence. Some interviews will be conducted with a non-probabilistic sample by convenience. The sample is defined as a group of patients diagnosed with faecal incontinence aged between 8 and 14, resulting from collaborating with two healthy institutions in Oporto. The Interpretative Phenomenological Analysis (IPA), a qualitative method mainly used to analyse phenomena, will be adopted to interpret the interviews. More than the result, what is essential is the understanding of the world of the participants who constitute the sample or the understanding of events. Given (2008, pp 463) argues that for better understanding and interpretation, the researcher should focus the analysis on describing both the interview and the situation in which it took place. The author states that “*the aim of interpretative phenomenology is dialogue and understanding, and this requires an ethos of respect for the voice, actions and texts of those studied*”, being this context associated with affective emotions that distinguish the individuals.

After the analysis of the results, a project will be elaborated aiming to answer the specific objective number seven, namely the development and testing of a sustainable intimate fashion product for children and adolescents with incontinence, promoting better intimate hygiene in childhood and that will have three sub-stages:

1. *Identification of trends in intimate fashion, the study of emerging textile materials/technologies that may respond to the different problems arising from the pathology;*
- 2 *Prototype development and;*
- 3 *Prototype testing in a focus group with children between 8-14 years old for product validation.*

4. Final Considerations

The described study aims to contribute to a better understanding of the emotional experience with intimate clothing in childhood to create more aesthetic fashion products that are appropriate to contemporary ergonomics theories and that translate into comfort and well-being from the user's point of view.

The study might provide new knowledge to create intimate fashion products that improve intimate hygiene in childhood, namely for children and adolescents with incontinence (particularly faecal incontinence, as presented). Furthermore, this study aims to contribute to developing a product with lower environmental and economic impact (unlike disposable products already on the market).

Finally, it is also expected that this study might contribute to the interest in the field of children's intimate fashion and that our research will open the way to deepen related areas, namely in the history of children's intimate fashion clothing, in the fields of ergonomics and children's anthropometrics, in the role of design in children's fashion products.

References

- Cheng Z, Wu X, Kuzmichev V, Adolphe D (2022). The Influence of Major Ergonomic Factors on the Demand for Underwear in the Highly Educated Male Group. *Sustainability*; 14(19):12464
- Damásio, A (2020). *Sentir & Saber – A caminho da consciência*. 1a Edição, Lisboa: Bertrand Editora Lda.
- Desmet, P, Hekkert, P (2007). Framework of Product Experience. *International Journal of Design*. Available at: <http://www.ijdesign.org/index.php/IJDesign/article/view/66/15>

- Ferreira-Maia AP, Matijasevich A, Wang YP (2016). Epidemiology of functional gastrointestinal disorders in infants and toddlers: A systematic review. *World Journal of Gastroenterology*; 22(28): 6547-6558. <https://doi.org/10.3748/wjg.v22.i28.6547>
- Fletcher, K. & Tham, M. (2019). *Earth Logic Fashion Action. Research Plan*. London: The J J Charitable Trust. Available at: <https://katefletcher.com/wp-content/uploads/2019/10/Earth-Logic-plan-FINAL.pdf> (Accessed 03 July 2022)
- Given LM (2008). *The sage encyclopedia of qualitative research methods*. Thousand Oaks, CA: Sage. ISBN 978-1- 4129-4163-1
- Inan M, Aydiner CY, Tokuc B, Aksu B, Ayvaz S, Ayhan S, Ceylan T, Basaran UN (2007). Factors associated with childhood constipation. *Journal of Paediatric and Child Health*; 43(10):700-6. <https://doi.org/10.1111/j.1440-1754.2007.01165.x>
- Joinson C, Heron J, Butler U, von Gontard A; Avon (2006). Longitudinal Study of Parents and Children Study Team. Psychological differences between children with and without soiling problems. *Pediatrics*; 117(5):1575-84. <https://doi.org/10.1542/peds.2005-1773>. PMID: 16651311
- Khandual, A., Pradhan, S. (2019). Fashion Brands and Consumers Approach Towards Sustainable Fashion. In: Muthu, S. (eds) *Fast Fashion, Fashion Brands and Sustainable Consumption. Textile Science and Clothing Technology*. Springer, Singapore. doi: https://doi.org/10.1007/978-981-13-1268-7_
- Kitsch, W. T, Golanowski, C (2011). Patent CA2615227 A1 – Underwear garment for a male. <https://patents.google.com/patent/US7958571B2/en#citedBy> , accessed on 04/01/2023
- Koskinen, I, Zimmerman, J, Binder, T, Redström, J, Wensveen, S. (2012). *Design Research Through Practice*. Morgan Kaufmann, Waltham, USA. ISBN: 9780123855039
- Kuzmichev V. E. e Cheng Z (2016). Improving Men's Underwear Design by 3D Body Scanning Technology. *Proc. of 7th Int. Conf. on 3D Body Scanning Technologies*, Lugano, Switzerland, 2016, pp. 16-20. doi: <https://doi.org/10.15221/16.016>
- Lerpiniere, C (2013). One Wedding, Two Cultures, Four Outfits: The Phenomenological Exploration of Fashion and Textiles. *The Journal of Textile Design, Research and Practice*. 1(1), pp.27-41. Doi: <https://www.tandfonline.com/doi/abs/10.2752/175183513X13772670831074>
- Levy EI, Lemmens R, Vandenplas Y, Devreker T (2017). Functional constipation in children: challenges and solutions. *Pediatric Health Medicine and Therapeutics*; 8:19-27. <https://doi.org/10.2147/PHMT.S110940>

- McNichol, L. L., Ayello, E. A., Phearman, L. A., Pezzella, P. A., Culver, E. A. (2018). Incontinence-Associated Dermatitis: State of the Science and Knowledge Translation. *Advances in Skin & Wound Care*; 31(11): 502-513. <https://doi.org/10.1097/01.ASW.0000546234.12260.61>
- Martins, S. B. (Org.) (2019). *Ergonomia, Usabilidade e Conforto no Design de Moda: A Metodologia OIKOS*. 1a ed. Barueri, São Paulo: Estação das Letras e Cores.
- Niinimäki, K., Peters, G., Dahlbo, H., Perry, P., Rissanen, T., Gwilt, A. (2020).: The environmental price of fast fashion. *Nat Rev Earth Environ* 1, 189–200. doi: <https://doi.org/10.1038/s43017-020-0039-9>
- Payne, A. (2021). *Designing fashion's future: present practice and tactics for sustainable change*. London; New York: Bloomsbury Visual Arts. ISBN 9781350092471 (ebook)
- Piaget, J., (1964). Part I: Cognitive development in children: Piaget development and learning. *Journal of Research in Science Teaching*, pp. 2, 3, 176–186.
- Rajindrajith, S., Devanarayana, N.M. and Benninga, M.A. (2013). Review article: faecal incontinence in children: epidemiology, pathophysiology, clinical evaluation and management. *Alimentary Pharmacology and Therapeutics*; 37: 37- 48. Doi: <https://doi.org/10.1111/apt.12103>
- Rajindrajith S, Devanarayana NM, Thapar N, Benninga MA (2021). Functional faecal incontinence in children: epidemiology, pathophysiology, evaluation, and management. *Journal of Pediatric Gastroenterology and Nutrition*; 72: 794-801. <https://doi.org/10.1097/MPG.0000000000003056>
- Robin SG, Keller C, Zwiener R, Hyman PE, Nurko S, Saps M, Di Lorenzo C, Shulman RJ, Hyams JS, Palsson O, van Tilburg MAL. (2018). Prevalence of Pediatric Functional Gastrointestinal Disorders Utilizing the Rome IV Criteria. *Journal of Pediatrics*; 195:134–13.
- Sampieri R, Collado C, Lucio P (2013). *Metodologia de Pesquisa*. Porto Alegre, 5a Edição, Penso. ISBN: 978-85- 65848-28-2.
- Scarpato E, Kolacek S, Jojkic-Pavkov D, Konjik V, Živković N, Roman E, Kostovski A, Zdraveska N, Altamimi E, Papadopoulou A, Karagiozoglou-Lampoudi T, Shamir R, Bar Lev MR, Koleilat A, Mneimneh S, Bruzzese D, Leis R, Staiano A; MEAP Group (2018). Prevalence of Functional Gastrointestinal Disorders in Children and Adolescents in the Mediterranean Region of Europe. *Clinical Gastroenterology and Hepatology*. 16(6): 870-876. Doi: 10.1016/j.cgh.2017.11.005.
- Thompson, R. (1991). Emotional regulation and emotional development. *Educational Psychology, Review* 3, 269-307 (1991). Doi: <https://link.springer.com/article/10.1007/B F01319934>

Willet C, Cunnington P (1992). The history of underclothes. Re-edition, Dover Publications, EUA.

Zhou F, Ji Y, Jiao, RJ (2020). Emotional Design. ArXiv, abs/2010.03046. <https://doi.org/10.1002/9781119636113.ch9>