

Fashion Consumption and Disposal Patterns among College Students during COVID-19 in India

Nilanjana Bairagi and Suparno Goswami

Abstract

The dominant narrative on sustainability and the fashion industry focuses on the negative environmental and social impact which includes pollution, water scarcity, carbon emissions, human rights, and gender inequality. This points to the imperative of eco-friendly materials, green technologies, upcycling, recycling and ethical manufacturing. However, there is limited research on fashion consumption and disposal patterns among the consumers in India. In the last two years, the COVID-19 pandemic has impacted the fashion industry globally but studies on fashion consumption and disposal patterns during this period have been limited in the Indian context. This study aims to identify and analyze the fashion consumption and disposable patterns during the COVID-19 pandemic among undergraduate and postgraduate students across India as this cohort comprises a large segment of Gen Z. With this objective, survey-based research was carried out among students of different academic disciplines across India using non-probability purposive sampling. The results showed that the fashion consumption pattern of the students in their 20s have not been significantly impacted during the pandemic. The main change in consumerism patterns during the pandemic has been a shift in purchases from brick-and-mortar stores to online digital platforms. The main reasons for disposal of clothing are seam slippage, missing buttons, fitting problems, color fading, hole formation, pilling, change in trend, size issues and allergic contact dermatitis. The main disposal channels of fashion are donations to acquaintances and Indian NGOs, recycling at home and online resale of branded fashion. The study reveals that the use of upcycled fashion apart from upcycling in households or creative mending techniques is not a popular option among the college students in India.

Keywords: Fashion consumption, disposal patterns, sustainability, upcycled fashion, pre-owned fashion, disposal channels, mending

Introduction

Sustainability is a global issue that holds high relevance and invites deeper understanding of the impact of its environmental, social and economic transgressions, and mitigation through systemic engagement among stakeholders including fashion designers, manufacturers and retailer of the fashion industry. Traditional approaches have focused on eco-materials or ethical manufacturing principles to produce sustainable textile products. At this point of time, a broader outlook of sustainability is required, one that focuses not only on eco-materials and ethical manufacturing, but also on the consumers' relationships with products. Manzini (1994) states that apart from redesigning products and eco-friendly manufacturing processes, there is need for focus on consumption behavior as consumers are often unable to see the link between their consumption patterns and the environmental impact. Vezzoli (2007) discusses the need to cultivate emotional relationships between consumers and sustainable products in addition to technological development. Clothing accounts for almost 3 percent of the waste disposed by each household (Fletcher, 2008). This necessitates scholarly focus on patterns of clothing consumption and disposal.

The emergence of COVID-19 as a global pandemic in 2020 impacted the fashion industry in unprecedented ways as consumer behavior changed sharply and supply chains were disrupted, according to BOF and McKinsey & Company as reported in The State of Fashion in 2021. Use of online shopping platforms increased among all age groups which influenced global consumption patterns of fashion clothing. This study analyzes fashion consumption and disposal patterns among the college and university students across India during the pandemic. This consumer cohort is considered significant as 34.33 percent of the total population in India comprises youth, as reported in 2017 by Central Statistics Office (CSO) of the Ministry of Statistics and Program Implementation, Govt. of India. The national daily 'The Hindu' (2020) had predicted a steady increase in India's youth population to 464 million by 2021 becoming the world's youngest country with 64 percent of its population in the working age group.

Research Methodology

The primary objective of this paper is to analyze clothing consumption and disposal patterns from the onset of the COVID-19 pandemic among Indian undergraduate and postgraduate students. Based on the initial online focus group discussion with 10 college students, a questionnaire was designed and pre-tested during the pilot study

prior to its circulation among the respondents. As the research was conducted during the first wave of the pandemic outbreak during December 2020-April 2021, online mode of data collection was the only feasible option. Therefore, a Google form was created to collect data. Non-probability sampling methods like Convenience, Snowball and Purposive sampling were used through personal contacts in different institutions and universities. Respondents who had consented to participate in the survey were selected and the link to the Google form was shared with them. They were requested to further circulate the link among their personal friends and college acquaintances which facilitated snowball sampling. Several faculty members across India also helped in collecting data from their students. To reach an unbiased conclusion, data was drawn from different regions and across diverse disciplines. The survey comprised a total of 503 complete responses out of which 54 percent of the respondents were female and 46 percent were male. The questionnaire included four sections namely:

- A. Clothing consumption pattern comprising 12 questions
- B. Clothing disposal pattern comprising 2 questions.
- C. Information on use of clothing after its life span comprising 11 questions.
- D. General information comprising 4 questions.

The results were statistically analyzed. The results are presented in the next section.

Research Findings

It was noted that 37.8 percent of the respondents were between the ages of 18-20 years, 32.6 percent were in the age group of 20-22 years, 20 percent were in the age group of 23-25 years, 5.4 percent were in the age group of 25-27 years, and the remaining 4.2 percent were above 27 years of age. Most respondents were in the age group of 20-25 years and were undergraduates in different academic disciplines ranging from science, arts, economics, commerce, design courses, engineering, technology, architecture, medicine, culinary arts and performing arts. Some respondents were pursuing undergraduate and postgraduate degree level programs for the award of B.Sc., B.A., B.Com, B.Des, B.E., B.Tech., M.Tech, MBBS, M.Pharm, M.A., M.Sc. M.Des, M.B.A, Ph.D degrees. Profiles of the respondents has been broadly classified in Table 1.

Table 1: Profile of respondents

Demographic Variables		Percentage of respondents
Gender	Male	46
	Female	54
Age	18- 20 years	37.8
	20-22 years	32.6
	23-25 years	20
	25-27 years	5.4
	27 and above	4.2
Region of residence in India	North India	26
	East and North East India	18
	South India	45
	West/ Central India	11
Academic degree being pursued	Bachelors	64
	Masters	33
	Ph.D	3

Clothing consumption pattern

The survey results indicated that 3 months prior to the onset of the pandemic, 65.2 percent of the respondents purchased 1-5 items of clothing, 16.5 percent purchased around 6-10 items, 3.8 percent purchased 11-15 items, 1 percent purchased 16-20 items, 0.6 percent purchased 21-25 items and 1.4 percent bought more than 26 items. 11.5 percent of the respondents did not buy any clothing items. On comparing this data with purchasing patterns during COVID-19 in India, it was noted that 54.7 percent of the respondents bought 1-5 items of clothing, 14.5 percent purchased 6-10 items, 5.4 percent purchased 11-15 items, 1.6 percent purchased 16-20 items, 0.4 percent purchased 21-25 items and 0.2 percent purchased more than 26 items. 23.3 percent of the respondents did not purchase any clothing items. The results are tabulated in Table 2.

Table 2: Clothing consumption patterns before and during COVID-19

Number of clothing items purchased during a period of 3 months	Percentage of respondents who purchased prior to COVID-19	Percentage of respondents who purchased during COVID-19
1-5	65.2	54.7
6-10	16.5	14.5
11-15	3.8	5.4
16-20	1	1.6
21-25	0.6	0.4
26 & above	1.4	0.2
Nil	11.5	23.3

Table 2 also presents the impact of COVID-19 on clothing consumption. It was observed that during the pandemic, among 8 percent of the target population there was a drop in the overall consumption of clothing items. The average number of clothing items purchased by consumers of 18-22 years of age was 5 prior to pandemic; during the pandemic it dropped to 4 clothing items. There was an increase of 2.5 percent in the purchase of 11-15 items. It is also observed that 1.4 percent of the respondents bought 26 or more clothing items prior to the pandemic whereas only 0.2 percent bought 26 or more items of clothing during the pandemic. On the other hand, the percentage of people who did not buy any clothing items during the pandemic increased from 11.5 percent to 23.3 percent. To test whether the difference in the percentage of consumers buying nearly the same number of clothing or nil number of clothing before and during the pandemic, was statistically significant or not, a two-tailed unequal variance t-test was conducted. The resultant p-value was approximately 0.9. This implied that the difference is statistically insignificant at 1%, 5% and 10% level of significance.

Regarding the modes of purchasing clothing prior to and during COVID-19, it was observed that 77 percent respondents purchased directly from the stores while 23 percent preferred online shopping prior to the onset of the pandemic. However, during this period, 57 percent respondents preferred online modes of purchase, 30 percent preferred visiting brick and mortar stores while 13 percent did not purchase any clothing

items. This indicated a shift towards online purchase of clothing among the youth during the pandemic. The study also showed that among 28 percent of the population, accessibility and discounts on available online platforms led to significant increase in the purchase of clothing items. For 51 percent of the population, it influenced their consumption behavior to a certain extent, but 21 percent of the respondents' consumption behavior has not been influenced by the online offers.

Industry practitioners and researchers are of the opinion that this pandemic will not only affect the industry soon, but may also have a long-term impact (Lu, 2020). It is reported by McIntosh (2020) that the lack of consumer demand or fear that the demand will fall significantly, has severely hampered regular business operations. However, this study does not indicate any significant change in the purchasing pattern in the number of clothing items among young students. Although many countries reopened physical retail stores that traditionally contributed 80 percent of the business in the fashion industry (McIntosh, 2020) consumers continue to be careful of the virus spreading through the air or contact particularly in crowded places. This also applies to India as 77 percent of the respondents who purchased directly from fashion stores prior to the pandemic outbreak dropped to 30 percent during the first wave of COVID-19.

Span of use of fashion clothing

Globally, consumers are making decisions regarding conscious clothing and slow fashion to reduce the ecological footprint of fashion (Khandual and Pradhan, 2018). This survey showed that 38.6 percent of the respondents used specific clothing items such as a t-shirt and jeans for 1-2 years, 32.8 percent used them for 3-4 years, and only around 2.8 percent used a single item of clothing for less than 6 months, even during the pandemic. Therefore, most respondents are conscious consumers who have been trying to extend the duration of use of the widely used clothing items such as a T-shirt and jeans.

Purchase intention

The survey investigated the main factors that contribute to purchase intentions. As expressed by 80 percent of the respondents, the main reason for people to buy clothing is based on need, followed by special occasions that drive additional purchases. Other factors guiding clothing purchases are not based on need but on emotional satisfaction, commencement of an academic semester, good online offers, and influence of advertisements (Figure 1).



Figure 1: Main reasons for fashion consumption by Indian college students

Consumer attitude towards sustainability in clothing consumption

To understand consumer attitude towards sustainable consumption, the respondents' interest in the purchase of upcycled or recycled clothing, was studied. It was found that 75.5 percent of the respondents did not purchase upcycled, recycled clothing or pre-owned branded clothing. 62.8 percent of the respondents were not aware of any Indian brand selling upcycled or pre-owned fashion clothing. However, it was found that 37.2 percent of the respondents were aware of such brands and 24.5 percent of the respondents did purchase pre-owned fashion clothing prior to the pandemic. Indian brands *Péro* by Aneeth Arora and *KaSha* by Karishma Sahani use upcycling techniques in their collections while *Doodlage* by Kriti Tula uses fabric scraps, recycled and organic yarn. *Kiabza*, *Retag*, *Zapyle*, *Confidential Couture*, *Etashee*, *My Luxury Bargain*, *Loved Lehenga*, *Luxepolis*, *The Relove Closet* and *Vintage Desi* sell a wide range of pre-owned branded fashion. However, during focus group discussions, the respondents revealed disinclination towards the purchase of pre-owned fashion clothing due to the anxiety of contracting infection.

Bodice by Ruchika Sachdeva promotes eco-fashion using sustainable raw materials. *Raw Mango* uses characteristic traditional handlooms that support the weaver community. Therefore, the types of fabric preferred by the respondents was also studied. The survey showed that 75.1 percent of the respondents prefer non-organic fabric, 21.5 percent of the respondents prefer natural or organic fabric and the

remaining 3.4 percent prefer recycled or upcycled fabric. This indicates that 25 percent of the Indian youth is inclined towards the use of sustainable raw materials in fashion. Niinimäki and Hassi (2011) claim that eco-fashion has become a key trend for young consumers. The study also indicated that fashion bloggers, ethical fashion consultancies, e-commerce websites, popular fashion magazines have influence over young Indian consumers towards sustainable fashion. Actor and activist Emma Watson as guest editor of *Vogue Australia* in the March 2018 issue, challenged people to make a one-degree shift, as even a small change can make a difference in promoting sustainability. The survey revealed that Indian youth is engaging with fashion in a more meaningful manner through prolonged use of clothing, using natural and organic fabrics, upcycled/recycled fashion clothing and also by reusing fashion clothing handed down within families.

Use of handed over or passed on fashion clothing within households

Recycling clothes in a household is an important part of sustainability that not only has a positive impact on the environment by extending the life of the clothing by reducing waste, but also gives emotional satisfaction to the user (Shim, et al., 2018). 79 percent of the respondents in this study claimed to be comfortable in using hand-me-down clothing from cousins or siblings, which indicated their willingness to recycle clothing within the family. The respondents agreed that recycling is common in Indian families as clothing is often handed down to younger members who experience an emotional attachment with the item. The study also showed that though the respondents are aware of recycling, they do not necessarily adopt it in practice.

Clothing disposal patterns and reasons

The study also attempted to ascertain the reasons for and channels for disposal of clothing. It was found that 83 percent of the respondents disposed their clothing due to wear and tear caused by seam slippage, missing buttons, fitting problems, color fading, hole formation, pilling, allergic contact dermatitis and fitting problems (Figure 2). 27 percent disposed clothing after several years of use. 12 percent disposed clothing that were no longer considered trendy. Even though the attraction of fast fashion was evident among 12 percent of the respondents, their main channel of disposal was donation to acquaintances for continued use of the clothing item.

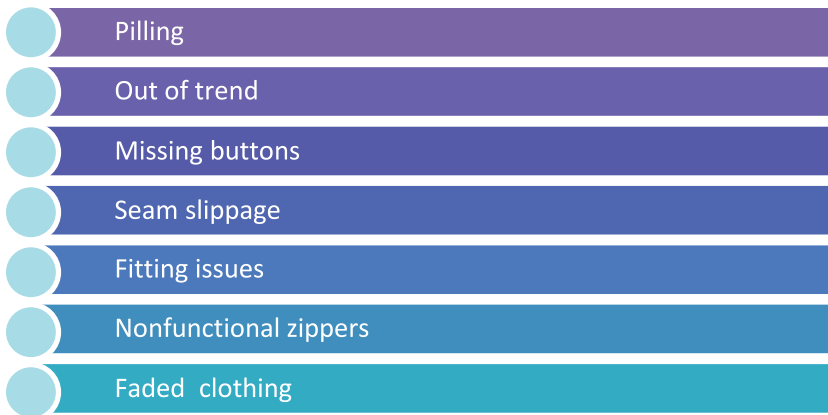


Figure 2: Main reasons for disposal of clothing items among Indian undergraduate and postgraduate students

According to Erin Lewis-Fitzerland, a leading clothes-mending practitioner associated with the Visible Mending project in Melbourne, most clothing problems such as missing buttons, seams, loose stitches are relatively minor and can be repaired with ease. Mending extends life of the clothing item. Creative mending offers sustainable solutions and can inspire others. Designer Jessica Marquez uses the Japanese technique of *Sashiko* involving running stitches and geometric patterns for creative mending. Designer Lilah Horwitz works for Eileen Fisher's Renew program which buys back the used garments from its customers, which are then resealed, mended, and resold based on the philosophy that the use of creativity and design for upcycling fashion items, is a responsibility. The present study did not indicate willingness of Indian college students to wear mended clothing. Indian hand embroidery such as *kantha* and patch work/applique are used to reinforce worn-out textiles. Gwilt (2014) mentions that with the increased availability of inexpensive, mass-produced, ready-to-wear clothing, the culture of repairing and altering clothes has largely disappeared in the last two or three generations. The same trend was observed among the youth in India. Therefore, there is scope to introduce the concept of visible mending among the young population. Designer Ujjwal Dubey, founder of Restore Love mends and restores outfits, predicting that the fashion media will devise creative alternatives to repair and restyle them. Vaishali S. takes back garments that need repair; Ekaya restores handcrafted pieces to revive heritage textiles. In spite of visible efforts of mending and restoration by fashion brands in India, mending is yet to be considered as a preferred alternative to disposal by the Indian youth. This finding is similar to the study done by Shim, et al. (2018) which indicated that students in their twenties are not interested in spending on upcycling.

Channels for disposal of clothing

For most of the respondents, the main channel of disposal has been of donation to acquaintances for continued use of the clothing item. 24 percent of the respondents donated their clothes to acquaintances and NGOs which further recycle/upcycle them. 77 percent respondents recycled some clothing items in unusable condition as mops or rags for domestic cleaning purposes. It was also observed that 56 percent of the respondents were not aware of any local NGOs in their locality that collect used clothes for upcycling/recycling. 40 percent of the respondents knew of a few NGOs, and 4 percent knew of several NGOs that upcycle/recycle clothing.

Intentions regarding clothing disposal

The questionnaire included questions on disposal intentions of the respondents. It was found that 80 percent of the respondents looked forward to donating their clothing. Around 10 percent did not give much thought while disposing used clothing, 10 percent are interested in selling pre-owned branded clothing that are in good condition through e-commerce websites on fashion re-sale. A number of brands and websites like Kiabza, Retag, Zapyle, Confidential Couture, Etashee, My Luxury Bargain, Loved Lehenga, Luxepolis, The Relove Closet and Vintage Desi sell a wide range of branded products at half their original prices. As a result, many of these brands have a large online following in India.

Conclusion

The main objective of this study was to analyze the fashion clothing consumption and disposal patterns during the COVID-19 pandemic among Indian undergraduate and postgraduate students as this segment constitutes a significant share of youth in the total population. Online mode of data collection was the only feasible option as the research was conducted during the onset of the first wave of the pandemic during December 2020-April 2021, and the data obtained was analyzed statistically.

It is concluded that clothing consumption patterns are similar before and during pandemic among the Indian undergraduate and postgraduate students. There is a shift in the modes of purchase from online to offline with growing consumer interest in sustainable Fibers and fabrics. Apart from upcycling within households or commercial mending techniques, the use of upcycled fashion is yet to gain popularity among this student cohort. There needs to be sustained effort to spread awareness among this demographic segment on the impact of fast fashion, encourage conscious consumption of clothing, importance of upcycling clothing items, and creating an organized disposal

channel to create a circular economy. In addition, the fashion industry needs to ideate and develop ways to facilitate a circular economy, and designers need to focus on design that is not season based but is more flexible and emotionally durable to support responsible consumption and disposal of clothing. This study points to the need for the Indian fashion industry to move forward to promote responsible consumption and disposal patterns among young consumer to increase sustainability.

References

- BOF and McKinsey & Company, 2021. *The State of Fashion*. [online] Available at: <<https://www.mckinsey.com/~media/mckinsey/industries/retail/our%20insights/state%20of%20fashion/2021/the-state-of-fashion-2021-vf.pdf>> [Accessed 5 November 2021].
- Fletcher, K., 2008. *Sustainable Fashion and Textiles: Design Journeys*, London: Earthscan.
- Gwilt, A., 2014. *A practical guide to sustainable development*. London: Bloomsbury.
- Khandual, A. and Pradhan, S., 2018. Fashion brands and consumers approach towards sustainable fashion. In: Muthu, S.S., ed. *Fast Fashion, Fashion Brands and Sustainable Consumption*. Springer. pp.37-54. https://doi.org/10.1007/978-981-13-1268-7_3.
- Lu, S., 2020. *Fashion industry benchmarking study*. [online] 31 July. Available at: <http://www.usfashionindustry.com/pdf_files/20200731-fashion-industry-benchmarking-study.pdf> [Accessed 15 July 2021].
- Manzini, E., 1994. Design, environment and social quality: from existenz minimum to “quality maximum”. *Design Issues*, 10 (1), pp.37-43.
- McIntosh, S. 2020. *Coronavirus: why the fashion industry faces an ‘existential crisis’*. [online] 30 April. Available at: <<https://www.bbc.com/news/entertainment-arts-52394504>> [Accessed 1 August 2021].
- Niinimäki, K. and L. Hassi., 2011. Emerging design strategies in sustainable production and consumption of textiles and clothing. *Journal of Cleaner Production*, 19(16), pp.1876–1883. <https://doi.org/10.1016/j.jclepro.2011.04.020>.
- Shim, S., Kim, J. and Na, Y., 2018. An exploratory study on up-cycling as the sustainable clothing life at home. *Fashion and Textiles*. <https://doi.org/10.1186/s40691-018-0129-1>.
- Shivakumar, G., 2013. India is set to become the youngest country by 2020. *The Hindu*. [online] 17 April. Available at: <<https://www.thehindu.com/news/national/india-is-set-to-become-the-youngest-country-by-2020/article4624347.ece>> [Accessed 31 January 2022].
- Vezzoli, C., 2007. *System design for sustainability: theory, methods and tools for a sustainable ‘satisfaction-system’ design*. Milan: MaggioliEditore.
- Watson, E., 2018. Designing the future. *Vogue Australia*. [online] March. Available at:<<https://www.vogue.com.au/fashion/news/emma-watson-introduces-the-march-2018-issue-of-vogue-australia/>> [Accessed 31 January 2022].
- Central Statistics Office, 2017. Youth in India. [online] Delhi: Ministry of Statistics and Program Implementation. Available at: <https://www.thehinducentre.com/multimedia/archive/03188/Youth_in_India-201_3188240a.pdf> [2nd August 2021].

About the authors

Nilanjana Bairagi is an Associate Professor in NIFT Bengaluru, India. She holds M.Tech and Ph.D degrees (2008) in Textile Technology from the Indian Institute of Technology, Delhi. She has more than 18 years of academic and research experience. Her main areas of research are designing of functional apparel, product innovation for the Indian fashion industry, sustainable fashion, designing for special needs and craft research. She has a number of national and international research publications to her credit and has co-authored four chapters in the Functional Textiles and Clothing Book, Springer Publications (2019 and 2020) and 2 chapters in Design for Tomorrow, Volume 1 and 3, Springer Publications (2021). She has been guiding doctoral researches at NIFT since 2009 and 4 of her scholars have been awarded PhD. She received one of the most distinguished papers award at the 8th International Conference on Research in Design (ICoRD 2021) along with her co-author.

nilanjana.bairagi@nift.ac.in

Suparno Goswami is a student of the Jadavpur University, Kolkata, India currently pursuing M.A. in Economics. He has completed B.A. in Economics from the same institution in the year 2020. A report titled 'Recycle of post-consumer textile wastes in India: Delving into the reality' was authored by him in January 2021, as part of an internship with Conserve India. Presently, he is a research intern at the Bengal Chamber of Commerce & Industry. He has been working in the area of clothing consumption and disposal patterns as a passionate, independent researcher.

spgoswami1999@gmail.com