

**Awareness, attitude and behaviour towards  
sustainable apparel consumption among youth of  
North India**

**Thesis**

**Submitted to the**



**G.B. Pant University of Agriculture and Technology  
Pantnagar-263145, (U.S. Nagar), Uttarakhand, India**

**By**

**Ms. Renu**

**ID. No. 56767**

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**Pantnagar  
October, 2022**


  
**(Renu)  
Authoress**

## CERTIFICATE –I

This is to certify that the thesis entitled “**AWARENESS, attitude and behaviour towards sustainable apparel consumption among youth of North India**” submitted in partial fulfilment of the requirements for the degree of **Master of Science** with major in **Clothing and Textiles** of the College of Post Graduate Studies, G.B. Pant University of Agriculture and Technology, Pantnagar, is a record of bonafide research carried out by **Ms. Renu, ID No. 56767** under my supervision and no part of thesis has been submitted for any degree or diploma.

The assistance and help received during the course of investigation have been acknowledged.

Pantnagar  
October, 2022

  
(**Anita Rani**)  
Chairperson  
Advisory Committee

## CERTIFICATE-II

We, the undersigned, members of Advisory Committee of **Ms. Renu, ID. No. 56767** a candidate for the degree of **Master of Science** with major in **Clothing and Textiles** agree that the thesis entitled, **“Awareness, attitude and behaviour towards sustainable apparel consumption among youth of North India”** may be submitted in partial fulfilment of the requirements for the degree.

*Anita*  
6/10/22  
**(Anita Rani)**  
Chairperson  
Advisory committee

*Manisha*  
**(Manisha Gahlot)**  
Member

*Shafali*  
**(Shafali Massey)**  
Member

## TABLE OF CONTENTS

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<b>S. No.</b>	<b>Title</b>	<b>Page No.</b>
1.	INTRODUCTION	1-6
2.	REVIEW OF LITERATURE	7-23
3.	MATERIALS AND METHODS	24-39
4.	RESULTS AND DISCUSSION	40-112
5.	SUMMARY AND CONCLUSION	113-123
	LITERATURE CITED	
	APPENDICES	
	CURRICULUM VITAE	
	ABSTRACT (ENGLISH AND HINDI)	

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## **LIST OF TABLES**

<b>Table No.</b>	<b>Title of Table</b>	<b>Page No.</b>
3.1	Analysis of variance for one way classification	38
4.1a	Distribution of respondents according to the personal profile	41
4.1b	Distribution of respondents according to the family profile	42
4.1c	Distribution of respondents according to the economic profile	42
4.2	Distribution of respondents according to their awareness of the general aspects of sustainability	46
4.3	Distribution of respondents according to their awareness for sustainable processing methods in apparel manufacturing	48
4.4	Distribution of respondents according to their awareness about eco labels on apparels	51
4.5	Distribution of the respondents according to their awareness for sustainable practices of apparel consumption	53
4.6	List of null and alternative association hypothesis for the awareness and demographic variables (independent variables)	59
4.7	Association of independent variables and awareness among youth for sustainability in apparel consumption	60
4.8	Distribution of respondents on the basis of their attitude towards the purpose of an individual for apparel consumption	62
4.9	Distribution of respondents on the basis of attitude towards sustainable raw material and labels in apparels	65
4.10	Distribution of respondents on the basis of attitude towards disposal practices in apparel consumption	66
4.11	Distribution of respondents on the basis of attitude towards retailing aspects in apparel consumption	68
4.12	Distribution of respondents on the basis of their attitude towards price of apparel	70
4.13	List of null and alternative association hypothesis for attitude and independent (demographic) variables	74
4.14	Association between independent variables and attitude of youth towards sustainable apparel consumption	75
4.15a	Distribution of female respondents on the basis of their behavior in relation to wardrobe maintenance	77
4.15b	Distribution of male respondents on the basis of their behavior in	78

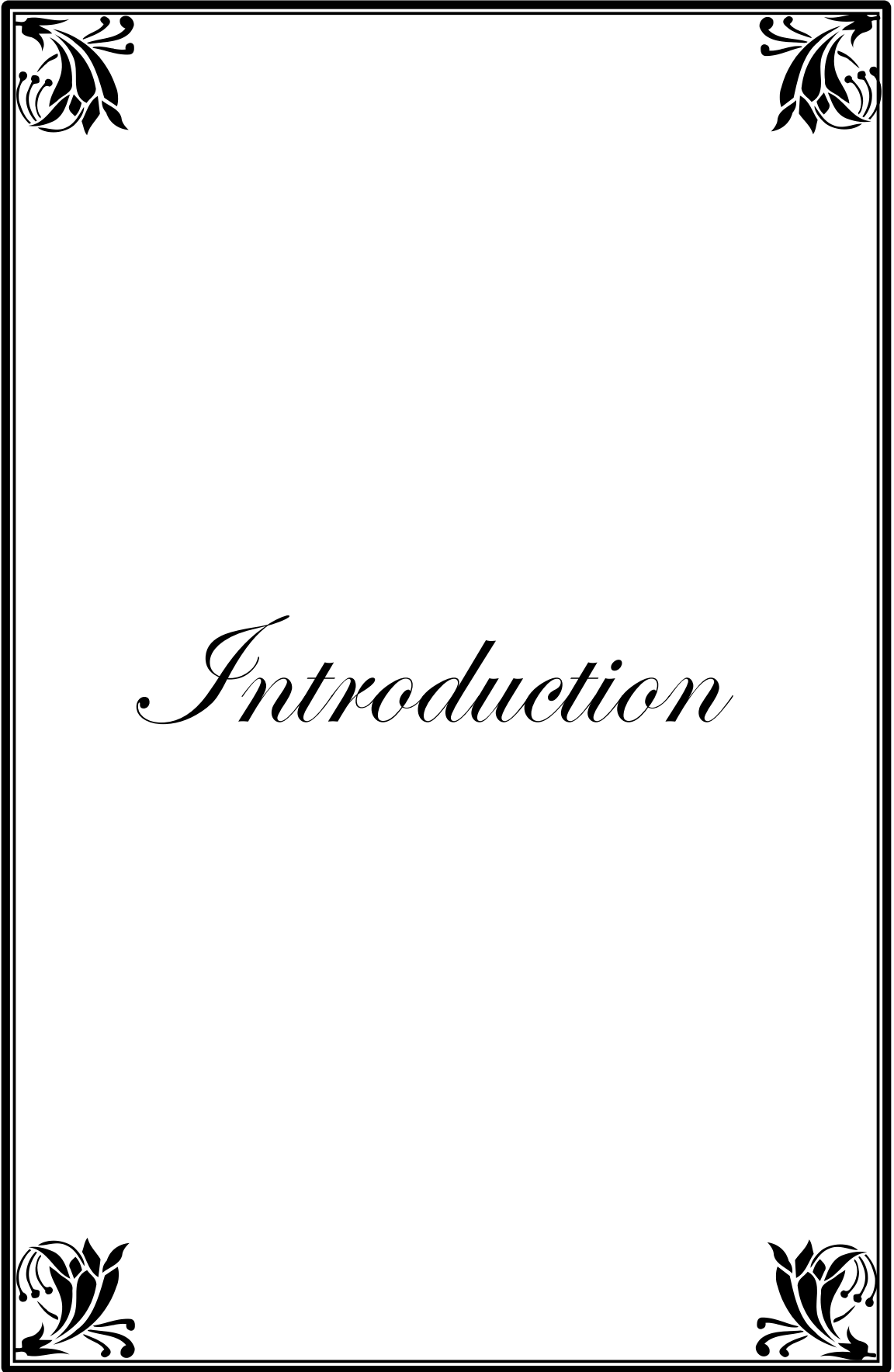
---

	relation to wardrobe maintenance	
4.16a	Distribution of female respondents on the basis of their urge for buying apparels	80
4.16b	Distribution of male respondents on the basis of their urge for buying apparel	81
4.17a	Distribution of female respondents on the basis of sustainable practices followed in apparel buying	84
4.17b	Distribution of male respondents on the basis of sustainable practices followed in apparel buying	85
4.18a	Distribution of female respondents on the basis of their behavior for online buying of apparels	88
4.18b	Distribution of male respondents on the basis of their behavior for online buying of apparels	89
4.19a	Distribution of female respondents on the basis of their behavior for eco label and raw material information consideration during buying of apparels	92
4.19b	Distribution of male respondents on the basis of their behavior for eco label and raw material information consideration during buying of apparels	93
4.20a	Distribution of female respondents on the basis of their wardrobe sharing practices in apparel	96
4.20b	Distribution of male respondents on the basis of their wardrobe sharing practices in apparel	96
4.21a	Distribution of female respondents on the basis of their preferences for traditional handmade indigenous apparels	99
4.21b	Distribution of male respondents on the basis of their preferences for traditional handmade indigenous apparels	99
4.22a	Distribution of female respondents on the basis of behavior towards sustainable disposal practices in apparel	102
4.22b	Distribution of male respondents on the basis of behavior towards sustainable disposal practices in apparel	103
4.23	List of null and alternative association hypothesis for behavior and independent (demographic) variables	111
4.24	Association between independent variables and behavior of youth in sustainable apparel consumption	111

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## LIST OF FIGURES

Figure No.	Title	Page No.
3.1	Sample design of the study	26
3.2	Conceptual framework of study	27
3.3	Schematic representation of variables	28
4.1	Comparative awareness among female and male respondents on the different aspects of the sustainability in apparel consumption	55
4.2	Overall awareness of youth on different domains of sustainability in apparel consumption	56
4.3	Level of awareness of post graduate students from different SAUs across North India	57
4.4	Comparison between attitude of male and female respondents towards sustainability in apparel consumption	71
4.5	Overall attitude of youth towards different domains of sustainability in apparel consumption	72
4.6	Comparison in attitude of post graduate students of different SAUs across North India towards sustainability in apparel consumption	73
4.7	Behaviour of respondents towards relation to wardrobe maintenance	79
4.8	Behaviour of respondents towards basis of their urge for buying apparel	83
4.9	Behaviour of respondents towards of sustainable practices followed in apparel buying	87
4.10	Behaviour of respondents towards online buying of apparels	90
4.11	Behaviour of respondents towards eco label and raw material information consideration during buying of apparels	94
4.12	Behaviour of respondents towards wardrobe sharing practices in apparel consumption	97
4.13	Behaviour of respondents towards preferences for traditional handmade indigenous apparels	100
4.14	Behaviour towards sustainable disposal practices in apparel	104
4.15	Overall behaviour of youth towards different domains of sustainable apparel consumption	106
4.16	Comparison between behaviour of male and female respondents for different domains of sustainable apparel consumption	107
4.17	Comparison between behaviour of youth from different SAUs in North India towards the sustainable apparel consumption aspects.	109



# *Introduction*

## Chapter-1

## INTRODUCTION

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The apparel industry is one of the largest industry in the world as well as in India. The textile and apparel industry contributes in 5% of GDP, 7% industrial output in terms of value and 12% export earnings in Indian economy. India has got the 5<sup>th</sup> rank in export of textiles and apparels in the world which have worth of 36.4 billion US\$. India is one of the biggest producers of cotton and jute in the world. It is also 2<sup>nd</sup> largest producer of silk after the China in the world. The 95% of total hand-woven export comes from India. The textile and apparel industry provides employment to almost 45 million people in India i.e., is second largest employer after allied industries (**IBEF report, 2021**).

Apparel industry means the production of apparel, designed or intended to be worn by individuals. Its supply chain is very complex which includes agricultural production, fibre and yarn processing, fabric manufacturing and its use, recycling, and disposal. The impact of the apparel industry on our planet is huge throughout the product life cycle (raw material to disposal). Each product requires lot of water, energy, and natural resources in its manufacturing on one hand and releases lot of harmful chemicals on the other. This is harmful for eco-system thus, damaging soil, reducing the biodiversity and also polluting local water resources. After manufacturing, products are supplied and transported, it also consumes energy and is a prominent cause for release of greenhouse gases. Natural and cellulosic regenerated fibres are also no more sustainable. The reason is that crops require huge amount of fresh water and pesticides for growing. The regenerated fibres production requires bleached wood pulp which causes deforestation and releases harmful chemicals to the soil and underground water sources. The manufacturing of some of the cellulosic regenerated fibres totally depends on the natural wood pulp sources which comes from the forests. Only some big brands use the certified forests for wood sources, others illegally use the forests extensively which leads to the desertification and destroy the habitats of various species.

The apparel industry was responsible for around 10% of carbon build-up and 35% of all micro-plastic in oceans that comes from the laundering of synthetic textiles. More than half of the total garments contain polyester as well as synthetic fibres which release 2 to 3 times more carbon emission during manufacturing of fibres as comparison to the natural cotton garment (**UNEP report 2019**).

The transformation of the fabric into clothing and fashion accessories is carried out by apparel industry. The industrial revolution resulted in significantly enhanced product only in textile sector but also apparel sector too. Despite of high-end machineries apparel industry is depending heavily on human labour force. The working conditions in apparel manufacturing units, the solid waste generated in the form of cut-outs and quick changes in styles have highlighted market in different ways. The race among large manufacturer and leading fashion houses has resulted in overconsumption of resources i.e., textile raw material and energy etc. Thus, beside the textile industry impact of apparel industry has been assessed majorly on climate change as well as biodiversity on earth.

In last decade, retailers have increased the number of fashion collections released each season. Some high-end fashion shops swap new garments multiple times a week. For example, Zara a popular fast fashion brand, launches 24 collections per year and H and M release almost 12 collections per year. It is part of the informal culture known as 'fast fashion.' Every year, 100 billion new garments created from new or synthetic fibres end up in trash because they are out of style resulting in tremendous carbon impact. Thus, fast fashion contributes to pollution due to release of high quantities of chemicals into our environment from the disposal of solid textile waste. A clothing may cost a few rupees to the purchaser, but there is a hidden larger cost in terms of the environment and the low-paid workers that work in bad conditions. The added environmental cost is due to its degradation by extensive utilization of natural resources and post-consumer apparel waste. The low cost of garments attracts consumers into purchasing new clothes with each new trend. Thus, their old or unwanted clothes are replaced instantly with the minimum impacts on their wallets. This practice increases dump that constitutes major share of landfills i.e., 85% of textiles go into landfills and only 15 % recycled. Further, some fast fashion products have low durability and quality (**BBC report 2020**). Fast fashion goods are designed with a shorter life expectancy keeping in mind that fashion trends will change in short time span. Fast fashion consumers are those who adopt fast fashion trends or renew their wardrobe in each season with products of low cost, low quality and low longevity which reflect the latest fashion. The youth are target group of fast fashion industry who are more concerned about their look and follow fashion trends religiously. Although, young generation is well versed with the negative impacts of fast fashion on environment as well as the need for the sustainable practices. Despite this, they end up

being affected by social media or celebrities, whom they follow and are influenced by fashion bloggers and media influencers.

Owing to hue and cry made at different platforms by diverse groups ranging from activists to academicians, the youth may not follow sustainable practices from decision making to practices in daily life. Sustainable and ethical fashion (morally right and acceptable) is an emerging approach well supported by some leading designers and apparel brands. This approach in manufacturing and designing clothes may maximize the benefits to industry and society at large and at the same time minimizes the impacts on the environment. Sustainable Consumption and Production (SCP) is about doing “more” and better with ‘less’ it means increasing net welfare gains from economic activities, by reducing resources use, degradation and pollution along the whole life cycle of products so as not to jeopardize the needs of future generations. While ‘more’ is used in terms of goods and services with less impacts on environment. Sustainable development is crucial goal for all nations looking forward into achieving UN agenda 2030 (**UNEP report 2020**).

The concept of sustainable development has suggested an equilibrium between economic development and environmental preservation. The beginning of concept sustainable fashion started from 1987, when UN defined the sustainability as “Development that meets the needs of the present generation without compromising the ability of future generations to meet their needs”. By applying this theoretical definition into practices of fashion industry, sustainable designing, manufacturing, and consumption were adopted to make sure that this industry took steps to minimum harm to the planet (**United Nations, 1987**).

These efforts focus on minimum use of natural resources and maximum profit in terms of longer life of clothing by recycling, reusing, reducing and circular economy or collaborative model application. The sustainability equation comprises of “the three R s” i.e., reduce, reuse and recycle. The major goals behind the 3Rs are to prevent waste generation, accumulation and reservation of natural limited non-renewable resources. The first R refers to recycle, the process of regeneration of new products from an old product which not serviceable anymore. The main purpose behind recycling is maximum use of natural resources with minimum impact on environment. It also conserves the energy which needed for extraction of natural resources in virgin form and conversion of raw

material into product by processing. The second R means reuse i.e., use of material more than one in their existing form instead of throwing them into landfills after use. It is strategy to keep new resources from being used for a while longer and old resources from going into the landfills as waste junkyard. The third R is reduce, to use minimum resources at the first place. This strategy is most effective in 3Rs of sustainability. It helps in conserving resources and reducing waste which combine effect of reuse and recycling on environment as well on economy (**Jeffery, 1996**).

The major problem with clothing and textile industry is its linear economy system. It needs transition from linear economy to circular economy for better economic, societal and environmental outcomes. In circular economy models, clothes as fabric, and fibre re-enter the economy after use and never end-up as waste in landfills. The circular economy is mainly based on three major aspects viz., eliminate waste and pollution, circulation of products and materials (at highest value), and regeneration of nature. Circular economy is thus a strategy to solve the problems of climate change, waste, pollution and protect the biodiversity on planet (**Macarthur, 2011**).

Further **Henninger et. al. (2021)**, explained collaborative aspect of sustainability with propose that fashion/apparel consumption among consumers involves instead of buying new clothes/apparel product, use alternative ways like swapping, gifting, second-hand, lending, sharing, leasing or renting through various platforms. There are many online platforms like Fly robe, Kuro that offer clothes on renting, Posh Mark for reselling of used clothes and buying of second-hand clothes or any other accessories. It helps in solving the problem of waste management by reducing waste into landfills, and reducing consumption, so it is economic and environment friendly which led to the concept of sustainability in apparel industry.

Logically, there are mainly three sides which formulates relationship between supply of the apparels, governmental standards /regulations and consumer actions. In developing countries like India, there is lack of strict rule and regulations for following the standards in product manufacturing. The producer and consumers are interdependent to each other i.e., the products are designed according to the demands of consumer and at low cost. The low-cost production reasoned for lower wages and extended work hours of the labor in fashion industry. This low-cost production has led to increased consumption of fashion in recent years. People own multiple clothes that are worn a few times and then

disposed before it loses its utility. This consumer behaviour led to various adverse impacts on environment and ethical concerns that are included within framework of sustainability.

Over-consumption is the key cause of the global climate change. Consumer plays a very important role towards achieving the sustainable development goals. Sustainable consumption can be achieved by improving consumer awareness or knowledge, changing attitude and behaviour, and fixing responsibility on producer. The life cycle analysis of products is a key issue in purchasing of an apparel product for both producer and consumers.

**Srivastav and Thakur (2021)** stated that consumer awareness about sustainability aspects is the basis for consumer attitude towards the concept of sustainability and attitude which may be reflected in the behaviour. Attitude affects significantly on the consumerism; it may be positive or negative. The human attitude is not permanent, it keeps changing according to situations and conditions and is also affected by the awareness of an individual on aspects related to the product. Consumers also have feelings regarding some products or brands which are based on the personal experiences and from the other's responses (friends, relatives, cliques). Behavioural intentions show the plan of consumers for actual purchasing decisions. Now-days consumers are bombarded by a flood of cheap products made of petroleum-based materials that are neither reused nor recycled for other uses. Consumers' responsible product choice-decision play a very important role in sustainable development of society as well as nation. The responsible practices of consumers would make producers to rethink about their efforts for inclusion of sustainable and ethical production practices in new collections.

India is a country owing to larger proportion of youth in total population. The youth of our nation can take a lead in adopting sustainability in every aspect of our lives and being the flag bearers in fulfilling the sustainable development goals proposed by UN to be achieved globally in near future. The globalization of trade post 2005 had changed the market scenario with entry of global brands in varied price ranges to meet consumers needs of different types. The X, Y and Z generations (born post 1990s) have increased disposable income to spend and have been exposed to market where diverse range of apparels are available to experiment. These generation also follow fashion of their times more rigorously due to peer pressure which lead to unsustainable consumption patterns

among them. Hence, present research work was planned to study the level of awareness, attitude and behaviour of youth towards sustainable apparel consumption.

This research study mainly focused on the consumer aspect only which explored the awareness on sustainability aspects, sustainable methods of apparel manufacturing, green/eco labels, sustainable consumption/pro environmental consumption, secondly about the attitude of youth towards sustainable apparel consumption and finally on behaviour towards apparel consumption among youth across North India.

The collected data will enable to identify critical points where awareness need to be enhanced also the data will be used to find out the ways to enhance the awareness of consumers on sustainability in purchase, use and disposal of apparels. The research outcome will be helpful for the apparel product designers, market strategy planners and policy maker too in planning of products and industry policy to stabilizing the standards for product manufacturing. The level of awareness, attitude and behaviour about sustainability in apparel consumption among youth who are the backbone of nation will contribute significantly in achievement of sustainable development goals globally. The gap in attitude and behaviour of Indian youth regarding sustainable apparel consumption will be helpful in understanding the flaws in youth's practices related to apparel consumption and disposal that need to be altered. This will let the manufacturers know how to market the apparels to promote sustainability in apparel consumption and disposal. This will surely make win-win situation for manufacturer as well as consumers. The study was intended to assess the level of awareness, attitude and behaviour of youth in sustainable apparel consumption with the following objectives:

### **Objectives**

1. To assess level of awareness about sustainable production and consumption of apparels among youth.
2. To measure the attitude of youth towards sustainability in apparel consumption.
3. To study the behaviour of youth for sustainable apparel consumption.

Focus of the study was:

1. Master's level students of different colleges of selected SAUs across North India.
2. Consumption pattern for apparels only.



*Review*  
*of*  
*Literature*



## Chapter-2

## REVIEW OF LITERATURE

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The planning and implementation of any research study are preceded by a review of literature in related fields. A comprehensive survey of the literature was undertaken to be up-to-date with work related to the study, which proved to be helpful in its systematic accomplishment. The review represents an intricate account of studies related directly or indirectly to the present research work and is existing under the following heads and subtitles:

### 2.1 The Textile and Apparel Industry

#### 2.2 Environmental Cost of the Apparel Industry

#### 2.3 Sustainability in Textile and Apparel Industry

##### 2.3.1 Aspects of sustainability: Social, environmental and economic

##### 2.3.2 Circular economy in textile and apparel industry for sustainability

##### 2.3.3 Research studies related to aspects of sustainability in apparel production

#### 2.4 Related Research Studies on Consumer and Sustainable Apparel Consumption

##### 2.4.1 Effect of awareness, knowledge and attitude on consumer purchasing decision and behaviour

##### 2.4.2 Factors affecting the sustainable apparel consumption

### 2.1 The Textile and Apparel Industry

According to **Bheda *et al.* (2003)** although the apparel industry is global, the manufacturing facilities from developed countries are shifting to developing countries to reduce labour costs. **Bruce *et al.* (2004)** found that in the developing countries like Bangladesh, Brazil, India, garment industries face the greatest challenge despite the cheap labour cost, due to the short production life-cycle, high volatility, low predictability, high level of an impulse purchase, and the quick market response. The developing countries try to reduce cost by raw material and labour which led to exploitation of human rights in industry and unethical behaviour towards nature and natural resources.

According to **Gera (2012)**, globally India's share was only 4% compared to China's 13.75%. In addition to China, other developing countries like Korea, Taiwan, Mexico, and Turkey were emerging as serious competitive threats for India post WTO era.

The textile and apparel industry contribute significantly to the Indian economy i.e., 14 % of total industry output and nearly 5% of gross domestic product. Over 35 million people depend on the textile and apparel industry for employment (**Dhanabhakyaam, 2007**).

**Anand and Khetarpal (2014)** reported that the apparel industry in India played an outstanding role in Indian economic growth. With the emergence of branded outlets, the number of malls also increased in India. The change in Indian people's lifestyle, working-class change, increased disposable income, and change in social and cultural values also increases the growth of the apparel industry in India. The major lifestyle change included increased per capita and household income, rapid urbanization, education, media, and information. The apparel fashion brands had been elevated the fashion business and economy in India. So, the apparel industry is one of the extremely significant sectors of India in revenue, investment, trade, and job creation.

**Hasan et al. (2016)** reported that ready-made garment sector was the largest contributing sector in GDP and net export earnings of Bangladesh. The RMG (Ready-made garment) contributed more than 76% to national export earnings. This resulted from the backward linkages of the industry that had grown over time and helped the sector to have a higher value addition and a much higher net retention rate. In addition, relaxation of Rules of Origin (RoO) accelerated export growth of this sector in Bangladesh and generated earnings in foreign currency to provide large employment.

**IBEF (2021)** reported that India is the world's second-largest exporter of textiles and apparel with a massive raw material and manufacturing base. The textiles and garment industry in India is a significant contributor to the economy, both in terms of its domestic share and exports. It contributes about 7% to industrial output, 5% to the GDP, and 15% to the country's total export earnings. This sector is one of the largest job creators in the country, it provides employment about 45 million people directly and 100 million people in allied industries. Andhra Pradesh, Telangana, Haryana, Jharkhand and Gujarat are the top textile and clothing manufacturing states in India.

## **2.2 Environmental Cost of the Apparel Industry**

**Chapagain et al. (2006)** stated that cotton consumption was the main reason for the globally 2.6% water use. A huge amount of water was required for cotton crop growth

and later in processing of the fibres and fabric production. This study revealed that the EU25 countries indirectly reason for the 20% drying out of the Aral Sea. It was found that the one-fifth of the global water footprint (measure of quantity of water used for our consumption in broad sense) related to the cotton consumption caused water pollution in the world. In terms of pollution, cotton consumption in the EU25 had the largest impacts in India, Uzbekistan, Pakistan, Turkey, and China.

**Eryuruk (2012)** revealed that the textile industry is one of the largest polluters in the world. At least 8,000 chemicals are used to manufacture raw materials into our clothing lines. Seven of the top fifteen pesticides used in the non-organic cotton-growing are considered carcinogens. Contrary to it, **Rana et al. (2014)** proposed that natural plant fibres are considered to have much lower environmental impacts and to be more sustainable. But the cultivation and processing of natural plant fibres consume more water, use synthetic fertilizers and pesticides, and produce greenhouse gas emissions in some processing stages. The applications of synthetic fertilizers, pesticides and other chemicals for cotton fibres cultivation lead to the emission of CO<sub>2</sub> and SO<sub>2</sub> higher than the synthetic polyester filament production.

**Roy Choudhury (2014)** reported that the textile industry releases a lot of harmful chemicals into the environment. There had been evidence that the textile and apparel industry was responsible for water pollution (release of harmful chemicals in river system) and air pollution due to the release of harmful gases (transportation). Toxic substances dumped by industry which had wide range of harmful impacts such as causing cancer, affecting the hormone system, and interfering with reproductive system. These effects could apply not just to humans but to all living creatures. The wastewater treatment plants were unable to cope with many toxic substances. So, the consequences for ecosystem and human health are severe. LCA (Life Cycle Assessment) should be taken up regularly, especially for new products and processes, to keep track of their impact on the environment.

According to **IUCN report (2017)**, the apparel industry was responsible for around 10% of carbon build-up and 35% of all micro-plastic in oceans that came from the laundering of synthetic textiles. Most of the garments (almost 60%) contain polyester or synthetic fibres which release 2 to 3 times more carbon emission as a comparison to the natural fibres beard cotton garments. The polyester fibres being non-biodegradable, is harmful to the earth. The cotton and viscose are not sustainable. Cotton requires a huge amount of freshwater and pesticides (22.5%) for growing. The viscose rayon

manufacturing requires bleached wood pulp which causes deforestation and releases harmful chemical to the soil and underground water sources.

**Bairagi (2018)** conducted a research study in India among young age (20–30 year) users through online survey. It was found that 68% of the Indian population buy clothing every month. The most important reasons behind buying were impulsive buying and the actual need as revealed by 53% of users who discarded their clothing due to the non-requirement in the wardrobe. It was also stated that most of the respondents were not aware of donating sites of clothing like NGOs (they convert old denims into the schoolbags) and other re-sale channels.

**de Falco et al. (2018)** conducted a study in Italy to find the amount of synthetic microfibres released during laundry. Three samples of different commercial standard fabrics were selected, made of synthetic fibers by different weaving and knitting methods. It was found that hundreds to thousands of microfibres per filter were released and the values depended on the kind of fabric tested and on the washing conditions/laundry products. The washing with only water released  $162 \pm 52$  microfibres per gram of fabric. The number of released microfibres increased to more than 7 times if liquid detergents were used in washing. These microfibres cause microplastic pollution in oceans which affects the ecosystem and life of underground water living organisms.

**Madhav et al. (2018)** also reported in their study that textile wet processing requires a lot amount of freshwater. For example, 50 to 100 L water was required in 1 kg textile processing, and a huge volume of chemical effluent was released. The de-sizing wetting process produces half of the wastewater which has high BOD. This was because of the starch hydrolysis that increased the organic matter in water. The bleaching process produces chlorinated toxic waste and the mercerization process also produces a large amount of unused NaOH. These harmful chemicals cause the pollution of water. These chemicals are not only harmful for human beings but also harm the environment when not properly treated.

**Rani and Jamal (2018)** conducted a study regarding the post-consumer waste recycling and environmental protection. It was found that most of the industrial solid waste goes into landfills which not only causes water pollution but this is the wastes of non-renewable resources. The lack of equipment in the industries, lack of knowledge and awareness in consumers about the recycling and waste management technique is the reason for landfills in India.

**Schonberger (2019)** studied a number of the chemicals used during textile manufacturing. These were associated with spinning and weaving (lubricants, accelerators, and solvents) and wet processing (bleaches, surfactants, softeners, dyestuffs, antifoaming agents, and durable water repellents, among others). It was reported that a single European textile-finishing company used over 466 g of chemicals per kg of textile, including sizing agents, pre-treatment auxiliaries, dyestuff, pigments, dyeing auxiliaries, final finishing auxiliaries, and basic chemicals. These chemicals were reason behind groundwater pollution and the pollution of local water resources. It was also found that these chemicals were absorbed in fibre molecular space (amorphous regions) and during laundering process, were released into water.

In recent years, retailers had increased the number of fashion collections release each season. Some high-street shops rotate new garments multiple times a week. It is part of the cheap, throwaway culture known as ‘fast fashion. Every year, 100 billion new garments made from new fibres are produced many of which soon end up in landfills. This results in an enormous carbon footprint. Polyester and nylon, for example, are made using fossil fuels. Fast fashion also leads to pollution with a dangerously high level of chemicals leaching into our environment. A dress might cost a few pounds for the consumer, but there is a hidden cost to the wider environment, both for the low-paid workers in poor conditions and ecosystems and other species (**BBC Earth report, 2021**).

### **2.3 Sustainability in the Textile and Apparel Industry**

The term sustainability refers to meeting the present needs without compromising the resources and abilities of future generations to meet their own needs. Sustainability is integrating human well-being with natural integrity. (**UN World Commission on Environment and Development, 1987**). Sustainable Development is the organized plan to meet the needs of a human being without adversely affecting the natural resources for future generations. This includes four main aspects - environmental, economic, social, and cultural, which are not separated from each other. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit the fulfilling the social, economic, and other requirements of present and future generations (**UNESCO, 1989**).

### 2.3.1 Aspect of sustainability: Social, environmental and economic

Social sustainability is defined as a compilation of actions and efforts to promote development that does not negatively affect the stock of social and human resources but contributes to the increase their potential. The social pillar of sustainability is very important because it plays a crucial role in the foundation of sustainability and a harmonious community. It can be applied in the apparel consumption by choosing traditional, locally manufactured and the handicrafts which promotes sustainability and make economic benefit for the social groups (**Horner et al. 2009**).

Environmental sustainability is defined as the fulfilment of resources and services needs of the current and future generations without compromising the security of the eco-systems. It can also be said as the condition of balance, resilience, and interconnections that allow human beings to satisfy their needs without damaging the non-renewable resources and allow renewables to regenerate or recover efficiently i.e., Human actions do not damage to the biological diversity of ecosystems (**Morelli, 2011**).

According to **United Nations (2017)**, Sustainable development Goals (SDGs) are the 17 integrated global goals that were designed as blueprint to reach better and sustainable future for all. The SDGs were set up in 2015 by the United Nations General Assembly (UN-GA) and were intended to be achieved by the year 2030. This is also called Agenda- 2030.

According to **University of Gavle (2018)**, “economic sustainability is an integrated part of sustainability that means the use of human and non-human resources in such a way that they create long-term products with reserving the resources for future generations also. This also includes the aspects of recycling, reusing, and reducing resources and products to protect the social, environmental, and cultural aspects of sustainability”.

**Shafie et al. (2021)** found that awareness about environmental issues and sustainable behaviour in relation to clothing use, play important role in achieving sustainable goals at local, national and global level. In order to achieve sustainability, sustainable behaviour must be adopted by all the manufacturers, industries, consumers, and fashion educators, who have an impact on the community’s behaviour.

### 2.3.2 Circular economy in textile and apparel industry for sustainability

**Iran and Schrader (2017)** reported an alternative method of sustainability from "green clothing" was collaborative consumption. It had been stated that numerous sorts of

collaborative consumption modes already exist, as well as their good impact on the environment. The economic impact of collaborative consumption was a complex component that cannot be defined in a straightforward manner.

**Norum (2017)** conducted an in-depth interview in Columbia and revealed that the knowledge and awareness about the impact of post-consumer textiles waste on the environment affected the choice selection for disposing of clothes. Choosing the donation as the way of disposing off clothes is mainly affected by the physical condition of garments/clothing.

**Todeschini et al. (2017)** defined the alternatives of fast fashion and the innovative sustainable models in the clothing and apparel industry. It included circular economy, corporate social responsibility, fair trade, and technical innovations. It was also revealed that consumer awareness about fast fashion alternatives had been increased in recent years which played important role in ‘sustainability born’ means the sustainability aspect created in minds of consumers. The evidence of the changes about the awareness on sustainability was found in terms of increased interest of people in green products, sustainable and eco-fashion products.

**Weber et al. (2017)** found that the fashion and non-fashion Canadian consumers used the swap, resell, and donating sites for disposal of clothing. The fashion consumers disposed off 62% of total textiles in alternative channels and non-fashion consumers disposed off through alternative channels only 50% of total textiles remaining; 38% and 50% departed into landfills respectively.

**Amaral et al. (2018)** also reported that the use of new raw materials for the production of apparel products was costly and caused more damage to the natural resources which came into force as a climate change results. Reusing existing materials as raw materials not only reduces the cost of manufacturing but also save the environment and this established the circular economy. To achieve the circular economy, production model needs innovative strategies to strengthen the relationship between consumers and manufacturers. There was also a need for awareness about the circular economy and sharing economy among consumers to further enable manufacturer to go for closed loop production model.

**Kamis and Puad (2018)** concluded that the recycling program was the one way to reduce waste and resources’ consumption with the fulfilment of human needs. This might also

help in the reduction of pollution and cleanliness of environment. This can be achieved further more effectively with the help of consumer's adaptability to recycling techniques and regulations through government policies and laws.

**Koszewska (2018)** suggested that in recent years linear economy model (take-make-waste) had propelled the clothing and textile sector towards ending. In the present scenario, there is the need for circular economy models and changing the attitude of consumers towards throwing away clothing. The emerging trends focusing towards sustainability are circular economy, digitalization, emphasis on transparency and as well as the adoption of new business and consumption models on sharing economy. The main barriers in transition to the closed-loop /circular economy was lack of knowledge and awareness among the consumers about the recycling methods.

**Bell (2020)** explained that there are 5Rs of sustainability i.e., refuse, reuse, reduce, repurpose and recycle. Incorporating this methodology into the business' waste reduction and recycling efforts would minimize landfill waste and help in taking recycling program to the next level. The first element refuse means consumers should learn to refuse non-recyclable or wasteful products. consumer should make smarter decision and setting standards and expectations early in process makes it easier for organization to "refuse" waste at the starting stage. Reduce refers to the decrease in the use of non-recyclable and non- eco-friendly harmful products. It is the most important aspect in sustainability which helps in decreasing landfills due to overconsumption. The term reuse refers to the throw-away culture of single use plastic increased the load on environment, reuse of these non-recyclable products helps in maintain of environmental balance. In the context of clothing and textiles, consumers can use the old non-recyclable products in another form instead of throwing away. The term repurpose emerged because that every item can't be refused, reused, and recycled so repurpose is the step towards zero waste. It helps in sustainability goals' achievements and reduce the environmental load. The recycling, least but not last term in sustainability which is the most important aspect in environmentally friendly waste disposal method. There are various techniques of textile and clothing recycling like physical/mechanical and chemical recycling which helps in reduction of waste and protect the environment at some extent.

**Paco (2020)** conducted a survey of different regions of the world and reported that fashion brands produced low-cost fashion products which encouraged consumers to buy

more and more resulting in large consumption. It was also found that consumers disposed off and donated clothes due to lack of space in wardrobe and 'need' for something new. It was also found that people didn't prefer to buy second hand clothes due to various reasons. The main reasons were cleanliness, prefer to buy new and non- fashionable and other cultural aspects. Thus, it can be derived that collaborative consumption models face the difficulties in establishing due to these reasons.

**Chen *et al.* (2021)** also reported that the circular economy mainly focuses on the four major aspects of clothing system such as materials, production, usage and after usage/dispose off. The use of natural renewable resources (renewable energy sources) during the manufacturing processes and reuse of products at the end of life increase the life cycle and promotes the sustainability.

### **2.3.3 Research studies related to the aspects of sustainability in apparel production**

**Bostrom *et al.* (2016)** disclosed the challenges faced in attaining sustainability goals in textile and clothing industry. This study also discussed about sustainability responsibilities of suppliers' sides producers, governmental role and responsible consumer behaviour. This research further revealed special issue regarding analysis of the sustainability challenge by focusing on the role of responsibility among the various actors and institutions involved in the production and consumption of textiles and clothing.

**Hur and Cassidy (2019)** studied the internal and external barriers in implementing sustainable model in fashion design. The major findings of the research showed that there were internal (personal and organizational) and external challenges to incorporate sustainability into the fashion design process. Internal challenges consisted of the lack of consensus and knowledge regarding sustainable design, lack of design-led approaches implementing sustainability in fashion and perceived trade-offs with other design criteria, such as aesthetic styles, cost, and fashion trends. External challenges included the complexity of sustainability issues, perceived insufficient consumer demand, attitudes and behaviour gaps in consumer purchasing decisions on sustainable collection ranges and insufficient incentives or values for businesses to implement sustainable design strategies.

## **2.4 Related Research Studies on Consumer and Sustainable Apparel Consumption**

### **2.4.1 Effect of awareness, knowledge and attitude on consumer purchasing decision and behaviour**

According to **Mayrhofer (2004)**, humans are an essential element in the system's environment. General System Theory (GST) helps in understanding of human and social system. It explained that the social and human were not two different units but they were interrelated. This theory helps in understanding of human behaviour with context of environmental and conditional factors. It described that not only environmental factors but also social, economic, legal/political, technological advancements, cultural aspects and competitive environment must be considered during the study of human behaviour in social system. It was also stated that in case of individual behaviour towards textile recycling, the environmental factors like solid waste management policies, convenience of local charity and donation sites and local attitude towards recycling could affect individual recycling behaviour.

**Brosdahl et al. (2010)** found that the knowledge about the sustainability issues did not affect the consumer's behaviour. But the concerns about the environment positively affect the sustainable consumer behaviour. So, it was finally concluded that only knowledge about sustainability did not translate into consumption behaviours.

**Broshdahl and Carpenter (2011)** reported that knowledge about environmental impacts of textile and apparel industry influence the consumer behaviour and decision-making process. The knowledge about sustainability issue had increased the sustainable concern of consumers which could directly be related to the sustainable behaviour of consumers.

**Chan and Wong (2012)** conducted a research study in Hong- Kong. It was inferred from the results that Product-Related Attributes (PRA) like product design, quality, and price were not related to the eco-fashion consumption decision (ECD). The consumers gave more importance to the Store Related Attributes (SRA) like credibility and status, as compared to the PRA when deciding on Eco-fashion Consumption Decision (ECD). This research study contributed in understanding the consumer's decision-making process towards ethical consumption decision in fashion.

**Nath et al. (2012)** conducted research study in Roorkee, Uttarakhand to explore awareness about green products among adults. This study mainly focused on adopting an environmentally sustainable practices in daily life of consumers in field of clothing and their care. The findings revealed that the level of the knowledge about green products that are locally available in Uttarakhand was medium. It also revealed many barriers like low functional performance, high-prices, lack of availability and difficulty in integration of green products in daily life were faced by the consumers in regard to using green products and thus affected consumers purchase decision and behaviour.

**Kang et al. (2013)** conducted a survey among young consumers of US, China and South Korea. It was found that knowledge, attitudes and perceptions affected the decision-making process and behavioural intentions towards the consumption of environmentally sustainable textile and apparel products. Consumer knowledge and attitude affected each stage of behavioural decision-making. It was also found that individuals with more knowledge on environment issues tend to perceive their individual efforts as contribution to solving environmental problems more than those who had less knowledge on such issues.

**Kozar and Connell (2013)** conducted a survey to collect data from the undergraduate and graduate students in USA. The results revealed that there was significant relationship between the knowledge, attitude and behaviour towards environmentally responsible apparel consumption. It was discovered that the knowledge about environmental issues regarding apparel consumption such as a lot of chemical pollutants produced during manufacturing of apparels, recycling techniques and biodegradability of apparels goods affected the positive and negative attitude towards apparel products. The positive attitude towards the recycling and biodegradability led to environmentally responsible behaviour in apparel consumption. It was also reported that students had less knowledge regarding social issues related to the apparel production in apparel industry.

**Mcneill and Moore (2015)** conducted a survey in New Zealand, that fashion consumers and reported that the consumers had awareness about sustainability but lacked in clarity between the sustainable and ethical practices. It was also found that the consumers perceived different meanings of sustainability, such as quality, better labor

circumstances during production, environmental friendliness, and high quality with a high price. The key themes of consumer perception were revealed from that study. These were role of self, the importance of fashion to the individual, concern for the environment and society, barriers to ethical fashion consumption and motivation to change fashion consumption behaviour. These five key themes could play important role to understand the attitude of consumers in fashion consumption. It was also found that the consumers' attitude towards sustainability in their fashion purchasing was directed by level of concern for social and environmental well-being, pre conception toward sustainable fashion and pre behaviour with relations to ethical consumption actions.

It was reported by **Harris *et al.* (2016)** that in UK, focus on sustainability alone would not drive the necessary changes in consumers' clothing purchase, care and disposal behaviour. The three reasons behind it were found to be that clothing sustainability was too complex; consumers are too diverse in their ethical concerns and clothing was not an altruistic purchase. This study revealed the challenges that need to be addressed and the associated barriers for sustainable clothing were complexity of sustainability, lack of transparency in supply chains, over-consumption, fast fashion etc. Interventions targeting consumers, suppliers, buyers and retailers were proposed that could encourage more sustainable clothing production, purchase, care and disposal behaviour.

**Yadav and Pathak (2016)** examined that environmental concern, knowledge, attitude, and subjective norms/ social pressure which led young consumers' intention to buy green products. The most important factor was the environmental concern which most significantly affected the purchasing decision of green products. It was inferred that Indian consumers did not have significant knowledge about the environmental issues and green products.

**Ghouri *et al.* (2018)** found that the self-image (SIM) and social influence (SIN) affected the green purchase behaviour. The knowledge of social practices and attitude about environmental issues had impact on the green purchasing behaviour. It was also found that advertising play pivotal role for enhancing customer's knowledge about the environment degradation, in changing the attitude and behaviour about environment.

**Su *et al.* (2018)** explored the Chinese young consumers' perception and attitude toward sustainable clothing. This study revealed how Chinese college students view and feel about sustainable clothing in terms of their perceived risks, and how their

sustainability knowledge, personal values, and perceived risks impact their attitude towards and willingness to buy sustainable apparel products. The study also showed that consumer attitude and willingness to buy were significantly predicted by personal values and consumer perceived risks toward sustainable clothing.

**Jacobs *et al.* (2018)** examined the attitude-behaviour gap in context of sustainable clothing among German female consumers. This study established a positive attitude of consumers towards social-ecological clothing standards, biospheric and altruistic values, as well as an affinity to online and catalogue shopping for enhanced sustainable clothing purchases. It was further observed that egoistic and hedonic values and remarkably preference for durable clothing hindered sustainable clothing purchase behaviour.

**Mehta and Pujara (2019)** conducted research in Rajkot city, Gujarat on consumer awareness and willingness about sustainability in clothing. It was found that the consumers had high awareness and willingness about sustainability irrespective of gender, age and income. But there was no favourable attitude towards sustainability. The study revealed that people bought clothes when they needed, so unknowingly people supported sustainability. The main reasons of disposal and charity of clothing were uselessness, unfashionable clothes, etc. The people of Rajkot city (Gujarat) were neutral for selecting environment friendly and hand- made clothes due to the lack of awareness and availability of high pricing hand-made sustainable products.

**Muthu (2019)** reported that there were several reasons as to why consumer behaviour in the sustainable clothing market should deserve more attention from researchers. These reasons were gradual environmental degradation, shrinking of non-renewable resources, lower quality of life and social and ethical problems that directly or indirectly are arising from fast fashion trend consumption. These unfavourable processes of environmental degradation will not stop unless consumption patterns are modified. It was also inferred that manufacturers might use new designs and technologies to minimize the impact of a product on the environment and to make production more sustainable, but their efforts would be pointless if consumers would not buy sustainable products and do not change their consumption habits.

**Okur and Saricam (2019)** revealed that the knowledge about environmental issues not only significantly affected the consumer behaviour but also the motivation for

environmental responsibility. The involvement of consumers in environmental protection activities positively affected the consumer's attitudes towards green apparel brand and products because the activities motivate them to act in sustainable manners.

**Patwary (2020)** reviewed the current state of environmental challenges and way forward for the fashion industry wherein consumer participation was recommended. In this study the role of consumer was defined. It was also envisaged that today there is need for the conscious consumer which could play a major role in sustainability in fashion industry. The consumers need to consume reasonably (i.e., avoid overconsumption), prefer durable apparels (i.e., avoid fast fashion), care for the apparel consciously (i.e., washing and drying properly) and dispose off in an appropriate way (i.e., reusing and recycling).

**Matsapola (2021)** revealed relationship between knowledge level and consumer behaviour of South African people towards sustainability in clothing. It was reported that 100% respondents had knowledge about sustainable buying of clothing and practices of disposal. The motivation behind buying clothes were price, style, fit, and quality while only 6.25% respondents gave priority to environmental concerns. The findings also showed that style and quality were the main motivation for buying clothing.

**Soyer and Dittrich (2021)** conducted research in Netherland to investigate the attitude behavior gap among consumers of clothing. It was found that the attitude-behaviour gap in the sustainable choices for purchase, use and disposing of clothes. In this study it was revealed that social factor of sustainability was core in buying and disposing of clothes.

#### **2.4.2 Factors affecting the sustainable apparel consumption**

**Connell (2010)** revealed that internal and external barriers affect Eco-conscious Apparel Acquisition (ECAA) and Environmentally Preferable Apparel (EPA) consumption among the USA consumers. The main internal factors consisted of knowledge about ECAA and attitude towards EPA and the external barriers were availability of EPA and others like economic conditions, cultural aspects, social norms and retail environment of consumers.

**Bhaduri and Ha-Brookshire (2011)** revealed that the major factors of affecting the consumer attitude and purchase intention were the prior knowledge, transparency of

business, value gained from the transparent apparel products, quality and price. The study revealed that the prior knowledge about the apparel industry manufacturing and transparency of product's supply chain affect the attitude of consumers.

The findings deducted by **Albayrak *et al.* (2013)** showed that the altruistic (self-sacrificing) and biospheric environmental concern affect the green purchase behaviour. It was concluded that environmental concern positively affects the consumer's behaviour. The doubts in available information (scepticism) also affected this relationship since it was worked as mediator.

**Kozar and Connell (2013)** conducted a study to explore consumer knowledge, attitude and behaviour in environmentally sustainable clothing consumption. It was reported that consumers had knowledge and also kept attitude towards the sustainable clothing. But the knowledge and attitude were not implemented in real consumption because various personal, social and economic variables existed. Personal barrier consisted of the lack of knowledge about various environment friendly consumption ways available, societal norms also expect from an individual to appearance according to the personal and professional norms. Economic variables meant comparatively high price (external barrier) of recycled and organic material also stop to purchasing an individual to the sustainable clothing.

**Dagher and Itani (2014)** deducted that the green purchasing behaviour was affected by three factors, perception of the seriousness of environmental issues, perception of environmental responsibility and the concern of self-image in environmental behaviour. It was found that these factors positively affected the green purchasing behaviour of consumers. Further it was explored that social influence perceived from society affected positively to the ecological consumer behaviour. It was also found that the positive consumer attitude did not always convert into ecological consumer behaviour but the environmental concern mostly reflected in consumer behaviour.

**Biswas and Roy (2015)** conducted research in India and data was collected from different central universities. It was found that price was more important as compared to other choice preference. Social value parameters were the most dominating factor which affected the sustainable consumption behaviour adoption.

**Kumar and Ghodeswar (2015)** found that the consumers who were more concerned about environmental issues realized their responsibilities and took acts towards environmental protection. The consumers who took responsibility, searched extensively for eco-friendly products after examining the environment-related sufficient information and making purchasing decisions. So, it was concluded that acceptance of green products depends upon the product's environmental characteristics which fulfil the functional, emotional, and experimental needs of consumers.

**Sanad and Sanad (2016)** conducted research in Egypt on factors having impact on marketing of textile products including apparel and fashion products. These factors included different cultural, social, personal, psychological and environmental aspects. The features related to market covered in study were product characteristics, purchase channel, price and promotion. It was found that price and physical characteristics of the product were most important in decision making process for apparel and fashion.

**Hur and Cassidy (2019)** revealed that fashion design practitioners deal with both internal and external challenges while incorporating sustainable fashion designs. The internal challenges were associated with the organization and personal values and the external came from social and cultural aspects. The lack of awareness and agreement over sustainability tools were major factors in the way of sustainability. In external factors, the complexity of sustainability issues was beyond the control of any organization.

**Kei (2020)** found that both psychological and sociological factors affect the consumer behavior in decision making for purchasing clothing. The price was the most important factor in the rational factors such as durability, quality, level of comfort, price and material being used. The size, color, design, and all over appearance of the apparel garment also affected the decision process. The emotional factors that affected the decision more than rationale. For example, outfits for different occasions and the level to match the whole outfit took part in affecting the process of purchasing garments.

**Su et al. (2020)** found that the US and Chinese young consumer's knowledge positively affected the consumer's attitude towards sustainable apparel products. At the same time financial risk and fashion risk negatively affected the consumer's attitude. Another side the performance risk and psychological risk factors did not meaningfully affected the attitude of consumers towards sustainable buying of apparel products.

**Kholiya *et al.* (2022)** reported that the under Covid-19 situation, the behaviour of Indian consumers changed significantly. It was also found that the age and gender did not affect the apparel consumption but psychological and financial factors affected meaningfully.

**Massey *et al.* (2022)** studied the apparel consumption behaviour of Indian consumers during Covid pandemic situation. It was found that people preferred the online shopping for maintaining social distancing and stated comfort as reason of online buying. The apparel buying was although constrained because people bought the casual clothes only for fulfilling needs not to follow the fashion trends. This type of change in behaviour (reduction in consumption of apparels) increased the sustainable consumption that was observed during pandemic. It was also found that the price played important role in purchasing decision rather than the comfort and quality of apparels. Online shopping could be a sustainable choice if the decision is wisely taken during order placing.



*Materials*  
*and*  
*Methods*



## Chapter-3

## MATERIALS AND METHODS

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The methodology is the scientific way followed for investigating any research problem with optimum accuracy. The aim of present study was to investigate the level of awareness, attitude and behaviour of youth towards sustainable apparel consumption. The systematic procedure followed for conducting the present study is given in this chapter under following heads and sub-heads:

### 3.1 Locale of Study

### 3.2 Selection of Respondents

### 3.3 Conceptual Framework of Study

### 3.4 Research Design

#### 3.4.1 Variables used in study

##### 3.4.1.1 Independent variables

##### 3.4.1.2 Dependent variables

### 3.5 Tools for Data Collection

#### 3.5.1 Questionnaire for assessing awareness of the respondents about sustainability aspects of apparel consumption

#### 3.5.2 Questionnaire for assessing behaviour of the respondents towards sustainable apparel consumption

#### 3.5.3 Pretesting and finalization of Questionnaires

#### 3.5.4 Development of attitude scale

##### 3.5.4.1 Assessment of content validity of attitude scale

##### 3.5.4.2 Assessment of reliability and finalization of attitude scale

### 3.6 Collection of Data

### 3.7 Statistical Analysis of Data

#### 3.7.1 Coefficient of reliability

#### 3.7.2 Frequency

#### 3.7.3 Percentage

#### 3.7.4 Weighted Mean Score

#### 3.7.5 Rank

#### 3.7.6 Chi square test of independence

#### 3.7.7 T-test of two independent groups

#### 3.7.8 One-way ANOVA

#### 3.7.9 Correlation

### 3.1 Locale of Study

The locale of the study was State Agriculture Universities (SAUs) located in the North India. These universities were selected purposively for their easy accessibility to the researcher i.e., accessible distance, SAUs networks and no language barrier with respondents being located in hindi speaking belt. Seven SAUs selected for present study were Govind Ballabh Pant University of Agriculture and Technology, Pantnagar (Uttarakhand), Punjab Agricultural University, Ludhiana (Punjab) Chaudhary Charan Singh Haryana Agricultural University, Hisar (Haryana) Chandra Shekhar Azad University of Agriculture and Technology, Kanpur (Uttar Pradesh) Acharya Narendra Deva University of Agriculture and Technology, Kumarganj (Uttar Pradesh), Swami Keshwanand Rajasthan Agriculture University, Bikaner and Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan).

### 3.2 Selection of Respondents

The post-graduate students of Master's level, both male and female, from the different colleges of selected SAUs were taken as the respondents to study their awareness, attitude and behaviour towards sustainable apparel consumption. Thus, M. Tech students of College of Technology, M.V.Sc. students of College of Veterinary Science, M.B.A. students from College of Management, M.Sc. students from College of Basic Sciences and Humanities, College of Agriculture and College of Home Science/Community Science constituted the sample respondents. Equal number of male and female students of Master's level were selected using random sampling technique from each SAU. The Master's level students were taken purposively in present study as sustainability related aspects exist in the course curriculum in all Post Graduate degree programme under SAUs. So, it was assumed that the selected students were aware of the general aspects of sustainability and sustainable products. The statistical appropriate size of the sample in the present study was calculated on the basis of sample size table as given by research advisor which has been prepared by adopting the formula **Krejcie and Mrogan (1970)** as given below. The sample design used in study is given as Figure 3.1.

$$n = \frac{z^2 \times p \times q \times N}{e^2(N - 1) + z^2 \times p \times q}$$

N = Population size

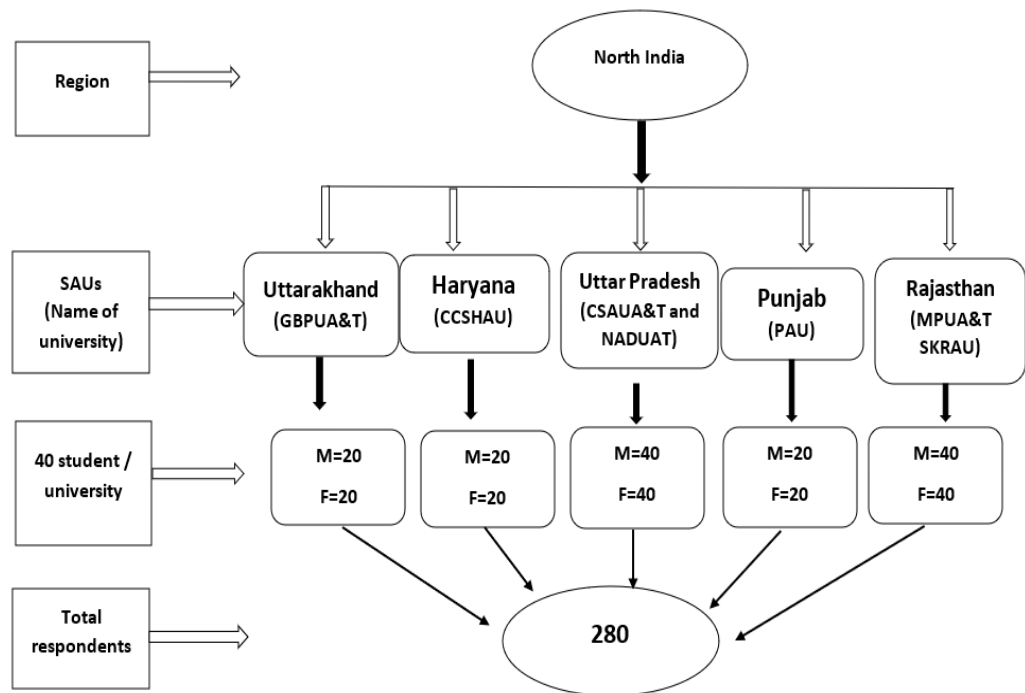
n = Sample size

z = value (1.96) for 95% confidential level

e = Confidential interval expressed in decimal

p = Percentage of picking a choice is expressed as decimal

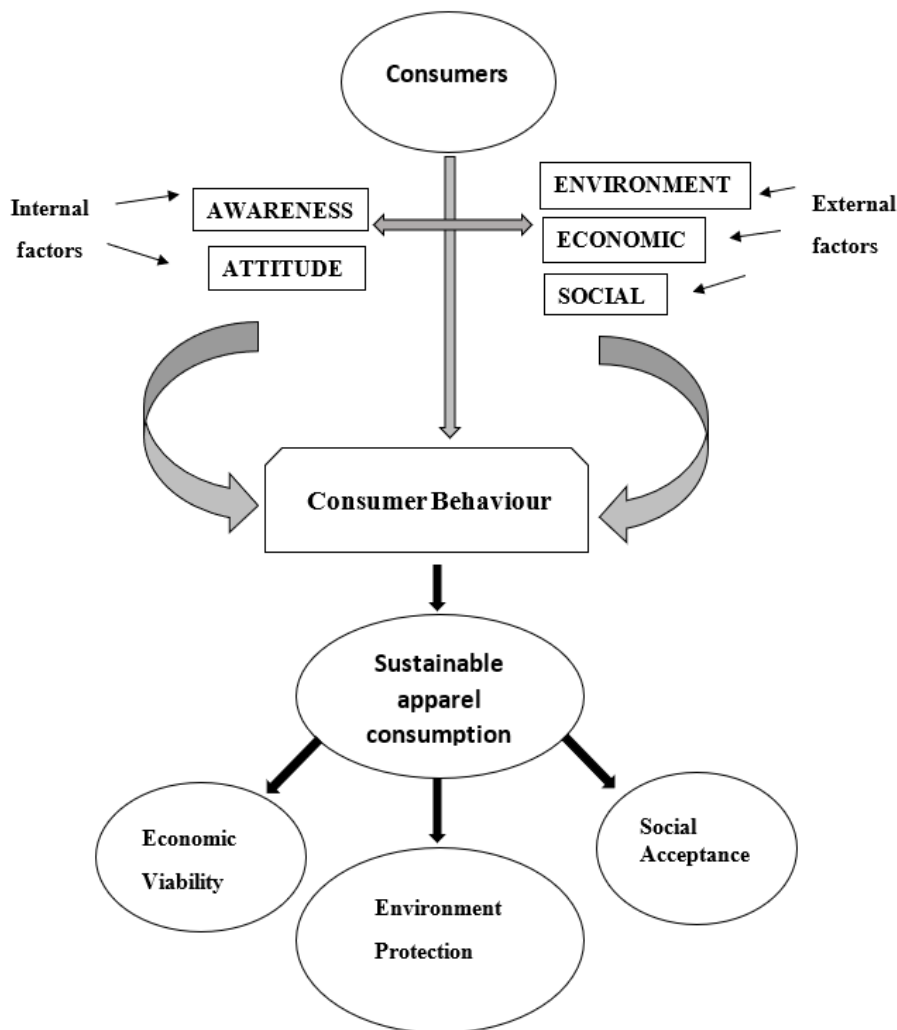
q = p-1



**Figure 3.1 Sample design of the study**

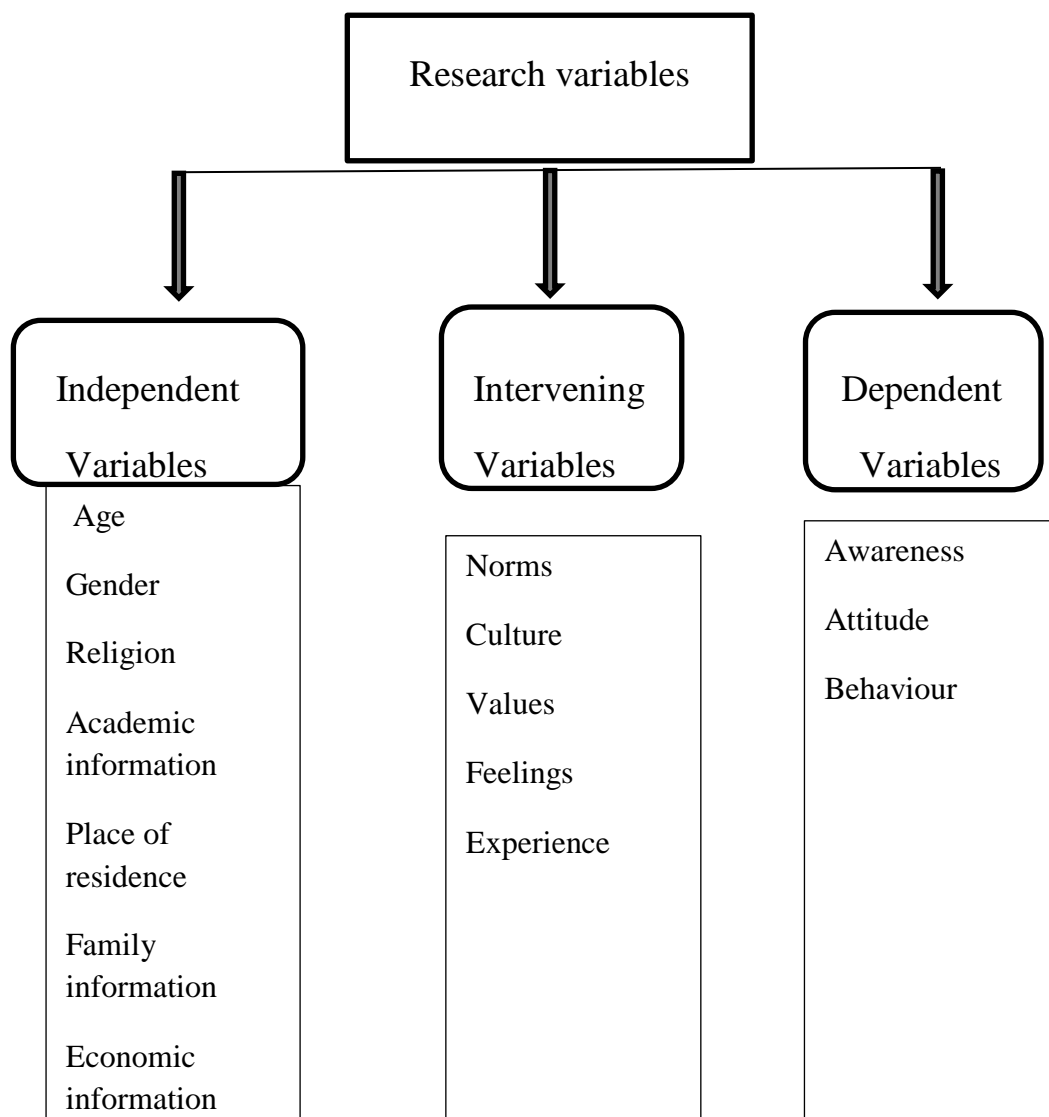
### 3.3 Conceptual Framework of Study

A conceptual framework of study represents the relationship of the variables with the objectives of the study. As a human we consume the goods and services directly or indirectly which have impact on the environment. There are number of factors that affect this human consumption of goods and services. These factors can be grouped as internal and external factors (Figure 3.2). The internal factors include awareness, attitude, personal values, beliefs, etc. while external factors cover social aspects (type of family, number of siblings, annual family income, market, retail outlets, etc.), personal aspects (gender, age, education, etc.), and demographic variables like place of residence (rural, urban and semiurban) as depicted in Figure 3.3.



**Figure 3.2 Conceptual framework of study**

The personal exposure to the information makes aware the consumers with utility, safety and sustainability related aspects. This awareness results in positive and negative attitude if the information related to the service individual's internal value and personal experience. This makes the attitude of an individual stronger towards that product or service. The maximum proportion of the population is the youth in India at present who can change the nation and also help in achievement of sustainable goals. In summary, if the positive attitude towards the sustainable apparel products leads them to actual practice, it will ensure the sustainability in apparel consumption.



**Figure 3.3 Schematic representation of variables**

### 3.4 Research Design

The present research followed an exploratory design. This research design is used to investigate a problem which is not clearly defined and hence research need to be conducted to grasp a better idea of the existing problem. Such research design do not yield conclusive results but enable identification of underlying factors. The survey method was used for the data collection. The data was collected on three different aspects: awareness on sustainability aspects in apparel production and consumption, attitude towards sustainable apparel consumption and behaviour of youth towards sustainable apparel consumption. Questionnaire and attitude scale were used as tools for collecting the data.

#### 3.4.1 Variables used in study

The variables were selected according to the objectives of present research. Two types of variables used were independent and dependent variables.

The details of the variables are as follows:

##### 3.4.1.1 Independent variables

Independent variable is an entity which can be manipulated or varied in an experimental study. It is called independent because other variables are affected by this. In simple words it affects the dependent variables in research study.

The independent variables taken for this study were the gender, field of specialization, religion, place of residence, source of finance and family information.

##### a) Personal variables

These variables included age, gender and field of specialization of the respondents.

- **Age**

The age of respondents in the study refers to the chronological age of the respondents and is expressed in the terms of year in whole number.

- **Gender**

It consists characteristics of male and female which have role associated in social system and social norms regarding behaviour.

- **Field of specialization**

A course of study or major at an academic institution or the field that a specialist practices is in academic specialization. The respondents taken for the study were from different department of specialization namely Agriculture, Horticulture, Home Science, Veterinary Science and Animal husbandry, Fisheries, Basic Sciences and Humanities and Agribusiness Management.

**b) Social variables**

Social variables are those aspects of a person which affect their behaviour, language style means what accent an individual reflects in speak. These may vary from place to place, culture to culture and person to person. These included occupation/job, family income, religion and place of residence. (Hoffmeyer-Zlotnik and Warner, 2014)

- **Place of residence**

The place of residence refers to the civil subdivision of a country (district, county, municipality, province, department, state) in which the individual resides. The place of residence considered in this study was the home/place where the parent of respondent exists whether in their own house or rented for more than five years (OECD glossary, 2006).

- **Religion**

Religion describes the beliefs, values, and practices related to sacred or spiritual concerns. Religion is a unified system of beliefs and practices relative to sacred things that is to say set apart and forbidden, beliefs and practices which unite into one single moral community (Durkheim, 1915).

- **Family information**

It included information regarding the type of family (nuclear or joint), occupation of family members, annual income and number of siblings.

**a) Type of family**

Family means the group of people those have blood relationship or not in a household. They share services, goods, feelings and other utilities with each other and live together. There are two types of families, nuclear and joint. In joint families' children live with their parents, grandparents and other relatives. Whereas in nuclear family children live with their parents i.e., only two generations live together.

**b) Number of siblings****c) Annual family income**

It means total return received by the family members, age 15 or older, living in same household. Return may include salary, social security, child support, pensions, capital gains and dividends. It is considered mainly in the money income form only.

- **Economic variable**

Economic variable included source of money for monthly expenses.

**a) Source of finance**

The source of finance of college students for their monthly expenses could be parents or relatives, scholarship, fellowship, part time job etc.

**3.4.1.2 Dependent variables**

The dependent variables are those factors which can be affected by others and depends on others factors. It is also known as outcome variable which comes due to the changes/manipulation of the independent variable. The dependent variables taken for the study were the awareness, attitude and behaviour. Their detail is as follows

**b) Awareness**

The state of being cognizant of something is referred to as awareness. It is the ability to directly know and perceive something, or to be aware of something. It is the state of being informed of certain information. It corresponds to sensing something, which involves receiving/occurring some information when the mind is in active state. (Marriam webster, 2022).

**c) Attitude**

Attitude is mental entity and a psychological construct. This is the complex state which acquired through experience. It is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression towards oneself, a person, place, thing, or event which in turn influences the individual's thought and action (Perloff, 2016).

**d) Behaviour**

Behaviour is a range of actions performed by a person i.e., practices carried out. It may be affected by different factors like attitude, values, beliefs and socio-cultural norms in particular society (Minton *et.al* , 2016).

### **3.5 Development of Tools for Data Collection**

Two types of questionnaires were formulated for obtaining the relevant information from selected respondents on the aspects of awareness on sustainability in apparel production and consumption and behaviour toward sustainable apparel consumption.

#### **3.5.1 Questionnaire for assessing awareness of the respondents about sustainability aspects of apparel production and consumption.**

This questionnaire comprised of two parts; the part-I focused on aspects pertaining to general information of the respondents namely age, religion, university name and place, college of study, discipline of study, place of permanent residence, source of monthly expenses and family information.

The part-II included aspects of awareness on sustainability aspects in general practices used in manufacturing of textiles and apparel, labelling of textiles and apparels and sustainable apparel consumption practices.

#### **3.5.2 Questionnaire for assessing the sustainable apparel consumption behaviour practices among respondents.**

The questionnaire was comprised of statements regarding the behavioural practices of youth related to sustainable apparel consumption. These statements were formulated on the basis of 5-point Likert scale using; always (5), often (4), seldom (3), rarely (2) and never (1) response options.

It contained the behavioural statements on general buying practices of apparel consumption i.e., buying, factors motivating for more buying (ease of online mode buying of apparels, discounts, new seasons/collections, designer apparels and fashion trends) practices related to search for raw material information, fair-trade practice related information, environment friendly finishes/dyes and other information during buying. This section also covered statements for the information related to the disposing off behaviour along with reuse and recycle practices of youth in apparel consumption.

#### **3.5.3 Pretesting and finalization of questionnaires**

The prepared questionnaires were pre-tested with 30 respondents (postgraduates) of College of Technology, GBPUA&T, Pantnagar. These respondents were not included

in the final sample. After that, the modified questionnaires were checked and discussed among the members of advisory committee (experts related to textiles and apparels) to remove ambiguity from statements and to reduce the total number of statements by omitting repetitive and complicated statements. The purpose was to make statements clear and specific to enhance objectivity in responses. Then, the questionnaires were finalized for data collection. The final questionnaires I and II are given **Appendix I and Appendix II** respectively.

### **3.5.4 Development of attitude scale**

The attitude scale was developed by following criteria suggested for writing attitude statements by **Charles C.A. Wang (1932)** and the method of constructing an attitude scale by **Rensis Likert (1932)**. It comprised both, the negative and positive, reflective statements toward the issue. The Likert scale was used for assessment of attitude of respondents using a five-point scale viz., strongly agree (SA), agree (A), undecided (UD), disagree (D) and strongly disagree (SD).

The scale consisted of statements for assessing the attitude of youth studying in PG programmes in SAUs of North India towards the aspects of sustainability in apparel production practices that involves minimum use of non-renewable energy resources, use of organic and recyclable and recycled material, fair-trade practices (no exploitation of human equality rights), traceability and transparency in supply chains, traceability of raw material of products, labels which promotes sustainability in apparels like eco-label, recycled material label, natural dye label, organic/GOTS label and the sustainable practices in apparel consumption behaviour like renting the apparel, sharing of wardrobe with friends, reuse of old/out of fashion items in another forms like cleaning wipes/mops, creation of valuable household items, donation of non-wearable items to the needy people, recycling of the toun and worn out apparels for household purpose as well for market.

#### **a) Assessment of the content validity of attitude scale**

The content validity of the attitude scale was analysed at two levels. At first level the members of advisory committee discussed and eliminated the irrelevant statements constructed by researcher. Total 50 statements drafted initially were reduced to 30 statements. At the next level these were distributed among 20 expert members from faculty at different departments across GBPUA&T, Pantnagar (Uttarakhand) and other

national/state institutes related textiles and apparels (**Appendix V**) for establishing its content validity. The experts judged the statements for clarity and the relevance of the content. The validity of the statements of the attitude scale were assessed by taking the average of all the values given by the experts and the assessing on the 25<sup>th</sup> percentile basis i.e., the statements those approved by more than 75 percent judges were accepted and the rest statements were reframed after discussion with the advisory committee members. Thus, attitude scale was validated.

#### **b) Assessment of reliability and finalization of attitude scale**

After assessing the content validity, the reliability of the scale was judged. The developed attitude scale was distributed to randomly selected 30 post-graduate students from College of Technology, GBPUA&T, Pantnagar (Uttarakhand). These 30 students were not included in the final research sample. The split half test was applied to determine the reliability coefficient of the attitude scale. The reliability coefficient was calculated for collected responses. In this method total statements of attitude scale were divided into two halves using odd even method. Each of two sets of the items was treated as separate scale. The total scores of each respondent in the even and odd categories were calculated. The coefficient of correlation between odd and even categories of responses for 30 respondents was computed by formula of Spearman Brown Prophecy as given in **Section 3.7.1**. The value of split half test was calculated as  $r = 0.83$  which indicated that the attitude scale had very good reliability for measuring attitude. The final attitude scale is given in the **Appendix III**.

### **3.6 Collection of Data**

The collection of data was done through survey in selected SAUs using the developed tools i.e., questionnaires and attitude scale. The researcher administered the tools personally to each respondent during visit to each SAU. The operational definitions of complex terms were also given to the respondents for clarity and better understanding of the tools (**Appendix IV**).

### **3.7 Statistical Analysis of Data**

Statistical analysis is a part of data analytics. Data analysis is a process of inspecting, cleansing, transforming, and modelling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.

The collected data was tabulated and analysed by using appropriate statistical tests. The statistical measures used in the study for the analysis were coefficient of reliability, frequency, weighted mean score, rank, chi-square test and ANOVA. The formulae used for these statistical measures are as follows:

### 3.7.1 Coefficient of reliability

The reliability of the developed data collection tool (attitude scale) was tested by using Spearman-Brown prophecy formula of coefficient of reliability.

$$r_{hh} = \frac{\sum(x-\bar{x})(y-\bar{y})}{\sqrt{[\sum(x-\bar{x})^2][\sum(y-\bar{y})^2]}}$$

Where,

$r_{hh}$  = Pearson correlation of scores in two half tests

$$r_{SB} = \frac{2r_{hh}}{1+r_{hh}}$$

$r_{SB}$  = reliability of total test estimated

### 3.7.2 Frequency

Number of times a variate value repeated is called as frequency of that variate.

### 3.7.3 Percentage

The percentage value was used for simple comparison of different parameters. It was calculated by dividing the frequency of a particular cell by total number of respondents and multiplying by hundred.

$$P = \frac{n}{N} \times 100$$

N = Total number of frequencies/total respondent

P = Percentage

### 3.7.4 Weighted mean score

According to **Agarwal (2006)**, weighted mean score was computed during the analysis of the data to calculate the positiveness of attitude towards the sustainable apparel consumption aspects and to check the most commonly followed practices in behaviour towards sustainable apparel consumption. the weighted mean score was calculated by using following formula:

$$x = \frac{w_1x_1 + w_2x_2 + \dots + w_kx_k}{w_1 + w_2 + \dots + w_k}$$

Where,

$W_1, W_2, \dots, W_k$  are the frequencies

$X_1, X_2, \dots, X_k$  are the scores (1,2,3,4,5)

### 3.7.5 Rank

The relative position, value, worth, complexity, power, importance, authority, level, etc. of a person or object within a order is known as rank.

### 3.7.6 Chi square test of independence

Chi-square test was applied to determine the effect of variables such as age, gender, place of residence, university, religion, type of family, number of siblings source of finance and annual family income on awareness, attitude and behaviour of the respondents.

$$\chi^2 = \sum_{i=1}^m \sum_{j=1}^p \frac{(o_{ij} - E_{ij})^2}{E_{ij}}$$

$$E_{ij} = \frac{R_i \times C_j}{n}$$

Where,

$O_{ij}$  = observed frequency of (i, j)<sup>th</sup> cell

$E_{ij}$  = Expected frequency of (i, j)<sup>th</sup> cell

$V$  = Degree of freedom

$R_i$  = i<sup>th</sup> row total

$C_j$  = j<sup>th</sup> column total

$n$  = Sample size

$r$  = Number of rows

$c$  = number of columns

The chi-square value was tested on the five percent level of significance with  $(r-1)$ ,  $(c-1)$  degree of freedom

### 3.7.7 T-test of two independent groups

The t-test was used to find the significant difference in the level of awareness level, attitude level and behaviour of two independent groups (age, type of family, male and females).

$$t_{cal} = \frac{(x-y)}{\sqrt{S_e^2 \left( \frac{1}{n_1} + \frac{1}{n_2} \right)}}$$

Where,

$x$  = mean of sample 1 (group-1)

$y$  = mean of sample 2 (group-2)

$$S_e^2 = \frac{(n_1 - 1)S_{12} + (n_2 - 1)S_{22}}{(n_1 + n_2 - 2)}$$

$$S_1^2 = \frac{\sum(x_1 - x)^2}{n}$$

$$S_2^2 = \frac{\sum(y_1 - y)^2}{n}$$

The calculated t-value compared with the table t value at the 5% significance level. If the value was found more than 1.96 (table t value at 5% level of significance) than the mean difference between two groups considered significant.

### 3.7.8 One-way ANOVA

One way ANOVA was used to find the significance difference in the level of the awareness, attitude and behaviour of three or more independent groups regarding the sustainable apparel consumption.

**Table 3.1 Analysis of variance for one way classification**

<b>Independent groups</b>	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F-VALUE</b>
Between groups	t-1	SS(B)	SS(B)/t-1=St <sup>2</sup>	St <sup>2</sup> /Se <sup>2</sup>
Error	n-1	SS(C)	SS(E)/n-1=St <sup>2</sup>	
Total	n-1	SS(T)	-	-

Where,

df = degree of freedom

SS = Sum of squares

MS = Mean sum of squares

Calculated value of F was compared to the table value of F at the 5% level of significance (2.96). If the calculated F value is more than 2.96 than mean difference considered significant.

### 3.7.9 Correlation

Karl Pearson's correlation is the most popular used method of measuring the degree of relationship between two variables. It means if one variable can be changed than the impact occurs or not on the other variable. The correlation between awareness and attitude, attitude and behaviour were checked by using following formula:

$$r = \frac{\sum(x-\bar{x})(y-\bar{y})}{\sqrt{\sum(x-\bar{x})^2}\sqrt{\sum(y-\bar{y})^2}}$$

Where,

x = value of x variable for each cell

$\bar{x}$  = mean of x

y = value of y variable for each cell

$\bar{y}$  = mean of y

The value of  $r$  ranges from  $-1$  to  $+1$ . The positive value of  $r$  represents the positive correlation between variables and negative value represent the negative correlation between them. A zero value of  $r$  represent that there is no relation between two variables.



*Results*  
*and*  
*Discussion*



**44.1 ] Demographic Information of the Respondents**

The demographic information of the respondents included in the study were personal information, family information and economic information and is presented in Tables 4.1a, 4.1b and 4.1c. The demographic profile of the respondents from different universities in detail is presented in **APPENDIX VII** (Tables 1 to 3).

**4.1.1 Personal profile of the respondents**

The Table 4.1a shows the data regarding personal information of the respondents viz., age, religion, place of residence and field of specialization. It is clear from Table 4.1a that 52.14 % respondents were of age between 20-23 years while 47.85 % were of age 24-27 years. It can also be deduced from the data that the number of female respondents was more in the age group 20-23 years while number of the male respondents was more in age group 24-27 years. There were 61.42% females of age group 20-23 years while 58.57% male respondents were found belonging to age group 24-27 years. Table 4.1a further shows that majority of respondents (93.21%) were Hindus followed by 5% and 2.14 % respondents who were Sikh and Muslim, respectively. The Sikh respondents were in majority in university of Punjab state while Muslim respondents were found mainly in universities located in Uttar Pradesh. It is also depicted by data given in the Table 4.1a that overall maximum respondents (40.35%) had their residence in urban areas followed by 31.07% and 28.87% respondents who were from semi-urban and rural background, respectively. The data further reveals that maximum male respondents (70.71%) were from urban areas whereas maximum female respondents (57.17%) had their residence in rural areas.

In case of field of specialization, overall, maximum respondents (42.86%) were from Agriculture/Horticulture discipline followed by students from disciplines of Basic Science and Humanities (22.85%), Home Science/Community Science (15.35%) and Agribusiness Management (14.28%). The higher proportion of respondents in Agriculture/Horticulture discipline might be due to a more number of departments and higher intake per subject in college of agriculture at SAUs across North India. Minimum respondents (1.43%) were from Technology discipline. This might be due to a smaller number of students in Technology at post-graduation level. It can further be envisaged from the data that similar

**Table 4.1a Distribution of respondents according to their personal profile**

S. no.	Parameters	Variables	Female (n=140)		Male (n =140)		Total (N=280)	
			Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	<b>Age</b> (In years)	• 20-23	86	61.42	58	41.42	144	52.14
		• 24-27	54	38.60	82	58.57	136	47.85
2.	<b>Religion</b>	• Hindu	131	93.57	129	92.14	260	93.21
		• Muslim	4	2.85	2	1.42	6	2.14
		• Sikh	5	3.57	9	6.42	14	5.00
3.	<b>Place of residence</b>	• Rural	80	57.14	0	0.00	80	28.60
		• Semi-urban	46	32.90	41	29.30	87	31.07
		• Urban	14	10.00	99	70.71	113	40.35
4.	<b>Field of specialization</b>	• Agriculture / Horticulture	50	35.72	70	50.00	120	42.86
		• Basic Sciences and Humanities	32	22.86	32	22.86	64	22.85
		• Home Science/Community Science	36	25.71	3	2.14	43	15.36
		• Agribusiness Management	16	11.42	28	20.00	40	14.28
		• Technology	0	0.00	4	2.86	4	1.43
		• Veterinary Sciences and Animal Husbandry	6	4.28	3	2.14	9	3.21

Table 4.1b Distribution of respondents according to their family profile

S. no.	Parameters	Variables	Female (n=140)		Male (n=140)		Total (N=280)	
			Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	Number of siblings	• 0-2	115	82.14	115	82.14	230	82.14
		• 3-5	22	15.71	25	17.85	47	16.42
		• More than 5	3	2.14	0	0.00	3	1.42
2.	Type of family	• Nuclear	121	86.42	140	100.00	261	93.21
		• Joint	19	13.57	0	-	19	6.79

Table 4.1c Distribution of respondents according to their economic profile

S. no.	Parameters	Variables	Female (n=140)		Male (n=140)		Total (N=280)	
			Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1.	Annual family income	• Less than Rs.1.50 lakhs	23	16.42	1	0.71	24	8.58
		• Rs. 1.50 - 2.50 lakhs	0	0.00	26	18.60	26	9.28
		• Rs. 2.50 - 5.0 lakhs	14	10.00	60	42.85	74	26.42
		• More than Rs.5.0 lakhs	103	73.57	53	37.85	156	55.71
2.	Source of finance	• Parents/relatives	100	71.42	87	62.14	187	66.80
		• Fellowship	4	2.86	13	9.28	17	6.07
		• Scholarship	36	25.71	40	28.60	76	27.13
		• Part time job	0	0.00	0	0.00	0	0.00

pattern was there between male and female respondents' studying in different field of specialization. However, in the discipline of Home Science/Community Science, male respondents' percentage was found very low (2.14%) as compared to female respondents (25.71%). This was due to limited number of seats for male students at graduation level which got reflected by less number of male students at post-graduation level.

#### **4.1.2 Family profile of the respondents**

The Table 4.1b shows data regarding family information of the respondents viz., number of siblings and type of family. It is clear from the data that majority of the respondents (82.14%) had 0 to 2 siblings and followed by 16.42% respondents who had 3-5 siblings and 1.42 % respondents with more than 5 number of siblings. Likewise, the data reveals that there was same percentage (82.14%) of the male and female respondents who had 0-2 number of siblings. It can also be derived from the data that there were only 15.71% and 17.85 % female and male respondents, respectively who had 2-5 number of siblings. Further Table 4.1b shows that female respondents (2.14%) had more than 5 number of siblings. This might be due to the fact that the larger families had more daughters and small families had more sons due to conservative ideology in Indian families. It means females had more number of siblings as compared to the males (**George et al. 1998**).

It is obvious from the Table 4.1b that majority of the respondents (93.21%) were from the nuclear families and only 6.79% respondents belonged to joint families. It also apparent from the data that 86.42% female respondents and all the male respondents belonged from nuclear families. It can also be deduced from data that there were only 13.57% female respondents who belonged to the joint families. This might be due to the fact that a greater number of girls had their residence in rural areas where nuclear family system still persists due to joint agricultural land ownings (**Niranjan et al. 2005**).

#### **4.1.3 Economic profile of the respondents**

The Table 4.1c shows data regarding economic information of the respondents viz., annual family income and source of finance. The data shows that more than half of total respondents (55.71%) were from the families that had annual income more than Rs. 5 lakhs and it is followed by 26.78%, 9.28% and 8.57% respondents who had Rs. 2.5 lakhs to Rs. 5 lakhs, Rs. 1.5 lakhs to Rs. 2.5 lakhs and less than Rs. 1.5 lakhs annual income in their family, respectively (Table 4.1c).

It is also clear from the data in Table 4.1c that maximum female respondents (73.57%) and male respondents (37.85%) were from the families those had more than Rs. 5 lakhs annual income. Thus, it can be envisaged that a greater number of female respondents belonged to families with more than Rs. 5 lakh annual income. While a greater percentage of the male respondents (42.85%) as compared to the female respondents (10%) belonged to the families that had Rs. 2.5 lakhs to Rs. 5 lakhs as annual family income. Only 16.42 % female and 0.71% male respondents belonged to the families that had annual family income less than Rs. 1.5 lakhs.

It is noticeable from the Table 4.1c that more than half of the total respondents (66.78%) were totally dependent on the parents/relatives for the personal and college expenses; 27.14 % respondents got scholarships and 6.07% were awarded fellowship during course of their study. None of the respondents was engaged in part time job for their source of finance.

Further data reveals that 71.42 % female respondents and 62.14 % male respondents were totally dependent on their parents/relatives for personal and college expenses. Only 9.28% male respondents and 2.85 % female respondents used the fellowship for their personal purchases. The data also depicts that almost similar proportion of male (28.57%) and female (25.71%) respondents got the scholarship which was used as source of finance for their purchases.

#### **4.2 Level of Awareness among Youth about the Aspect of Sustainable Apparel Production and Consumption**

Awareness is the state of being sensible of something. More precisely, it is the ability to directly know and perceive, or to be cognizant with something. It is analogous to sensing about object/product/aspect, means of getting /having some information when mind is in active state and that lead to the foundation for the attitude of an individual towards that thing.

The awareness level of postgraduate students from different SAUs across North India was measured based on their responses for different aspects of sustainability namely, the general meaning of the sustainability or pillars of sustainability, the information on processes and methods in apparel manufacturing which have minimum negative impact on the environment as well society, eco-label information and sustainable environment-friendly

raw material and aspects related to the sustainable apparel consumption behaviour. The data has been presented in Tables 4.2 to 4.5 and Figures 4.1 to 4.3.

#### **4.2.1 Awareness of youth about the general meaning of the sustainability**

Sustainability in general means meeting present needs without compromising the ability of future generations to meet their needs. This calls everyone to be conscious while consuming materials for product manufacturing that have an impact on the environment, society, and economy of a nation. The awareness about the general meaning of sustainability lays the foundation for an individual to grasp information efficiently on related issues like sustainable production, eco-labels, sustainable raw material information, and sustainable consumption practices.

Table 4.2 shows the data collected from selected postgraduate students of different State Agricultural Universities (SAUs) on general sustainability aspects. The data was collected based on a binary scale (Yes/No), yes means they were aware and no means they do not have any awareness. The score was assigned '1' for 'yes' responses and '0' for 'no' responses and the total score on all aspects for an individual was used for the level of awareness and percent awareness was calculated by dividing the total score by sample size.

The data in Table 4.2 elucidates that both male and female respondents' awareness of general sustainability aspects was found similar as depicted by the responses on different statements. It was observed that nearly all the respondents (99.28%) were aware of the general meaning of sustainability that it helps in stabilizing the balance between human activity and environment while most of the respondents (94.28%) were well aware of the other aspects of sustainability like it keeps resources at a steady level, enables achievement of developmental goals without affecting the availability of resources for future generations and the aspect that sustainable processes had the minimum negative impact on the environment.

Majority of the respondents had awareness that sustainability refers to meeting our own needs without compromising the ability of future generations (89.28%), transparency in a business supply chain ensures fair-trade practices (87.85%) and traceability in supply chains is the process of tracking the journey of products and their input and it is promoting sustainability (84.64 %). Further data in Table 4.2 elucidates that only 70% respondents were aware that the hand-made indigenous (locally produced) products are more sustainable.

**Table 4.2 Distribution of respondents according to their awareness on the general meaning of sustainability**

S. no.	Statements	Female n=140		Male n=140		Total score	Percent Awareness
		F	P	F	P		
1.	Sustainability refers to meeting our own needs without compromising the ability of future generations.	130	92.85	120	85.71	250	<b>89.28</b>
2.	Sustainability helps in stabilizing the balance between human activities and the environment.	140	100.00	138	98.57	278	<b>99.28</b>
3.	Sustainability is a process of improving economic well-being and quality of life while balancing the environment.	119	85.00	111	79.28	230	<b>82.14</b>
4.	Sustainability can keep resources at a steady level.	133	95.00	131	93.57	264	<b>94.28</b>
5.	Sustainability is to achieve developmental goals without affecting the availability of resources for future generations.	133	95.00	131	93.57	264	<b>94.28</b>
6.	Sustainable manufacturing/ production processes have a minimum negative impact on the environment.	133	95.00	131	93.57	264	<b>94.28</b>
7.	Transparency in a business supply chain ensures fair-trade practices.	126	90.00	120	85.71	246	<b>87.85</b>
8.	Traceability in supply chains is the process of tracking the journey of products and their input and it promotes sustainability.	118	84.28	119	85.00	237	<b>84.64</b>
9.	Hand-made and indigenous (locally produced) products are more sustainable.	96	68.57	100	71.42	196	<b>70.00</b>
<b>Average percent awareness</b>		<b>89.28</b>		<b>87.37</b>		<b>88.32</b>	

Thus, it can be concluded that the youth of different SAUs across North India had sufficient awareness on general meaning of sustainability, its relation with environment and society, transparency and traceability in production and supply chain of apparel sector. However comparatively low cognizance was observed among respondents for the sustainability aspect of hand-made products. It can be also envisaged from the data that female respondents had greater awareness on the different sustainability aspects as compared to male respondents. The results are contrary to the previous study on Indian consumers through online survey over social media platforms like facebook, whats app, LinkedIn and Gmail for awareness level among them of the sustainability benefit and risks. It was reported that the majority of people had not even heard about sustainability that was conducted on Indian consumers (**Batth, 2020**). The reason for higher awareness among youth from SAUs might be the inclusion of the concept of sustainability in their respective curricula at the PG level and exposure to the information regarding sustainability available in bulk on different media like instagram, facebook, linkedin, and youtube to which they are exposed.

#### **4.2.2 Awareness of youth about sustainable processing methods in apparel manufacturing**

The life cycle of an apparel product starts from the raw material used in fiber production and manufacturing followed by their processing, yarn manufacturing, and fabric construction which differs with each fiber type i.e., complex chain of processes. A product could be sustainable if all the processes and methods included during production are sustainable for the environment as well as society. Thus, a consumer needs to be aware of sustainable production methods to play a significant role in creating demand for safe items.

Table 4.3 depicts the data of respondents that represent their awareness level of consumers about sustainable methods and processes in apparel manufacturing.

It can be observed from Table 4.3 that 89.64% of respondents were familiar with the concept that the use of recycled cotton / recycled synthetic fibers in production improves the sustainability of production. Also, 88.57% of respondents were aware of the concept that production operations release minimum greenhouse gases, and less amount of harmful chemicals, and do not include child labour like (good weave) are more sustainable processes of apparel production.

**Table 4.3 Distribution of respondents according to their awareness for sustainable processing methods in apparel manufacturing****N= 280**

S. no.	Statements	Female n=140		Male n=140		Total score	Percent Awareness
		F	P	F	P		
1.	The use of organic* raw materials for manufacturing establishes sustainability in the product.	96	68.57	100	71.42	196	<b>70.00</b>
2.	The use of recycled cotton/ synthetic fibre in manufacturing improves sustainability in production.	125	89.28	126	90.00	251	<b>89.64</b>
3.	Fibre producing processes which cause no/minimum harm to the animals are more sustainable.	117	83.57	118	84.28	235	<b>83.92</b>
4.	The use of biodegradable material in manufacturing helps in creating sustainable product.	121	86.42	124	88.57	245	<b>87.50</b>
5.	The use of recyclable material supports in manufacturing of sustainable product.	124	88.57	123	87.85	247	<b>88.21</b>
6.	A production operation that releases minimum greenhouse gases confirms sustainable output.	126	90.00	122	87.14	248	<b>88.57</b>
7.	Production processes which use less amount of harmful chemicals are more environmentally friendly.	127	90.71	121	86.42	248	<b>88.57</b>
8.	The production which does not include child labour is sustainable (Good weave).	126	90.00	122	87.14	248	<b>88.57</b>
9.	Sustainable manufacturing protects the human rights of workers in a firm (equal wages for men and women, good working conditions).	125	89.28	122	87.14	247	<b>88.21</b>
<b>Average percent awareness</b>		<b>85.95</b>		<b>85.00</b>		<b>85.47</b>	

In addition, the majority of respondents (88.21%) knew that the use of recyclable material supports in manufacturing of sustainable products and sustainable manufacturing protects the human rights of workers in a firm (equal wages for men and women, good working conditions).

Further, the data elucidates that 87.50% of respondents were aware that the use of biodegradable material in manufacturing helps in creating sustainable products followed by 83.92% of respondents who had an awareness that fibre producing processes which cause no/minimum harm to the animals are more sustainable. Only 70% respondents were aware of the statement that use of organic raw materials for manufacturing establishes sustainability in the product, although the organic products were well defined in the operational definitions.

It can be corroborated from findings that more than half of the respondents, both males and females, were aware about most of statements on sustainable methods and processes which have minimum impact on environment like recyclable materials use reduces need of new resources for product development. This enables lower solid waste generation (**Amaral et al., 2018**). Also, majority of respondents knew that protection of workers' right at work place is key forward sustainable production of apparel sector that has come under scanner due to incidents in apparel units located in Bangladesh (**Hasan et.al., 2017**). Similar result had been reported by **Rathinamoorthy (2019)** who conducted a study in Coimbatore city among consumers aged between 18 to 35 years. It was found that more than 50% respondents were students and 80% young consumers were aware about the impact of apparel manufacturing processes on the environment as pollution. The reason might be the education level and exposure of young consumers to the social media (linkedin, Instagram, facebook and youtube) that make available the latest information on concerning issues from overall the world.

#### **4.2.3 Awareness of youth about the sustainable eco-labels on apparels**

The textile and apparel products always contain labels and tags that includes various information about the apparel product like brand, size, care instructions, fibre composition and sustainability aspect (eco labels). These are placed on the apparels to provide product information to consumers. There are different types of labels that inform on many aspects of sustainability e.g., eco labels, fair trade labels, etc. to ensure consumers that apparel product

is not harmful for environment as well as socially acceptable. The certified ecolabels ensures that apparel product is not harmful for environment. There are various types of certified eco labels existing in the textile and apparel industry like green label, natural dye label, GOTS/OCS label, mobius loop label, organic label, fair-wear and eco-mark label. The label information and exposure to sustainability concepts, help the consumers to make wise decision while purchasing product i.e., product label may provide useful base for choice of an environment friendly product.

Table 4.4 shows the distribution of respondents on the basis of their awareness about the eco-labels. It is clear from the Table 4.4 that the 95% respondents had awareness about the green apparel label which projects the minimum negative impact of product on environment. It was followed by 88.57% and 88.21% respondents who had acquaintance with statements “recycled cotton/recycled polyester” label which specifies circular production and “natural dye” label that implies the use of natural dyes for textile coloration, respectively. The data further elucidates that 82.30% respondent were aware of “organic cotton” label that reflects cotton is free from toxic dyes, other harmful chemicals, and genetic modification. Also, 75.51% respondents were found familiar of the “eco-finishes / natural finishes” labels signify the use of natural elements in the finishing of apparel which ensures the user and environment-friendliness of the product. Further, 73.92% respondents were aware that ‘fair-wear’ label ensures that no exploitation of human rights occurs in the workplace. The “eco-mark” label on the apparel, signifying environmentally preferable consumer product, was known only to 70% respondents (Table 4.4).

It can be inferred from the data that nearly half of the total respondents (51.42%) were cognizant with GOTS (Global Organic Textile Standard) program that certifies the production of apparel from materials fulfilling global organic textile standards.

Least awareness (32.85% respondents) was found for mobius loop (three chasing arrows) which represents the use of recycled material in apparel. The lack of implementation of the circular models in the developing countries might be the reason that less consumers were familiar with those aspects of circular economy (**koszewska, 2018**). Similar result was also reported by **Jain and Verma (2019)** who conducted study in Delhi NCR on 148 sample size aged between 18 to 25 years consumers. They

**Table 4.4 Distribution of respondents according to their awareness for information about eco labels on apparels**

N= 280

S. no.	Statements	Female n=140		Male n=140		Total score	Percent Awareness
		F	P	F	P		
1.	“Green apparel” label projects the minimum environmental impact of apparel products.	134	95.71	132	95.71	266	<b>95.00</b>
2.	“Organic cotton” label reflects that cotton is free from toxic dyes, other harmful chemicals, and genetic modification.	118	84.28	113	80.71	231	<b>82.30</b>
3.	“Recycled cotton/recycled polyester” label specifies circular production.	126	90.00	122	87.14	248	<b>88.57</b>
4.	‘Eco-mark’ label signifies the environmentally preferable consumer product.	101	72.14	97	69.28	198	<b>70.71</b>
5.	‘Fair-wear’ label ensures that no exploitation of human rights occurs in the workplace.	101	72.14	106	75.71	207	<b>73.92</b>
6.	The “Natural dye” label implies the use of natural dyes for textile coloration.	124	88.57	123	87.85	247	<b>88.21</b>
7.	“Eco-finishes / natural finishes” label signifies the use of natural elements in the finishing of apparel which ensures the user and environment-friendliness of the product.	105	75.00	107	76.42	212	<b>75.71</b>
8.	GOTS (Global Organic Textile Standard) label program certifies the production of apparel from materials fulfilling global organic textile standards.	67	47.85	77	55.00	144	<b>51.42</b>
9.	Mobius loop (three chasing arrows) label represents the use of recycled material in apparel.	45	32.14	51	36.42	96	<b>32.85</b>
<b>Average percent awareness</b>		<b>85.95</b>		<b>73.65</b>		<b>79.80</b>	

reported that only 69% of the respondents aware (heard) about eco labels on different fast moving consumers goods. The reasons mentioned by them were high price and being not sure about the credibility of eco labelled product stop them to buy and they were not aware about them.

#### **4.2.4 Awareness of youth about sustainable behavioural practices in apparel consumption**

Sustainable apparel consumption involves practices followed during buying, using and disposing of apparel items by an individual with minimum negative impact on the environment in terms of resource usage in its manufacture, pollution and waste generation after disposal. The apparel manufacturing should not only use sustainable raw material but also involve the sustainable practices in production of apparels. Life cycle analysis of product, less and conscious buying, proper care to get maximum utilization of a product and choice of best disposing off method are few sustainable apparel consumption practices. The awareness about these practices is important because sustainable apparel consumption behaviour is positively influenced by the awareness level. **Shafie *et al.*, (2021)** had, also reported that the awareness about the environmental issues and sustainable behaviour play crucial role in achievement of sustainable goals.

It is clear from the Table 4.5 that almost all respondents (99.28%) knew that the use of khadi apparel is sustainable owing to manual production. Khadi represents heritage of Indian culture. Although khadi production and its use has been reduced to great extent but it is a perfect example of most sustainable textile apparel product hence, khadi products have been promoted by government efforts through schemes for small/medium village enterprises and benefits to artisan community in India. Khadi, a handloom product, is an output of unorganised textile sector and serve as source of traditional textiles of India to apparel industry. Ministry of Textiles (MOT), Government of India (GOI) have initiated labels for handlooms like khadi, Khadi India and Handloom etc. to promote brand of handmade goods among consumers specially the youth of country as well as the clientele located abroad (**Khanna, 2020**).

Majority of respondents (94.28%) were aware about checking eco-labels and care practices reduce environmental impact, rental clothing option helps in limiting solid waste generation and vintage clothing buying supports sustainability as well as heritage preservation.

**Table 4.5 Distribution of the respondents according to their awareness for sustainable practices of apparel consumption****N = 280**

S. No.	Statements	Female n=140		Male n=140		Total score	Percent Awareness
		Yes	No	Yes	No		
1.	Possession of a limited number of apparel items generates less solid waste.	124	88.57	123	87.85	247	<b>88.21</b>
2.	Purchasing apparel only when needed reduces demand for fast fashion.	126	90.00	122	87.14	248	<b>88.57</b>
3.	Sharing clothes with siblings will enable maximum utilization of apparel.	127	90.71	121	86.42	248	<b>88.57</b>
4.	Donating non-wearable items to needy / NGOs (Red cross, blind schools) will reduce solid waste.	124	88.57	123	87.85	247	<b>88.21</b>
5.	Buying locally manufactured apparel leads to low carbon footprints.	126	90.00	122	87.14	248	<b>88.57</b>
6.	Preference for traditional crafts promotes sustainable development and well-being in artisans' society.	130	92.85	129	92.14	259	<b>92.50</b>
7.	The use of khadi apparel is sustainable owing to manual production.	140	100.00	138	98.57	278	<b>99.28</b>
8.	Purchase of sustainable apparel brand's products (woodland, levis-eco, fabindia, mother earth) fulfils commitments of consumers towards sustainable development.	119	85.00	111	79.28	230	<b>82.14</b>
9.	Checking eco-labels and care practices reduce environmental impact.	133	95.00	131	93.57	264	<b>94.28</b>
10.	Rental clothing option helps in limiting solid waste generation.	133	95.00	131	93.57	264	<b>94.28</b>
11.	Vintage clothing (90s fashion /20 to100 year old) buying supports sustainability as well as heritage preservation.	133	95.00	131	93.57	264	<b>94.28</b>
12.	The exchange of old apparel with utensils, durries, and doormats promotes sustainability.	126	90.00	120	85.71	246	<b>87.85</b>
13.	Reselling of used clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, Refashioner, Elanic, Confidential couture, etc.) will help in lessening solid textile waste.	118	84.28	119	85.00	237	<b>84.64</b>
<b>Average percent awareness</b>		<b>91.15</b>		<b>89.06</b>		<b>90.10</b>	

It is further evident from the data in Table 4.5 that 92.50% respondents knew that preference for traditional crafts promotes sustainable development and well-being in artisans' society. It can also be visualized from data that 88.57% respondents were cognizant with the statement that sharing clothes with siblings will enable maximum utilization of apparel purchasing. Similar proportion of the respondents (88.57%) were aware of the fact that purchasing apparels only when needed reduces demand for fast fashion and locally manufactured apparel leads to low carbon footprints.

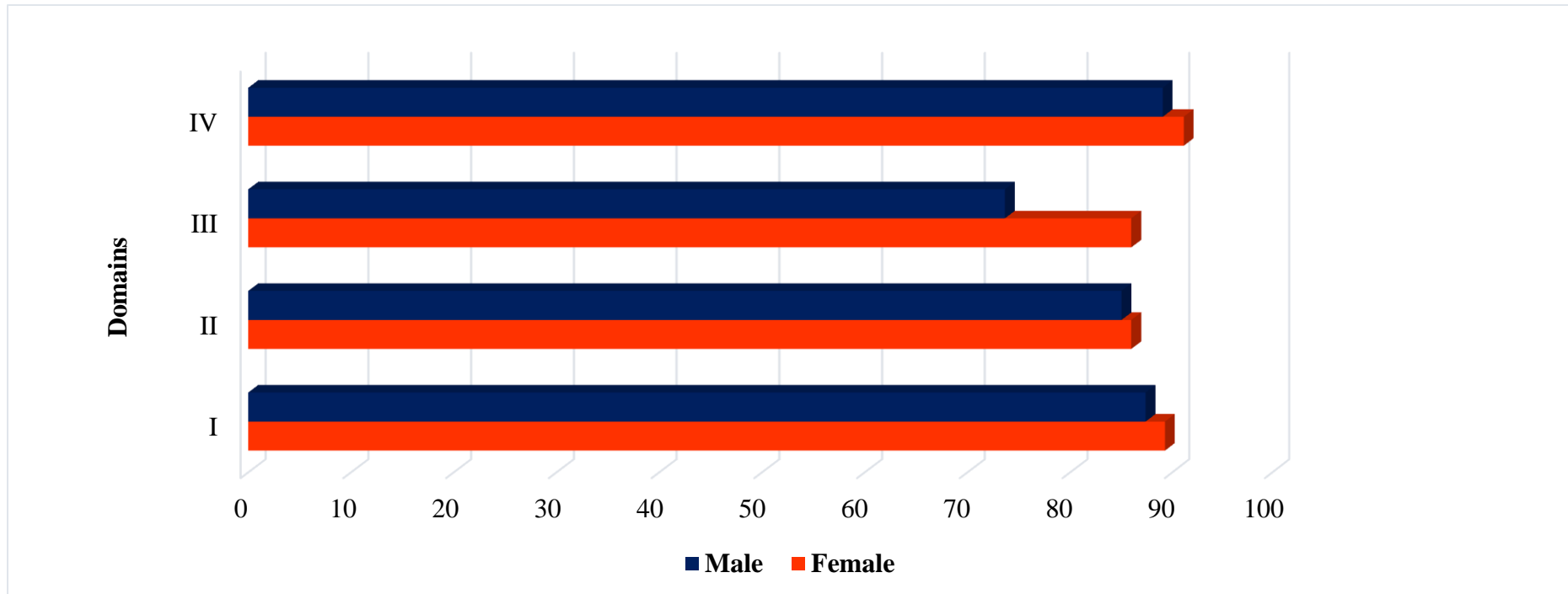
The data in the Table 4.5 disclose that 88.21% respondents were conscious about the fact that the possession of a limited number of apparel items generates less solid waste and donating non-wearable items to needy / NGOs (Red cross, blind schools) will reduce solid waste. It was also found from the data that 87.85% proportion of the respondents knew the practice of exchange of old/non-wearable apparel items with the utensils, durries, carpets etc. promotes the sustainability in apparel consumption. It might be due to the reason that in North India, these types of practices are used in daily life. **Norris (2010)** had also reported that women in rural North India used the practices of exchanging the old clothing for kitchen utensils.

The awareness was found least among youth for the statements that reselling of used clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, Refashioner, Elanic, Confidential couture, etc.) and purchase of sustainable apparel brand's products (woodland, levis-eco, fabindia, mother earth) fulfils commitments of consumers towards sustainable development although it was responded by 84.64% and 84.14% respondents, respectively (Table 4.5).

It can be inferred from the data that majority of respondents were aware of practices that lead to sustainable apparel consumption. The reason might be that less popularity of online platforms for reselling old apparels items and less preferences for buy to second hand apparel items by the consumers. Further the reason behind less awareness on sustainable apparel brands might be that the comparatively high price and credibility on the claims of sustainability of a product.

The difference of awareness between male and female can be clearly visualized from the Figure 4.1 Finally, it is resolved that the greater proportion of female respondents were aware about sustainability in apparel consumption as compared to the male respondents. The association of awareness with gender was tested by chi-square independence test. It was found that dependency of awareness was related to the gender of respondents i.e., the awareness of respondents was

#### 4.2.5 Awareness of male and female respondents on different aspects of sustainability in apparel consumption



Domain-I General meaning of the sustainability

Domain-II Sustainable methods and processes in apparel manufacturing

Domain-III Eco labels on apparels

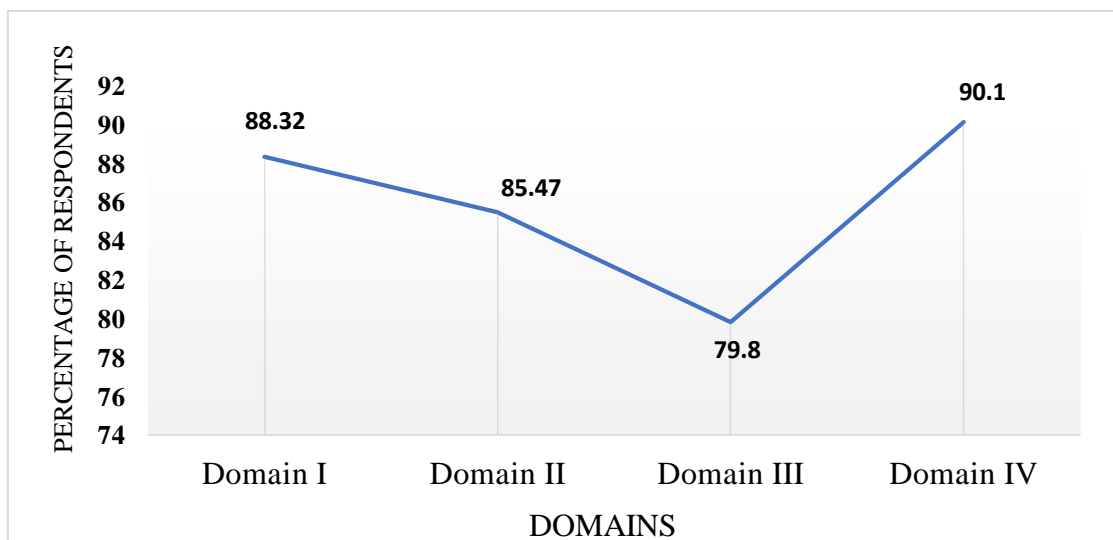
Domain-IV Sustainable practices in apparel consumption

**Figure 4.1 Comparison between awareness of female and male respondents on the different aspects of the sustainability in apparel consumption**

dependent on their gender which is shown by calculated p value. It is less than 0.05, (Table p value at 5% level of significance). This means gender and awareness of respondents were not independent from each other i.e., awareness was dependent on gender of respondents. Further t-test of two independent groups results revealed clearly significance difference of the mean in the awareness of male and female respondents for the aspects of sustainable apparel consumption **APPENDIX VI** and (Table 25). **Patra and Akhtar (2020)** had also found similar results in their study that differences in the awareness level existed among male and female consumers from Kolkata city for green products.

#### 4.2.6 Overall awareness of respondents on the different aspects of sustainable apparel consumption

The Figure 4.2 explicates that maximum respondents (90.10%) were mindful about the sustainable apparel consumption practices that involved various aspects viz., need based buying, using, vintage clothing, recycling, reusing, rental clothing, reselling and sharing of apparel with friends/relatives/ siblings and use of handmade-indigenous apparel products. Further graphic representation also depicts that comparatively least proportion of the respondents (79.80%) were conscious about the eco-labels and raw material information regarding to the apparel items.



Domain-I General meaning of the sustainability

Domain-II Sustainable methods and processes in apparel manufacturing

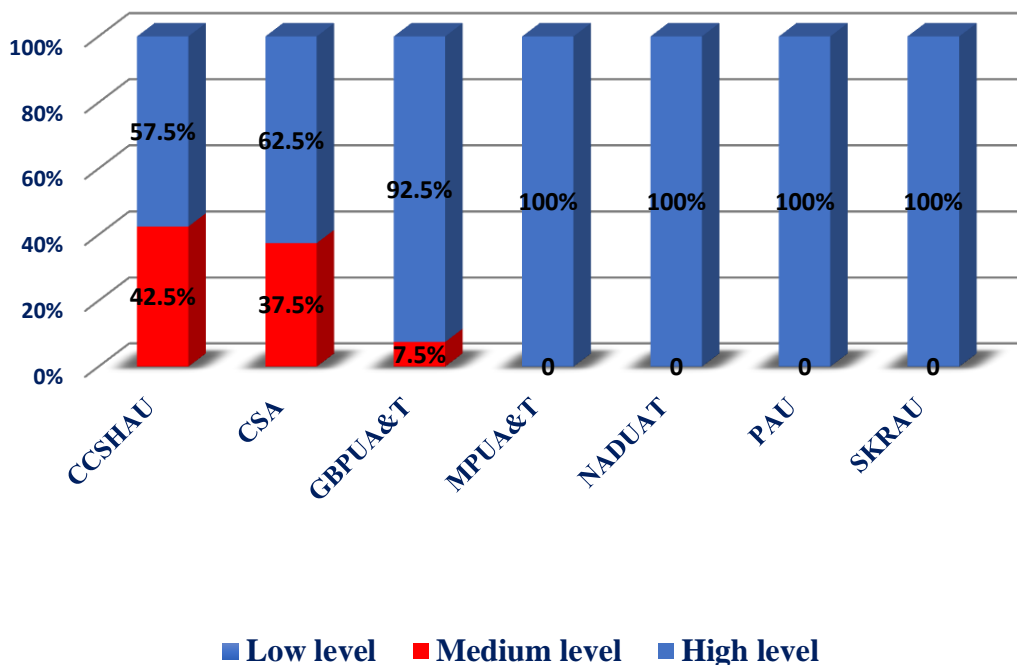
Domain-III Eco labels on apparels

Domain-IV Sustainable practices in apparel consumption

**Figure 4.2 Overall awareness of youth on different domains of sustainability in apparel consumption**

#### 4.2.7 Level of awareness among respondents of different SAUs on aspects of sustainable apparel consumption

The level of awareness on sustainability aspects in apparel consumption was measured on the basis of score of each respondent for all the statements. For given sets of statements total 40 items were constructed to know the awareness level of respondents and binary scale (Yes/No) was used for each item to calculate the score i.e., 1 for Yes and 0 for No. Three levels of awareness were drawn by dividing possible maximum total score by the number 3. The maximum score 40 was calculated by using value 1 to each item in the questionnaire for response 'yes'. Thus, score in range 0 to 13.33 was taken as low level of awareness, score in range of 13.34 to 27.0 as medium level of awareness and score in range of 27.1 to 40 as high level of awareness.



LOW LEVEL= 0-13 SCORE  
 MEDIUM LEVEL= 14-27 SCORE  
 HIGH LEVEL= 28 - 40

**Figure 4.3 Level of awareness of post graduate students from different SAUs across North India on aspects of sustainable apparel consumption**

It is obvious from the Figure 4.3 that all respondents from the SKRAU, Bikaner, PAU, Ludhiana, NDUAT, Kumarganj (Aayodhya) (Uttar Pradesh) and MPUA&T, Udaipur exhibited the high level of awareness on aspects of sustainable apparel consumption. It was also found that the 42.5% respondents from the CCSHAU, Hisar had average/medium level of awareness on aspects of sustainable apparel consumption. Further 37.50% respondents from the CSAUA&T, Kanpur and 7.5% respondents from GBPUA&T, Pantnagar also showed medium level of awareness on aspects of sustainable apparel consumption. The difference between the means of awareness among the respondents of different SAUs was found significant (at 5% level of significance) as revealed by results of one-way analysis of variance (ANOVA). This implies that level of awareness among the respondents of different SAUs was different. The detail of ANOVA test given in **APPENDIX VI** and Table 28.

The data given in the Table 4.8 shows that there was significant association between independent variables viz. age, gender, source of finance, place of residence, type of family and the annual family income and the awareness of the respondents on sustainability aspects in apparel consumption. The religion of the respondents did not show effect on the awareness of youth as revealed by non-significant association. Further, similar results were reported by **Straughan and Roberts (1999)** that the income of an individual positively affected the environment sensitivity and involvement in sustainability related issues.

Chi-square test was used to find out whether the significant association existed between the independent variables like age, gender, religion, field of specialization, type of family, number of siblings, source of finances and annual family income on the awareness of post graduate students of different SAUs. The detailed information of chi square results given in the **Appendix VI** (Table 1 to 8).

#### 4.2.8 Association hypothesis of the awareness and Independent (demographic) variables

Table 4.6 shows the null and alternate hypothesis framed for establishing association between independent and dependent (awareness) taken in the study. The hypothesis was tested by using chi square statistical tool. The results of the chi square test are given in Table 4.7.

**Table 4.6 List of null and alternative association hypothesis for the awareness and Independent (demographic) variables**

<i>H0</i>	<i>There is no association between age and awareness level of respondents</i>	<i>H1</i>	<i>There is association between age and awareness level of respondents</i>
<i>H0</i>	<i>There is no association between gender and awareness level of respondents</i>	<i>H2</i>	<i>There is association between gender and awareness level of respondents</i>
<i>H0</i>	<i>There is no association between religion and awareness level of respondents</i>	<i>H3</i>	<i>There is association between religion and awareness level of respondents</i>
<i>H0</i>	<i>There is no association between source of finance and awareness level of respondents</i>	<i>H4</i>	<i>There is association between source of finance and awareness level of respondents</i>
<i>H0</i>	<i>There is no association between place of residence and awareness level of respondents</i>	<i>H5</i>	<i>There is association between place of residence and awareness level of respondents</i>
<i>H0</i>	<i>There is no association between type of family and awareness level of respondents</i>	<i>H6</i>	<i>There is association between type of family and awareness level of respondents</i>
<i>H0</i>	<i>There is no association between number of siblings and awareness level of respondents</i>	<i>H7</i>	<i>There is association between number of siblings and awareness level of respondents</i>
<i>H0</i>	<i>There is no association between annual family income and awareness level of respondents</i>	<i>H8</i>	<i>There is association between annual family income and awareness level of respondents</i>

**Table 4.7 Association of independent variables and awareness among youth for sustainability in apparel production and consumption**

(N = 280)

<b>Variables</b>	<b>Chi-square value</b>	<b>Degree of freedom</b>	<b>P value</b>	<b>Hypothesis results</b>
<b>Age</b>	38.91*	19	P (0.05) = 0.05	<i>H1 = Accepted</i>
<b>Gender</b>	199.85*	19	P (.00) < 0.05	<i>H2 = Accepted</i>
<b>Religion</b>	45.84	38	P (0.32) > 0.05	<i>H0 = Accepted</i>
<b>Source of finance</b>	266.89*	38	P (.00) < 0.05	<i>H4 = Accepted</i>
<b>Place of residence</b>	486*	19	P (.00) < 0.05	<i>H5 = Accepted</i>
<b>Type of family</b>	261.028*	19	P (.00) < 0.05	<i>H6 = Accepted</i>
<b>Number of siblings</b>	198.85*	19	P (.00) < 0.05	<i>H7 = Accepted</i>
<b>Annual family income</b>	762.99*	219	P (.00) < 0.05	<i>H8 = Accepted</i>

**\*Significant association between variables at 5% level of significance**

The data given in the Table 4.8 shows that chi-square value for independent variables viz., such as age, gender, religion, source of finance, place of residence, type of family and annual family income. It can be derived from the data that there was association between awareness of youth and the demographic factors in study except religion of respondents. This is depicted by p value which is less than 0.05 (table value) at 5 % level of significance. The results are contrary to the findings of **Savita et al. (2010) and Siddiqui (2012)** who reported that urban people had more knowledge as compared to the rural towards the sustainable products.

### **4.3 Attitude of Youth towards Sustainability in Apparel Consumption**

Attitude of an individual represents his/her psychological construct which is attained through experiences. It is a state of mind that is influenced by number of factors, primarily inner ones namely values, knowledge and self-concept besides the physical entities like place, thing or happening that stimulate the distinctive expression of individual's thoughts and actions. In the present research work, the impact of awareness regarding environmental and ethical/social issues related to

apparel manufacture and consumption were studied on the attitude of the post graduate students of SAUs across North India towards sustainable apparel consumption. The attitude of the selected post graduate students of SAUs was assessed by collecting responses on the five-point Likert scale (strongly agree to strongly disagree) for different set of statements related to diverse aspects of sustainable apparel consumption namely, purpose of buying apparels, raw material and labels used in apparels, sustainable disposing off methods for apparels, retailing aspects for apparel consumption and price and discounts of sustainable apparels. The responses were tabulated in the form of weighted mean score and rank for comparing the attitude of male and female respondents from different SAUs at post graduate level in Tables 4.8 to 4.12 and represented by bar charts in Figures 4.4 to 4.6.

#### **4.3.1 Attitude of youth towards purpose of an individual for apparel consumption**

The purpose of an individual for apparel consumption includes the requirement of apparels for body protection and according to socio-cultural system. The apparels fulfil basic needs of human body, i.e., physiological, psychological and social needs. Thus, ways and methods chosen for satisfying these needs by an individual also affect his/her consumption behaviour.

The result related to attitude of respondents towards the purpose for apparel consumption is given in Table 4.8 which illustrates the weighted mean score (WMS) and rank for each statement. The WMS of all the statements except one was found more than 2.50, the mid value of WMS, which denotes that attitude was positive.

Table 4.8 shows highest agreement among the female post graduate students of SAUs across North India for the statement that sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all as depicted by WMS 4.25 and rank I. The high agreement among the female respondents was found for the statements that an individual always ends up using few apparels more frequently (WMS 4.21) and purchasing of less number of better quality apparels promotes sustainability (WMS 4.14) which got rank II and III, respectively.

Least agreement was observed among female respondents for the statements that apparel is owned to satisfy the aesthetic wants and desires of an individual (WMS 3.38) and apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual (WMS 3.17) which got rank VIII and IX, correspondingly.

**Table 4.8 Distribution of respondents on the basis of their attitude towards the purpose of an individual for apparel consumption**

S. No.	Statements	Female (n = 140)		Male (n = 140)	
		WMS	Rank	WMS	Rank
1.	The apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.	3.17	IX	2.37	IX
2.	*The apparel is owned to satisfy the aesthetic wants and desires of an individual.	3.38	VIII	2.82	VIII
3.	*The ease of buying and comfort in online mode induce increase frequency of apparel purchasing.	3.78	V	4.02	V
4.	The purchasing of less number of better quality apparels promotes sustainability.	4.14	III	4.25	III
5.	The sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all.	4.25	I	4.36	II
6.	The use of vintage clothing can conserve cultural heritage besides extending the life of apparel items.	4.12	IV	4.21	IV
7.	*An individual generally has more non-wearable apparels items than wearable items in his/her wardrobe i.e., an individual always ends up using few apparels more frequently.	4.21	II	4.65	I
8.	*The apparel is owned for the expression of the social status of an individual.	3.41	VII	3.01	VII
9.	*The conformance to norms in social gatherings forces people to purchase more apparels.	3.56	VI	3.42	VI
<b>Average weighted mean score</b>		<b>3.78</b>		<b>3.67</b>	

\* Negative statement i.e., less sustainable practice

Further, the data in Table 4.8 also represents the attitude of male respondents towards their purpose for apparel consumption. The data reveals highest agreement among the male post graduate students of SAUs across North India for the statement that an individual always ends up using few apparels more frequently which is evidenced by highest WMS 4.65 and rank I. The agreement was observed high among the male respondents for the statements that sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all (WMS 4.36) and purchasing of less number of better quality apparels promotes sustainability (WMS 4.25) and rank II and III, respectively.

Least agreement among male respondents was found for the statements that apparel is owned to satisfy the aesthetic wants and desires of an individual (WMS 2.82) and apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual (WMS 2.37) which got rank VIII and IX, correspondingly. Further, it can be envisaged from WMS 2.82 and 2.37 of male respondents that neutral attitude was held towards owning apparels to satisfy the aesthetic wants and desires of an individual and purchasing apparel to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.

It can be concluded from Table 4.8 that both male and female respondents had positive attitude towards using use of vintage clothing, purchasing of less number of quality apparels and sharing of apparels among known (friends/relatives/siblings) which reflects their inclination towards sustainability in some aspects of apparel consumption. Also, the attitude of male and female respondents was almost same for purpose behind apparel consumption.

#### **4.3.2 Attitude of youth towards sustainable raw material and labels in apparels**

The awareness among youth on the aspects of labels and information related to the raw material of an apparel lead their attitude towards sustainable consumption. The favourable attitude towards the eco label and raw material information initiate the right decision and wise choice of an apparel during purchasing.

The result related to attitude of respondents towards the raw material and labels of apparel in sustainable consumption is given in Table 4.9 where data illustrates the

weighted mean score (WMS) and rank for each statement. The WMS of each statement was found more than 4.00, that denotes the highly positive attitude towards the aspects.

Table 4.9 displays highest agreement was observed among the female post graduate students of SAUs across North India for the statement that organic cotton apparels are chemical-free that are safe for the user and the environment both as depicted by highest WMS 4.40 and rank I. The agreement was found high among the female respondents also for the statements that eco-label ensures the environmental friendliness of apparel items (WMS 4.38) and apparels made from recycled materials reduce resource consumption for a new product manufacturing (WMS 4.37) which got rank II and III, respectively.

Least agreement was observed among female respondents for the statements that traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability (WMS 4.24) and apparels made from locally available natural resources have high sustainability index (indigenous products) (WMS 4.21) which got rank VIII and IX, respectively.

Further Table 4.9 also illustrates results related to the attitude of male respondents towards the raw material and labels of apparel in sustainable consumption in form of WMS and rank. It is clear from the data that highest agreement was observed among the male post graduate students of SAUs across North India for the statement "organic cotton apparels are chemical-free that are safe for the user and the environment both" as depicted by highest WMS 4.72 and rank I. The male respondents agreed highly for the statements that the organic material-based apparels are always biodegradable (WMS 4.53) and apparels made from recycled materials reduce resource consumption for a new product manufacturing (WMS 4.52) which got rank II and III, respectively.

Least agreement was seen among male respondents for the statements that the apparels made from organic textile material (cotton, wool, silk, bamboo, hemp etc.) can be identified from the labels present on them (WMS 4.47) and the fair-trade label on apparel confirms the non-exploitation of human rights during manufacturing (WMS 4.35) which got rank VIII and IX, respectively.

**Table 4.9 Distribution of respondents on the basis of attitude towards sustainable raw material and labels in apparels**

S. No.	Statements	Female (n = 140)		Male (n = 140)	
		WMS	Rank	WMS	Rank
1.	Eco-label ensures the environmental friendliness of apparel items.	4.38	II	4.50	IV
2.	The traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability.	4.24	VIII	4.49	V
3.	The fair-trade label on apparel confirms the non-exploitation of human rights during manufacturing.	4.32	V	4.35	IX
4.	Apparels made from recycled materials reduce resource consumption for a new product manufacturing.	4.37	III	4.52	III
5.	The apparels made from organic textile material (cotton, wool, silk, bamboo, hemp etc.) can be identified from the labels present on them.	4.32	V	4.47	VIII
6.	The organic material-based apparels are always biodegradable.	4.35	IV	4.53	II
7.	The organic cotton apparels are chemical-free that are safe for the user and the environment both.	4.40	I	4.72	I
8.	The apparels made from locally available natural resources have high sustainability index (Indigenous products).	4.21	IX	4.49	V
9.	The use of traditional handmade textiles (khadi) and apparel promote resource conservation for future generation.	4.32	V	4.49	V
<b>Average weighted mean score</b>		<b>4.32</b>		<b>4.50</b>	

Thus, it can be concluded from the data presented in the Table 4.9 that attitude of both female and male respondents was highly favourable and same towards the raw material and labels of apparel in sustainable consumption. This might be due to their awareness about organic materials sourcing from plant resources which is studied by the students in agricultural universities.

### 4.3.3 Attitude of youth towards disposal practices in sustainable apparel consumption

The disposing off methods are the ways that are used and chosen for the disposing an apparel after use by consumers. The right choice of method can enable sustainable disposal of an apparel item. There are various ways that lead the disposing off apparel. Each way has its own pros and cons with respect to the environment as well as society. The choice of an individual for a disposing off apparel depends on their favourable attitude towards availability and acceptance of channels in their social system and suitability to an individual.

The result related to attitude of female respondents towards the disposing off aspects of apparel consumption is given in Table 4.10 illustrates the weighted mean score (WMS) and rank for each statement. The WMS of each statement was found more than 4.00, that denotes the highly positive attitude towards the aspects.

**Table 4.10 Distribution of respondents on the basis of attitude towards disposal practices in apparel consumption**

S. No.	Statements	Female (n = 140)		Male (n = 140)	
		WMS	Rank	WMS	Rank
1.	The giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation.	4.72	I	4.42	I
2.	Use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste generation.	4.33	II	4.24	III
3.	Worn-out apparel can be reused for low-value products in households.	4.30	III	4.25	II
<b>Average weighted mean score</b>		<b>4.45</b>		<b>4.30</b>	

Further the data illustrated in Table 4.10 also represents responses of male respondents in the form of weighted mean score (WMS) and rank for each statement.

It is clear from data in Table 4.10 that highest agreement was observed among the female post graduate students of SAUs across North India for the statement “giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation” as supported by highest WMS 4.72 and rank I. The high agreement was found among the female respondents also for the statements that use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste

generation (WMS 4.33) and worn-out apparel can be reused for low-value products in households (WMS 4.30) which got rank II and III, respectively.

It is obvious from the data displayed in the Table 4.10 that the male post graduate students of SAUs across North India agreed strongly for the statement that the giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation as depicted by highest WMS 4.42 and rank I.

The high agreement was found among the male respondents also for the statements that Worn-out apparel can be reused for low-value products in households (WMS 4.25) and use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste generation (WMS 4.24) which got rank II and III, correspondingly.

Thus, it can be inferred from Table 4.10 that attitude of both female and male respondents was similar and found inclined more towards all the statements regarding disposing off aspects of sustainable apparel consumption. This might be due to prevalence of such practices traditionally in their households (Singh and Rani, 2021).

#### **4.3.4 Attitude of youth towards the retailing aspects of apparel consumption**

The retailers can play significant role to enhance the sustainability in apparel consumption among consumers. The active role of retailers viz., providing detail of information on raw material, rental services of apparels, reducing the number of collections per year and by starting collection counters of out of fashion apparels for consumers helps them in making sustainable choice. The attitude of consumers towards these aspects reflects their psychological acceptance of services and preferences for services which helps them to make decisions for apparel consumption.

The result related to attitude of respondents towards the retailing aspects of apparel consumption is given in Table 4.11 illustrates the weighted mean score (WMS) and rank for each statement. The WMS of each statement was found more than 4.00 that denotes their highly positive attitude towards the aspects.

It is clear from the data given in Table 4.11 highest agreement was observed among the female post graduate students of SAUs across North India for the statement “the retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers” as depicted by highest WMS 4.40 and

rank I. The high agreement was found among the female respondents also for the statements that the retail outlets may offer reselling of the quality apparel items of young consumers to implant sustainable behaviour among them (WMS 4.26) and the trendy fashion apparel has boosted frequent buying every season (WMS 4.16) which got rank II and III, respectively.

**Table 4.11 Distribution of respondents on the basis of attitude towards retailing aspects in apparel consumption**

S. No.	Statements	Female (n = 140)		Male (n = 140)	
		WMS	Rank	WMS	Rank
1.	The promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing.	3.53	VI	3.99	VI
2.	*The trendy fashion apparel has boosted frequent buying every season.	4.16	III	4.32	V
3.	*The release of more collections per year in fast fashion creates solid waste.	4.14	IV	4.39	I
4.	The rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost.	4.06	V	4.37	II
5.	The retail outlets may offer reselling of the quality apparel items of young consumers to implant sustainable behaviour among them.	4.26	II	4.35	III
6.	The retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers.	4.40	I	4.35	III
<b>Average weighted mean score</b>		<b>4.09</b>		<b>4.29</b>	

\* Negative statement i.e., less sustainable practice

Least agreement was found among female respondents for the statements that the rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost (WMS 4.06) and the promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing (WMS 3.53) which got rank V and VI, correspondingly.

Further data illustrated in Table 4.11 also represents responses of male respondents weighted mean score (WMS) and rank for each statement. It is clear from the data that the male post graduate students of SAUs across North India agreed strongly for the statement “the release of more collections per year in fast fashion creates solid waste” as depicted by

highest WMS 4.39 and rank I. The high agreement was found among the male respondents also for the statement that the rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost (WMS 4.37 and rank II).

Least agreement was observed among male respondents for the statements that the trendy fashion apparel has boosted frequent buying every season (WMS 4.32) and the promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing (WMS 3.99) which got rank V and VI, correspondingly.

It can be concluded from the data given in the Table 4.11 that both female and male respondents exhibited positive attitude on retail practices used for apparels. Both male and female respondents showed opposite attitude on different aspects of apparel retailing. This might be due to difference in the value system of two genders in the social system.

#### **4.3.5 Attitude of youth towards the price of apparel in sustainable consumption**

The price is very important aspect in the decision making for purchasing of an apparel. It is reported by the previous studies that the price is a personal barrier that affect the willingness of an individual to purchase sustainable apparel products (**Kozar and Connell, 2013**). In this study it was explored that what was the attitude of youth towards the economic factor regarding to the sustainable apparels.

The result related to attitude of respondents towards the price and discount aspect of apparel consumption is given in Table 4.12 illustrates the weighted mean score (WMS) and rank for each statement. The WMS of each statement was found more than 2.50, that denotes the neutral to positive attitude for the aspects.

The data in Table 4.12 shows that highest agreement was observed among the female post graduate students of SAUs across North India for the statement “the discount on apparels persuades more apparel consumption” as depicted by highest WMS 4.02 and rank I. The agreement was found high among the female respondents also for the statement that sustainable apparel brands are expensive which got rank II (WMS 3.34).

Least agreement was observed among female respondents for the statement that expensive brands are always sustainable as evidenced by rank III with 2.71 WMS.

**Table 4.12 Distribution of respondents on the basis of their attitude towards price of apparel**

S. No.	Statements	Female (n = 140)		Male (n = 140)	
		WMS	Rank	WMS	Rank
1.	*Sustainable apparel brands are expensive.	3.34	II	3.37	II
2.	*Expensive brands are always sustainable.	2.71	III	3.05	III
3.	*The discounts on apparels persuades more apparel consumption.	4.02	I	4.15	I
<b>Average weighted mean score</b>		<b>3.35</b>		<b>3.52</b>	

\* Negative statement i.e., less sustainable practice

Further the data given in Table 4.12 shows response of male respondents in form of weighted mean score (WMS) and rank for each statement. It is visualised from the data that the male post graduate students of SAUs across North India strongly agreed for the statement “the discount on apparels persuades more apparel consumption” as depicted by highest WMS 4.15 and rank I. The high agreement was found among male respondents also for the statement sustainable apparel brands are expensive which got rank II (WMS 3.37).

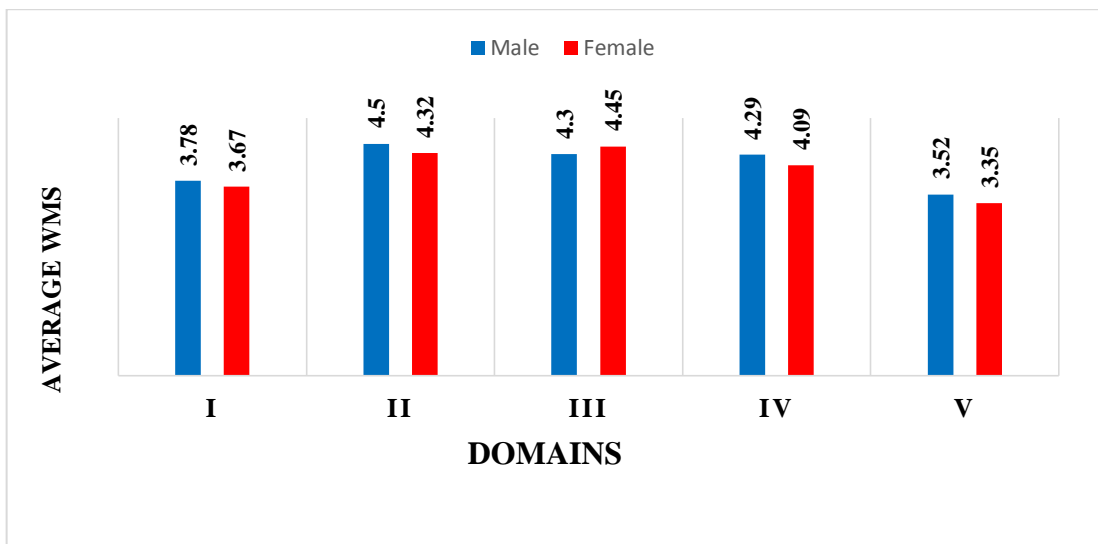
Least agreement was observed among male respondents for the statement that expensive brands are always sustainable as evidenced by rank III with 3.05 WMS.

Thus, it can be concluded from Table 4.12 that attitude of both female and male respondents was found more towards positive on the different aspects of pricing in sustainable apparel consumption and similar pattern was observed in attitude of male and female respondents.

#### 4.3.6 Attitude of male and female respondents towards different domains of sustainability in apparel consumption

Figure 4.4 presents comparison between attitude of male and female respondents towards sustainability in apparel consumption. It is clear from the figure that attitude of male respondents was more favourable on all aspects except the disposal practices in sustainable apparel consumption where female respondents displayed more favourable attitude.

Further the t-test of two independent groups were performed to find out the mean difference in the attitude between two independent groups.



Where,

Domain-I Purpose of buying in apparel consumption

Domain-II Sustainable raw material and eco labels used for apparels

Domain-III Disposal practices of apparels

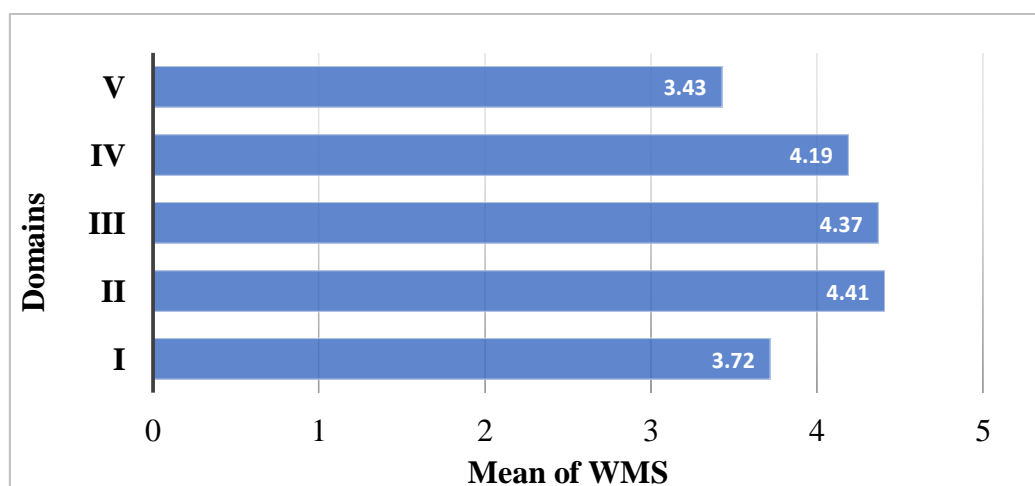
Domain-IV Retailing aspects of apparel

Domain-V Price of apparel

**Figure 4.4 Comparison between attitude of male and female respondents towards sustainability in apparel consumption**

The results of t-test indicated that there was significant difference in the means of both groups. The calculated t-value (18.47) was greater than the tabulated t-value (1.96) at 5% level of significance. It implies that attitude of male and female PG students of SAUs across North India differed for various aspects (Domains) of sustainability in apparel consumption. The detail of t-test given in the **APPENDIX VI** and Table 4.26.

### 4.3.7 Attitude of youth towards different domains of sustainability in apparel consumption



Domain-I Purpose of buying in apparel consumption

Domain-II Sustainable raw material and eco labels used for apparels

Domain-III Disposal practices of apparels

Domain-IV Retailing aspects of apparel

Domain-V Price of apparel

**Figure 4.5 Overall attitude of youth towards different domains of sustainability in apparel consumption**

The mean of average WMS of both male and female respondents was calculated for different domains of sustainability in apparel consumption as overall WMS and is represented in Figure 4.5. It is apparent from the figure that the respondents had highly positive attitude towards domain-II, the raw material and eco labels that ensure the sustainability of apparel. It is obvious that the organic raw material and biodegradable apparel definitely is beneficial for consumer as well environment also (Average of WMS 4.41).

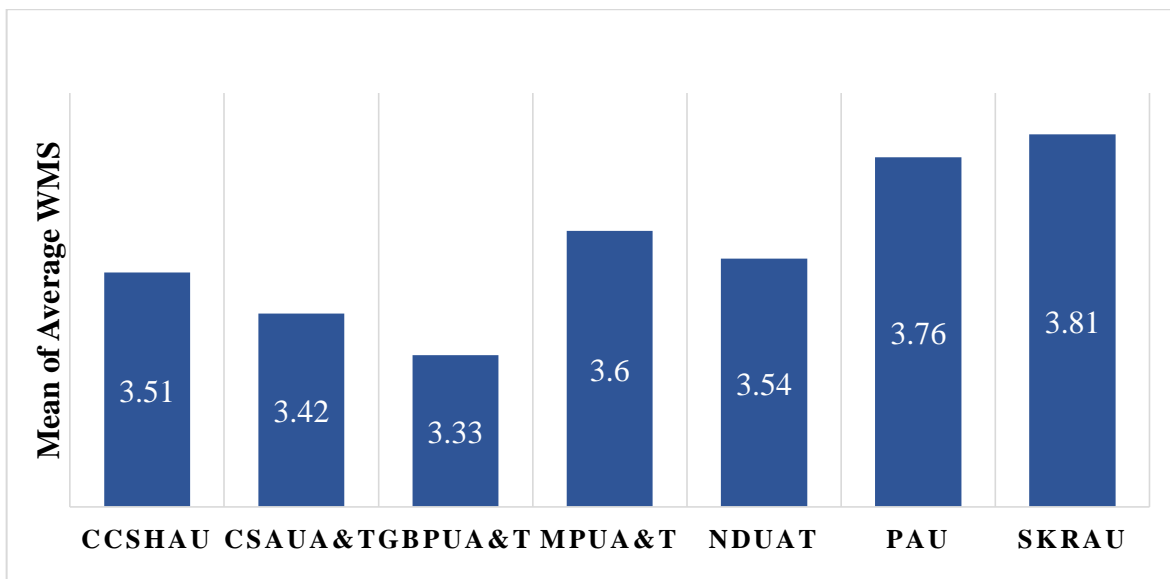
The respondents also showed positive attitude towards the sustainable methods of apparel disposing like reuse, recycle, donation to the NGOs etc (Average WMS 4.37 on Domain III i.e., disposal practices in apparel consumption).

Further, it is obvious from the Figure 4.5 that the most of the respondents agreed on the retailing aspect for sustainable consumption like initiation of collection counter for old apparels and reselling counters for quality second hand apparel items. It was believed that these steps will must help in sustainable apparel consumption (as depicted by mean of average WMS 4.19 on Domain IV i.e., retailing practices in apparel).

The least positive attitude was established towards the domain V i.e., pricing for apparels aspects for sustainable apparel consumption as evidenced by mean of average WMS 3.43.

Overall, it can be envisaged from Figure 4.5 that the mean of average WMS was more than 3.00. Hence, it can be interpreted as positive inclination of PG students of SAUs across North India towards different aspects of sustainability in apparel consumption.

#### 4.3.8 Attitude of post graduate students various SAUs towards different domains of sustainability in apparel consumption



**Figure 4.6 Comparison in attitude of post graduate students of different SAUs across North India towards sustainability in apparel consumption**

It is obvious from the Figure 4.6 that the average WMS of respondents belonging to each SAU university was more than 3 which designates the attitude towards different sustainable apparel consumption aspects as positive. It can be deduced further from the Figure 4.6 that the PG students from the SKRAU, Bikaner kept most favourable attitude towards the sustainability in apparel consumption as showed by highest average WMS 3.81. Thereafter the PG students from PAU, Ludhiana displayed agreement on most of the statements as evidenced by average WMS 3.76. These two universities were followed by MPUA&T, Udaipur, NDUAT, Kumarganj, CCSHAU, Hisar and CSAU&T, Kanpur where WMS of PG students' responses for all the statements averaged as 3.60, 3.54, 3.51

and 3.42, respectively. The least positive attitude was exhibited by the respondents of GBPUA&T, Pantnagar towards all aspects of sustainability in apparel consumption as depicted by average WMS 3.33.

The difference between the attitude of PG students from different SAUs across North India was found significantly different at 5% level of significance on basis of one-way ANOVA statistics. The detail of test results is given in **APPENDIX VI** and Table 29. This implies variability existed in attitude among students of SAUs across North India towards sustainability in apparel consumption.

#### 4.3.9 Association hypothesis of the attitude and independent variables

Table 4.13 shows the null and alternate hypothesis framed for establishing association between independent and dependent (attitude) taken in the study. The hypothesis was tested by using chi square statistical tool. The results of the chi square test are given in Table 4.14.

**Table 4.13 List of null and alternative association hypothesis for attitude and independent (demographic) variables**

<i>H0</i>	<i>There is association between age and attitude of respondents</i>	<i>H1</i>	<i>There is association between age and attitude of respondents</i>
<i>H0</i>	<i>There is no association between gender and attitude of respondents</i>	<i>H2</i>	<i>There is association between gender and attitude of respondents</i>
<i>H0</i>	<i>There is no association between religion and attitude of respondents</i>	<i>H3</i>	<i>There is association between religion and attitude of respondents</i>
<i>H0</i>	<i>There is no association between source of finance and attitude of respondents</i>	<i>H4</i>	<i>There is association between source of finance and attitude of respondents</i>
<i>H0</i>	<i>There is no association between place of residence and attitude of respondents</i>	<i>H5</i>	<i>There is association between place of residence and attitude of respondents</i>
<i>H0</i>	<i>There is no association between type of family and attitude of respondents</i>	<i>H6</i>	<i>There is association between type of family and attitude of respondents</i>
<i>H0</i>	<i>There is no association between annual family income and attitude of respondents</i>	<i>H7</i>	<i>There is association between annual family income and attitude of respondents</i>
<i>H0</i>	<i>There is no association between number of siblings and attitude of respondents</i>	<i>H8</i>	<i>There is association between number of siblings and attitude of respondents</i>

The chi-square test of independence was used to find the association between the different independent variables (demographic factors) on attitude of respondents. The detail of results chi-square test is given in **APPENDIX VI** Tables 9 to 16.

**Table 4.14 Association between independent variables and attitude of youth towards sustainable apparel consumption**

S.no.	Variables	Chi-square value	Degree freedom	P value	Hypothesis results
1.	Age	90.40	73	P (0.08) > 0.05	<i>H0 = Accepted</i>
2.	Gender	244.13*	73	P (.00) < 0.05	<i>H2 = Accepted</i>
3.	Religion	445.14*	176	P (.00) < 0.05	<i>H3 = Accepted</i>
4.	Source of finance	447.66*	146	P (.00) < 0.05	<i>H4 = Accepted</i>
5.	Place of residence	528.56*	146	P (.00) < 0.05	<i>H5 = Accepted</i>
6.	Type of family	280*	73	P (.00) < 0.05	<i>H6 = Accepted</i>
7.	Annual family income	763*	219	P (.00) < 0.05	<i>H7 = Accepted</i>
8.	Number of siblings	261.37*	146	P (.00) < 0.05	<i>H8 = Accepted</i>

**\*Significant at 5% level of significance**

The data given in the Table 4.14 shows that chi-square value for independent variables viz., such as age, gender, religion, source of finance, place of residence, type of family and annual family income. It can be derived from the data that there was association between attitude of youth and the demographic factors in study except age of respondents. This is depicted by p value which is less than 0.05 (table value) at 5 % level of significance. This might be due to that the homogenous sample (post graduate level that almost in same generation) was taken in research study. Similar results were also reported by **Zhang et al. (2021)** who conducted a study in UK on 128 university students. It was reported that the age was not determinant in attitude of consumers towards the sustainable fashion consumption. It was also mentioned that the cultural and religious background affected the feelings of respondents and thus had impact on the values/attitude of an individual towards the sustainability. The results are contrary to the findings of **Savita and Kumar (2010)** and **Siddiqui (2012)** who reported that People residing in the urban areas had more favourable attitude towards environment friendly products.

This can be inferred that attitude of the students from different SAUs across North India was affected by the independent variables taken in the study except their age.

#### **4.4 Behaviour of Youth towards Sustainable Apparel Consumption**

Behaviour of an individual is reflected by the actions i.e., practices carried out by him/her. Sustainable apparel consumption involves practices depicted in buying, using and disposing of apparel goods by the user with minimum negative impact on the

environment. It is in terms of resource usage, pollution and waste disposal along with confirming economic benefits to all. The wardrobe maintenance, reuse, swapping/hand over and use of second-hand clothing, recycle of an apparel into another valuable items and donating to the needy people help in the reduction of solid waste and contribute in sustainable consumption (**Soyer and Dittrich, 2021**).

In the current research work, the behaviour (actual practice) of the post graduate students of SAUs across North India was studied in the light of awareness and concern of the youth towards environmental and ethical issues.

The responses were collected from the post graduate students on the formulated statements converging behaviour related to general buying practices for apparel consumption i.e., buying, factors motivating for buying like the ease of online mode buying of apparels, discounts, new seasons/collections, designer fashion trends; practices related to search for raw material information, fair-trade practice related information, environment friendly finishes/dyes; other information before and during buying and information related to the disposing off behaviour along with reuse and recycle practices of youth in apparel consumption. The results of this section presented in Tables 4.15a to 4.22b.

#### **4.4.1 Behaviour of youth towards wardrobe maintenance**

Wardrobe maintenance involves practices of maintaining the wardrobe by considering what already exist and what an individual want to purchase to fulfil the needs and wants. The sustainability in apparel consumption initiates from the point that what already exist in wardrobe should be used to the fullest otherwise non-wearable item contribute solid waste. If an individual keeps in mind what already exists in wardrobe, then he/she can use them properly for diverse purposes and avoid buying new ones (**Marsh, 2022**).

Table 4.15a describes behaviour of female post graduate students from different SAUs across North India towards wardrobe maintenance. Maximum female post graduate students, always maintained apparels in their wardrobe for different purposes (39.28% respondents), 36.42% respondents often preferred to purchase variety in each category (formal, casual, sportswear and night wear) and 33.57% respondents seldom preferred to change of apparels within their wardrobe in every season.

It can also be deduced from data in Table 4.15a that 25.71%, 18.57% and 12.85% female post graduate students always preferred to purchase variety in each category (formal, casual, sportswear and night wear), preferred style and quantity in casual wear and preferred to change the apparels within their wardrobe in every season, respectively.

**Table 4.15a Distribution of female respondents on the basis of their behaviour towards wardrobe maintenance n =140**

S. no.	Statements	Always	Often	Seldom	Rarely	Never
1.	I maintain apparels in wardrobe for different purposes (casual, formal, sportswear and nightwear).	55 (39.28)	45 (32.14)	26 (18.57)	14 (10.00)	0 (0.00)
2.	*I prefer to change the apparels within wardrobe in every season.	18 (12.85)	33 (23.57)	47 (33.57)	24 (17.14)	18 (12.85)
3.	I prefer to purchase variety in each category (formal, casual, sportswear and night wear).	36 (25.71)	51 (36.42)	16 (11.42)	37 (26.42)	0 (0.00)
4.	*I prefer style and quantity in casual wear.	26 (18.57)	37 (26.42)	25 (17.85)	36 (25.71)	16 (11.42)

The figure in parenthesis indicates percentage

\* Negative statement i.e., less sustainable practice

Table 4.15b depicts behaviour of male post graduate students from different SAUs across North India towards wardrobe maintenance. Maximum 37.85% male post graduate students always maintained apparels in their wardrobe for different purposes, 37.14% often preferred to purchase variety in each category (formal, casual, sportswear and night wear) and 35 % seldom preferred to change the apparels within their wardrobe in every season.

Also, there was 27.85%, 22.14% and 15% male post graduate students who always preferred to purchase variety in each category (formal, casual, sportswear and night wear), preferred style and quantity in casual wear and preferred to change of apparels within their wardrobe in every season, respectively.

**Table 4.15b Distribution of male respondents on the basis of their behaviour towards wardrobe maintenance n =140**

S. no.	Statements	Always	Often	Seldom	Rarely	Never
1.	I maintain apparels in wardrobe for different purposes (casual, formal, sportswear and nightwear).	53 (37.85)	41 (29.28)	28 (20.00)	18 (12.85)	0 (0.00)
2.	*I prefer to change the apparels within wardrobe in every season.	21 (15.00)	34 (24.28)	49 (35.00)	18 (12.85)	18 (12.85)
3.	I prefer to purchase variety in each category (formal, casual, sportswear and night wear).	39 (27.85)	52 (37.14)	17 (12.14)	32 (22.85)	0 (0.00)
4.	*I prefer style and quantity in casual wear.	31 (22.14)	42 (30.00)	20 (14.28)	30 (21.42)	17 (12.14)

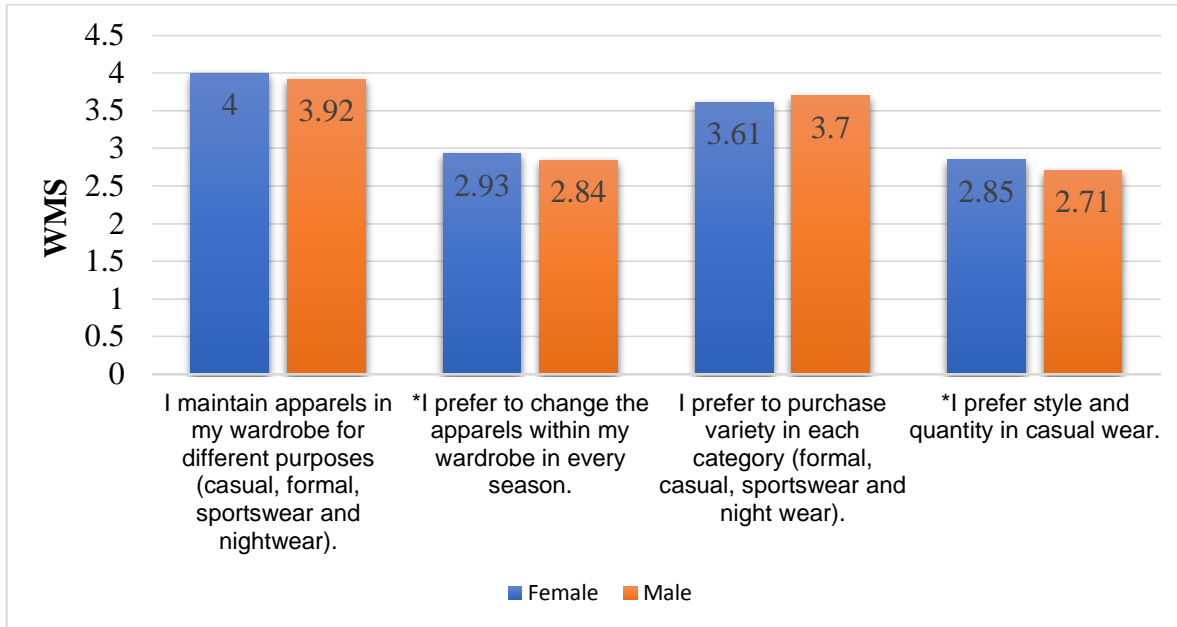
The figure in parenthesis indicates percentage

\* Negative statement i.e., less sustainable practice

It can be concluded that maximum proportion of the male and female respondents always maintained their wardrobe for different purposes (formal wear, casual wear, sportswear, and nightwear). This might be due to the engagement of respondents in different activities under their degree programmes as well as in diverse social roles (family functions and community activities).

The frequency of male and female respondents for each statement in every domain was converted into the WMS. The negative statements were reverse coded for establishing their level on sustainability index. The WMS was calculated for both male and female respondents for each statement on basis of their responses on 5- point scale. The weight 1 to 5 were assigned to the five responses (Always, Often, Seldom, Rarely and Never) i.e., 5 for always and 1 for never. But in case of negative statement, the weight 1 to 5 were assigned in reverse manner i.e., 5 for never and 1 for always. Hence the highest WMS for a statement not only represented most followed practice but also revealed that the practice higher value on sustainability. This enabled researcher to establish the most commonly followed practice among consumers in buying apparels as well as to establish the sustainability level of practice.

Thus, difference in WMS calculated for each practice of apparel maintenance between male and female respondents showed their unlike behaviour. Since WMS was more than 2.50, it can be inferred that the practices were followed commonly by all respondents.



\* Negative statement i.e., less sustainable practice

#### Figure 4.7 Behaviour of respondents towards wardrobe maintenance

The Figure 4.7 illustrates clearly that most of the female post graduate students of SAUs in North India maintained apparels in their wardrobe for different purposes as depicted by highest WMS 4.00. It was followed by the practice of purchasing variety in apparels in each category namely formal, casual, sportswear and night wear (WMS 3.61) and preferred to change of apparels within their wardrobe in every season (WMS 2.93). Similar pattern was observed among male post graduate students of SAUs in North India who maintained apparels in their wardrobe for different purposes as depicted by highest WMS 3.92. It was followed by the practice of purchasing variety in apparel in each category namely, formal, casual, sportswear and night wear (WMS 3.70) and preferring to change of apparels within their wardrobe in every season (WMS 2.84).

It can be concluded that both male and female respondents exhibited almost similar practices being followed for wardrobe maintenance.

#### 4.4.2 Behaviour of youth towards the urge for buying apparels

The buying behaviour for apparel is regulated by the urge behind purchasing apparel items means it is purchased to fulfil the wants/urges/desires and inner values like self-respect (portraying modern personality image of self), fun, belongingness (social status/financial status/conform to group). The urge motivates a person for buying i.e., an individual can't stop buying things (compulsive buying behaviour) by **Jain (2016)**. These

practices can be observed among youth as they follow readily the fashion trends and more conscious about their looks. This type of behaviour does not always reflect the sustainable purchase behaviour.

**Table 4.16a Distribution of female respondents on the basis of the urge for buying apparels n =140**

S. no.	Statements	Always	Often	Seldom	Rarely	Never
1.	*I purchase new apparel when the existing one is out of fashion.	58 (41.42)	19 (13.57)	41 (29.28)	22 (15.71)	0 (0.00)
2.	*I purchase new apparel for every function, occasion, and other social events.	7 (5.00)	58 (41.48)	44 (31.42)	18 (12.85)	13 (9.28)
3.	*I purchase fashionable apparel for portraying modern personality.	47 (33.57)	19 (13.57)	52 (37.14)	22 (15.71)	0 (0.00)
4.	I purchase apparel to communicate social role.	42 (30.00)	48 (34.28)	25 (17.85)	25 (17.85)	0 (0.00)
5.	*I purchase apparel to show off financial status.	13 (9.28)	29 (20.71)	42 (30.00)	24 (17.14)	32 (22.85)
6.	*I purchase apparel to conform the peer group.	22 (15.71)	52 (37.14)	27 (19.28)	39 (27.85)	0 (0.00)
7.	*I do impulsive buying to fulfil desire to follow trends in fashion.	48 (34.28)	32 (22.85)	34 (24.28)	24 (17.14)	2 (1.42)
8.	*I go for impulsive buying for casual wear during sales/discounts.	35 (25.00)	28 (20.00)	45 (32.14)	27 (19.28)	5 (3.57)
9.	*I purchase only from new collections of apparel items in every season.	21 (15.00)	35 (25.00)	36 (25.71)	36 (25.71)	12 (8.71)

The figure in parenthesis indicates percentage

\* Negative statement i.e., less sustainable practice

Table 4.16a describes the behaviour of female post graduate students from different SAUs across North India towards buying of apparels. Maximum 41.42% female post graduate students always preferring to buy new apparel items, when the existing one is out of fashion, 34.28% to fulfil desire to follow trends in fashion and 33.57% for portraying modern personality through fashion apparels. Also, there were 15% female respondents who always purchased new apparel from new collections launched in every season, 9.28% to show off financial status and 5% for every function, occasion, and other social events.

Further, maximum 41.48% female post-graduate students reported to purchase new apparels often for every function, occasion, and other social events often, 37.14% to conform their peer group and 34.28% to communicate their social role.

Additionally, there were 32.14%, 30.00% and 25.71% female respondents who seldom went for impulsive buying for casual wear during sales/discounts, purchased to show off their financial status and purchased only from new collections of apparel items in every season, respectively. Only 27.85% respondents rarely purchased apparels to conform their peer group.

**Table 4.16b Distribution of male respondents on the basis of the urge for buying apparels** **n =140**

S. no.	Statements	Always	Often	Seldom	Rarely	Never
1.	*I purchase new apparel when the existing one is out of fashion.	59 (42.14)	18 (12.85)	40 (28.57)	23 (16.42)	0 (0.00)
2.	*I purchase new apparel for every function, occasion, and other social events.	8 (5.71)	57 (40.71)	37 (26.42)	24 (17.14)	14 (10.00)
3.	*I purchase fashionable apparel for portraying modern personality.	49 (35.00)	18 (12.85)	50 (35.71)	23 (16.42)	0.00 (7.14)
4.	I purchase apparel to communicate social role.	45 (32.14)	43 (30.71)	29 (20.71)	23 (16.42)	0 (0.00)
5.	*I purchase apparel to show off financial status.	14 (10.00)	23 (16.42)	30 (21.42)	24 (17.14)	49 (35.00)
6.	*I purchase apparel to conform the peer group.	20 (14.28)	66 (47.14)	24 (17.14)	30 (21.42)	0 (0.00)
7.	*I do impulsive buying to fulfil desire to follow trends in fashion.	45 (32.14)	26 (18.57)	35 (25.00)	30 (21.42)	4 (2.85)
8.	*I go for impulsive buying for casual wear during sales/discounts.	31 (22.14)	36 (25.71)	39 (27.85)	24 (17.14)	10 (7.14)
9.	*I purchase only from new collections of apparel items in every season.	24 (17.14)	41 (29.28)	27 (19.28)	24 (17.14)	24 (17.14)

The figure in parenthesis indicates percentage

\* Negative statement i.e., less sustainable practice

Table 4.16b displays the behaviour of male post graduate students from different SAUs across North India towards buying of apparels. Maximum male post graduate students always purchased new apparel when the existing one is out of fashion (42.14% respondents), seldom for portraying modern personality (35.71% respondents), to communicate social role (32.14% respondents) and to fulfil desire to follow trends in fashion (32.14% respondents).

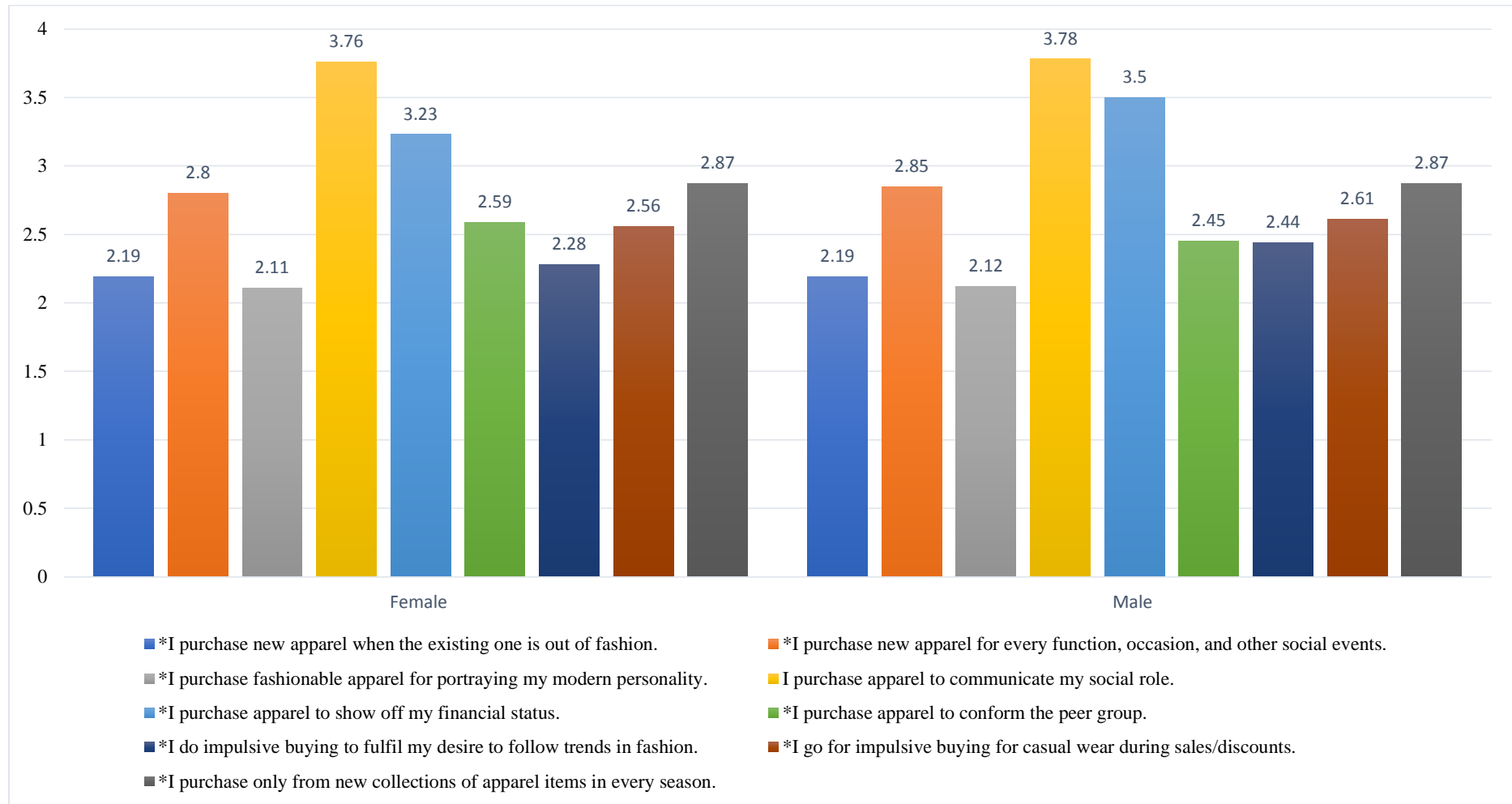
It was also observed that 14.28%, 10.00 % and 5.71% male respondents always purchased new apparel to conform the peer group, to show off financial status and for every function occasion, and other social events, respectively.

Additionally, maximum male respondents often purchased new apparel, to conform the peer group (47.14% respondents), for every function, occasion, and other social events (40.71% respondents) and only from new collections of apparel items in every season (29.28% respondents).

It can be concluded that maximum proportion of youth bought new apparels when existing one is out of fashion and least proportion to show off their financial status.

Figure 4.8 shows the data in WMS of male and female respondents towards the urge for buying apparel. Thus, difference in WMS calculated for each practice of buying apparel between male and female respondents showed their unlike behaviour. Since WMS was between 2 and 3 for most of the practices, it can be inferred that the practices were not followed commonly by all respondents. Hence behaviour of the respondents was less sustainable towards urge for buying apparel

Figure 4.8 elucidates clearly that most of the female respondents purchased new apparel to communicate social role as evidenced by highest WMS 3.76. It is followed by the practice to purchasing of apparel to show off financial status (WMS 3.23) and purchasing only from new collections of apparel items in every season (WMS 2.87). Similarly, most of the male respondents also purchased new apparel to communicate social role as evidenced by highest weighted mean score (3.78). It is followed by the practice of purchasing apparel to show off financial status (WMS 3.50) and purchasing only from new collections of apparel items WMS (2.87).



\* Negative statement i.e., less sustainable practice

**Figure 4.8 Behaviour of respondents towards the urge for buying apparel**

It can be resolved from bar chart that most effective urge behind buying apparel was to communicate their social role among youth it is followed by the urge to show off financial status.

#### 4.4.3 Behaviour of youth towards sustainable buying practices

The sustainable buying practices involves the buying of an apparel that is sustainable in terms of production, use and disposal. there are various ways of buying apparel that contributes in the sustainability. For example, the purchasing only when actually required (need based buying), opting rental services (collaborative consumption) (Chan, 2021), window shopping to get more and more information about a product (its impact on the environment and society), avoiding apparels in of synthetic materials (polyester, acrylic and nylon) that are based on non-renewable resources and also create the problem of microplastic during use (Falco *et al.* 2018) and attempting to create new style with existing apparel items.

**Table 4.17a Distribution of female respondents on the basis of sustainable practices followed in apparel buying** **n =140**

S. no.	Statements	Always	Often	Seldom	Rarely	Never
1.	I purchase new apparel when existing ones are worn out/get faded/out of fit.	68 (48.57)	32 (22.85)	25 (17.85)	15 (10.71)	0 (0.00)
2.	I prefer rental services for western formal wear/party wears/lehengas/suit.	53 (37.86)	32 (22.85)	28 (20.00)	27 (19.28)	0 (0.00)
3.	I prefer window shopping before going for the actual buying of branded apparel.	9 (6.42)	52 (37.14)	31 (22.14)	37 (26.42)	11 (7.85)
4.	I avoid to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic).	20 (14.28)	46 (32.80)	19 (13.57)	45 (32.14)	10 (7.14)
5.	I prefer using the mix and match concept to create a new style with existing apparels.	28 (20.00)	26 (18.57)	38 (27.14)	43 (30.71)	5 (3.57)
6.	*I prefer to keep fixed matches for casual wear.	26 (18.57)	30 (21.14)	38 (27.14)	34 (24.28)	12 (8.57)

The figure in parenthesis indicates percentage

\* Negative statement i.e., less sustainable practice

Table 4.17a illustrates the behaviour of female post graduate students from different SAUs across North India for sustainable buying practices. Maximum female respondents always purchased new apparel when existing ones are worn out/get faded/out of fit (48.57% respondents) and preferred rental services for western formal wear/party wears/lehengas/suit, (37.86% respondents).

It can be also deduced from data that 18.57%, 14.28% and 6.42% female respondents always preferred to keep fixed matches for casual wear, avoided to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic) and preferred window shopping before going for the actual buying of branded apparel, respectively.

Additionally, maximum female respondents often preferred window shopping before going for the actual buying of branded apparel (37.14% respondents) and avoided to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic) (32.80% respondents). Further, maximum 30.71% female respondents rarely used the mix and match concept to create a new style with existing apparels and 27.14% female respondents seldom to used fixed matches for casual wear.

**Table 4.17b Distribution of male respondents on the basis of sustainable practices followed in apparel buying** **n =140**

S. no.	Statements	Always	Often	Seldom	Rarely	Never
1.	I purchase new apparel when existing ones are worn out/get faded/out of fit.	76 (52.28)	32 (22.85)	20 (14.28)	12 (8.57)	0 (0.00)
2.	I prefer rental services for western formal wear/party wears/lehengas/suit.	55 (39.28)	41 (29.28)	23 (16.42)	21 (15.00)	0 (0.00)
3.	I prefer window shopping before going for the actual buying of branded apparel.	18 (12.85)	48 (34.28)	20 (14.28)	44 (31.42)	10 (7.14)
4.	I avoid to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic).	19 (13.57)	39 (27.85)	17 (12.14)	54 (38.57)	11 (5.00)
5.	I prefer using the mix and match concept to create a new style with existing apparels.	17 (12.14)	23 (16.42)	34 (24.28)	59 (42.14)	7 (5.00)
6.	*I prefer to keep fixed matches for casual wear.	31 (22.14)	31 (22.14)	43 (30.71)	23 (16.42)	12 (8.57)

The figure in parenthesis indicates percentage

\* Negative statement i.e., less sustainable practice

Table 4.17b displays the behaviour of male post graduate students from different SAUs across North India for sustainable buying practices in apparel buying. Maximum male post graduate students always purchased new apparel when existing ones are worn out/get faded/out of fit (52.28% respondents) and preferred rental services for western formal wear/party wears/lehengas/suit, (39.28% respondents).

Also, few male respondents, 13.57%, 12.85% and 12.14% always, avoided to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic), preferring window shopping before going for the actual buying of branded apparel and used the mix and match concept to create a new style with existing apparels, respectively.

Additionally, the maximum 42.14% male respondents rarely used the mix and match concept to create a new style with existing apparels and 38.57% avoided apparel that had a large proportion of synthetic fibres (polyester, nylon, acrylic), 34.28% respondents often preferred window shopping before going for the actual buying of branded apparel, and 30.71% male respondents used to keep fixed matches for casual wear only seldom.

The most frequently followed practice by both male and female respondents was were purchasing new apparel when existing ones worn out /get faded/out of fit.

Figure 4.9 shows the data in WMS of male and female respondents towards the sustainable practices followed in apparel buying. Thus, difference in WMS calculated for each practice of buying apparel between male and female respondents showed their unlike behaviour. Since WMS was between 2 and 4 for most of the practices, it can be inferred that the practices were commonly followed by all respondents. Hence behaviour of the respondents was fairly sustainable towards aspects included in this domain.

The Figure 4.9 depicts clearly that most of the female and male respondents purchased new apparel when existing ones got worn out/get faded/out of fit which is demonstrated by highest WMS (4.09 and 4.22). It is followed by both female and male respondents who preferred rental services for western formal wear/party wears/lehengas/suit WMS (3.79 and 3.92). Thus, most commonly followed practices

among both female and male respondents was purchasing new apparel when existing ones got worn out/get faded/out of fit and were same.

Further it can be envisaged from bar chart that the practices of window shopping before going for the actual buying of branded apparel (WMS 3.07 and 3.14, respectively) and avoiding to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic) (WMS 3.15 and 3.00, respectively) were also preferred by both female and male respondents. Least preferred practice among both female and male respondents was to keep fixed matches for casual wear (WMS 2.82 and 2.62, respectively). Similar results were reported by the **Mehta and Pujara (2019)** that consumers in Rajkot city (Gujarat) bought clothing when actually needed. So unknowingly get involved into sustainable apparel consumption. The people were not aware about the sustainable apparel products due to low availability of sustainable apparels in market.



\* Negative statement i.e., less sustainable practice

**Figure 4.9 Behaviour of respondents towards sustainable practices followed in apparel buying**

#### 4.4.4. Behaviour of youth towards online buying

Online buying is not a new concept as mentioned by **Mahalaxmi and Nagamanikandan (2016)**. Online shopping was more popular in the young generation. But after covid-19 pandemic, it reached to its peak. During the pandemic the online purchasing of apparel boosted to maintain social distancing at the public places (malls, markets) and remained popular in the young generation. The shift in channel of buying from offline to online buying during the crisis (covid-19) had also reported by **Massey et al. (2022)**. Online shopping is sustainable choice or not, it depends on the individual's buying decision. The conscious and wise decision for buying may contribute towards sustainability in apparel consumption because on the online platforms more information available on a product which is helpful for buyer to buy a safe product.

**Table 4.18a Distribution of female respondents on basis of their behaviour for online buying of apparels** **n =140**

S. no.	Statements	Always	Often	Seldom	Rarely	Never
1.	I prefer to purchase apparel from online platforms.	10 (7.14)	20 (14.28)	33 (23.57)	28 (20.00)	49 (35.00)
2.	I prefer online shopping for apparel because there is more information available about products.	1 (0.71)	51 (36.42)	36 (25.71)	48 (34.28)	4 (2.85)
3.	*I place orders of apparel items from online sites without need.	13 (9.28)	27 (19.28)	51 (36.42)	40 (36.42)	9 (6.42)

The figure in parenthesis indicates percentage  
\* Negative statement i.e., less sustainable practice

The data given in the Table 4.18a divulges about behaviour of female post graduate students from different SAUs across North India towards online buying. Maximum 36.42% female respondents often preferred online shopping of apparel because there is more information available about products and 36.42% respondents seldom placed orders of apparel items from online sites without need and 35% respondents never preferred to purchase apparel from online platforms.

Besides this, it was found that 9.28%, 7.14% and 0.71 % female respondents who always placed order of apparel items from online sites without need from online platforms, purchased apparel from online platforms and preferred online shopping for apparel because there is more information available about products, respectively. Thus, regular practice of online shopping for apparel shopping was followed by very less respondents and information available on sites checked impulsive buying.

**Table 4.18b Distribution of male respondents on the basis of their behaviour for online buying of apparels**  
n =140

S. no.	Statements	Always	Often	Seldom	Rarely	Never
1.	I prefer to purchase apparel from online platforms.	17 (12.14)	20 (14.28)	33 (23.57)	35 (25.00)	35 (25.00)
2.	I prefer online shopping for apparel because there is more information available about products.	5 (3.57)	46 (32.85)	33 (23.57)	48 (34.28)	8 (5.71)
3.	*I place orders of apparel items from online sites without need.	17 (12.14)	31 (22.14)	45 (32.14)	41 (29.28)	6 (4.28)

The figure in parenthesis indicates percentage

\* Negative statement i.e., less sustainable practice

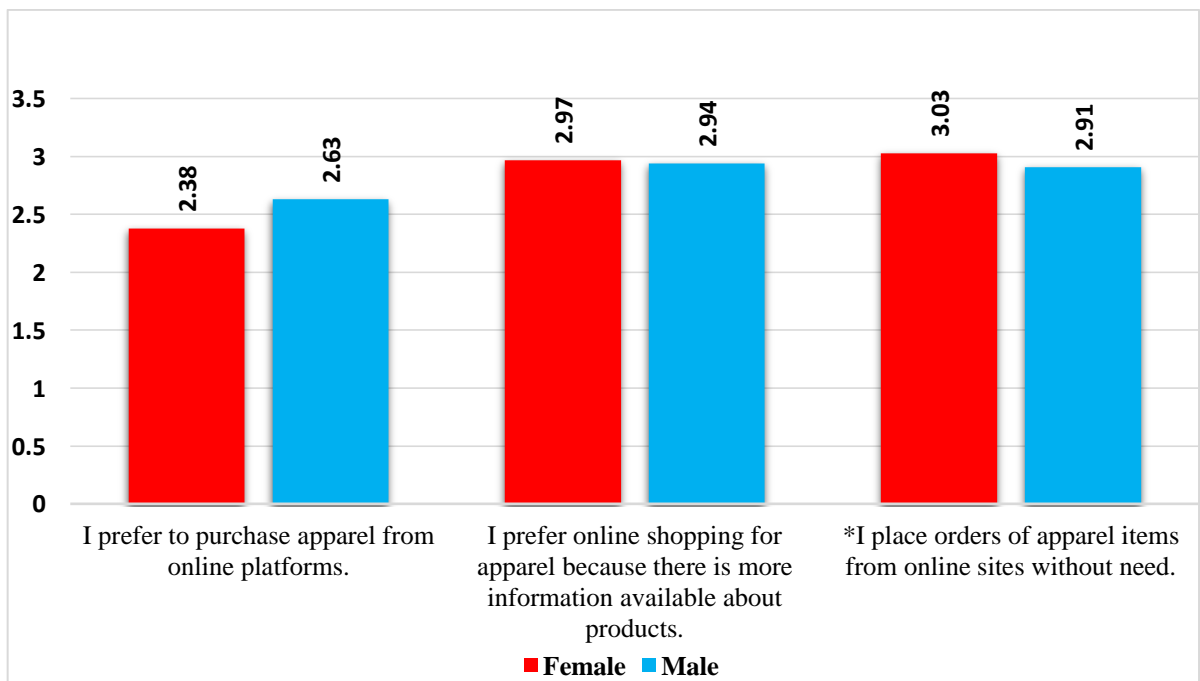
Table 4.18b shows the behaviour of male post graduate students from different SAUs across North India towards online buying. Maximum 34.28% male post graduate students rarely preferred online shopping for apparel only because there is more information available about products, 32.14% respondents seldom placed order of apparel items without need and 25% respondents rarely and never preferred to purchase apparel from online platforms.

Furthermore, it was found only 12.14%, 12.14% and 3.57% male respondents always preferred online shopping for apparel because there is more information available about products and ordered apparel items from online sites without need and purchased apparel from online platforms, respectively.

This data can be concluded to establish that the youth don't always go for online shopping only because information is available. Further information availability could not

resist consumers from buying without need. This might be due to the fact that online buying can be carried out in the comfort of home delivery and other like discount availability on the festivals/ applicability of coupons that increases the discount/offers on the orders above particular amounts these attracts the consumers for buying.

Figure 4.10 shows the data in WMS of male and female respondents towards online buying. Thus, difference in WMS calculated for each practice of buying apparel between male and female respondents showed their unlike behaviour. Since WMS was between 2 and 3 for most of the practices, it can be inferred that the practices were not followed commonly by all respondents.



\* Negative statement i.e., less sustainable practice

**Figure 4.10 Behaviour of respondents towards online buying of apparels**

The most commonly followed practice by female respondents was placing orders rarely that indicated by highest WMS (3.03). It is further followed by practice of online shopping for apparel because there is more information available about products as evidenced by WMS 2.97 and the practice purchasing apparel from online platforms (WMS 2.38). Data also clarifies that most of the male respondent preferred online shopping for apparel because there is more information available about products as depicted by highest WMS (2.94). It is followed by the male respondents placed orders of apparel items from

online sites without need WMS (2.91) and by those who preferred to purchase apparel from online platforms WMS (2.63).

It can be concluded from the chart that most sustainable followed practice by both male and female was placing orders of apparel items from online sites without needs and more information available on the online sites was not effective reason behind apparel purchasing. This might be because of the reasons viz., discounts, offers and coupons etc.

#### **4.4.5 Behaviour of youth towards considering eco label and raw material information during buying of apparels**

It was reported in the previous studies that the awareness about the eco labels and familiarity with the green, bio, organic and recycled products increase the sustainable behaviour that means it motivates the consumers to buy the eco-friendly product. It was found that consumers were ready to pay more for the sustainable product with eco labels (Oesman, 2020).

Table 4.19a depicts behaviour of female post graduate students from different SAUs across North India for eco label and raw material consideration during buying of apparels. Maximum 42.14% female respondents often searched for care label information during purchasing, 30.00% rarely considered care label instructions for every apparel item and 27.14% often searched for recycled material information on apparel items in case of synthetics, blends and natural.

Further, maximum 41.42% female respondents rarely searched for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items, 41.42% searched the raw material information about apparel items and 25.00% looked for care label instructions only for expensive apparel. Additionally, 32.85% female respondents seldom searched for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity. It is also found that only 13.57%, 12.14% and 4.14% female respondents always searched for recycled material information on apparel items in case of synthetics, blends and natural, considered care label instructions for every apparel item and searched for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items.

**Table 4.19a Distribution of female respondents on the basis of their behaviour towards considering eco label and raw material information during buying of apparels  
n =140**

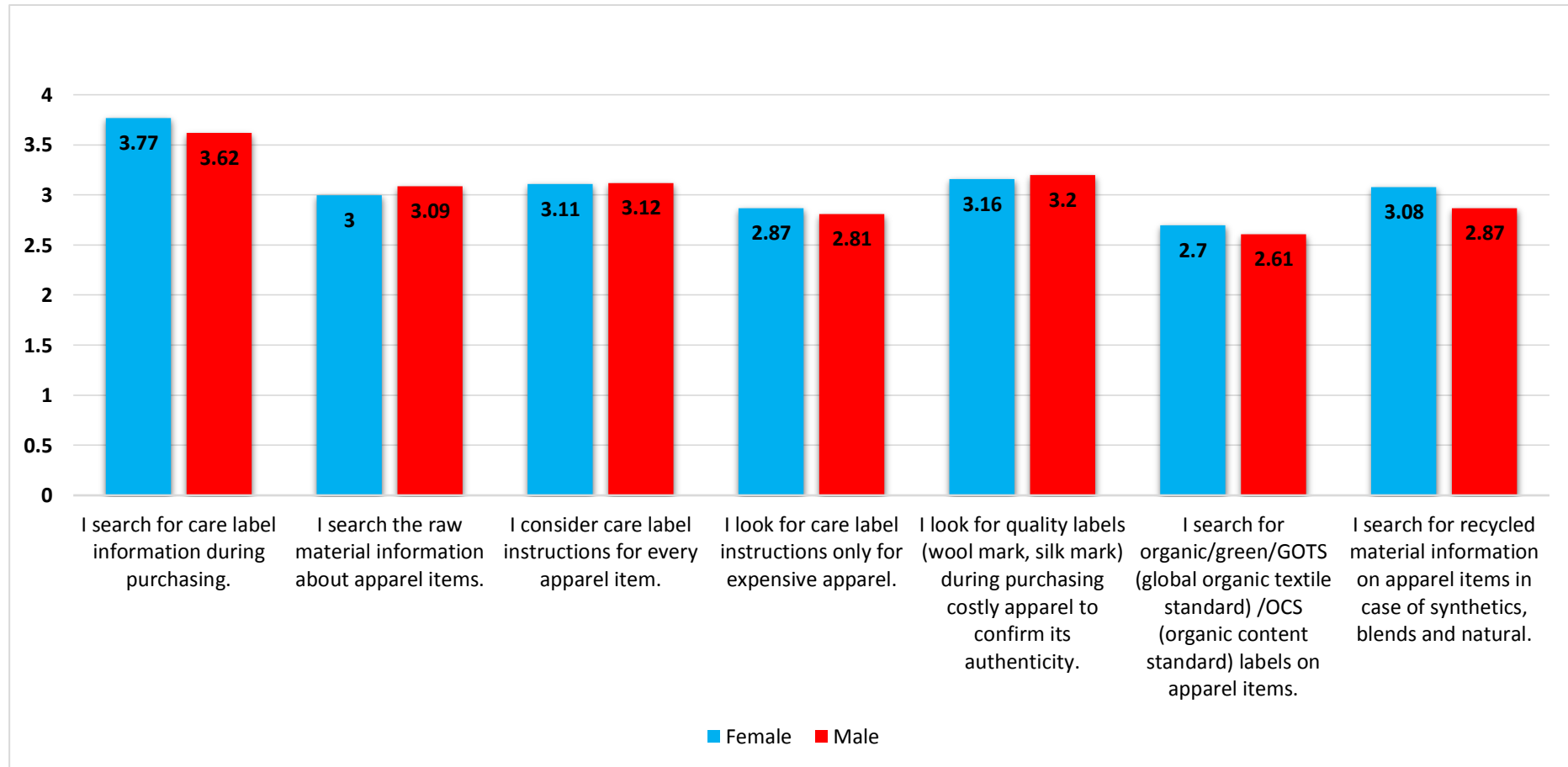
S. No.	Statements	Always	Often	Seldom	Rarely	Never
1.	I search for care label information during purchasing.	40 (28.57)	59 (42.14)	11 (7.85)	29 (20.71)	1 (0.71)
2.	I search the raw material information about apparel items.	22 (15.71)	36 (25.71)	13 (9.28)	58 (41.42)	11 (7.85)
3.	I consider care label instructions for every apparel item.	17 (12.14)	42 (30.00)	37 (26.42)	28 (20.00)	16 (11.42)
4.	I look for care label instructions only for expensive apparel.	24 (17.14)	29 (20.71)	22 (15.71)	35 (25.00)	30 (21.42)
5.	I look for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity.	25 (17.85)	26 (18.57)	46 (32.85)	33 (23.57)	10 (7.14)
6.	I search for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items.	10 (7.14)	25 (17.85)	33 (23.57)	58 (41.42)	14 (10.00)
7.	I search for recycled material information on apparel items in case of synthetics, blends and natural.	19 (13.57)	38 (27.14)	36 (25.71)	30 (21.42)	17 (12.14)

Table 4.19b presents the behaviour of male post graduate students from different SAUs across North India for label and raw material consideration during buying of apparels. Maximum 44.28% male respondents rarely searched for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items, 40.00% respondents often searched for the care label information during purchase of apparel items, 31.42% rarely searched the raw material information about apparel items, 28.57% respondents rarely looked for care label instructions only for expensive apparel and only 25.71% male respondents often searched for recycled material information on apparel items in case of synthetics, blends and natural. Additionally, there were male respondents who seldom searched for the care label instructions for every apparel item (31.42% respondents) and looked for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity (29.28% respondents). It was also observed from data that only 12.85%, 11.42% and 7.85% male respondents who always looked for care label instructions only for expensive apparel, considered care label instructions for every apparel item and searched for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items, respectively.

**Table 4.19b Distribution of male respondents on the basis of their behaviour towards considering eco label and raw material information during buying of apparels** **n =140**

S. No.	Statements	Always	Often	Seldom	Rarely	Never
1.	I search for care label information during purchasing.	35 (25.00)	56 (40.00)	16 (11.42)	28 (20.00)	5 (0.00)
2.	I search the raw material information about apparel items.	23 (16.42)	43 (30.71)	14 (10.00)	44 (31.42)	16 (11.42)
3.	I consider care label instructions for every apparel item.	16 (11.42)	40 (28.57)	44 (31.42)	26 (18.57)	14 (10.00)
4.	I look for care label instructions only for expensive apparel.	18 (12.85)	32 (22.85)	23 (16.42)	40 (28.57)	27 (19.28)
5.	I look for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity.	29 (20.71)	26 (18.57)	41 (29.28)	33 (23.57)	11 (7.85)
6.	I search for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items.	11 (7.85)	18 (12.85)	33 (23.57)	62 (44.28)	16 (11.42)
7.	I search for recycled material information on apparel items in case of synthetics, blends and natural.	23 (16.42)	32 (22.85)	24 (17.14)	36 (25.71)	25 (17.85)

Figure 4.11 shows the data in WMS of male and female respondents towards eco label and raw material information. Thus, difference in WMS calculated for each practice of considering information of eco label on apparel between male and female respondents showed their unlike behaviour. Since WMS was between 2 and 3 for most of the practices, it can be inferred that the practices were not followed commonly by all respondents.



**Figure 4.11 Behaviour of respondents towards considering eco label and raw material information during buying of apparels**

The Figure 4.11 shows that female respondents frequently searched for care label information during purchasing as depicted by highest WMS (3.77). It is followed by practice of looking for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity (WMS 3.16) and the practice of considering care label instructions for every apparel item (WMS 3.11).

The bar chart also discloses that most of the male respondents also searched for care label information during purchasing as shown by highest WMS (3.62). It is followed by the practice of looking for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity (WMS 3.20) and practice of considering care label instructions for every apparel item (WMS 3.12).

Thus, it can be envisaged from the graph that youth searched for care label and quality labels in the apparel consumption. The consideration for the eco label and raw material like recycled, organic was not practiced readily among youth in apparel consumption. It might be due to the that the minimum awareness regarding eco labels and raw material information on eco labels in apparels. The consideration of care label might be due to the reason that it carried instruction generally people follow during care of apparels for better performance and purity of wool and silk is confirmed by quality labels on apparels.

#### **4.4.6 Behaviour of youth towards wardrobe sharing practices in apparel consumption**

Sharing of existing apparels in wardrobe increase the utility of an apparel in life cycle of a product. The sharing apparels on market level generally stated as collaborative consumption but due to some reasons all people don't prefer to adopt that phenomena in their life reasons could be cleanliness, related to religion and culture but generally people can share and accept this aspect in apparel consumption at family/friends/relative level. In this section the behaviour of youth in sharing of wardrobe explored.

Table 4.20a presents data pertaining to behaviour of female post graduate students from different SAUs across North India for sharing of apparels with siblings/friends/relatives. Maximum 32.85% female respondents rarely share their wardrobe apparel items with friends and siblings on regularly, 31.42% respondents often preferred to use vintage apparel items (old

traditional apparel) over buying new ones and 30% respondents often handover their out of fit apparel items to siblings/friends.

**Table 4.20a Distribution of female respondents on the basis of their wardrobe sharing practices in apparel n =140**

S. No.	Statements	Always	Often	Seldom	Rarely	Never
1.	I don't mind wearing apparel of siblings/ relatives/ friends on occasions.	30 (21.43)	33 (23.57)	43 (30.71)	26 (18.57)	8 (5.14)
2.	I share wardrobe apparel items with friends and siblings regularly.	18 (12.85)	39 (27.85)	27 (19.28)	46 (32.85)	10 (7.14)
3.	I prefer to use vintage apparel items (old traditional apparel) over buying new ones.	26 (18.57)	44 (31.42)	30 (21.42)	34 (24.28)	6 (4.28)
4.	I handover out of fit apparel items to siblings/friends.	39 (27.85)	42 (30.00)	36 (25.71)	19 (13.57)	4 (2.85)

It also can be noticed from the data that there were 27.85%, 21.43%, 18.57% and 12.85% female respondents who always handed over/headed down them out of fit apparel items to siblings/friends, didn't mind to wear apparel of siblings/ relatives/ friends on occasions, preferred to use vintage apparel items (old traditional apparel) over buying new ones and shared their wardrobe apparel items with friends and siblings regularly, respectively.

**Table 4.20b Distribution of male respondents on basis of their wardrobe sharing practices in apparel n =140**

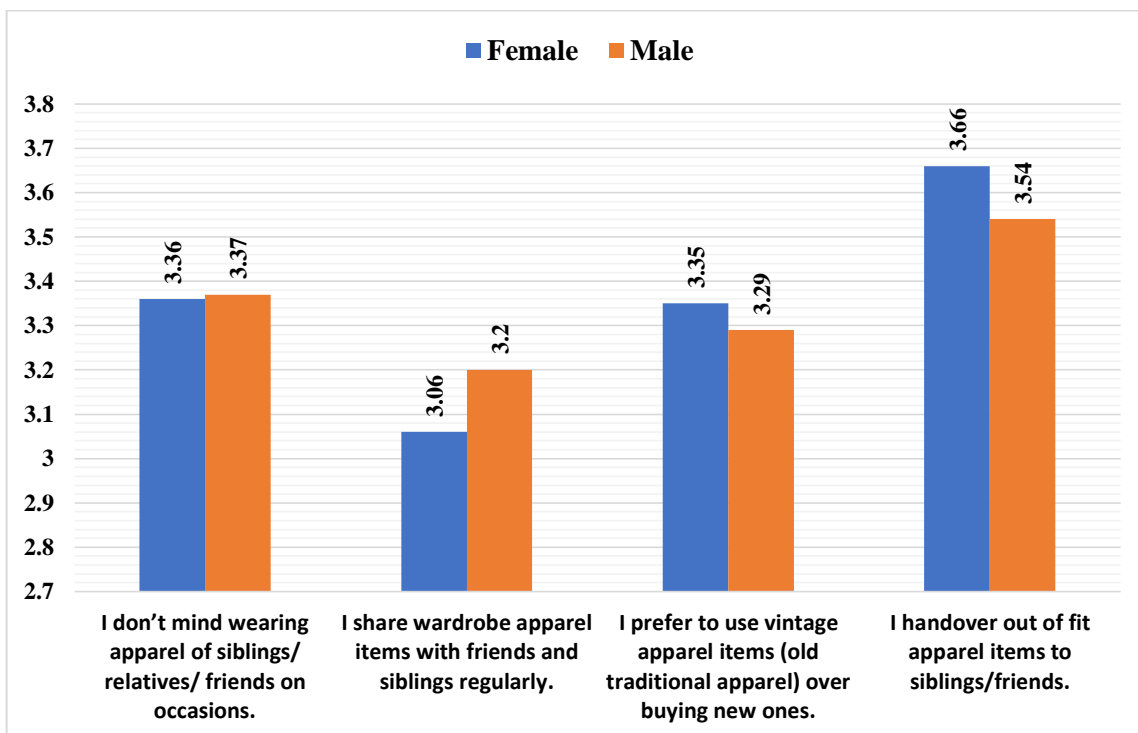
S. No.	Statements	Always	Often	Seldom	Rarely	Never
1.	I don't mind wearing apparel of siblings/ relatives/ friends on occasions.	27 (19.28)	40 (28.57)	41 (29.28)	22 (15.7)	10 (7.14)
2.	I share wardrobe apparel items with friends and siblings regularly.	21 (15.00)	46 (32.85)	24 (17.14)	38 (27.14)	11 (7.85)
3.	I prefer to use vintage apparel items (old traditional apparel) over buying new ones.	22 (15.71)	47 (33.57)	30 (21.42)	32 (22.85)	9 (6.42)
4.	I handover out of fit apparel items to siblings/friends.	33 (23.57)	46 (32.85)	27 (19.28)	32 (22.85)	2 (1.42)

Table 4.20b displays the behaviour of male post graduate students from different SAUs across North India in sharing of apparel wardrobe with siblings/friends/relatives. Maximum 33.57% male respondents often preferred to use vintage apparel items (old traditional apparel), 32.85% shared wardrobe apparel items with friends and siblings

regularly and 32.85% handed over them out of fit apparel items to siblings/friends and 29.28% didn't mind to wear apparel of siblings/ relatives/ friends on occasions seldom.

Further it was also found that only 23.57%, 19.28%, 15.71 % and 15.00% male respondents always hand over out of fit apparel items to siblings/friends, didn't mind to wear apparel of siblings/ relatives/ friends on occasions, preferred to use vintage apparel items (old traditional apparel) over buying new ones and shared their wardrobe apparel items with friends and siblings regularly, respectively.

It can be deduced that the sharing of clothing within family and relatives/friends still existed in families of youth. They preferred to share their apparels with friends in hostels on occasions and hand over out of fit apparel items to younger siblings.



**Figure 4.12 Behaviour of respondents on the basis of their wardrobe sharing practices in apparel**

Figure 4.12 shows the data in WMS of male and female respondents towards wardrobe sharing practices. Thus, difference in WMS calculated for each practice of wardrobe sharing between male and female respondents showed their unlike behaviour. Since WMS was more than 3 for most of the practices, it can be inferred that the practices were commonly followed commonly by all respondents.

The Figure 4.12 shows that most followed practice among female respondents was handing down out of fit apparel items to siblings/friends as evidenced by highest WMS 3.66. It was further followed by practices of wearing apparel of siblings/ relatives/ friends on occasions (WMS 3.36) and using vintage apparel items (old traditional apparel) over buying new ones (WMS 3.35). The data also displays that same pattern existed among male respondents for wardrobe sharing i.e., handed over out of fit apparel items to siblings/friends (WMS 3.54) followed by to wearing apparel of siblings/ relatives/ friends on occasions (WMS 3.37) and using vintage apparel items (old traditional apparel) over buying new ones (WMS 3.29).

It can be concluded from the chart that practices of wardrobe sharing were practiced among youth to good extent as WMS was between 3 and 4. This might be due to rural residence of maximum female and lower middle-income group among youth. There was similar pattern followed by both male and female respondents in apparel wardrobe sharing. The reason could be economic benefit, space saving and style conformity with groups that are benefit of the collaborative consumption mentioned by **Lee *et al.*, (2021)**.

#### **4.4.7 Behaviour of youth towards preferences for traditional handmade indigenous apparels**

The traditional handmade indigenous products like silk/khadi kurtas, sarees, kamij, suit, jeackets etc. comes under the sustainable apparel category because less consumption of energy, low carbon emission (locally availability and no transportation) and employment generation for rural people.

Table 4.21a enlightens the behaviour of female post graduate students from different SAUs across North India preference for traditional handmade indigenous apparels. Maximum, 29.28% female respondents rarely preferred those traditional apparel items are made up of khadi/organic cotton, 34.28% respondents often preferred that traditional apparel items are made up of silk, 32.85% respondents seldom preferred traditional apparel (handmade/silk/khadi) for formal wear and 22.14% female respondents never preferred handmade locally produced apparel items.

Further, it was observed that only 19.28%, 18.27%, 16.42% and 13.57% female respondents always preferred traditional apparel (handmade/silk/khadi) for formal wear,

handmade locally produced apparel items, preferred traditional apparel items that are made up of silk and preferred traditional apparel items that are made up of khadi/organic cotton, respectively.

**Table 4.21a Distribution of female respondents on basis of their preferences for traditional handmade indigenous apparels n =140**

S. No.	Statements	Always	Often	Seldom	Rarely	Never
1.	I prefer handmade locally produced apparel items.	26 (18.57)	28 (20.00)	26 (18.57)	29 (20.71)	31 (22.14)
2.	I prefer that traditional apparel items are made up of khadi/organic cotton.	19 (13.57)	24 (17.14)	21 (15.00)	60 (42.85)	16 (11.42)
3.	I prefer that traditional apparel items are made up of silk.	23 (16.42)	48 (34.28)	29 (20.71)	32 (22.85)	8 (5.71)
4.	I prefer traditional apparel (handmade/silk/khadi) for formal wear.	27 (19.28)	33 (23.57)	46 (32.85)	20 (14.28)	14 (10.00)

The figure in parenthesis indicates percentage

**Table 4.21b Distribution of male respondents on basis of their of their preferences for traditional handmade indigenous apparels n =140**

S. No.	Statements	Always	Often	Seldom	Rarely	Never
1.	I prefer handmade locally produced apparel items.	19 (13.57)	27 (19.28)	34 (24.28)	37 (26.42)	23 (16.42)
2.	I prefer that traditional apparel items are made up of khadi/organic cotton.	17 (12.14)	28 (20.00)	21 (15.00)	63 (45.00)	11 (7.85)
3.	I prefer that traditional apparel items are made up of silk.	16 (11.42)	40 (28.57)	28 (20.00)	49 (35.00)	7 (5.00)
4.	I prefer traditional apparel (handmade/silk/khadi) for formal wear.	24 (17.14)	31 (22.14)	38 (27.14)	22 (15.71)	25 (17.85)

The figure in parenthesis indicates percentage

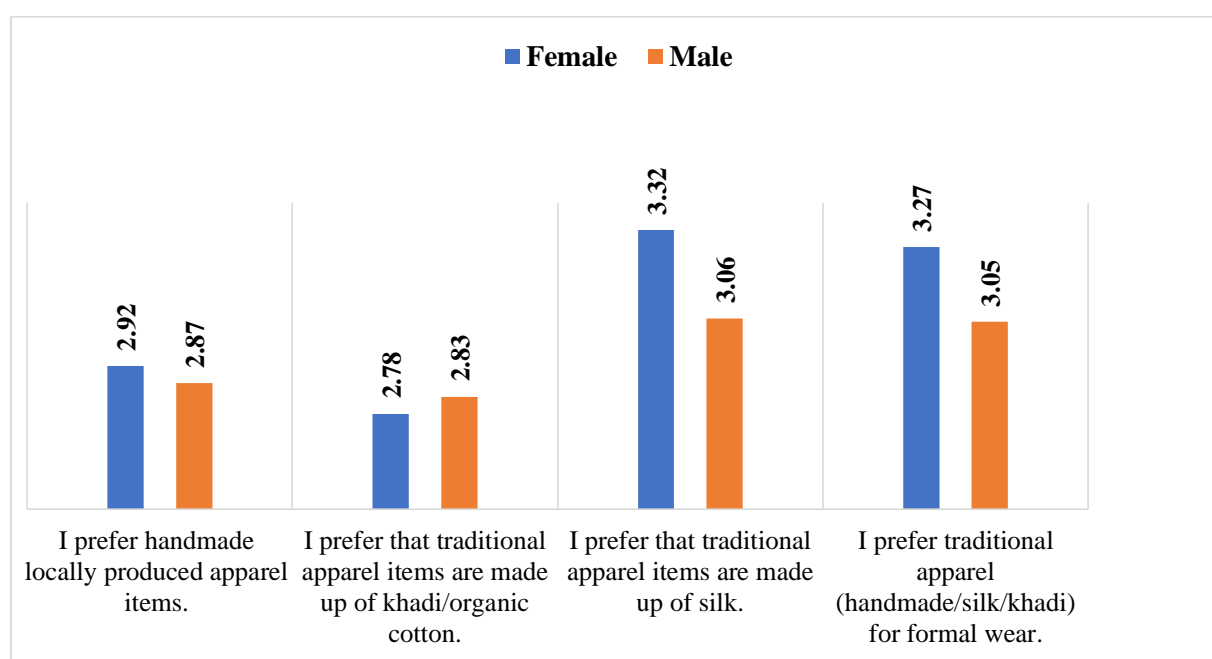
Table 4.21b displays behaviour of male post graduate students from different SAUs across North India preference for traditional handmade/ indigenous apparel. Maximum male respondents rarely preferred traditional apparel items are made up of khadi/organic cotton (45% respondents) and made up of silk (35% respondents), seldom preferred traditional

apparel (handmade/silk/khadi) for formal wear (27.14% respondents) and 26.42% male respondents who preferred handmade locally produced apparel items.

It can be envisaged from the data that only 17.14%, 13.57%, 12.14% and 11.42% male respondents always preferred traditional apparel (handmade/silk/khadi) for formal wear, preferred handmade locally produced apparel items, preferred traditional apparel items are made up of khadi/organic cotton and made up of silk, respectively.

Figure 4.13 shows the data in WMS of male and female respondents towards preferences for traditional handmade indigenous products. Thus, difference in WMS calculated for each preference of traditional handmade indigenous products between male and female respondents showed their unlike behaviour. Since, WMS was more than 2 to 3 for most of the practices, it can be inferred that the practices were not commonly followed by all respondents.

The data displayed in Figure 4.13 depicts that most commonly followed practice by female respondents was preference of traditional apparel items made up of



**Figure 4.13 Behaviour of respondents on basis of their preferences for traditional handmade indigenous apparels**

silk that confirmed by highest WMS 3.32. It was followed by practice of preferring traditional apparel (handmade/silk/khadi) for formal wear with WMS 3.27 and by preferred handmade locally produced apparel items (WMS 2.92). It can be also observed from the data that most of the male respondents also followed similar practices regarding preference traditional handmade indigenous apparel items, preference for apparels made up of silk (WMS 3.06) followed by preferences for traditional apparel (handmade/silk/khadi) for formal wear (WMS 3.05) preference for locally produced apparel items (WMS 2.87).

It can be concluded from the bar chart that most frequently followed practice by both male and female respondents was their preference for traditional apparel items are made up of silk. This might be due to the appearance of silk and their availability on the online sites.

#### **4.4.8 Behaviour of youth towards sustainable disposal practices in apparel consumption**

Table 4.22a depicts behaviour of female post graduate students from different SAUs across North India in disposing off practices of apparels after use. Maximum, female post graduate students rarely reused their old apparel in another form like cleaning wipes/mops (31.42% respondents) preferred to mend (embroidery, applique work) their minor defective apparel instead of purchasing new ones (27.85% respondents) and seldom gave their old and non-wearable apparel items to needy people (27.14% respondents).

Further it was observed maximum 38.57% female respondents often preferring to exchange their old clothes for buying durries/doormats/utensils, 34.28% respondents threw away their old clothes in the dustbin because it's the easiest way to get rid of them, 27.14% respondents converted their non-wearable apparel items into other valuable household item (durries, doormats) and 24.28% respondents rarely sold their non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner, Elanic, Confidential couture etc.).

Besides this it was found from the data that only 13.57%, 12.85% and 12.14 % female respondents always preferred to mend (embroidery, applique work) their short defect apparel instead of purchasing new ones or reused their old apparel in another form like cleaning wipes/mops and threw away their old clothes in the dustbin because it's the easiest way to get rid of them, respectively.

**Table 4.22a Distribution of female respondents on the basis of behaviour towards sustainable disposal practices in apparel n =140**

S. No.	Statements	Always	Often	Seldom	Rarely	Never
1.	I give old and non-wearable apparel items to needy people.	24 (17.14)	35 (25.00)	38 (27.14)	26 (18.27)	17 (12.14)
2.	I prefer to mend (embroidery, applique work) minor defective apparel instead of purchasing new ones.	19 (13.57)	33 (23.57)	33 (23.57)	39 (27.85)	16 (11.42)
3.	I reuse old apparel in another form like cleaning wipes/mops.	18 (12.85)	42 (30.00)	34 (24.28)	44 (31.42)	2 (1.42)
4.	I convert non-wearable apparel items into other valuable household item (durries, doormats).	25 (17.86)	38 (27.14)	31 (22.14)	24 (17.14)	22 (15.71)
5.	*I throw away old clothes in the dustbin because it's the easiest way to get rid of them.	17 (12.14)	48 (34.28)	25 (17.85)	27 (19.28)	23 (16.42)
6.	I prefer to exchange old clothes for buying durries/doormats/utensils.	35 (25.00)	54 (38.57)	16 (11.42)	22 (15.71)	13 (9.28)
7.	I sell non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner*, Elanic, Confidential couture etc.)	24 (17.14)	33 (23.57)	25 (17.85)	34 (24.28)	24 (17.14)
8.	I donate apparel to NGOs and underprivileged families.	25 (17.85)	37 (26.42)	24 (17.14)	50 (35.71)	4 (2.85)

The figure in parenthesis indicates percentage

\* Negative statement i.e., less sustainable practice

Table 4.22b displays the behaviour of male post graduate students from different SAUs across North India in apparel disposing off practices after use. Maximum 35.00 % male post graduate students families often preferred to exchange their old clothes for buying durries/doormats/utensils, 30.71% preferred to mend (embroidery, applique work) their minor defective apparel instead of purchasing new ones, 29.28% often converted their non-wearable apparel items into other valuable household item (durries, doormats), 28.47% threw away their old clothes in the dustbin because it is the easiest way to get rid of them, 28.57% reused their old apparel in another form like cleaning wipes/mops and 27.14% male respondents often gave their old and non-wearable apparel items to needy people. Additionally, it was found that 35.00% male respondents never sold their non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner, Elanic, Confidential couture etc.) and 32.14% often donated their apparel to NGOs and underprivileged families.

**Table 4.22b Distribution of male respondents on the basis of behaviour towards sustainable disposal practices in apparel n =140**

S. No.	Statements	Always	Often	Seldom	Rarely	Never
1.	I give old and non-wearable apparel items to needy people.	21 (15.00)	38 (27.14)	28 (20.00)	28 (20.00)	25 (17.85)
2.	I prefer to mend (embroidery, applique work) minor defective apparel instead of purchasing new ones.	17 (12.14)	43 (30.71)	33 (23.57)	30 (21.42)	17 (12.14)
3.	I reuse old apparel in another form like cleaning wipes/mops.	30 (21.42)	40 (28.57)	32 (22.85)	37 (26.42)	1 (0.71)
4.	I convert non-wearable apparel items into other valuable household item (durries, doormats).	32 (22.85)	41 (29.28)	29 (20.71)	24 (17.14)	14 (10.00)
5.	*I throw away old clothes in the dustbin because it's the easiest way to get rid of them.	16 (11.42)	40 (28.57)	20 (14.28)	27 (19.28)	37 (26.42)
6.	I prefer to exchange old clothes for buying durries/doormats/utensils.	34 (24.28)	49 (35.00)	14 (10.00)	23 (16.42)	20 (14.28)
7.	I sell non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner*, Elanic, Confidential couture etc.)	24 (17.14)	21 (15.00)	18 (12.85)	32 (22.85)	45 (32.14)
8.	I donate apparel to NGOs and underprivileged families.	32 (22.85)	45 (32.14)	24 (17.14)	37 (26.42)	2 (1.42)

The figure in parenthesis indicates percentage

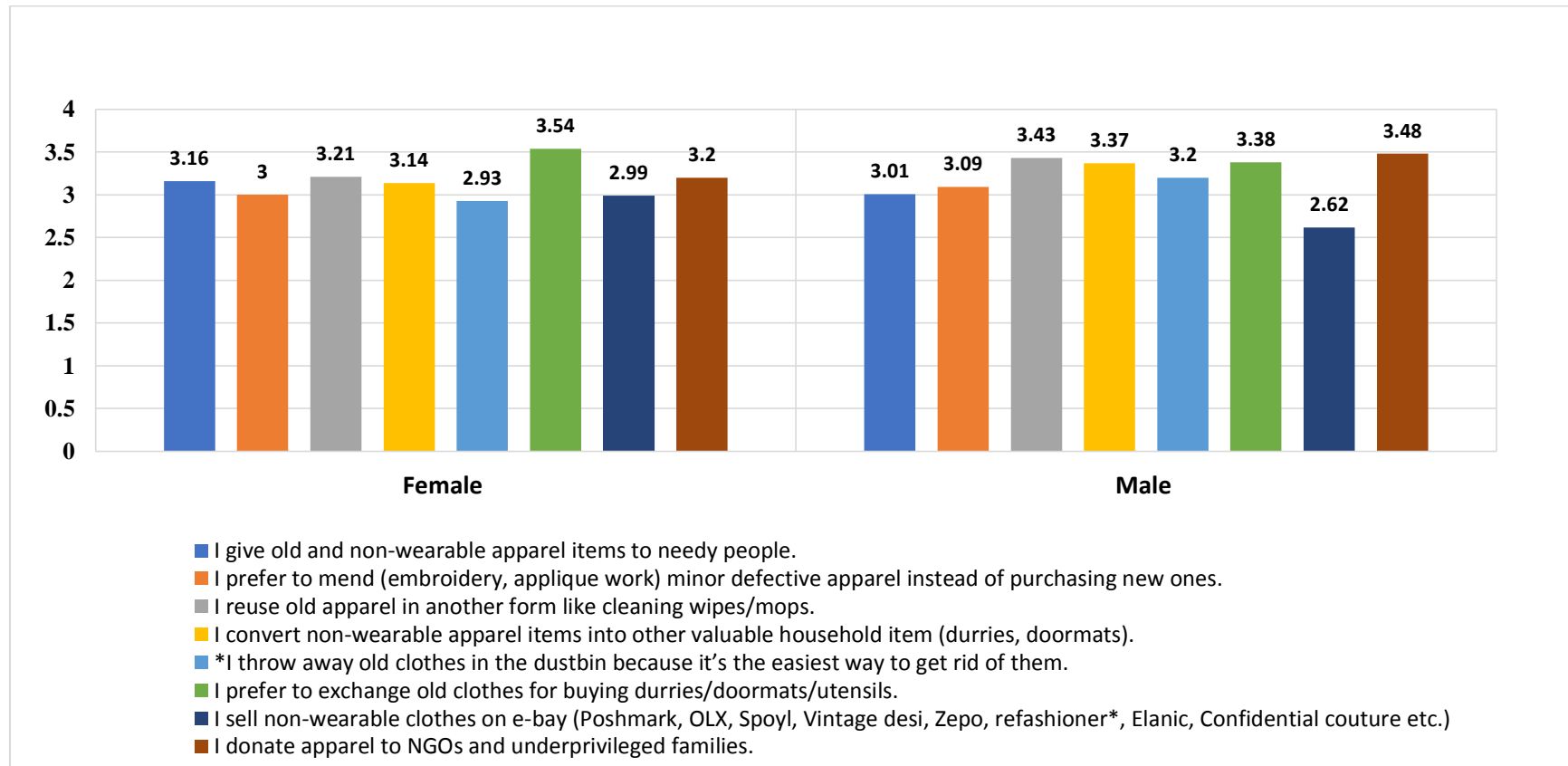
\* Negative statement i.e., less sustainable practice

It can also be envisaged from the data that only 15.00%, 12.14% and 11.42% male respondents always sold their non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner, Elanic, Confidential couture etc.), preferred to mend (embroidery, applique work) their minor defective apparel instead of purchasing new ones and thrown away their old clothes in the dustbin because it's the easiest way to get rid of them.

Figure 4.14 shows the data in WMS of male and female respondents behaviour towards disposal practices. Thus, difference in WMS calculated for each disposal practices between male and female respondents showed their unlike behaviour. Since, WMS was more 3 for most of the practices, it can be inferred that the practices were most commonly followed by all respondents.

It can be envisaged from the Figure 4.14 that there was difference in disposal practices followed by female and male respondents as reflected by the pattern of WMS for different statements. Most of the female respondents preferred exchange of their old clothes for buying durries/doormats/utensils as evidenced by highest WMS 3.54. It is followed by practice of reusing old apparel in another form like cleaning wipes/mops (WMS 3.21) donating apparel to NGOs and underprivileged families (WMS 3.20).

This might be due to the fact that these practices were part of traditional Indian culture followed in every household till date. The PG students also adopted these practices



\* Negative statement i.e., less sustainable practice

**Figure 4.14 Behaviour of respondents towards sustainable disposal practices in apparel consumption**

in their behaviour. The traditional techniques of recycling increase the life cycle of a product and play a very important role in sustainable apparel consumption. **Singh and Rani (2021)** had also reported that in the different states of India various recycling techniques (kantha, sujani, patch work, panjaa durries and rugs etc.) are practiced that increase the life cycle of an apparel item and reduce the waste creation. These are the part of traditional Indian culture that had contributed in the sustainability always.

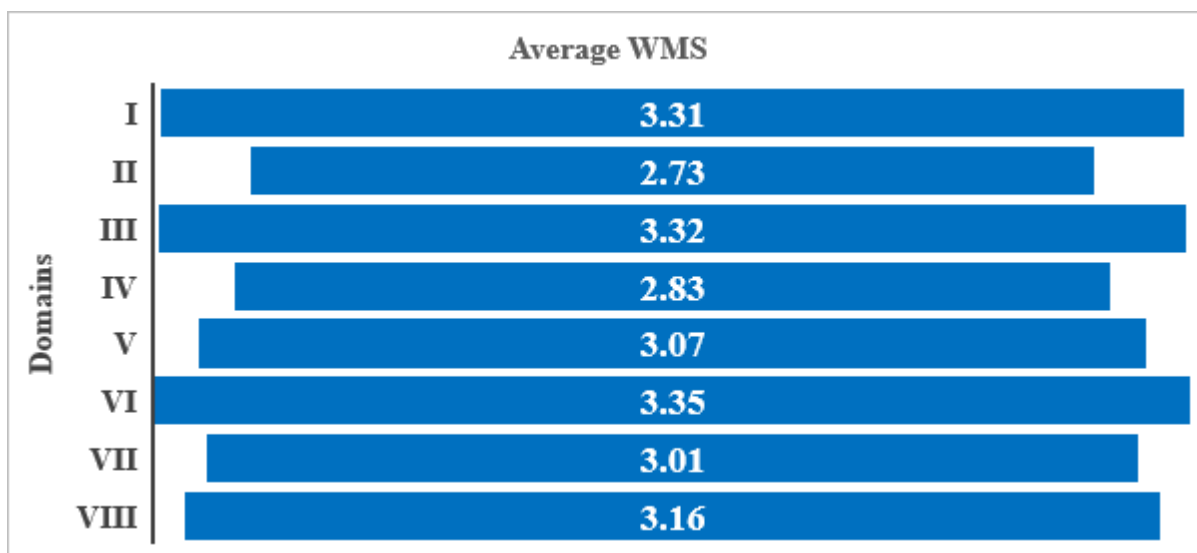
It can also be visualized from the bar chart that most male respondents donated their apparel to NGOs and underprivileged families preferably as evidenced by highest WMS 3.48. Further it is followed by practices of reusing old apparel in another form like cleaning wipes/mops (WMS 3.43) and exchanging old clothes for buying durries/doormats/utensils (WMS 3.38). This finding has cognizance with the results of **Shakya and Swami (2021)** who conducted a study in Uttar Pradesh among college going young consumers and found that donating of old clothing, handing over to siblings/friends and reuse practices were the mainly adopted means for disposing of post-consumer apparel waste.

#### **4.4.9 Behaviour of youth towards different domains of sustainable apparel consumption**

It can be observed from Figure 4.15 that WMS for each domain is ranging from 2.73 to 3.35 i.e., more than mid value 2.50. The post graduate students of different SAUs across North India adopted many practices that show their involvement towards sustainable apparel consumption.

The behaviour of the respondents was found most sustainable for the aspects related to the sharing of wardrobe with friends/siblings/relative (average WMS 3.35, Domain VI) which reflects adoption of collaborative consumption among youth. This was followed by the sustainable buying practices in apparel consumption (average WMS 3.32 and Domain III).

The least sustainable behaviour was towards the buying practices to fulfil social and personal urge average (WMS 2.73 Domain II).



Domain-I Wardrobe management related practices  
 Domain-II Urge for buying apparels  
 Domain-III Practices followed in apparel buying  
 Domain-IV Online buying practices  
 Domain-V Search eco label and raw material information during buying of apparels  
 Domain-VI Wardrobe sharing practices  
 Domain-VII Preferences for handmade/traditional/ indigenous apparel products during buying

**Figure 4.15 Overall behaviour of youth towards different domains of sustainable apparel consumption**

The adoption of sustainable practices among youth can be attributed to their high level of awareness and positive attitude. But the practices were not followed frequently which denoted lower translations of attitude of youth into actual behaviour. The mean score of attitudes was found between range of 2.50 to 4.41 (Section 4.3) that represents the positive attitude of youth from different SAUs across North India while average weighted mean score of behaviour ranged between 2.73 to 3.35 that denotes lower adoption of sustainable apparel consumption practices among youth. It can be resolved that the awareness and attitude of respondents did not reflect into their actual practices. Similar result had been reported by **Brosdahl and Carpenter (2010)** who found that knowledge issues did not affect the consumer's behaviour. **Rathinamoorthy (2019)** also reported that the awareness about the environmental concerning issues of apparel industry did not translate into their behaviour of purchasing apparel item among young consumers of Coimbatore city.

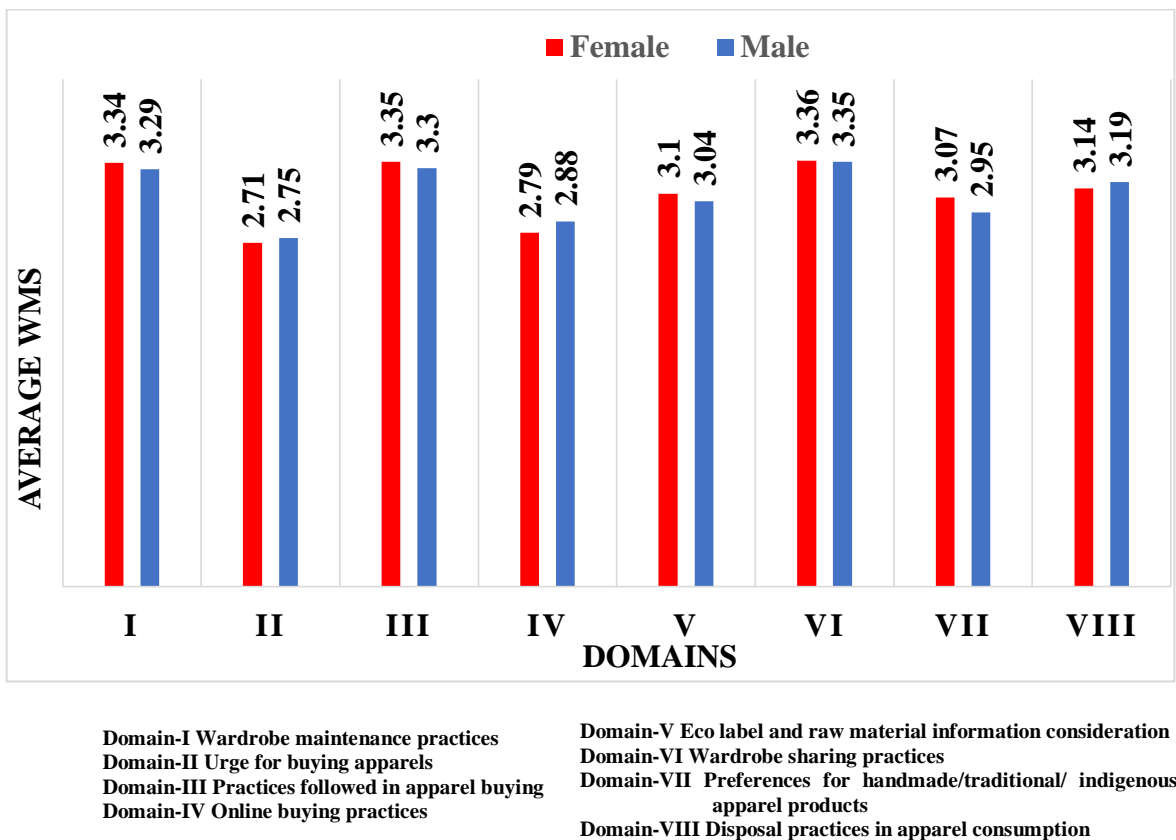
The reason might be the multitude effect of external (social, cultural and economic) and internal factors (motivation and values) that regulate to the behaviour of an individual.

**Nath et. al. (2012)** also reported that awareness about green products did not integrate in the daily life due to the low availability of green products, high price etc. was denoted as barriers.

#### 4.4.10 Comparison between behaviour of male and female respondents in sustainable apparel consumption

Figure 4.16 displays the comparison between behaviour male and female post graduate students from different SAUs across North India towards various aspects of sustainable apparel consumption. The comparison has been shown in terms of average WMS of different aspects of sustainable apparel consumption. It is clear from the Figure 4.8 that difference between male and female respondents existed not in all domains.

It can be visualized from the Figure 4.16 that maximum difference between behaviour of male and female respondents was observed on the domain VII that contained statements preferences for traditional handmade/ indigenous apparel product. The female respondents had more preference for traditional and handmade apparel (made of silk, khadi) product as compared to male respondents (WMS 3.07 and 2.95, respectively).



**Figure 4.16 Comparison between behaviour of male and female respondents for different domains of sustainable apparel consumption**

Further difference between male and female respondents was found minimum on the domain VI that contained statements regarding wardrobe sharing i.e., there was similarity in the adoption practices related to wardrobe sharing. Also, the behaviour was found most sustainable in context of wardrobe sharing among both male and female as depicted by highest WMS 3.35 and 3.36, respectively.

There was significant difference between the behaviour of male and female respondents at 5% level of significance. It was revealed by results of t-test statistics given in **APPENDIX VI** and Table 27. This implies there was difference in the adoption of practices related to sustainable apparel consumption among male and female PG students from SAUs across North India.

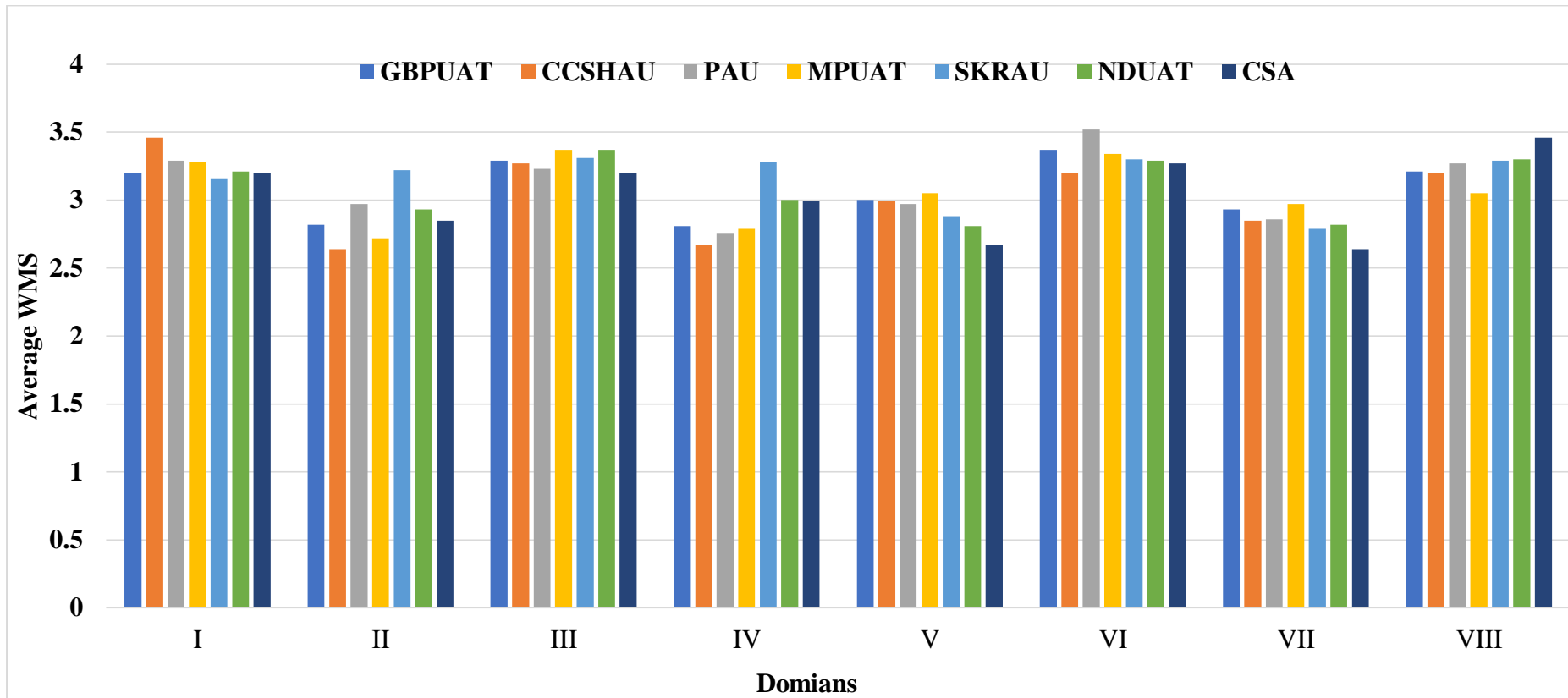
#### **4.4.11 Behaviour of youth towards the different aspects of sustainable apparel consumption of SAUs located in different states**

It is clear from the bar chart that post graduate students of SAUs located in different states displayed difference in the practices adopted for sustainable apparel consumption as depicted by highest WMS of different universities on different domains of sustainable apparel consumption. This difference in behaviour can be attributed to variable prominence of multitude factors (external and internal factors) among PG students of SAUs located in different states. The respondents from the Chaudhary Charan Singh Haryana Agricultural University, Hisar were more engaged into sustainable practices of wardrobe maintenance (WMS 3.46).

The respondents from the Govind Ballabh Pant University of Agriculture and Technology, Pantnagar adopted sustainable practices in buying apparels motivated by their urge (WMS 3.22). It means they displayed lower urge to buy apparels. The remote location of market from campus of university and busy schedules of students might be reason lower urge to buying apparels behind it.

It was also found that the respondents from the Maharana Pratap University of Agriculture and technology, Udaipur and Acharya Narendra Deva University of Agriculture and Technology, Kumarganj (Uttar Pradesh) were more engaged in the sustainable practices of buying apparel (WMS 3.37).

It is also evident from the bar chart that the respondents from the Sri keshwanad Rajasthan Agricultural University, Bikaner were comparatively more engaged sustainable



Domain-I Wardrobe maintenance practices  
 Domain-II Urge for buying apparels  
 Domain-III Practices followed in apparel buying  
 Domain-IV Online buying practices

Domain-V Eco label and raw material information consideration  
 Domain-VI Wardrobe sharing practices  
 Domain-VII Preferences for handmade/traditional/ indigenous apparel products  
 Domain-VIII Disposal practices in apparel consumption

**Figure 4.17 Comparison between behaviour of youth from different SAUs in North India towards the sustainable apparel consumption aspects**

practices of online buying as depicted by highest average (WMS 3.28). It means they buy less apparels from online sites without need.

It is further envisaged from the data depicted in bar chart the PG students from the Maharana Pratap University of Agriculture and technology, Udaipur gave consideration to the search for information on eco label and raw material during buying as evidenced by highest average WMS 3.05.

Likewise respondents from the Punjab Agricultural University, Ludhiana and Govind Ballabh Pant University of Agriculture and Technology, Pantnagar were adopted the practice of sharing apparel wardrobe with friends/relatives/siblings as (average WMS 3.52 and 3.37, respectively). The practice of preferences for the traditional handmade apparel products was more adopted by the respondents from MPUA&T, Udaipur (average WMS 2.97) and GBPUA&T, Pantnagar (WMS 2.93). The practices of disposing off apparels after use was followed by the respondents CSAUA&T, Kanpur as depicted by highest WMS 3.46. The mean difference between means of behaviour of respondents from different SAUs was found significant at 5% level of significance that resolved by one way ANOVA test. The detail of ANOVA given in **APPENDIX VI** in Table 30. This can be inferred as existence of significant difference in the behaviour of PG students located at SAUs in different states towards sustainable apparel consumption.

#### **4.4.12 Association hypothesis of the behaviour and independent (demographic) variables**

Table 4.23 shows the null and alternate hypothesis framed for establishing association between independent and dependent behaviour taken in the study.

The data given in the Table 4.24 shows that association was found between independent variables and behaviour of the youth. It was found significant at 5% level of significance that represents that effect of the independent variables viz., age, gender, religion, source of finance, place of residence, type of family and the family annual income on the behaviour of respondent towards sustainable apparel consumption. The relationship was revealed by chi square statistics and the detail of test is given in the **APPENDIX VI** Tables 17 to 24.

**Table 4.23 List of null and alternative association hypothesis for behaviour and independent (demographic) variables**

<i>H0</i>	<i>There is no association between age and behaviour of respondents</i>	<i>H1</i>	<i>There is association between age and behaviour of respondents</i>
<i>H0</i>	<i>There is no association between gender and behaviour of respondents</i>	<i>H2</i>	<i>There is association between gender and behaviour of respondents</i>
<i>H0</i>	<i>There is no association between religion and behaviour of respondents</i>	<i>H3</i>	<i>There is association between religion and behaviour of respondents</i>
<i>H0</i>	<i>There is no association between source of finance and behaviour of respondents</i>	<i>H4</i>	<i>There is association between source of finance and behaviour of respondents</i>
<i>H0</i>	<i>There is no association between place of residence and behaviour of respondents</i>	<i>H5</i>	<i>There is association between place of residence and behaviour of respondents</i>
<i>H0</i>	<i>There is no association between type of family and behaviour of respondents</i>	<i>H6</i>	<i>There is association between type of family and behaviour of respondents</i>
<i>H0</i>	<i>There is no association between annual family income and behaviour of respondents</i>	<i>H7</i>	<i>There is association between annual family income and behaviour of respondents</i>
<i>H0</i>	<i>There is no association between number of siblings and behaviour of respondents</i>	<i>H8</i>	<i>There is association between number of siblings and behaviour of respondents</i>

The hypothesis was tested using chi square statistic test, the results are presented in Table 4.24.

**Table 4.24 Association between independent variables and behaviour of youth in sustainable apparel consumption**

<b>S.no.</b>	<b>Variables</b>	<b>Chi-square value</b>	<b>Degree freedom</b>	<b>P value *P(cal.) &lt; P(tab)</b>	<b>Hypothesis result</b>
<b>9.</b>	<b>Age</b>	117.29*	88	P (0.02) < 0.05	<i>H1 = Accepted</i>
<b>10.</b>	<b>Gender</b>	262.44*	88	P (.00) < 0.05	<i>H2 = Accepted</i>
<b>11.</b>	<b>Religion</b>	445*	176	P (.00) < 0.05	<i>H3 = Accepted</i>
<b>12.</b>	<b>Source finance</b>	560*	176	P (.00) < 0.05	<i>H4 = Accepted</i>
<b>13.</b>	<b>Place residence</b>	551*	176	P (.00) < 0.05	<i>H5 = Accepted</i>
<b>14.</b>	<b>Type of family</b>	272*	88	P (.00) < 0.05	<i>H6 = Accepted</i>
<b>15.</b>	<b>Annual family income</b>	824*	264	P (.00) < 0.05	<i>H7 = Accepted</i>
<b>16.</b>	<b>Number siblings</b>	406.76*	176	P (.00) < 0.05	<i>H8 = Accepted</i>

\*Significant at 5% level of significance

#### **4.5 Correlations between awareness - attitude, attitude – behaviour and awareness behaviour**

The correlation between dependent variables i.e., awareness - attitude, attitude - behaviour and awareness – behaviour was tested by using Karl Pearson coefficient test

**(APPENDIX VIII).** The correlation was found significant at 1% level of significance. It implies that awareness of the respondents affected their attitude and behaviour. This finding is also supported by results of **Kang *et al.* (2013)** and **Kozar and Connell (2013)** who mentioned in their studies that knowledge on the aspects related to environment and sustainability affected the attitude and behaviour of consumers.

In the present study awareness on some aspects related to sustainability in apparel consumption was found low. So, a pamphlet has been designed in Hindi and English language to generate awareness and to guide the consumers on the sustainability aspects in apparel consumption (**APPENDIX IX**).



*Summary*  
*and*  
*Conclusions*



## Chapter-5

## SUMMARY AND CONCLUSION

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The purpose of this chapter is to summarize what has been accomplished in this research work. The conclusions were inferred to the answer the research objectives established for this study.

The textile and apparel industries play very important role in the economy as well employment generation of nations across the world. This sector fulfils the clothing needs that comes under basis needs of human being. The apparel industry has major contribution in the GDP, export revenues and employment. Contrary to it this sector has dirty secrets in the terms of pollution creator that affects the environment. The apparel we buy, wear and dispose after use have the negative impact on the environment. The manufacturing of textile materials uses lot of chemicals and water and energy and generate chemical effluents which cause biomagnification in the eco-systems. These effluents have many chemicals were banned by the government because these were found to cause the cancer and other diseases in the human being and animals. The whole lifecycle of the apparel from textile fibre production to the disposing stage imparts the detrimental impact on the environment. The natural which grown by using chemicals, water and energy, directly or indirectly influence on the environment. After fibre manufacturing, textile yarn processing and fabric finishes also releases harmful chemicals in the water sources. The consumer demand for apparels requires transport of the apparels to place goods at right place by the retailers which cause the release of greenhouse gases. Further use of the synthetic's releases microplastic fibres while the chemicals are added on the earth due to laundering. At last phase of apparel life cycle the apparels are discarded to get rid - off them. There are different methods of disposing off post-consumer waste management. The dispose method depends on the various factors i.e., social, cultural, personal and demography of the consumer. It means the each and every stage from fibre production to the apparel manufacturing, usage and disposal has footprints on the planet. There is need for the sustainability in apparel consumption to maintain the balance on the planet earth. The awareness towards the sustainable practices of apparel consumption, positive attitude and most important the attitude reflects into the consumer actions and can promote sustainable apparel consumption behaviour. The consumers behaviour can be affected by the various factors that can be grouped as internal and external.

The consumer is the leader of the market means i.e. they possess power that guide production of the apparel in manufacturing sector because the market strategies and distribution of goods are planned by keeping the consumer demand in the minds. The market research studies are done on the consumers before offering of any product and services. Today, in India more than 50% population is of youth. They have high disposable income and are more concerned about their fashion or style. They also follow the social media influencers and consciously or unconsciously copy them. They as young consumers, have the power to build a brand and break also through collective actions. In the era of social media, nothing is impossible, one can their reviews about anything in few minutes which in turn impacts behaviour of other consumers. There is need to increase the concerns of people about apparel consumption and that surely will make change for achieving goals of sustainable development.

The present study, therefore, was an effort to find the status of youth towards the sustainable apparel consumption. The proposed study was undertaken with the objectives to assess the level of awareness among youth, the attitude level of youth towards the different sustainability related aspects in the apparel consumption and the actual behaviour in sustainable apparel consumption among youth of North India.

The study was conducted in the State Agricultural Universities (SAUs) of North India. Seven SAUs were selected for the study namely, Govind Ballabh Pant University of Agriculture and Technology, Pantnagar (Uttarakhand); Punjab Agricultural University, Ludhiana (Punjab); Chaudhary Charan Singh Haryana Agricultural University, Hisar (Haryana); Chandrashekhar Azad University of Agriculture and Technology, Kanpur (Uttara-Pradesh); Acharya Narendra Deva University of Agriculture and Technology, Kumarganj (Uttara-Pradesh); Swami Keshwanand Rajasthan Agriculture University, Bikaner and Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan). 40 PG students (20 male and 20 female) were selected from each SAUs that constituted into the 280-sample size of the research study calculated by statistically. Two questionnaires (one for awareness and another for behaviour) and an attitude scale were developed as tools for the data collection. There were two types of variables included in study i.e., independent variables (gender, age, field of specialization, source of finance, type of family, number of siblings and annual family income) and dependent variables (awareness, attitude and behaviour). The exploratory research was conducted through

survey method. The data was collected by survey method to visiting each SAU campus by researcher. The collected data was tabulated and analyzed by using statistical tools i.e., frequency, percentage, Weighted Mean Score (WMS), chi-square test, t-test and one way ANOVA. The findings of study are as follows:

### **5.1 General information about the respondents**

The equal percent i.e., 50% male and female respondents each were taken in the sample where maximum 58.57% male and 61.42% females were 24-27 years and 20-23 years in age respectively. Maximum respondents were from agriculture field of specialization (42.86%), were resident of urban areas (40.35%). Majority of the respondents were Hindu (93.21%), had nuclear families (93.21%) and were having 0-2 siblings (82.14%). Annual family income of the more than 50% respondents was more than Rs. 5,00,000/- and were depending on the parents for the personal expenses. Only 6% respondents were getting the fellowship that was used by them as source of finance.

### **5.2 Level of Awareness among Youth about the Aspect of Sustainable Apparel Production and Consumption**

#### **5.2.1 Awareness of youth about the general aspects of sustainability**

The awareness on general sustainability aspects was found similar among both male and female respondents. Nearly all the respondents (99.28%) were aware of the general meaning of sustainability that it helps in stabilizing the balance between human activity and environment while most of the respondents (94.28%) were well aware of the other aspects of sustainability like it keeps resources at a steady level, enables achievement of developmental goals without affecting the availability of resources for future generations and the aspect that sustainable processes had the minimum negative impact on the environment. Only 70% respondents were aware that the hand-made indigenous (locally produced) products are more sustainable.

#### **5.2.2 Awareness of youth about sustainable processing methods in apparel manufacturing**

Majority of respondents were familiar with the concepts that the use of recycled cotton / recycled synthetic fibers in production improves the sustainability of production

(89.64%), the production operations release minimum greenhouse gases, and less amount of harmful chemicals, and do not include child labour like (good weave) are more sustainable processes of apparel production (88.57%) and the use of recyclable material supports in manufacturing of sustainable products and sustainable manufacturing protects the human rights of workers in a firm (88.21%). Only 70% respondents were aware that use of organic raw materials for manufacturing establishes sustainability in the product.

### **5.2.3 Awareness of youth about the sustainable eco-labels on apparels**

The green apparel label which projects the minimum negative impact of product on environment was known to 95% respondents. It was followed by 88.57% and 88.21% respondents who had acquaintance with “recycled cotton/recycled polyester” label which specifies circular production and “natural dye” label that implies the use of natural dyes for textile coloration, respectively.

Least awareness was found for mobius loop (three chasing arrows) represents the use of recycled material in apparel as depicted by response of only 32.85% respondents.

### **5.2.4 Awareness of youth about sustainable behavioural practices in apparel consumption**

Almost all respondents (99.28%) knew that the use of khadi apparel is sustainable owing to manual production. Khadi represents heritage of Indian culture. Majority of respondents (94.28%) were also aware that checking eco-labels and care practices reduce environmental impact, rental clothing option helps in limiting solid waste generation and vintage clothing buying supports sustainability as well as heritage preservation. Lower awareness was found among youth for reselling of used clothes on e-bay (84.64%) and purchase of sustainable apparel brand’s products fulfils commitments of consumers towards sustainable development as depicted by response of and respondents (84.14%).

Further, there was difference in the awareness among male and female respondents, the greater proportion of female respondents were aware about sustainability in apparel consumption as compared to the male respondents. This was approved by the results of statistical tool chi-square independence test which showed dependency of awareness was related to the gender of respondents. Maximum awareness was found on the aspect related to sustainable practices of apparel consumption (90.10% respondents)

followed by the awareness on the aspect related to general meaning of sustainability (88.32% respondents).

The high level of awareness was found among all respondents from the SKRAU, Bikaner, PAU, Ludhiana, NDUAT, Kumarganj (Ayodhya) and MPUA&T, Udaipur; 92.5% respondents from GBPUA&T, Pantnagar; 62.5% respondents from CSAUA&T, Kanpur and 57.5% respondents from the CCSHAU, Hisar.

Chi-square test revealed significant association existed (at 5% level of significance) between the independent variables like age, gender, religion, field of specialization, type of family, number of siblings, source of finances and annual family income and the awareness of post graduate students of different SAUs across North India.

### **5.3 Attitude of Youth towards Sustainability in Apparel Consumption**

The results showed positive attitude of both male and female respondents towards all the statements classified under different domains of sustainability in apparel consumption except the attitude of male respondents for the purpose of apparel consumption that apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.

#### **5.3.1 Attitude of youth towards purpose of an individual for apparel consumption**

The highest agreement among the female post graduate students of SAUs across North India was observed for sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all (WMS 4.25 and rank I) while male respondents showed highest agreement for the statement that an individual always ends up using few apparels more frequently (WMS 4.65 and rank I). Least agreement was found among female respondents for the purpose of purchasing apparel to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual (WMS 3.17 and rank IX) and male respondents agreed least for purchasing apparel to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual (WMS 2.37 and rank IX).

### **5.3.2 Attitude of youth towards sustainable raw material and labels in apparels**

The female post graduate students of SAUs across North India agreed most for the statement that organic cotton apparels are chemical-free that are safe for the user and the environment both (WMS 4.40 and rank I) while highest agreement among the male post graduate students was observed for the statement that organic cotton apparels are chemical-free that are safe for the user and the environment both (WMS 4.72 and rank I).

Least approval was found among female respondents for the statements that traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability (WMS 4.24) and apparels made from locally available natural resources have high sustainability index (indigenous products) (WMS 4.21 and rank IX) while male respondents agreed least (WMS 4.35 and rank IX) the statement that fair-trade label on apparel confirms the non-exploitation of human rights during manufacturing.

### **5.3.3 Attitude of youth towards disposal practices in sustainable apparel consumption**

The highest agreement was observed among both male (WMS 4.42) and female (WMS 4.72) post graduate students of SAUs across North India for the statement that giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation.

### **5.3.4 Attitude of youth towards the retailing aspects of apparel consumption**

The female post graduate students of SAUs across North India agreed most for the statement that the retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers (WMS 4.40 and rank I) while male post graduate students showed highest approval for the statement that the release of more collections per year in fast fashion creates solid waste (WMS 4.39 and rank I).

Least agreement was displayed by both male (WMS 3.99 and rank VI) and female (WMS 3.53 and rank VI) respondents for the statement that the promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing.

### **5.3.5 Attitude of youth towards the price of apparel**

The highest agreement was observed among both the male (WMS 4.15) and female (WMS 4.02) post graduate students of SAUs across North India for the statement that the discount on apparels persuades more apparel consumption.

Further, there was difference in the attitude of male and female respondents as evidenced by the result of statistical tool t-test (at 5% level of significance). The most positive attitude of the respondents was observed towards domain-II, the use of sustainable raw material and eco labels that ensure the sustainability of apparel (average WMS 4.41) while lowest perception was found towards the domain-V, price of apparels (average WMS 3.43). Also, post graduate students from SKRAU, Bikaner (WMS 3.81) and PAU, Ludhiana (WMS 3.76) showed highest approval for all the aspects related to sustainable apparel consumption while post graduate students of GBPUA&T, Pantnagar (WMS 3.33) exhibited least approval. The attitude of the post graduate students of different SAUs was found to be affected by all the independent variables except age.

### **5.4 Behaviour of Youth towards Sustainable Apparel Consumption**

#### **5.4.1 Behaviour of youth for wardrobe maintenance**

Maximum female (39.28%) and male (37.85%) post graduate students, always maintained apparels in their wardrobe for different purposes while least preferred practice was maintaining style and quantity in casual wear (WMS 2.85 for females and 2.74 for males).

#### **5.4.2 Behaviour of youth on basis of their urge for buying apparels**

Maximum female (41.41%) and male (42.14%) post graduate students always purchased new apparel when the existing one is out of fashion and the practice of purchasing fashionable apparel for portraying modern personality was followed least (WMS 2.11 for females and 2.12 for males).

#### **5.4.3 Behaviour of youth for sustainable buying practices in apparel consumption**

Maximum female (48.57%) and male (52.28%) post graduate students always reported to purchase new apparel when existing ones are worn out/get faded/out of fit. The practice of keeping fixed matches for casual wear was followed least by both male (WMS 2.67) and female (WMS 2.82) post graduate students.

#### **5.4.4 Behaviour of youth consumers for online buying**

Maximum female (36.42%) and male (32.85%) post graduate students often preferred online shopping because there is more information available about products. Although purchasing apparel from online platforms was least practiced among both male (WMS 2.63) and female (WMS 2.38).

#### **5.4.5 Behaviour of youth towards searching information on apparels while buying**

Maximum female (41.42%) and male (44.28 %) post graduate students rarely searched for the organic/green/GOTS /OCS labels on apparel items while purchasing. The practice followed most by both male (WMS 2.6) and female (WMS 2.70) post graduate students was searching care label information during purchasing apparels.

#### **5.4.5 Behaviour of youth for wardrobe sharing practices in apparel consumption**

The practice of sharing wardrobe apparel items with friends and siblings regularly was followed rarely by maximum 32.85% female post graduate students while maximum 33.57% male post graduate students often preferred to use vintage apparel items over buying new ones. However most commonly followed practice among male (WMS 3.54) and female (WMS 3.66) post graduate students was handing over out of fit apparel items to siblings and friends.

#### **5.4.6 Behaviour of youth for preferences of traditional handmade indigenous apparels**

Maximum female (42.85%) and male (45.00%) post graduate students rarely preferred traditional apparel items made up of khadi/organic cotton. However both male (WMS 3.06) and female (WMS 3.32) post graduate students preferred apparel item made up of silk.

#### **5.4.8 Behaviour of youth towards sustainable disposal practices for apparels**

The preference to exchange old clothes for buying durries/door mats/utensils was reported to be followed often by maximum female (38.57%) and male (35.00%) post graduate students for disposal purpose. The male post graduate students preferred least (WMS 2.62) to sell non wearable clothes on e-bay while least followed the practice among the female post graduate students was throwing away old clothes in the dustbin (WMS 2.93).

Further, the behaviour of the respondents was found most sustainable for the aspects related to the sharing of wardrobe with friends/siblings/relative (average WMS 3.35, Domain VI) whereas the least sustainable behaviour was observed towards the buying practices to fulfil social and personal urge (average WMS 2.73, Domain II). Besides this it was found that maximum difference between behaviour of male and female respondents existed for the domain VII i.e., preferences for traditional handmade/indigenous apparel product. The difference was found minimum between male and female respondents for the domain VI i.e., wardrobe sharing practices. Also, there was significant difference between the behaviour of male and female respondents at 5% level of significance.

The behaviour of post graduate students from SAUs located in different states of North India was found different at 5% level of significance in adopting practices related to sustainable apparel consumption. It was also found that the behaviour of post graduate students towards sustainable apparel consumption practices was associated with all independent variables taken in the study as per chi square test results (at 5% level of significance).

## CONCLUSIONS

The following conclusions can be drawn on the basis of the study

- The majority of master's level students of SAUs across North India were aware on the general meaning of sustainability and sustainable methods that had least environmental impact.
- The maximum awareness was observed among master's level students of SAUs across North India towards the sustainable apparel consumption practices that were mostly practiced since ancient Indian cultures viz. sharing of apparel with known (friends/siblings/relatives) and reuse them for other purposes and convert them into valuable items (durries) or exchange them for buying utensils.
- The attitude of master's level students of SAUs across North India was found favourable or highly positive towards the sustainable apparel consumption aspects. The male respondents held much positive attitude as compared to the female respondents towards the different domains of sustainable apparel consumption except the one related to disposal practices of apparels.

- The behaviour of the master's level students of SAUs across North India was found sustainable in relation to wardrobe sharing and least sustainable in terms of following urges behind buying apparels. Both male and female respondents' behaviour reflected more or less similar practices followed for most of the aspects in sustainable apparel consumption.
- Behaviour of master's level students of SAUs across North India in sustainable apparel consumption was not reflected to an extent in accordance to positive attitude and high level of awareness displayed by the youth. This strengthens previous research findings that due to the multitude impact of the different independent variables on the behaviour towards apparel consumption.
- The association between independent variables (age, place of residence, annual family income, type of family and number of siblings) was significant i.e., had effect on the awareness level of respondents.
- The association between independent variables (religion, place of residence, annual family income, type of family and number of siblings) was found significant which depicted effect of demographic factors on attitude of respondents.
- The association between independent variables (age, religion, place of residence, annual family income, source of finance, type of family and number of siblings) was also found significant for the behaviour of respondents which implies that behaviour of youth was affected by their demographic profile.

## **Recommendations for Stakeholders**

### **(Government, manufacturers/ retailers and consumers)**

- Government should take initiatives through formulation of strict rules and their implementation effectively. At least, effort towards use of the sustainable labels (eco mark, fair trade label and organic label) on indigenous apparel goods can serve great role in visibility of these goods in regular market.
- Manufacturers should adopt any sustainability index (Higg's index, pulse points, Dow jones sustainability index) for conformance of the product's sustainability to global standards for fair-trade and zero discharge of harmful substances. Further, initial steps towards the implementation of QR codes should be taken to enable

traceability of materials in apparel products by consumers. Thus, transparency in supply chain of apparel sector will become transparent.

- Consumers must look for the eco labels and ask for it, in case if it is not there, from retailers. This strengthens their roles in creating demand for green products and thus participate actively towards conformity to sustainability in apparel consumption.

### **Recommendations for Future Research**

- To study on attitude-behaviour gap among consumers for sustainable apparel products made of indigenous materials.
- To study on availability of global and domestic brands in sustainable apparel goods category and perception of consumers towards these products.
- To study awareness on MSMEs (Micro Small and Medium Enterprises) about sustainability indices and their willingness to adopt them among small scale manufacturing units.
- Interventions for promoting awareness on sustainability indices among handicraft and handloom artisans and integrating them in production for promoting visibility of traditional textiles.
- To explore range of eco labels on apparel goods and assessing their authenticity on eco parameters.



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# *Appendices*



# APPENDICES

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## APPENDIX-I

### QUESTIONNAIRE FOR ASSESSING THE LEVEL OF Awareness among consumers on sustainability in apparel production and its consumption

#### Section-I General Information

1. Name of respondent
2. Age
3. Gender
4. Religion
5. Contact no.
6. E-mail Id
7. Place of residence  
Urban \_\_\_\_\_ Rural \_\_\_\_\_ Semi-urban  
\_\_\_\_\_
8. Number of siblings  
Brother \_\_\_\_\_ Sister \_\_\_\_\_

Please tick ( ✓ ) the appropriate response

9. University of studying  
GBPUA&T Pantnagar (Uttarakhand)  
CCSHAU Hisar (Haryana)  
PAU Ludhiana (Punjab)  
CSAUA&T Kanpur (Uttar Pradesh)  
NDU&T Faizabad (Uttar-Pradesh)  
SKRAU Bikaner (Rajasthan)  
MPUA&T Udaipur (Rajasthan)

**10. College** Basic Science and Humanities  
 College of Technology  
 Veterinary Science and Animal Husbandry  
 Home Science  
 Agriculture Science  
 Horticulture  
 Agriculture business management

**11. Source of finance** Parents  
 Fellowship  
 Scholarship  
 Part-time job  
 Any other please specify

12. Family information [please tick (✓) on the appropriate option]

<b>Type of family</b>	Nuclear	Joint
<b>Occupation</b>	<b>Mother</b>	<b>Father</b>
	Professional	Professional
	Housewife	Farming
	Entrepreneur/business	Entrepreneur/business
	Any other (please specify)	Any other (please specify)

**Annual family income**

Less than Rs.1,50,000

Rs.1,50,000- Rs.2,50,000

Rs.2,50,000- Rs. 5,00,000

More than Rs. 5 lakhs

## Section – II Specific information

If you are aware with terms please tick Yes (✓) otherwise tick (✓) No

### 1. Consciousness of the general aspects of sustainability

S. No.	Statements	Yes	No
1.	Sustainability refers to meeting our own needs without compromising the ability of future generations.		
2.	Sustainability helps in stabilizing the balance between human activities and the environment.		
3.	Sustainability is a process of improving economic well-being and quality of life while balancing the environment.		
4.	Sustainability can keep resources at a steady level.		
5.	Sustainability is to achieve developmental goals without affecting the availability of resources for future generations.		
6.	Sustainable manufacturing/ production processes have a minimum negative impact on the environment.		
7.	Transparency in a business supply chain ensures fair-trade practices.		
8.	Traceability in supply chains is the process of tracking the journey of products and their input and it is promoting sustainability.		
9.	Hand-made and indigenous (locally produced) products are more sustainable.		

## 2. Sustainable processes and manufacturing methods of apparels

S. No.	Statements	Yes	No
1.	The use of organic raw materials for manufacturing establishes sustainability in the product.		
2.	The use of recycled cotton/ synthetic fiber in manufacturing improves sustainability in production.		
3.	Fiber producing processes which cause no/minimum harm to the animals are more sustainable.		
4.	The use of biodegradable material in manufacturing helps in creating sustainable product.		
5.	The use of recyclable material supports in manufacturing of sustainable product.		
6.	A production operation that releases minimum greenhouse gases confirms sustainable output.		
7.	Production processes which use less amount of harmful chemicals are more environmentally friendly.		
8.	The production which does not include child labour is sustainable (Good weave).		
9.	Sustainable manufacturing protects the human rights of workers in a firm (equal wages for men and women, good working conditions).		

### 3. Eco labels on apparel (clothing) that promotes green and safe apparel products

S. No.	Statements	Yes	No
1.	“Green apparel” label projects the minimum environmental impact of apparel products.		
2.	“Organic cotton” reflects that cotton is free from toxic dyes, other harmful chemicals, and genetic modification.		
3.	“Recycled cotton/recycled polyester” specifies circular production.		
4.	‘Eco-mark’ label signifies the environmentally preferable consumer product.		
5.	‘Fair-wear’ label ensures that no exploitation of human rights occurs in the workplace.		
6.	The “Natural dye” label implies the use of natural dyes for textile coloration.		
7.	“Eco-finishes / natural finishes” label signifies the use of natural elements in the finishing of apparel which ensures the user and environment-friendliness of the product.		
8.	GOTS (Global Organic Textile Standard) label program certifies the production of apparel from materials fulfilling global organic textile standards.		
9.	Mobius loop (three chasing arrows) label represents the use of recycled material in apparel.		

#### 4. Sustainable consumption practices of apparel

S. No.	Statements	Yes	No
1.	Possession of a limited number of apparel items generates less solid waste.		
2.	Purchasing apparel only when needed reduces demand for fast fashion.		
3.	Sharing clothes with siblings will enable maximum utilization of apparel.		
4.	Donating non-wearable items to needy / NGOs (Red cross, blind schools) will reduce solid waste.		
5.	Buying locally manufactured apparel leads to low carbon footprints.		
6.	Preference for traditional crafts promotes sustainable development and well-being in artisans' society.		
7.	The use of khadi apparel is sustainable owing to manual production.		
8.	Purchase of sustainable apparel brand's products (woodland, levis-eco, fabindia, mother earth) fulfils commitments of consumers towards sustainable development.		
9.	Checking eco-labels and care practices reduce environmental impact.		
10.	Rental clothing option helps in limiting solid waste generation.		
11.	Vintage clothing (90s fashion /20- to 100-year-old) buying supports sustainability as well as heritage preservation.		
12.	The exchange of old apparel with utensils, durries, and doormats promotes sustainability.		
13.	Reselling of used clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, Refashioner, Elanic, Confidential couture, etc.) will help in lessening solid textile waste.		

**APPENDIX-II****Questionnaire for studying the behaviour of youth towards sustainable apparel consumption**

<b>S. No.</b>	<b>Statements</b>	<b>A</b>	<b>O</b>	<b>S</b>	<b>R</b>	<b>N</b>
1.	I maintain apparels in my wardrobe for different purposes (casual, formal, sportswear and nightwear).					
2.	I prefer to change the apparels within my wardrobe in every season.					
3.	I prefer to purchase variety in each category (formal, casual, sportswear and night wear).					
4.	I purchase new apparel when existing ones are worn out/get faded/out of fit.					
5.	I purchase new apparel when the existing one is out of fashion.					
6.	I purchase new apparel for every function, occasion, and other social events.					
7.	I purchase fashionable apparel for portraying my modern personality.					
8.	I purchase apparel to communicate my social role.					
9.	I purchase apparel to show off my financial status.					
10.	I purchase apparel to conform the peer group.					
11.	I do impulsive buying to fulfil my desire to follow trends in fashion.					
12.	I prefer rental services for western formal wear/party wears/lehengas/suit.					
13.	I prefer window shopping before going for the actual buying of branded apparel.					
14.	I go for impulsive buying for casual wear during sales/discounts.					

15.	I purchase only from new collections of apparel items in every season.					
16.	I prefer to purchase apparel from online platforms.					
17.	I prefer online shopping for apparel because there is more information available about products.					
18.	I place orders of apparel items from online sites without need.					
19.	I search for care label information during purchasing.					
20.	I search the raw material information about apparel items.					
21.	I consider care label instructions for every apparel item.					
22.	I look for care label instructions only for expensive apparel.					
23.	I look for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity.					
24.	I search for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items.					
25.	I search for recycled material information on apparel items in case of synthetics, blends and natural.					
26.	I avoid to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic).					
27.	I prefer style and quantity in casual wear.					
28.	I share wardrobe apparel items with friends and siblings regularly.					
29.	I don't mind wearing apparel of siblings/ relatives/ friends on occasions.					

30.	I prefer using the mix and match concept to create a new style with existing apparels.					
31.	I prefer to keep using fixed matches for casual wear.					
32.	I prefer handmade locally produced apparel items.					
33.	I prefer that traditional apparel items are made up of khadi/organic cotton.					
34.	I prefer that traditional apparel items are made up of Ahimsa silk.					
35.	I prefer traditional apparel (handmade/silk/khadi) for formal wear.					
36.	I prefer to use vintage apparel items (old traditional apparel) over buying new ones.					
37.	I donate apparel to NGOs and underprivileged families.					
38.	I handover out of fit apparel items to siblings/friends.					
39.	I give old and non-wearable apparel items to needy people.					
40.	I prefer to mend (embroidery, applique work) minor defective apparel instead of purchasing new ones.					
41.	I reuse old apparel in another form like cleaning wipes/mops.					
42.	I convert non-wearable apparel items into other valuable household item (durries, doormats).					
43.	I throw away old clothes in the dustbin because it's the easiest way to get rid of them.					
44.	I prefer to exchange old clothes for buying durries/doormats/utensils.					
45.	I sell non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner*, Elanic, Confidential couture etc.)					

## ATTITUDE SCALE

## APPENDIX-III

**Note: Kindly give your response on a five-point Likert scale. The response STRONGLY AGREE represents a strong positive attitude while STRONGLY DISAGREE represent a strong negative attitude towards the given statements.**

S. no.	Statements	S. A	A	N	D	S. D
1.	The apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.					
2.	The apparel is owned to satisfy the aesthetic wants and desires of an individual.					
3.	The apparel is owned for the expression of the social status of an individual.					
4.	The conformance to norms in social gatherings forces people to purchase more apparels.					
5.	The promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing.					
6.	The ease of buying and comfort in online mode induce increase frequency of apparel purchasing.					
7.	The discounts on apparels persuades more apparel consumption.					
8.	The purchasing of a smaller number of better-quality apparels promotes sustainability.					
9.	The trendy fashion apparel has boosted frequent buying every season					
10.	The release of more collections per year in fast fashion creates solid waste.					
11.	Sustainable apparel brands are expensive.					
12.	Expensive brands are always sustainable.					
13.	The rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost.					
14.	The sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all.					
15.	The use of vintage clothing can conserve cultural heritage besides extending the life of apparel items.					
16.	Eco-label ensures the environmental friendliness of apparel items.					
17.	The traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability.					
18.	The fair-trade label on apparel confirms the non-					

	exploitation of human rights during manufacturing.					
19.	Apparels made from recycled materials reduce resource consumption for a new product manufacturing.					
20.	The apparels made from organic textile material (cotton, wool, silk, bamboo, hemp etc.) can be identified from the labels present on them.					
21.	The organic material-based apparels are always biodegradable.					
22.	The organic cotton apparels are chemical-free that are safe for the user and the environment both.					
23.	The apparels made from locally available natural resources have high sustainability index.					
24.	The use of traditional handmade textiles (khadi) and apparel promote resource conservation for future generation.					
25.	An individual generally has more non-wearable apparels items than wearable items in his/her wardrobe i.e., an individual always ends up using few apparels more frequently.					
26.	The giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation.					
27.	Use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste generation.					
28.	Worn-out apparel can be reused for low-value products in households.					
29.	The retail outlets may offer reselling of the quality apparel items of young consumers to implant sustainable behaviour among them.					
30.	The retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers.					

**S.A – Strongly Agree**

**A - Agree**

**N- Neutral**

**D- Disagree**

**S.D. – Strongly disagree**

## APPENDIX-IV

### Operational definitions

- 1. Apparel manufacturing** – Apparel manufacturing refers to changing fabric into finished garment. It involves the various process like product design, fabric selection and inspection, pattern making, grading, marking, spreading, cutting, bundling, sewing, pressing or folding, finishing and detailing, dyeing, washing, quality control, etc. (Sarkar, 2011).
- 2. Attitude** – Attitude is mental entity and a psychological construct. This is the complex state which acquired through experience. It is an individual's predisposed state of mind regarding a value and it is precipitated through a responsive expression towards oneself, a person, place, thing, or event which in turn influences the individual's thought and action (Perloff, 2016).
- 3. Awareness-** Awareness is the state of being conscious of something. More specifically, it is the ability to directly know and perceive, to feel, or to be cognizant with something. It is a state in which a subject is aware of some information. It is analogous to sensing something, means getting /occurring some information when mind is active state (Chalmers and David 1997).
- 4. Behaviour** – Behaviour is a range of actions which performed by a person i.e., practices carried out. It may be affected by different factors like attitude, values, beliefs and socio-cultural norms in particular society (Minton and Khale, 2014).
- 5. Consumers-** consumer is the person who perform the various activity to fulfil their needs. These activities are acquisition/buying of goods/services, using and disposing them. The consumer play very important role in market and can be called the king of the market he/she makes demand for the products (Wikipedia 2022).
- 6. Organic apparels-** Organic clothing is clothing made from materials raised in or grown in compliance with organic agricultural standards. Organic clothing may be composed of Cotton, Jute, Linen, Silk, Ramie, or Wool. In the United States, textiles do not need to be 100% organic to use the organic label. A general term *organic textiles* used which contains organic apparels as well home textiles (Wikipedia, 2016).

- 7. Sustainable apparels-** It refers to clothing/outerwear that is designed, manufactured, distributed and used in ways that have minimum negative impact on environment. The sustainable apparels not only include the environmental aspect but social injustice, worker right and economic benefits also. i.e., organic apparels (cotton, linen, wool), Ahimsa silk, eco-apparels, second hand clothing, swapping, thrifting, sharing, vintage clothing and renting.
- 8. Sustainable apparel consumption-** It defined as the buying, using and disposing of apparel goods to improve the quality of life but that should have the minimum negative impact on the environment in terms of resources uses like water, energy. This also ensures that lowest release of waste, harmful chemicals/gases and maximum benefits of the resources (Kozar and Connell, 2010).
- 9. Sustainable apparel production/manufacturing-** It defined as the process and methods of apparel production should be appropriate in terms of social, economic aspects. The products should be socially acceptable and economically beneficial to the consumers. It means that the apparels produced should possess the social, economic and eco-friendly attributes means use of fair-trade practices, proper working conditions for labours and no exploitations of human rights (Sengupta and El-Halwagi, 2018).
- 10. Sustainability index-** It is an instrument to measure the responsibility of a company or organization in social and environmental areas. If they take more these aspects with the development of business, they get higher the score.
- 11. Sustainability-** Sustainability refers to meeting our own needs without compromising the ability of the future generations to meet their own needs. It not only deals with the environment / natural resources but also economic and social aspects also considered (UN report, 2013).
- 12. Vintage clothing-** Vintage clothing is a generic term for garments originating from a previous era. The phrase is also used in connection with a retail outlet, e.g. in *vintage clothing store*. Today vintage dressing encompasses choosing accessories, mixing vintage garments with new, as well as creating an ensemble of various styles and periods (Palmer, 2004).

## APPENDIX-V

### List of expert members from different institutes in the panel for content validity testing

S. No.	Name	Designation	Institutes
1.	Dr. Anita Rani	Professor (CT)	GBPUA&T, Pantnagar
2.	Dr. Manisha Gahlot	Professor &HOD (HDFS)	GBPUA&T, Pantnagar
3.	Dr. Shefali Massey	Assistant Professor (CT)	GBPUA&T, Pantnagar
4.	Dr. Alka Goel	Professor, Dean COHS	GBPUA&T, Pantnagar
5.	Dr. Shahnaz Jahan	Professor, HOD (CT)	GBPUA&T, Pantnagar
6.	Dr. Sonu Rani	Assistant Professor (CT)	GBPUA&T, Pantnagar
7.	Dr. Sakshi Kapoor	Associate Professor (CT)	GBPUA&T, Pantnagar
8.	Dr. Sandhya Rani	Assistant Professor (FRM)	GBPUA&T, Pantnagar
9.	Dr. Divya	Assistant Professor (FRM)	GBPUA&T, Pantnagar
10.	Dr. Aditi Vats	Professor and HOD (FRM)	GBPUA&T, Pantnagar
11.	Dr. Anupama Pandey	Assistant Professor (HEE)	GBPUA&T, Pantnagar
12.	Dr. Ragini Mishra	Assistant Professor (HDFS)	GBPUA&T, Pantnagar
13.	Reetika Bhatt	Assistant Professor (CABM)	GBPUA&T, Pantnagar
14.	Jyoti Joshi	Assistant Professor (CT)	Surajmal Agarwal Private Kanya Mahavidyalya, Kichha
15.	Pooja Bhatt	Assistant Professor (CT)	Uttarakhand Open University, Haldwani
16.	Bhumika Singh	Industrial Designer	NID Ahmedabad
17.	Dr. Vandana Bhandari	Assistant Professor (Guest)	HNB Garhwal University, Srinagar
18.	Dr. Ruchi Kholiya	Assistant Professor	NIFT, Jodhpur
19.	Dr. Anupama Mishra	Associate Professor and HOD (TAD)	College of Community Science, Tura (Meghalaya)
20.	Dr. Neelam Bhardwaj	Professor and HOD (AEC)	GBPUA&T, Pantnagar

**RESULTS OF CHI-SQUARE TEST****Table 1: Chi-square test for the association between of age on the awareness level of the respondents**

$x^2 = 38.91,$                        $df = 19,$                        $p (0.05) = 0.05$   
Not Significant

**Table 2: Chi-square test for the association between of gender on the awareness level of the respondents**

$x^2 = 199.85$                        $df = 19,$                        $p (0.00) < 0.05$   
Significant

**Table 3: Chi-square test for the association between of religion on the awareness level of the respondents**

$x^2 = 45.84,$                        $df = 38,$                        $p (0.322) > 0.05$   
Not significant

**Table 4: Chi-square test for the association between of source of finance on the awareness level of the respondents**

$x^2 = 266.89,$                        $df = 38,$                        $p (0.00) < 0.05$   
Significant

**Table :5 Chi-square test for the association between of place of residence on the awareness level of the respondents**

$x^2 = 486,$                        $df = 19,$                        $p (0.00) < 0.05$   
Significant

**Table 6: Chi-square test for the association between of type of family on the awareness level of the respondents**

$x^2 = 261.028,$                        $df = 19,$                        $p (0.00) < 0.05$   
Significant

**Table 7: Chi-square test for the association between of number of siblings on the awareness level of the respondents**

$x^2 = 198.85,$                        $df = 19,$                        $p (0.00) > 0.05$   
Significant

**Table 8: Chi-square test for the association between of annual family income on the awareness level of the respondents**

$\chi^2 = 762.99$                        $df = 219,$                        $p (0.00) < 0.05$   
Significant

**Table 9: Chi-square test for the association between of age on the attitude level of the respondents**

$\chi^2 = 90.408$                        $df = 73$                        $p (0.082) > 0.05$   
Not Significant

**Table 10: Chi-square test for the association between of gender on the attitude level of the respondents**

$\chi^2 = 244.1333$                        $df = 73,$                        $p (0.00) < 0.05$   
Significant

**Table 11: Chi-square test for the association between of religion on the attitude level of the respondents**

$\chi^2 = 445.147,$                        $df = 176,$                        $p (0.00) < 0.05$   
Significant

**Table 12: Chi-square test for the association between of source of finance on the attitude level of the respondents**

$\chi^2 = 447.66,$                        $df = 146,$                        $p (0.00) < 0.05$   
Significant

**Table 13: Chi-square test for the association between of place of residence on the attitude level of the respondents**

$\chi^2 = 528.56,$                        $df = 146,$                        $p (0.00) < 0.05$   
Significant

**Table 14: Chi-square test for the association between of type of family on the attitude level of the respondents**

$\chi^2 = 280,$                        $df = 73,$                        $p (0.00) < 0.05$   
Significant

**Table 15: Chi-square test for the association between of annual family income on the attitude level of the respondents**

$\chi^2 = 762.992,$                        $df = 219,$                        $p (0.00) < 0.05$   
Significant

**Table 16: Chi-square test for the association between of number of siblings on the attitude level of the respondents**

$x^2 = 261.37$ ,                       $df = 146$ ,                       $p (0.00) < 0.05$   
Significant

**Table 17: Chi-square test for the association between of age on the behaviour of the respondents**

$x^2 = 117.29$ ,                       $df = 88$ ,                       $p (0.00) < 0.05$   
Significant

**Table 18: Chi-square test for the association between of gender on the behaviour of the respondents**

$x^2 = 262.44$ ,                       $df = 88$ ,                       $p (0.00) < 0.05$   
Significant

**Table 19: Chi-square test for the association between of religion on the behaviour of the respondents**

$x^2 = 445$ ,                       $df = 176$ ,                       $p (0.00) < 0.05$   
Significant

**Table 20: Chi-square test for the association between of source of finance on the behaviour of the respondents**

$x^2 = 560$ ,                       $df = 176$ ,                       $p (0.00) < 0.05$   
Significant

**Table 21: Chi-square test for the association between of place of residence on the behaviour of the respondents**

$x^2 = 551$ ,                       $df = 176$ ,                       $p (0.00) < 0.05$   
Significant

**Table 22: Chi-square test for the association between of type of family on the behaviour of the respondents**

$x^2 = 272$ ,                       $df = 88$ ,                       $p (0.00) < 0.05$   
Significant

**Table 23: Chi-square test for the association between of annual family income on the behaviour of the respondents**

$x^2 = 824$ ,                       $df = 264$ ,                       $p (0.00) < 0.05$   
Significant

**Table 24: Chi-square test for the association between of number of siblings on the behaviour of the respondents**

$\chi^2 = 406.76$ ,  $df = 176$ ,  $p(0.00) < 0.05$   
Significant

**RESULTS OF t-Test of Two Independent Groups**

**Table 25: Significance of difference in awareness of male and female respondents on the different aspects of sustainable apparel consumption**

	Gender	n	Mean	Standard deviation	Mean difference	F value
Awareness	Group-1 (Female)	140	39.93	0.258	10.60	*285.89
	Group-2(Male)	140	29.33	13.213		

\*Significant at the 5% level of significance

**Table 26: Significance of difference in attitude of male and female respondents towards different aspects of sustainable apparel consumption**

	Gender	N	Mean	Standard deviation	Mean difference	F value
Attitude	Group-1 (Male)	140	141.23	8.191	36.014	*52.38
	Group- 2(female)	140	105.21	21.565		

\*Significant at the 5% level of significance

**Table 27: Significance of difference in behaviour of male and female respondents in sustainable apparel consumption**

	Gender	N	Mean	Standard deviation	Mean difference	F value
Behaviour	Group-1 (Male)	140	182.64	25.295	19.71	*17.80
	Group- 2(female)	140	109.26	45.011		

\*Significant at the 5% level of significance

## RESULTS OF ONE-WAY ANOVA

**Table 28: Significance of difference in awareness level among respondents of different SAUs on the sustainability aspects of apparel consumption**

<b>Independent groups</b>	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F-value</b>
Between groups	6	9345.371	1557.562	17.797*
Error	273	23892.400	87.518	-
Total	279	33237.771	-	-

\*Significant at the 5 % level of significance

	<b>Universities</b>	<b>n</b>	<b>Mean</b>	<b>Standard deviation</b>
<b>Awareness</b>	CCSHAU	40	23.85	18.59
	CSAUAT	40	28.67	14.487
	GBPUA&T	40	34.85	5.811
	MPUA&T	40	37.08	2.973
	NDUA&T	40	38.61	1.829
	PAU	40	39.58	0.501
	SKRAU	40	39.53	0.506

**Table 29: Significance of difference in attitude level of respondents from different SAUs in sustainable apparel consumption**

<b>Independent groups</b>	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F-value</b>
Between groups	6	27426.121	4571.020	9.087*
Error	273	137332.150	503.048	-
Total	279	164758.271	-	-

\*Significant at the 5% level of significance

<b>Attitude</b>	<b>Universities</b>	<b>n</b>	<b>Mean</b>	<b>Standard deviation</b>
	CCSHAU	40	103.93	33.233
	CSAUAT	40	117.33	26.936
	GBPUA&T	40	119.95	22.802
	MPUA&T	40	124.15	18.638
	NDUA&T	40	129.54	17.949
	PAU	40	133.80	18.216
	SKRAU	40	133.55	15.955

**Table 30: Significance of difference in behaviour of different groups on the basis of different SAUs in sustainable apparel consumption**

<b>Independent groups</b>	<b>df</b>	<b>SS</b>	<b>MS</b>	<b>F-value</b>
<b>Between groups</b>	6	122583.000	20430.500	8.798
<b>Error</b>	273	624950.300	2289.195	-
<b>Total</b>	279	747533.300	-	-

\*Significant at the 5% level of significance

<b>Behaviour</b>	<b>Universities</b>	<b>n</b>	<b>Mean</b>	<b>Standard deviation</b>
	CCSHAU	40	114.90	55.185
	CSAUAT	40	131.95	54.180
	GBPUA&T	40	134.25	49.681
	MPUA&T	40	138.23	44.395
	NDUA&T	40	152.85	42.061
	PAU	40	174.23	47.482
	SKRAU	40	174.23	40.594

## APPENDIX VII

**Table 1 Personal information of respondents from different universities**

Variables	GBPUA&T		CCSHAU		PAU		SKRAU		MPUAT		CSA		NADUA&T		Total	Total
	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 280	P(%) 100
<b>Age</b>																
20-23 year	15	37.50	22	55.00	26	65.00	24	60.00	13	32.50	21	52.50	23	57.50	144	51.42
24-27 year	25	62.50	18	45.00	14	35.00	16	40.00	27	67.50	19	47.50	17	42.50	136	48.57
Older than 27 year	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>Religion</b>																
Hindu	37	92.50	38	95.00	30	75.00	39	97.50	40	100.00	36	90.00	40	100.00	260	92.80
Muslim	1	2.50	0	0.00	1	2.50	0	0.00	0	0.00	4	10.00	0	0.00	6	2.14
Sikh	2	5.00	2	5.00	9	22.50	1	2.50	0	0.00	0	0.00	0	0.00	14	5.00
Christian	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
<b>Place of residence</b>																
Rural	19	47.50	17	42.50	0	0.00	0	0.00	20	50.00	15	37.50	9	22.50	80	28.57
Semi-urban	3	7.50	19	47.50	17	42.50	19	47.50	0	0.00	19	47.50	10	25.00	87	31.07
Urban	18	45.00	4	10.00	23	57.50	21	52.50	20	50.00	6	15.00	21	52.50	113	40.35
<b>Field of specialization</b>																
COM	2	5.00	12	30.00	5	12.50	5	12.50	2	5.00	5	12.50	9	22.50	40	14.28
CBSH	11	27.50	14	35.00	10	25.00	10	25.00	12	30.00	7	17.50	0	0.00	64	22.85
COA	16	40.00	8	20.00	16	40.00	16	40.00	18	45.00	21	52.50	25	62.50	120	42.85
COHS	6	15.00	6	15.00	9	22.50	5	12.50	8	20.00	7	17.50	2	5.00	43	15.35
COT	0	0.00	0	0.00	0	0.00	4	10.00	0	0.00	0	0.00	0	0.00	4	1.42
COVS	5	12.50	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	10.00	9	3.21

**Table 2 Family information of respondents from different universities**

Parameters/ Variables	GBPUA&T		CCSHAU		PAU		SKRAU		MPUAT		CSA		NADUA&T		Total	Total
	F 40	% 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 280	P(%) 100
<b>Type of family</b>																
Nuclear	40	100.00	23	57.50	40	100	40	100.00	40	100.00	38	95.00	40	100.00	261	93.21
Joint	0	0.00	17	42.50	0	0.00	0	0.00	0	0.00	2	5.00	0	0.00	19	6.78
<b>No. of siblings</b>																
0-2	35	87.50	35	87.50	33	82.50	38	95.00	36	90.00	24	60.00	30	7.50	230	82.14
3-5	5	12.50	4	10.00	6	15.00	2	5.00	4	10.00	15	37.50	10	2.50	47	16.42
More than 5	0	0.00	1	2.50	1	2.50	0	0.00	0	0.00	1	2.50	0	0.00	3	1.42

**Table 3 Family information of respondents from different universities**

Variables	GBPUA&T		CCSHAU		PAU		SKRAU		MPUAT		CSA		NADUA&T		Total	Total
	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 40	P(%) 100	F 280	P(%) 100
<b>Annual family income</b>																
Less than Rs. 1.5 lakh	0	0.00	17	42.50	0	0.00	0	0.00	0	0.00	6	15.00	0	0.00	24	8.57
Rs. 1.5lakh – Rs.2.5 lakh	3	7.50	0	0.00	0	0.00	0	0.00	20	50.00	0	0.00	3	7.50	26	9.28
Rs. 2.5 lakh – Rs. 5.0 lakh	3	7.50	4	10.00	23	57.50	21	52.50	0	0.00	6	15.00	18	45.00	75	26.78
More than Rs. 5 lakh	34	85.00	19	47.50	17	42.50	19	47.50	20	50.00	28	70.00	19	47.50	156	55.71

**Table 4. Distribution of respondents from different universities according to responses on awareness on general sustainability aspects**

S. No.	Statements	GBPUAT		PAU		CCSHAU		MPUAT		SKRAU		NDAUT		CSA	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1.	Sustainability refers to meeting our own needs without compromising the ability of future generations.	35	5	34	6	38	2	38	2	38	2	38	2	37	3
2.	Sustainability helps in stabilizing the balance between human activities and the environment.	40	0	40	0	40	0	40	0	40	0	40	0	38	2
3.	Sustainability is a process of improving economic well-being and quality of life while balancing the environment.	33	7	31	9	35	5	34	6	34	6	33	7	20	20
4.	Sustainability can keep resources at a steady level.	38	2	37	3	39	1	38	2	37	3	38	2	37	3
5.	Sustainability is to achieve developmental goals without affecting the availability of resources for future generations.	38	2	37	3	38	2	38	2	38	2	38	2	37	3
6.	Sustainable manufacturing/ production processes have a minimum negative impact on the environment.	39	1	38	2	38	2	37	3	37	3	36	4	39	1
7.	Transparency in a business supply chain ensures fair-trade practices.	37	3	35	5	36	4	36	4	35	5	33	7	34	6
8.	Traceability in supply chains is the process of tracking the journey of products and their input and it promoting sustainability.	32	8	32	8	34	6	34	6	33	7	37	3	35	5
9.	Hand-made and indigenous (locally produced) products are more sustainable.	25	15	29	11	27	13	28	12	30	10	29	11	28	12

**Table 5. Distribution of respondents from different universities according to responses on awareness on sustainable processing methods in apparel manufacturing**

S. No.	Statements	GBPUAT		PAU		CCSHAU		MPUAT		SKRAU		NDAUT		CSA	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1.	The use of organic <sup>+</sup> raw materials for manufacturing establishes sustainability in the product.	26	14	30	10	27	13	28	12	28	12	29	11	28	12
2.	The use of recycled cotton/ synthetic fibre in manufacturing improves sustainability in production.	33	7	37	3	36	4	37	3	38	2	36	4	36	4
3.	Fibre producing processes which cause no/minimum harm to the animals are more sustainable.	36	4	33	7	31	9	33	7	35	5	36	4	31	9
4.	The use of biodegradable material in manufacturing helps in creating sustainable product.	36	4	29	11	34	6	37	3	38	2	36	4	35	5
5.	The use of recyclable material supports in manufacturing of sustainable product.	38	2	36	4	35	5	36	4	34	6	34	6	37	3
6.	A production operation that releases minimum greenhouse gases confirms sustainable output.	38	2	35	5	36	4	36	4	35	5	33	7	35	5
7.	Production processes which use less amount of harmful chemicals are more environmentally friendly.	38	2	35	5	37	3	35	5	35	5	34	6	35	5
8.	Production processes which use less amount of harmful chemicals are more environmentally friendly.	36	4	35	5	35	5	36	4	35	5	35	5	36	4
9.	The production which does not include child labor is sustainable (Good weave).	37	3	35	5	37	3	36	4	34	6	34	6	35	5
10.	Sustainable manufacturing protects the human rights of workers in a firm (equal wages for men and women, good working conditions).	36	4	35	5	35	5	36	4	35	5	35	5	36	4

**Table 6. Distribution of respondents from different universities according to responses on awareness on eco labels and raw material information**

S. No.	Statements	GBPUAT		PAU		CCSHAU		MPUAT		SKRAU		NDAUT		CSA	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1.	“Green apparel” label projects the minimum environmental impact of apparel products.	35	5	38	2	40	0	39	1	40	0	37	3	37	3
2.	“Organic cotton” reflects that cotton is free from toxic dyes, other harmful chemicals, and genetic modification.	33	7	33	7	34	6	34	6	32	8	33	7	32	8
3.	“Recycled cotton/recycled polyester” specifies circular production.	36	4	33	7	37	3	36	4	36	4	34	6	38	2
4.	‘Eco-mark’ label signifies the environmentally preferable consumer product.	30	10	28	12	31	9	29	11	27	13	28	12	25	15
5.	‘Fair-wear’ label ensures that no exploitation of human rights occurs in the workplace.	32	8	24	16	35	5	31	9	27	13	29	11	29	11
6.	The “Natural dye” label implies the use of natural dyes for textile coloration.	36	4	36	4	35	5	36	4	35	5	34	6	35	5
7.	“Eco-finishes / natural finishes” labels signify the use of natural elements in the finishing of apparel which ensures the user and environment-friendliness of the product.	30	10	32	8	27	13	32	8	30	10	32	8	29	11
8.	GOTS (Global Organic Textile Standard) program certifies the production of apparel from materials fulfilling global organic textile standards.	18	22	25	15	16	24	20	20	21	19	25	15	19	21
9.	Mobius loop (three chasing arrows) represents the use of recycled material in apparel.	13	27	16	24	9	31	14	26	13	27	17	23	24	16

**Table 7. Distribution of respondents from different universities according to responses on awareness on sustainable apparel consumption practices**

S. No.	Statements	GBPUAT		PAU		CCSHAU		MPUAT		SKRAU		NDAUT		CSA	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1.	Possession of a limited number of apparel items generates less solid waste.	38	2	36	4	35	5	36	4	34	6	34	6	34	6
2.	Purchasing apparel only when needed reduces demand for fast fashion.	37	3	35	5	36	4	36	4	35	5	33	7	38	2
3.	Sharing clothes with siblings will enable maximum utilization of apparel.	36	4	35	5	37	3	35	5	35	5	34	6	36	4
4.	Donating non-wearable items to needy / NGOs (Red cross, blind schools) will reduce solid waste.	37	3	35	5	35	5	36	4	35	5	35	5	34	6
5.	Buying locally manufactured apparel leads to low carbon footprints.	37	3	35	5	37	3	36	4	34	6	34	6	35	5
6.	Preference for traditional crafts promotes sustainable development and well-being in artisans' society.	35	5	34	6	38	2	38	2	38	2	38	2	38	2
7.	The use of khadi apparel is sustainable owing to manual production.	40	0	40	0	40	0	40	0	40	0	40	0	38	2
8.	Purchase of sustainable apparel brand's products (woodland, levis-eco, fabindia, mother earth) fulfils commitments of consumers towards sustainable development.	33	7	31	9	35	5	34	6	34	6	33	7	30	10
9.	Checking eco-labels and care practices reduce environmental impact.	38	2	37	3	39	1	38	2	37	3	38	2	37	3
10.	Rental clothing option helps in limiting solid waste generation.	38	2	37	3	38	2	38	2	38	2	38	2	37	3
11.	Vintage clothing (90s fashion /20 to100 year old) buying supports sustainability as well as heritage preservation.	39	1	38	2	38	2	37	3	37	3	36	4	39	1
12.	The exchange of old apparel with utensils, durries, and doormats promotes sustainability.	37	3	35	5	36	4	36	4	35	5	33	7	34	6
13.	Reselling of used clothes on e-bay (Poshmark, OLX, Spoyal, Vintage desi, Zepo, Refashioner, Elanic, Confidential couture, etc.) will help in lessening solid textile waste.	32	8	32	8	34	6	34	6	33	7	37	3	35	5

**Table 8 Distribution of female (n = 140) and male (n = 140) respondents according to their responses on the attitude scale of sustainable apparel consumption aspects (N = 280)**

S. No.	Statements	SA	A	N	D	SD	Total score	WMS	SA	A	N	D	SD	Total score	WMS
		F	F	F	F	F			F	F	F	F	F		
1.	The apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.	22	38	35	32	13	624	4.46	8	17	22	65	28	332	2.37
2.	The apparel is owned to satisfy the aesthetic wants and desires of an individual.	22	51	34	25	8	474	3.38	13	34	24	54	15	396	2.82
3.	The apparel is owned for the expression of the social status of an individual.	28	47	29	27	9	478	3.41	21	39	18	45	17	422	3.01
4.	The conformance to norms in social gatherings forces people to purchase more apparels.	31	56	23	21	9	499	3.56	26	64	13	18	19	480	3.42
5.	The promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing.	25	55	36	18	6	495	3.53	44	62	26	5	3	559	3.99
6.	The ease of buying and comfort in online mode induce increase frequency of apparel purchasing.	40	62	16	12	10	530	3.78	49	63	13	12	3	563	4.02
7.	The discounts on apparels persuades more apparel consumption.	52	56	18	11	3	563	4.02	52	69	8	10	1	581	4.15
8.	The purchasing of less number of better quality apparels promotes	52	66	14	6	2	580	4.14	54	74	6	6	0	596	4.25

	sustainability.														
9.	The trendy fashion apparel has boosted frequent buying every season	56	55	26	2	1	583	4.16	58	69	13	0	0	605	4.32
10.	The release of more collections per year in fast fashion creates solid waste.	57	53	23	7	0	580	4.14	64	66	10	0	0	614	4.39
11.	Sustainable apparel brands are expensive.	32	35	31	33	9	468	3.34	50	11	34	32	13	473	3.37
12.	Expensive brands are always sustainable.	19	17	34	45	25	380	2.71	42	7	32	34	25	427	3.05
13.	The rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost.	57	47	26	7	3	568	4.06	81	36	19	3	1	613	4.37
14.	The sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all.	64	55	15	4	2	595	4.25	68	63	4	1	4	610	4.36
15.	The use of vintage clothing can conserve cultural heritage besides extending the life of apparel items.	56	50	31	2	1	578	4.12	67	36	37	0	0	590	4.21
16.	Eco-label ensures the environmental friendliness of apparel items.	73	52	11	4	0	614	4.38	74	64	1	0	1	630	4.50
17.	The traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability.	68	39	32	1	0	594	4.24	89	31	20	0	0	629	4.49
18.	The fair-trade label on apparel confirms the non-exploitation of human rights during manufacturing.	66	53	21	0	0	605	4.32	78	34	28	0	0	610	4.35
19.	Apparels made from recycled materials reduce resource consumption for a new product manufacturing.	68	57	15	0	0	613	4.37	77	59	4	0	0	633	4.52

20.	The apparels made from organic textile material (cotton, wool, silk, bamboo, hemp etc.) can be identified from the labels present on them.	68	53	18	1	0	606	4.32	76	57	5	1	1	626	4.47
21.	The organic material-based apparels are always biodegradable.	65	57	18	0	0	609	4.35	77	61	2	0	0	635	4.53
22.	The organic cotton apparels are chemical-free that are safe for the user and the environment both.	74	49	17	0	0	617	4.40	105	33	1	1	0	662	4.72
23.	The apparels made from locally available natural resources have high sustainability index.	64	54	18	4	0	590	4.21	75	59	6	0	0	629	4.49
24.	The use of traditional handmade textiles (khadi) and apparel promote resource conservation for future generation.	72	48	15	4	1	606	4.32	78	53	9	0	0	629	4.49
25.	An individual generally has more non-wearable apparels items than wearable items in his/her wardrobe i.e., an individual always ends up using few apparels more frequently.	69	44	20	6	1	590	4.21	103	30	2	5	0	651	4.65
26.	The giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation.	78	44	14	4	0	620	4.42	105	32	3	0	0	662	4.72
27.	Use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste generation.	67	46	22	5	0	593	4.24	79	29	32	0	0	607	4.33
28.	Worn-out apparel can be reused for low-value products in households.	61	50	27	2	0	596	4.25	76	30	34	0	0	602	4.30
29.	The retail outlets may offer reselling of the quality apparel items of young consumers to implant sustainable behaviour among them.	60	56	23	1	0	597	4.26	79	32	29	0	0	610	4.35
30.	The retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers.	72	51	17	0	0	617	4.40	79	32	29	0	0	610	4.35

**Table 9 Distribution of post graduate students from different SAUs according to their responses on the attitude scale for sustainable apparel consumption aspects**

S. No.	Statements	Responses of PG Students of CCSHAU, Hisar							Responses of PG Students of GBPUA&T, Pantnagar						
		SA	A	N	D	SD	Total score	WMS	SA	A	N	D	SD	Total score	WMS
1.	The apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.	2	10	12	9	7	111	2.77	2	16	1	20	1	118	2.95
2.	The apparel is owned to satisfy the aesthetic wants and desires of an individual.	8	18	6	8	0	2.35	3.65	5	9	8	18	0	119	2.97
3.	The apparel is owned for the expression of the social status of an individual.	9	15	5	7	4	104	2.55	4	8	5	23	0	127	3.17
4.	The conformance to norms in social gatherings forces people to purchase more apparels.	14	16	5	3	2	83	2.07	2	26	7	5	0	95	2.37
5.	The promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing.	6	15	14	4	1	138	3.45	8	29	1	2	0	163	4.07
6.	The ease of buying and comfort in online mode induce increase frequency of apparel purchasing.	11	18	4	7	0	87	2.17	5	31	2	1	1	82	2.05
7.	The discounts on apparels persuades more apparel consumption.	14	19	5	2	0	71	1.77	8	29	2	1	0	76	1.90
8.	The purchasing of less number of better quality apparels promotes sustainability.	18	17	4	1	0	172	4.30	3	32	5	0	0	158	3.95
9.	The trendy fashion apparel has boosted frequent buying every season	23	14	3	0	0	60	1.50	5	27	8	0	0	83	2.07
10.	The release of more collections per year in fast fashion creates solid waste.	22	14	3	1	0	63	1.57	3	31	5	1	0	84	2.10
11.	Sustainable apparel brands are expensive.	11	12	11	3	2	90	2.25	19	10	11	0	0	72	1.80
12.	Expensive brands are always sustainable.	12	3	14	7	4	108	2.70	19	4	5	6	6	96	2.40
13.	The rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost.	19	11	9	1	0	168	4.20	18	16	4	2	0	170	4.25
14.	The sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all.	16	21	3	0	0	173	4.32	9	29	1	1	0	166	4.15
15.	The use of vintage clothing can conserve cultural heritage besides extending the life of apparel items.	18	12	10	0	0	168	4.20	4	9	27	0	0	137	3.42

16.	Eco-label ensures the environmental friendliness of apparel items.	19	18	2	1	0	175	4.37	11	28	1	0	0	170	4.25
17.	The traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability.	22	8	9	1	0	171	4.27	26	6	8	0	0	178	4.45
18.	The fair-trade label on apparel confirms the non-exploitation of human rights during manufacturing.	16	14	10	0	0	166	4.15	4	13	23	0	0	141	3.52
19.	Apparels made from recycled materials reduce resource consumption for a new product manufacturing.	17	19	4	0	0	173	4.32	8	29	3	0	0	165	4.12
20.	The apparels made from organic textile material (cotton, wool, silk, bamboo, hemp etc.) can be identified from the labels present on them.	17	18	5	0	0	172	4.30	5	29	3	2	0	154	3.85
21.	The organic material-based apparels are always biodegradable.	18	18	4	0	0	174	4.35	4	31	5	0	0	159	3.97
22.	The organic cotton apparels are chemical-free that are safe for the user and the environment both.	19	16	5	0	0	158	3.95	23	13	3	1	0	178	4.45
23.	The apparels made from locally available natural resources have high sustainability index.	16	19	4	1	0	170	4.25	3	31	6	0	0	151	3.77
24.	The use of traditional handmade textiles (khadi) and apparel promote resource conservation for future generation.	19	19	1	0	1	175	4.37	7	24	8	1	0	157	3.92
25.	An individual generally has more non-wearable apparels items than wearable items in his/her wardrobe i.e., an individual always ends up using few apparels more frequently.	24	12	4	0	0	60	1.50	20	12	4	4	0	72	1.80
26.	The giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation.	26	11	3	0	0	180	4.57	24	11	4	1	0	178	4.45
27.	Use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste generation.	20	11	7	2	0	169	4.22	7	10	22	1	0	143	3.57
28.	Worn-out apparel can be reused for low-value products in households.	19	12	9	0	0	179	4.47	2	12	25	1	0	135	3.37
29.	The retail outlets may offer reselling of the quality apparel items of young consumers to implant sustainable behaviour among them.	20	14	6	0	0	174	4.35	1	17	22	0	0	139	3.47
30.	The retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers.	20	14	6	0	0	174	4.35	2	16	22	0	0	140	3.50

**Table 10 Distribution of post graduate students from different SAUs according to their responses on the attitude scale for sustainable apparel consumption aspects**

S. No.	Statements	Responses of PG Students of MPUAT, Udaipur							Responses of PG Students of SKRAU, Bikaner						
		SA	A	N	D	SD	Total score	WMS	SA	A	N	D	SD	Total score	WMS
1.	The apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.	1	2	2	13	22	67	1.67	2	6	10	21	1	107	2.67
2.	The apparel is owned to satisfy the aesthetic wants and desires of an individual.	5	3	3	9	19	151	3.77	3	12	9	15	1	119	2.97
3.	The apparel is owned for the expression of the social status of an individual.	5	7	7	6	15	139	3.47	3	21	7	8	1	103	2.57
4.	The conformance to norms in social gatherings forces people to purchase more apparels.	5	11	5	7	12	130	3.25	9	21	2	4	4	93	2.32
5.	The promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing.	4	11	17	3	5	126	3.15	11	19	6	4	0	157	3.92
6.	The ease of buying and comfort in online mode induce increase frequency of apparel purchasing.	10	17	6	2	5	95	2.37	19	18	0	3	0	67	1.67
7.	The discounts on apparels persuades more apparel consumption.	14	19	2	3	2	80	2.0	18	19	0	3	0	68	1.70
8.	The purchasing of less number of better quality apparels promotes sustainability.	13	24	1	1	1	167	4.17	19	20	0	1	0	177	4.42
9.	The trendy fashion apparel has boosted frequent buying every season	13	24	3	0	0	70	1.75	19	17	3	1	0	66	1.65
10.	The release of more collections per year in fast fashion creates solid waste.	15	23	2	0	0	67	1.67	20	13	4	3	0	70	1.75
11.	Sustainable apparel brands are expensive.	3	5	8	16	8	141	3.52	4	1	6	27	2	142	3.55
12.	Expensive brands are always sustainable.	1	3	8	17	11	154	3.85	0	2	5	25	8	159	3.97
13.	The rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost.	12	18	7	2	1	158	3.95	23	17	0	0	0	183	4.57
14.	The sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all.	12	23	2	1	2	179	4.47	24	15	0	1	0	182	4.55
15.	The use of vintage clothing can conserve cultural heritage besides extending the life of apparel items.	12	24	4	0	0	168	4.20	26	14	0	0	0	186	4.65

16.	Eco-label ensures the environmental friendliness of apparel items.	12	27	0	0	1	169	4.22	28	12	0	0	0	188	4.70
17.	The traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability.	6	23	11	0	0	155	3.87	27	10	0	0	0	175	4.37
18.	The fair-trade label on apparel confirms the non-exploitation of human rights during manufacturing.	13	25	2	0	0	171	4.27	31	9	0	0	0	191	4.77
19.	Apparels made from recycled materials reduce resource consumption for a new product manufacturing.	13	24	3	0	0	170	4.25	31	9	0	0	0	191	4.77
20.	The apparels made from organic textile material (cotton, wool, silk, bamboo, hemp etc.) can be identified from the labels present on them.	13	24	3	0	0	170	4.25	31	9	0	0	0	191	4.77
21.	The organic material-based apparels are always biodegradable.	13	26	1	0	0	172	4.30	30	10	0	0	0	190	4.75
22.	The organic cotton apparels are chemical-free that are safe for the user and the environment both.	15	25	0	0	0	175	4.37	31	9	0	0	0	191	4.77
23.	The apparels made from locally available natural resources have high sustainability index.	14	26	0	0	0	174	4.35	31	9	0	0	0	191	4.77
24.	The use of traditional handmade textiles (khadi) and apparel promote resource conservation for future generation.	12	20	8	0	0	164	4.10	31	8	1	0	0	190	4.75
25.	An individual generally has more non-wearable apparels items than wearable items in his/her wardrobe i.e., an individual always ends up using few apparels more frequently.	13	22	3	0	0	66	1.65	32	8	0	0	0	48	1.20
26.	The giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation.	14	25	1	1	1	176	4.40	32	8	0	0	0	192	4.80
27.	Use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste generation.	13	25	2	0	0	171	4.27	31	6	3	0	0	188	4.70
28.	Worn-out apparel can be reused for low-value products in households.	13	25	2	0	0	171	4.27	31	7	2	0	0	189	4.72
29.	The retail outlets may offer reselling of the quality apparel items of young consumers to implant sustainable behaviour among them.	12	25	3	0	0	169	4.22	31	8	1	0	0	190	4.75
30.	The retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers.	12	25	3	0	0	169	4.22	32	7	1	0	0	191	4.77

**Table 11 Distribution of post graduate students from different SAUs according to their responses on the attitude scale for sustainable apparel consumption aspects**

S. No.	Statements	Responses of PG Students of PAU, Ludhiana							Responses of PG Students of NDUAT, Kumarganj (U.P.)						
		SA	A	N	D	SD	Total score	WMS	SA	A	N	D	SD	Total score	WMS
1.	The apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.	0	6	18	15	1	109	2.72	7	10	6	11	6	121	3.02
2.	The apparel is owned to satisfy the aesthetic wants and desires of an individual.	5	15	12	8	0	103	2.57	7	13	9	10	1	105	2.62
3.	The apparel is owned for the expression of the social status of an individual.	10	17	7	6	0	89	2.22	12	9	7	10	2	91	2.27
4.	The conformance to norms in social gatherings forces people to purchase more apparels.	12	16	3	8	1	82	2.05	6	17	7	5	5	106	2.65
5.	The promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing.	15	14	4	5	2	155	3.87	12	16	9	2	1	156	3.90
6.	The ease of buying and comfort in online mode induce increase frequency of apparel purchasing.	15	11	3	5	6	96	2.40	13	16	7	3	1	83	2.07
7.	The discounts on apparels persuades more apparel consumption.	16	11	5	6	2	87	2.17	14	17	6	3	4	101	2.52
8.	The purchasing of less number of better quality apparels promotes sustainability.	18	15	4	2	1	167	4.17	15	20	2	3	2	169	4.22
9.	The trendy fashion apparel has boosted frequent buying every season	22	14	3	0	1	64	1.60	12	14	14	0	6	112	2.80
10.	The release of more collections per year in fast fashion creates solid waste.	24	14	2	0	0	58	1.45	19	13	8	0	0	69	1.72
11.	Sustainable apparel brands are expensive.	9	5	3	17	6	126	3.15	21	4	11	2	1	75	1.87
12.	Expensive brands are always sustainable.	0	2	8	16	14	162	4.05	13	4	11	6	1	83	2.07
13.	The rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost.	25	9	1	2	3	146	3.65	23	6	10	1	0	171	4.27
14.	The sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all.	28	7	1	1	3	176	4.4	19	12	8	1	0	169	4.22
15.	The use of vintage clothing can conserve cultural heritage besides extending the life of apparel items.	31	8	0	1	0	189	4.72	16	9	13	1	0	157	3.92

16.	Eco-label ensures the environmental friendliness of apparel items.	31	7	1	1	0	187	4.67	22	13	4	1	0	176	4.40
17.	The traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability.	26	9	5	1	0	183	4.57	23	7	10	0	0	173	4.32
18.	The fair-trade label on apparel confirms the non-exploitation of human rights during manufacturing.	33	7	0	0	0	193	4.82	21	10	9	0	0	172	4.30
19.	Apparels made from recycled materials reduce resource consumption for a new product manufacturing.	32	8	0	0	0	192	4.80	21	16	3	0	0	178	4.40
20.	The apparels made from organic textile material (cotton, wool, silk, bamboo, hemp etc.) can be identified from the labels present on them.	30	7	3	0	0	187	4.67	22	13	5	0	0	190	4.75
21.	The organic material-based apparels are always biodegradable.	32	8	0	0	0	192	4.80	18	17	5	0	0	173	4.32
22.	The organic cotton apparels are chemical-free that are safe for the user and the environment both.	33	7	0	0	0	193	4.82	30	5	5	0	0	185	4.62
23.	The apparels made from locally available natural resources have high sustainability index.	34	6	0	0	0	194	4.85	18	11	9	2	0	145	3.62
24.	The use of traditional handmade textiles (khadi) and apparel promote resource conservation for future generation.	33	6	1	0	0	192	4.80	24	12	3	1	0	179	4.47
25.	An individual generally has more non-wearable apparels items than wearable items in his/her wardrobe i.e., an individual always ends up using few apparels more frequently.	33	6	1	0	0	48	1.20	27	7	1	5	0	64	1.60
26.	The giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation.	33	6	1	0	0	192	4.80	28	8	2	2	0	182	4.55
27.	Use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste generation.	32	6	2	0	0	190	4.75	18	8	13	1	0	163	4.07
28.	Worn-out apparel can be reused for low-value products in households.	32	6	2	0	0	190	4.75	17	7	15	1	0	160	4.00
29.	The retail outlets may offer reselling of the quality apparel items of young consumers to implant sustainable behaviour among them.	33	6	1	0	0	192	4.80	22	8	10	0	0	172	4.30
30.	The retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers.	33	6	1	0	0	192	4.80	26	7	7	0	0	179	4.47

**Table 12 Distribution of post graduate students from different SAUs according to their responses on the attitude scale for sustainable apparel consumption aspect**

. No.	Statements	Responses of PG Students of CSAU&T, Kanpur						
		SA	A	N	D	SD	Total score	WMS
1.	The apparel is purchased to fulfil only the physical (environmental protection) and psychological (modesty) needs of an individual.	16	9	9	3	3	152	3.80
2.	The apparel is owned to satisfy the aesthetic wants and desires of an individual.	4	22	10	3	1	95	2.37
3.	The apparel is owned for the expression of the social status of an individual.	12	15	9	3	1	86	2.15
4.	The conformance to norms in social gatherings forces people to purchase more apparels.	7	13	12	6	2	103	2.57
5.	The promotion practices (advertising, sales promotion, etc.) for apparels do not provide information on materials used in manufacturing.	10	11	14	12	2	162	4.05
6.	The ease of buying and comfort in online mode induce increase frequency of apparel purchasing.	11	14	12	2	1	88	2.20
7.	The discounts on apparels persuades more apparel consumption.	15	11	11	3	0	82	2.05
8.	The purchasing of less number of better quality apparels promotes sustainability.	16	13	6	5	0	151	3.77
9.	The trendy fashion apparel has boosted frequent buying every season	14	12	13	1	0	81	2.02
10.	The release of more collections per year in fast fashion creates solid waste.	19	9	10	2	0	75	1.87
11.	Sustainable apparel brands are expensive.	15	13	9	2	0	76	1.90
12.	Expensive brands are always sustainable.	9	10	12	6	3	92	2.30
13.	The rental option will provide availability of high fashion (designer /expensive) apparels at reasonable cost.	14	10	13	3	0	155	3.87
14.	The sharing of apparel in one's wardrobe with friends/relatives/siblings is an economic benefit to all.	18	10	10	1	1	82	2.05
15.	The use of vintage clothing can conserve cultural heritage besides extending the life of apparel items.	9	16	13	1	1	151	3.77
16.	Eco-label ensures the environmental friendliness of apparel items.	20	10	8	2	0	168	4.20
17.	The traceability of raw materials used in apparel increases consumers' trust in the brand's sustainability.	19	11	10	0	0	169	4.22
18.	The fair-trade label on apparel confirms the non-exploitation of human rights during manufacturing.	21	15	4	0	0	177	4.42
19.	Apparels made from recycled materials reduce resource consumption for a new product manufacturing.	20	13	7	0	0	173	4.32
20.	The apparels made from organic textile material (cotton, wool, silk, bamboo, hemp etc.) can be identified from the labels present on them.	25	9	6	0	0	179	4.47
21.	The organic material-based apparels are always biodegradable.	19	13	8	0	0	171	4.27
22.	The organic cotton apparels are chemical-free that are safe for the user and the environment both.	23	9	8	0	0	175	4.37
23.	The apparels made from locally available natural resources have high sustainability index.	18	10	9	3	0	165	4.12
24.	The use of traditional handmade textiles (khadi) and apparel promote resource conservation for future generation.	24	10	3	3	0	175	4.37
25.	An individual generally has more non-wearable apparels items than wearable items in his/her wardrobe i.e., an individual always ends up using few apparels more frequently.	16	10	10	4	0	82	2.05
26.	The giving of old /non-wearable/out of fit apparel items to needy people helps in the reduction of waste generation.	19	11	7	3	0	166	4.15
27.	Use of torn/ defective new apparel into useable textile products reduces pressure on resources as well as solid waste generation.	19	13	6	2	0	169	4.22
28.	Worn-out apparel can be reused for low-value products in households.	17	15	8	0	0	169	4.22
29.	The retail outlets may offer reselling of the quality apparel items of young consumers to implant sustainable behaviour among them.	17	15	7	1	0	168	4.20

30.	The retail outlets can participate in solid waste checking campaigns by initiating collection counters for out-of-fashion items from young consumers.	25	12	3	0	0	182	4.55
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**Table 13 Distribution of respondents on the basis of their behaviour related to sustainable apparel consumption**

S. No.	Statements	Responses of female respondents						Responses of male respondents							
		A	F	S	R	N	Total score	WMS	A	F	S	R	N	Total score	WMS
1.	I maintain apparels in my wardrobe for different purposes (casual, formal, sportswear and nightwear).	55	45	26	14	0	561	4.00	53	41	28	18	0	549	3.92
2.	I prefer to change of apparels within my wardrobe in every season.	18	33	47	24	18	429	3.06	21	34	49	18	18	442	3.15
3.	I prefer to purchase variety in each category (formal, casual, sportswear and night wear).	36	51	16	37	0	506	3.61	39	52	17	32	0	518	3.7
4.	I purchase new apparel when existing ones are worn out/get faded/out of fit.	68	32	25	15	0	573	4.09	76	32	20	12	0	592	4.22
5.	I purchase new apparel when the existing one is out of fashion.	58	19	41	22	11	533	3.80	59	18	40	23	0	533	3.80
6.	I purchase new apparel for every function, occasion, and other social events.	7	58	44	18	13	448	3.20	8	57	37	24	14	441	3.15
7.	I purchase fashionable apparel for portraying my modern personality.	47	19	41	22	0	478	3.41	49	18	40	23	10	483	3.45
8.	I purchase apparel to communicate my social role.	42	48	25	25	0	527	3.76	45	43	29	23	0	530	3.78
9.	I purchase apparel to show off my financial status.	13	29	42	24	32	387	2.76	14	23	30	24	49	349	2.49
10.	I purchase apparel to conform the peer group.	22	52	27	39	0	477	3.40	20	66	24	30	0	496	3.54
11.	I do impulsive buying to fulfil my desire to follow trends in fashion.	48	32	34	24	2	520	3.71	45	26	35	30	4	498	3.55
12.	I prefer rental services for western formal wear/party wears/lehengas/suit.	53	32	28	27	0	531	3.79	55	41	23	21	0	550	3.92
13.	I prefer window shopping before going for the actual buying of branded apparel.	9	52	31	37	11	431	3.07	18	48	20	44	10	440	3.14
14.	I go for impulsive buying for casual	35	28	45	27	5	481	3.43	31	36	39	24	10	474	3.38

	wear during sales/discounts.														
15.	I purchase only from new collections of apparel items in every season.	21	35	36	36	12	437	3.12	24	41	27	24	24	437	3.12
16.	I prefer to purchase apparel from online platforms.	10	20	33	28	49	334	2.38	17	20	33	35	35	369	2.63
17.	I prefer online shopping for apparel because there is more information available about products.	1	51	36	48	4	417	2.97	5	46	33	48	8	412	2.94
18.	I place orders of apparel items from online sites without need.	13	27	51	40	9	415	2.96	17	31	45	41	6	432	3.08
19.	I search for care label information during purchasing.	40	59	11	29	1	528	3.77	35	56	16	28	5	508	3.62
20.	I search the raw material information about apparel items.	22	36	13	58	11	420	3.00	23	43	14	44	16	433	3.09
21.	I consider care label instructions for every apparel item.	17	42	37	28	16	436	3.11	16	40	44	26	14	438	3.12
22.	I look for care label instructions only for expensive apparel.	24	29	22	35	30	402	2.87	18	32	23	40	27	394	2.81
23.	I look for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity.	25	26	46	33	10	443	3.16	29	26	41	33	11	449	3.20
24.	I search for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items.	10	25	33	58	14	379	2.70	11	18	33	62	16	366	2.61
25.	I search for recycled material information on apparel items in case of synthetics, blends and natural.	19	38	36	30	17	432	3.08	23	32	24	36	25	403	2.87
26.	I avoid to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic).	20	46	19	45	10	441	3.15	19	39	17	54	11	421	3.00
27.	I prefer style and quantity in casual wear.	26	37	25	36	16	441	3.15	31	42	20	30	17	460	3.28
28.	I share my wardrobe apparel items with friends and siblings regularly.	30	33	43	26	8	471	3.36	27	40	41	22	10	472	3.37
29.	I don't mind wearing apparel of siblings/ relatives/ friends on occasions.	18	39	27	46	10	429	3.06	21	46	24	38	11	448	3.20

30.	I prefer using the mix and match concept to create a new style with existing apparels.	28	26	38	43	5	449	3.20	17	23	34	59	7	404	2.88
31.	I prefer to keep using fixed matches for casual wear.	26	30	38	34	12	444	3.17	31	31	43	23	12	466	3.32
32.	I prefer handmade locally produced apparel items.	26	28	26	29	31	409	2.92	19	27	34	37	23	402	2.87
33.	I prefer that traditional apparel items are made up of khadi/organic cotton.	19	24	21	60	16	390	2.78	17	28	21	63	11	397	2.83
34.	I prefer that traditional apparel items are made up of Ahimsa silk.	23	48	29	32	8	466	3.32	16	40	28	49	7	429	3.06
35.	I prefer traditional apparel (handmade/silk/khadi) for formal wear.	27	33	46	20	14	459	3.27	24	31	38	22	25	427	3.05
36.	I prefer to use vintage apparel items (old traditional apparel) over buying new ones.	26	44	30	34	6	470	3.35	22	47	30	32	9	461	3.29
37.	I donate my apparel to NGOs and underprivileged families.	25	37	24	50	4	449	3.20	32	45	24	37	2	488	3.48
38.	I handover my out of fit apparel items to siblings/friends.	39	42	36	19	4	513	3.66	33	46	27	32	2	496	3.54
39.	I give my old and non-wearable apparel items to needy people.	24	35	38	26	17	443	3.16	21	38	28	28	25	422	3.01
40.	I prefer to mend (embroidery, applique work) my short defect apparel instead of purchasing new ones.	19	33	33	39	16	420	3.00	17	43	33	30	17	433	3.09
41.	I reuse my old apparel in another form like cleaning wipes/mops.	18	42	34	44	2	450	3.21	30	40	32	37	1	481	3.43
42.	I convert my non-wearable apparel items into other valuable household item (durries, doormats).	25	38	31	24	22	440	3.14	32	41	29	24	14	473	3.37
43.	I throw away my old clothes in the dustbin because it's the easiest way to get rid of them.	17	48	25	27	23	429	3.06	16	40	20	27	37	391	2.79
44.	I prefer to exchange my old clothes for buying durries/doormats/utensils.	35	54	16	22	13	496	3.54	34	49	14	23	20	474	3.38

45.	I sell my non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner*, Elanic, Confidential couture etc.)	24	33	25	34	24	419	2.99	24	21	18	32	45	367	2.62
S. No.	Statements	Responses of PG students CCSHAU, Hissar							Responses of PG students GBPUA&T, Pantnagar						
		A	F	S	R	N	Total score	WMS	A	F	S	R	N	Total score	WMS
	I maintain apparels in my wardrobe for different purposes (casual, formal, sportswear and nightwear).	17	14	6	3	0	165	4.12	12	11	11	6	0	149	3.72
	I prefer to change of apparels within my wardrobe in every season.	7	9	10	7	7	122	3.05	5	10	13	7	5	123	3.07
	I prefer to purchase variety in each category (formal, casual, sportswear and night wear).	13	15	2	10	0	151	3.77	10	17	4	9	0	148	3.70
	I purchase new apparel when existing ones are worn out/get faded/out of fit.	23	5	9	3	0	168	4.20	20	10	6	4	0	166	4.15
	I purchase new apparel when the existing one is out of fashion.	17	7	8	4	0	145	3.62	18	5	11	6	0	155	3.87
	I purchase new apparel for every function, occasion, and other social events.	1	15	13	5	6	120	3.00	2	18	13	4	3	132	3.30
	I purchase fashionable apparel for portraying my modern personality.	18	7	9	5	0	155	3.87	11	6	13	10	0	138	3.45
	I purchase apparel to communicate my social role.	11	15	7	7	0	150	3.75	10	13	9	8	0	145	3.62
	I purchase apparel to show off my financial status.	4	6	4	11	14	92	2.30	3	7	9	7	14	98	2.45
	I purchase apparel to conform the peer group.	6	18	2	10	0	128	3.20	4	19	7	10	0	137	3.42
	I do impulsive buying to fulfil my desire to follow trends in fashion.	13	6	12	8	1	142	3.55	10	9	10	10	1	137	3.42
	I prefer rental services for western formal wear/party wears/lehengas/suit.	17	11	6	6	0	159	3.97	15	12	6	7	0	155	3.87
	I prefer window shopping before going for the actual buying of branded apparel.	2	13	8	12	5	115	2.87	4	15	7	12	2	127	3.17
	I go for impulsive buying for casual wear during sales/discounts.	10	10	11	8	1	140	3.50	6	9	12	9	4	124	3.10

I purchase only from new collections of apparel items in every season.	5	10	7	12	6	116	2.90	5	8	10	9	8	113	2.82
I prefer to purchase apparel from online platforms.	4	7	6	9	10	94	2.35	4	6	9	10	11	102	2.55
I prefer online shopping for apparel because there is more information available about products.	0	10	10	17	2	106	2.65	1	11	9	16	3	111	2.77
I place orders of apparel items from online sites without need.	2	10	13	15	0	119	2.97	4	7	13	12	4	115	2.87
I search for care label information during purchasing.	10	18	3	9	0	149	3.72	9	16	6	8	1	144	3.60
I search the raw material information about apparel items.	6	10	4	15	5	117	2.92	6	10	4	15	5	117	2.92
I consider care label instructions for every apparel item.	3	14	11	7	5	123	3.07	4	10	12	10	4	120	3.00
I look for care label instructions only for expensive apparel.	4	10	6	15	5	113	2.82	5	9	6	12	8	111	2.77
I look for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity.	5	7	15	10	3	121	3.02	8	6	13	10	3	126	3.15
I search for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items.	1	4	11	20	4	98	2.45	3	7	10	15	5	108	2.70
I search for recycled material information on apparel items in case of synthetics, blends and natural.	5	11	5	14	5	117	2.92	6	9	8	9	8	116	2.90
I avoid to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic).	4	11	6	18	1	119	2.97	5	12	4	15	4	119	2.97
I prefer style and quantity in casual wear.	5	13	6	10	6	121	3.02	8	10	8	9	5	127	3.17
I share my wardrobe apparel items with friends and siblings regularly.	7	12	11	7	3	133	3.32	9	11	11	8	1	139	3.47
I don't mind wearing apparel of siblings/ relatives/ friends on occasions.	2	15	5	14	4	117	2.92	6	12	9	12	1	130	3.25
I prefer using the mix and match concept to create a new style with existing apparels.	3	8	11	17	1	115	2.87	6	7	9	16	2	119	2.97

	I prefer to keep using fixed matches for casual wear.	6	11	12	8	3	129	3.22	9	9	13	6	3	135	3.37
	I prefer handmade locally produced apparel items.	3	9	9	12	7	109	2.72	6	8	11	7	8	117	2.92
	I prefer that traditional apparel items are made up of khadi/organic cotton.	4	9	7	17	3	114	2.85	5	7	7	17	4	112	2.80
	I prefer that traditional apparel items are made up of Ahimsa silk.	3	11	10	14	2	119	2.97	3	13	8	14	2	121	3.02
	I prefer traditional apparel (handmade/silk/khadi) for formal wear.	5	9	9	10	7	115	2.87	6	8	12	7	7	119	2.97
	I prefer to use vintage apparel items (old traditional apparel) over buying new ones.	4	13	8	14	1	125	3.12	7	12	9	9	3	131	3.27
	I donate my apparel to NGOs and underprivileged families.	9	13	7	10	1	139	3.47	9	14	6	10	1	140	3.50
	I handover my out of fit apparel items to siblings/friends.	7	15	8	9	1	138	3.45	10	11	9	9	1	140	3.50
	I give my old and non-wearable apparel items to needy people.	5	12	11	8	4	126	3.15	7	12	9	5	7	127	3.17
	I prefer to mend (embroidery, applique work) my short defect apparel instead of purchasing new ones.	4	12	9	11	4	121	3.02	5	11	10	8	6	121	3.02
	I reuse my old apparel in another form like cleaning wipes/mops.	6	12	12	10	0	134	3.35	8	13	10	9	0	140	3.50
	I convert my non-wearable apparel items into other valuable household item (durries, doormats).	9	14	0	8	5	122	3.05	9	11	11	6	3	137	3.42
	I throw away my old clothes in the dustbin because it's the easiest way to get rid of them.	2	11	7	7	13	102	2.55	4	10	7	8	11	108	2.70
	I prefer to exchange my old clothes for buying durries/doormats/utensils.	7	14	4	9	6	127	3.17	8	13	5	8	6	129	3.22
	I sell my non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner*, Elanic, Confidential couture etc.)	5	5	9	10	11	103	2.57	6	6	6	8	14	102	2.55

S. No.	Statements	Responses of PG students MPUA&T, Udaipur							Responses of PG students SKRAU, Bikaner						
		A	F	S	R	N	Total score	WMS	A	F	S	R	N	Total score	WMS
1.	I maintain apparels in my wardrobe for different purposes (casual, formal, sportswear and nightwear).	16	13	7	4	0	161	4.02	16	12	7	5	0	159	3.97
2.	I prefer to change of apparels within my wardrobe in every season.	6	9	15	5	5	126	3.15	5	8	16	6	5	122	3.05
3.	I prefer to purchase variety in each category (formal, casual, sportswear and night wear).	11	13	5	11	0	144	3.6	9	14	5	11	0	138	3.45
4.	I purchase new apparel when existing ones are worn out/get faded/out of fit.	22	9	6	3	0	170	4.25	17	12	4	4	0	153	3.82
5.	I purchase new apparel when the existing one is out of fashion.	17	5	12	6	0	153	3.82	14	6	11	9	0	145	3.62
6.	I purchase new apparel for every function, occasion, and other social events.	2	16	11	7	4	125	3.12	3	17	10	7	3	130	3.25
7.	I purchase fashionable apparel for portraying my modern personality.	15	6	12	7	0	149	3.72	12	6	11	8	6	139	3.47
8.	I purchase apparel to communicate my social role.	13	13	9	5	0	154	3.85	14	13	5	8	0	153	3.82
9.	I purchase apparel to show off my financial status.	4	7	11	7	11	106	2.65	4	8	13	6	9	112	2.80
10.	I purchase apparel to conform the peer group.	6	17	7	10	0	139	3.47	8	14	7	11	0	139	3.47
11.	I do impulsive buying to fulfil my desire to follow trends in fashion.	15	8	9	7	1	149	3.72	14	9	11	5	1	150	3.75
12.	I prefer rental services for western formal wear/party wears/lehengas/suit.	17	9	8	6	0	157	3.92	12	10	9	9	0	145	3.62
13.	I prefer window shopping before going for the actual buying of branded apparel.	4	14	8	11	3	125	3.12	3	15	8	11	3	124	3.10
14.	I go for impulsive buying for casual wear during sales/discounts.	10	9	13	7	1	140	3.50	12	8	11	7	2	141	3.52
15.	I purchase only from new collections of apparel items in every season.	7	12	9	8	4	130	3.25	6	12	12	12	4	142	3.55
16.	I prefer to purchase apparel from online	4	5	10	8	13	99	2.47	4	4	10	10	12	98	2.45

	platforms.														
17.	I prefer online shopping for apparel because there is more information available about products.	1	15	10	13	1	122	3.05	1	17	11	10	1	127	3.17
18.	I place orders of apparel items from online sites without need.	5	9	14	11	1	126	3.15	4	7	16	10	3	119	2.97
19.	I search for care label information during purchasing.	12	16	3	8	1	150	3.75	11	16	4	8	1	148	3.70
20.	I search the raw material information about apparel items.	6	12	3	16	3	122	3.05	8	12	5	12	3	130	3.25
21.	I consider care label instructions for every apparel item.	5	12	10	7	5	122	3.05	6	11	14	7	2	132	3.30
22.	I look for care label instructions only for expensive apparel.	6	9	6	9	10	112	2.8	9	7	9	8	7	123	3.07
23.	I look for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity.	7	8	12	9	4	125	3.12	11	5	15	8	1	137	3.42
24.	I search for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items.	3	6	9	17	5	105	2.62	5	7	9	16	3	115	2.87
25.	I search for recycled material information on apparel items in case of synthetics, blends and natural.	6	8	10	10	6	118	2.95	8	12	10	6	4	134	3.35
26.	I avoid to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic).	6	12	6	13	3	125	3.12	7	13	6	11	3	130	3.25
27.	I prefer style and quantity in casual wear.	9	12	6	9	4	133	3.32	8	12	5	10	5	128	3.20
28.	I share my wardrobe apparel items with friends and siblings regularly.	8	9	14	6	3	133	3.32	8	10	10	7	2	126	3.15
29.	I don't mind wearing apparel of siblings/ relatives/ friends on occasions.	5	11	7	13	4	120	3.00	9	12	7	10	2	136	3.40
30.	I prefer using the mix and match concept to create a new style with existing apparels.	7	6	10	16	1	122	3.05	8	9	11	10	2	131	3.27
31.	I prefer to keep using fixed matches for casual wear.	8	8	11	10	3	128	3.20	9	7	12	8	4	129	3.22

32.	I prefer handmade locally produced apparel items.	6	7	8	11	8	112	2.80	10	7	8	9	6	126	3.15
33.	I prefer that traditional apparel items are made up of khadi/organic cotton.	4	7	5	19	4	105	2.62	7	8	6	14	5	118	2.95
34.	I prefer that traditional apparel items are made up of Ahimsa silk.	6	13	8	11	2	130	3.25	8	13	8	8	3	135	3.37
35.	I prefer traditional apparel (handmade/silk/khadi) for formal wear.	8	9	12	6	5	129	3.22	9	9	16	2	4	137	3.42
36.	I prefer to use vintage apparel items (old traditional apparel) over buying new ones.	7	14	9	9	1	137	3.42	7	12	7	11	3	129	3.22
37.	I donate my apparel to NGOs and underprivileged families.	8	11	7	13	1	132	3.30	7	9	9	15	0	128	3.20
38.	I handover my out of fit apparel items to siblings/friends.	11	13	8	7	1	146	3.65	10	14	8	5	0	140	3.50
39.	I give my old and non-wearable apparel items to needy people.	6	10	9	9	6	121	3.02	7	8	11	7	7	121	3.02
40.	I prefer to mend (embroidery, applique work) my short defect apparel instead of purchasing new ones.	5	11	8	11	5	120	3.00	6	11	11	9	3	128	3.20
41.	I reuse my old apparel in another form like cleaning wipes/mops.	7	11	8	13	1	130	3.25	6	10	8	13	0	120	3.00
42.	I convert my non-wearable apparel items into other valuable household item (durries, doormats).	8	11	8	7	6	128	3.20	8	9	10	7	6	126	3.15
43.	I throw away my old clothes in the dustbin because it's the easiest way to get rid of them.	5	14	4	6	5	110	2.75	7	12	9	9	3	131	3.27
44.	I prefer to exchange my old clothes for buying durries/doormats/utensils.	10	15	4	6	5	139	3.47	14	17	3	4	2	157	3.92
45.	I sell my non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner*, Elanic, Confidential couture etc.)	7	10	4	9	9	114	2.85	9	8	7	11	5	125	3.12

S. No.	Statements	Responses of PG students NDUAT, Kumarganj							Responses of PG students CSAU&T, Kanpur						
		A	F	S	R	N	Total score	WMS	A	F	S	R	N	Total score	WMS
1.	I maintain apparels in my wardrobe for different purposes (casual, formal, sportswear and nightwear).	14	13	9	4	0	157	3.92	16	11	7	6	0	157	3.92
2.	I prefer to change of apparels within my wardrobe in every season.	6	10	14	6	4	128	3.20	4	11	14	6	5	123	3.07
3.	I prefer to purchase variety in each category (formal, casual, sportswear and night wear).	13	12	6	9	0	149	3.72	8	17	5	10	0	143	3.57
4.	I purchase new apparel when existing ones are worn out/get faded/out of fit.	22	7	6	5	0	166	4.15	18	12	6	4	0	164	4.10
5.	I purchase new apparel when the existing one is out of fashion.	17	4	12	7	0	151	3.77	16	6	11	7	0	151	3.77
6.	I purchase new apparel for every function, occasion, and other social events.	3	15	6	7	4	111	2.77	2	18	11	6	3	130	3.25
7.	I purchase fashionable apparel for portraying my modern personality.	14	5	13	8	0	145	3.62	12	7	13	8	0	143	3.57
8.	I purchase apparel to communicate my social role.	19	11	5	5	0	164	4.10	11	13	8	7	0	145	3.62
9.	I purchase apparel to show off my financial status.	5	9	6	5	8	97	2.42	4	10	12	5	9	115	2.87
10.	I purchase apparel to conform the peer group.	11	14	6	9	0	147	3.67	6	16	8	10	0	138	3.45
11.	I do impulsive buying to fulfil my desire to follow trends in fashion.	18	9	8	5	0	160	4.00	15	7	10	7	1	148	3.70
12.	I prefer rental services for western formal wear/party wears/lehengas/suit.	16	7	10	7	0	152	3.80	14	12	8	6	0	154	3.85
13.	I prefer window shopping before going for the actual buying of branded apparel.	4	13	9	11	3	124	3.10	4	17	7	9	0	127	3.17
14.	I go for impulsive buying for casual wear during sales/discounts.	13	7	13	6	1	145	3.62	11	10	10	6	3	140	3.50
15.	I purchase only from new collections of apparel items in every season.	8	13	9	8	2	137	3.42	7	13	9	7	4	132	3.30
16.	I prefer to purchase apparel from	2	5	7	9	17	86	2.15	5	6	9	8	12	104	2.60

	online platforms.														
17.	I prefer online shopping for apparel because there is more information available about products.	0	18	11	11	0	127	3.17	2	18	6	10	2	122	3.05
18.	I place orders of apparel items from online sites without need.	5	6	14	13	2	119	2.97	6	10	13	8	3	128	3.20
19.	I search for care label information during purchasing.	13	15	3	8	1	151	3.77	12	17	3	7	1	152	3.80
20.	I search the raw material information about apparel items.	7	13	4	13	3	128	3.20	6	11	3	16	3	118	2.95
21.	I consider care label instructions for every apparel item.	4	11	13	6	6	121	3.02	6	13	11	8	2	133	3.32
22.	I look for care label instructions only for expensive apparel.	7	6	8	9	10	111	2.77	7	9	6	9	9	116	2.90
23.	I look for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity.	8	6	12	10	4	124	3.10	8	11	10	8	3	133	3.325
24.	I search for organic/green/GOTS (global organic textile standard) /OCS (organic content standard) labels on apparel items.	2	5	8	21	4	100	2.50	4	8	6	16	4	106	2.65
25.	I search for recycled material information on apparel items in case of synthetics, blends and natural.	4	12	10	10	4	122	3.05	7	11	10	6	6	127	3.17
26.	I avoid to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic).	6	13	5	14	2	127	3.17	7	14	6	9	4	131	3.27
27.	I prefer style and quantity in casual wear.	10	9	5	11	5	128	3.20	7	13	6	9	5	128	3.20
28.	I share my wardrobe apparel items with friends and siblings regularly.	7	11	10	8	4	129	3.22	7	10	13	7	3	131	3.27
29.	I don't mind wearing apparel of siblings/ relatives/ friends on occasions.	5	13	6	11	5	122	3.05	7	11	5	13	2	122	3.05
30.	I prefer using the mix and match concept to create a new style with existing apparels.	7	7	11	12	3	123	3.07	7	9	10	12	2	127	3.17
31.	I prefer to keep using fixed matches for casual wear.	7	6	11	10	6	118	2.95	7	9	11	10	3	127	3.17

32.	I prefer handmade locally produced apparel items.	8	6	6	10	10	112	2.80	7	10	7	10	6	122	3.05
33.	I prefer that traditional apparel items are made up of khadi/organic cotton.	5	7	4	20	4	109	2.72	6	7	5	18	4	113	2.82
34.	I prefer that traditional apparel items are made up of Ahimsa silk.	9	11	8	9	3	134	3.35	7	15	7	9	2	136	3.40
35.	I prefer traditional apparel (handmade/silk/khadi) for formal wear.	9	8	15	4	4	134	3.35	9	13	11	3	4	140	3.50
36.	I prefer to use vintage apparel items (old traditional apparel) over buying new ones.	8	12	9	8	3	134	3.35	5	15	8	9	3	130	3.25
37.	I donate my apparel to NGOs and underprivileged families.	6	6	9	18	1	118	2.95	6	12	7	14	1	128	3.20
38.	I handover my out of fit apparel items to siblings/friends.	12	12	11	4	1	150	3.75	10	14	9	6	1	146	3.65
39.	I give my old and non-wearable apparel items to needy people.	5	9	11	9	6	118	2.95	6	9	9	8	8	117	2.92
40.	I prefer to mend (embroidery, applique work) my short defect apparel instead of purchasing new ones.	5	8	11	13	3	119	2.97	6	11	9	10	4	125	3.12
41.	I reuse my old apparel in another form like cleaning wipes/mops.	5	9	9	16	1	121	3.02	5	14	8	13	0	131	3.27
42.	I convert my non-wearable apparel items into other valuable household item (durries, doormats).	6	10	9	7	8	119	2.97	6	11	9	8	6	123	3.07
43.	I throw away my old clothes in the dustbin because it's the easiest way to get rid of them.	6	13	8	10	3	129	3.22	7	16	6	6	5	134	3.35
44.	I prefer to exchange my old clothes for buying durries/doormats/utensils.	13	19	2	4	2	157	3.92	12	16	5	4	3	150	3.75
45.	I sell my non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner*, Elanic, Confidential couture etc.)	8	8	6	13	5	121	3.02	9	9	6	9	7	124	3.10

S. No.	Statements	Responses of PG students PAU, Ludhiana						
		A	F	S	R	N	Total score	WMS
1.	I maintain apparels in my wardrobe for different purposes (casual, formal, sportswear and nightwear).	17	12	7	4	0	162	4.05
2.	I prefer to change of apparels within my wardrobe in every season.	6	10	14	5	5	127	3.17
3.	I prefer to purchase variety in each category (formal, casual, sportswear and night wear).	11	15	5	9	0	148	3.70
4.	I purchase new apparel when existing ones are worn out/get faded/out of fit.	22	9	5	4	0	169	4.22
5.	I purchase new apparel when the existing one is out of fashion.	18	4	12	6	0	154	3.85
6.	I purchase new apparel for every function, occasion, and other social events.	2	16	12	6	4	126	3.15
7.	I purchase fashionable apparel for portraying my modern personality.	14	6	12	8	0	146	3.65
8.	I purchase apparel to communicate my social role.	8	13	11	8	0	141	3.52
9.	I purchase apparel to show off my financial status.	3	5	9	17	16	112	2.80
10.	I purchase apparel to conform the peer group.	1	20	10	9	0	133	3.32
11.	I do impulsive buying to fulfil my desire to follow trends in fashion.	8	10	9	12	1	132	3.30
12.	I prefer rental services for western formal wear/party wears/lehengas/suit.	17	12	4	7	0	159	3.97
13.	I prefer window shopping before going for the actual buying of branded apparel.	6	13	4	15	2	126	3.15
14.	I go for impulsive buying for casual wear during sales/discounts.	4	11	14	8	3	125	3.12
15.	I purchase only from new collections of apparel items in every season.	7	8	7	10	8	116	2.90
16.	I prefer to purchase apparel from online platforms.	4	7	11	9	9	108	2.70
17.	I prefer online shopping for apparel because there is more information available about products.	1	8	9	19	3	105	2.62
18.	I place orders of apparel items from online sites without need.	4	9	13	12	2	121	3.02
19.	I search for care label information during purchasing.	8	17	5	9	1	142	3.55
20.	I search the raw material information about apparel items.	6	11	3	15	5	118	2.95
21.	I consider care label instructions for every apparel item.	5	11	9	9	6	120	3.00
22.	I look for care label instructions only for expensive apparel.	4	11	4	13	8	110	2.75
23.	I look for quality labels (wool mark, silk mark) during purchasing costly apparel to confirm its authenticity.	7	9	10	11	3	126	3.15
24.	I search for organic/green/GOTS	3	6	11	15	5	107	2.675

	(global organic textile standard) /OCS (organic content standard) labels on apparel items.							
25.	I search for recycled material information on apparel items in case of synthetics, blends and natural.	6	7	7	11	9	110	2.75
26.	I avoid to purchase of apparel that has a large proportion of synthetic fibres (polyester, nylon, acrylic).	4	10	3	19	4	111	2.77
27.	I prefer style and quantity in casual wear.	10	10	9	8	3	136	3.40
28.	I share my wardrobe apparel items with friends and siblings regularly.	11	10	12	5	2	143	3.57
29.	I don't mind wearing apparel of siblings/ relatives/ friends on occasions.	5	11	10	11	3	124	3.10
30.	I prefer using the mix and match concept to create a new style with existing apparels.	7	3	10	19	1	116	2.90
31.	I prefer to keep using fixed matches for casual wear.	11	11	11	5	2	144	3.60
32.	I prefer handmade locally produced apparel items.	5	8	11	7	9	113	2.82
33.	I prefer that traditional apparel items are made up of khadi/organic cotton.	5	7	7	18	3	113	2.82
34.	I prefer that traditional apparel items are made up of Ahimsa silk.	3	12	8	16	1	120	3.00
35.	I prefer traditional apparel (handmade/silk/khadi) for formal wear.	5	8	9	10	8	112	2.8
36.	I prefer to use vintage apparel items (old traditional apparel) over buying new ones.	10	13	10	6	1	145	3.62
37.	I donate my apparel to NGOs and underprivileged families.	12	17	3	7	1	152	3.8
38.	I handover my out of fit apparel items to siblings/friends.	12	9	7	11	1	140	3.50
39.	I give my old and non-wearable apparel items to needy people.	9	13	6	8	4	135	3.37
40.	I prefer to mend (embroidery, applique work) my short defect apparel instead of purchasing new ones.	5	12	8	7	8	119	2.97
41.	I reuse my old apparel in another form like cleaning wipes/mops.	11	13	8	7	1	146	3.65
42.	I convert my non-wearable apparel items into other valuable household item (durries, doormats).	11	13	10	4	2	147	3.67
43.	I throw away my old clothes in the dustbin because it's the easiest way to get rid of them.	2	12	3	7	16	97	2.42
44.	I prefer to exchange my old clothes for buying durries/doormats/utensils.	5	9	7	10	9	111	2.77
45.	I sell my non-wearable clothes on e-bay (Poshmark, OLX, Spoyl, Vintage desi, Zepo, refashioner*, Elanic, Confidential couture etc.)	4	8	4	6	18	94	2.35

## APPENDIX VIII

**Table 1. Correlation between awareness and attitude**

Descriptive Statistics			
	Mean	Std. Deviation	N
Attitudetotal	123.22	24.301	280
Awarenesstotal	34.97	10.915	280

Correlations			
		Attitudetotal	Awarenesstotal
Attitudetotal	Pearson Correlation	1	.851**
	Sig. (2-tailed)		.000
	N	280	280
Awarenesstotal	Pearson Correlation	.851**	1
	Sig. (2-tailed)	.000	
	N	280	280

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**Table 2. Correlation between attitude and behaviour**

Descriptive Statistics			
	Mean	Std. Deviation	N
Attitudetotal	123.22	24.301	280
Behaviourtotal	145.95	51.762	280

Correlations			
		Attitudetotal	Behaviourtotal
Attitudetotal	Pearson Correlation	1	.967**
	Sig. (2-tailed)		.000
	N	280	280
Behaviourtotal	Pearson Correlation	.967**	1
	Sig. (2-tailed)	.000	
	N	280	280

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**Table 3. Correlation between awareness and behaviour**

Descriptive Statistics			
	Mean	Std. Deviation	N
Awarenesstotal	34.97	10.915	280
Behaviourtotal	145.95	51.762	280

Correlations			
		Awarenesstotal	Behaviourtotal
Awarenesstotal	Pearson Correlation	1	.744**
	Sig. (2-tailed)		.000
	N	280	280
Behaviourtotal	Pearson Correlation	.744**	1
	Sig. (2-tailed)	.000	
	N	280	280

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## **APPENDIX IX**

- Sustainable raw materials and sustainable apparel products like khadi, jute, bamboo, silk, vegan leather etc as these materials have less environmental impacts.
- Eco labels, natural dye label, natural finish label, GOTS and mobius loop label conform adherence to eco labels.
- Wardrobe maintenance techniques to utilize available items in wardrobe maximumly in its lifecycle.
- Alternative option for buying new apparels like rental services and sharing with knowns will check entry of waste into environment.
- Donations sites and channels available will support the under privileged sections community suitably.
- Online reselling sites for used apparel like Poshmark, confidential couture etc will enable proper utilization of apparel before disposal.
- Recycling techniques at household level e.g., making durries, doormat etc. from apparels and textiles.
- Reusing techniques of old apparel will not only push waste into circular economy but also will offer entrepreneurship opportunity at small scale.

**The possible ways by which awareness can be generated on sustainable apparel consumption**

- ✓ Inclusion of concept “sustainable consumption” in the course curricula at different levels of education at schools and colleges.
- ✓ Planning and executing awareness campaigns.
- ✓ Network development for integrating efforts of government, entities of supply chain and NGOs focused toward sustainable apparel production.
- ✓ Video scripts on the medias like You tube, Instagram, LinkedIn on which youth is active.

**As consumers, the youth should assimilate sustainability in apparel consumption practices as follows:**

- ❖ Planning the wardrobe; regularly assessing wardrobe to earmark wearable and non-wearable apparel items and their proper disposal.

- ❖ Keeping flexible pairing of different apparel items which promote reduced buying because multiple pairing of an item creates has need of wearable items for different styles.
- ❖ Sharing wardrobe with knowns viz. siblings, relatives and friends. It helps in maximizing use of resources and reducing solid waste generation.
- ❖ Rethink while buying of apparels to resist impulsive buying and make purchase only when actual needed.
- ❖ Looking the labels for raw material processing information to make decision towards sustainable products.
- ❖ Refuse the synthetic materials wherever possible and choose organic or green material-based apparel.
- ❖ Demanding for sustainable products in apparel so that manufacturers can initiate such production and inform consumers through use of QR codes.
- ❖ Promote use of locally made indigenous textile-based apparel items.
- ❖ Submit feedback against the fallacies on product labels and information in promotions to enable check of faulty retail practices for example Greenwashing.
- ❖ Exploring the ways to ensure use of non-wearable apparels through-
  - Mending the minor defective apparel items.
  - Making alteration in out of fit apparel items
  - Handing down apparel items to siblings or relatives
  - Sharing wardrobe with friends for events and functions.
  - Adopting the available alternate options to purchasing like rental services, resale of used dresses etc. (economic benefit)
- ❖ Donate the items regularly to make sure the optimum use apparel items rather than adding to the solid waste
  - To house helpers (principle of reuse)
  - To animal shelters (principle of reuse)

## SUSTAINABLE APPAREL CONSUMPTION: COMMUNITY SOLUTION TOWARDS SOLID WASTE



**Ms. Renu**

**Dr. Anita Rani**

**Dr. Manisha Gahlot**

**Dr. Shefali Massey**

**2022**

**Department of Clothing and Textiles  
College of Home Science  
G. B. Pant University of Agriculture and  
Technology, Pantnagar-263145  
U.S. Nagar, Uttarakhand (India)**

### Why sustainability?

Sustainability in every aspect of life, is need of hour, to keep our earth alive longer. The continuous and unthoughtful consumption of resources and dumping of waste in solid, liquid and gaseous forms thereof, has fastened the visibility of climate change impacts globally. The only means to endure the negative impacts and to conserve the nature for future generations is “SUSTAINABILITY”.

### Apparel consumption and its impact on planet

Textile is one of the basic necessities of the human being. In present scenario, it is not only limited to consumption in apparels and household items but its use has extended to limitless end uses in wide range of application areas. The textiles have found use from land to space with leap of humans due to technological, developments and their integration in textile production. The textile products have now become technical rather than only conventional to meet emerging and precise needs of different fields of application; Hence, textile production and its processing utilize both natural and synthetic raw materials whereby large quantities of waste is released into the environment. Textile industry is one among most polluting industry globally due to bulk and variety of resources used in production and processing.

The use of textiles in apparel production has increased after industrial revolution. The output of textile industry like fabric is primary raw material for apparel and fashion industry. The apparel is purchased for various purposes due to individual's engagement in variety of activities. The increase in disposable income has also transformed the need-based consumption into overconsumption. The overconsumption is behind emergence of various environmental problems like:

- Climate change
- Ozone depletion
- Microplastic in oceans
- Depletion of natural resources (water, energy)
- Loss of biodiversity
- Solid waste management problems

- Biomagnification of harmful elements in food chains.
- Water pollution water, air and land

### On consideration of these environmental problems impacting universally, the SDGs (Sustainable Development Goals) have been set as given by United Nations -

Different SDGs focus on different aspects affecting wholesomeness of human as well as planet earth.

**UN SDGs 2030:** The sustainable development goals are group of 17 goals which have been designed to address the problems arising due to development activities under taken by human kind and harmful impact on the planet at global level. Among these SDGs, SDG-12 is focused on the “responsible production and consumption” in every field. It should be implemented by the government and practiced by manufacturers and retailers in the supply chain as well in consumption pattern of consumers. Consumers can play significant role in achieving sustainability in production and consumption by adopting the principles of reduce, reuse, recycle and refuse. So, there is need that the consumers should be aware of diverse sustainability aspects. This will enable consumers to build positive attitude and adapt sustainable consumption practices into their daily lives.

### Research findings of study conducted on “Awareness, attitude and behaviour towards sustainable apparel consumption among youth of North India”

Seven SAUs from the five states (Uttarakhand, Uttar Pradesh, Haryana, Rajasthan and Punjab) of North India was the locale of study from where postgraduate student master's level were taken as respondents for data collection through questionnaire and attitude scale.

The research findings are following:

- The awareness among PG students was found low on the transparency and traceability concepts that are important for achieving sustainability.
- The PG students were not cognizant with the concept that handmade indigenous (locally produced) products are sustainable.

- The PG students were not aware about the eco labels like GOTS and mobius loop found on the apparel products.
- The PG students were aware of organic cotton while not cognizant with aspect that the use of organic raw material in apparel manufacturing improves the sustainability of an apparel product.
- The PG students were not well aware about the online reselling sites and reselling counters.
- The female respondents were more aware of the aspects that lead towards sustainability in apparel production as well in consumption as compared to the male respondents.
- The level of awareness of post graduate (master's level students from the different SAUs across North India) was rated high and medium.
- The attitude of the PG students was found most favourable towards the sustainable raw material, information and eco labels on the apparel.
- The male respondents' attitude was found more positive towards the sustainable apparel consumption aspects as compared to the female respondents.
- The most sustainable behaviour of post graduate students was found for the wardrobe sharing practices and least for the urge of buying apparels.
- The difference in the sustainable behaviour of male and female respondents was found significant.
- Despite their high level of awareness and favourable attitude the sustainable behaviour did not reflect to that extent.

### Points on which awareness need to be generated are:

- Transparency and traceability concept in supply chain which will be helpful in reducing human right exploitation.
- Handmade indigenous product's sustainability aspect which also address other social issues like employment, checking migration, etc.
- Organic and recycled raw material and their benefits owing to biodegradable nature.

- टिकाऊ कच्चे माल और टिकाऊ परिधान उत्पाद जैसे खादी, जूट, बांस, रेशम, शाकाहारी चमड़ा आदि का उपयोग किया जा सकता है क्योंकि इन सामग्रियों का पर्यावरणीय प्रभाव कम होता है।
- इको लेबल, नेचुरल डाई लेबल, नेचुरल फिनिश लेबल, GOTS और मोबियस लूप लेबल, इको लेबल के पालन के अनुरूप होते हैं।
- अलमारी में उपलब्ध वस्तुओं का अधिकतम उपयोग अपने जीवनचक्र में करने के लिए अलमारी रखरखाव तकनीक जैसे कि केयर लेबल को ध्यान में रखना।
- किराये की सेवाओं जैसे परिधान देना और लेना, परिचितों के साथ साझा करने का वैकल्पिक विकल्प पर्यावरण में कचरे के प्रवेश को रोक सकता है।

उपलब्ध दान साइट और चैनल वंचित वर्गों के समुदाय को उपयुक्त रूप से समर्थन देंगे।

- इस्तेमाल किए परिधानों को पॉशमार्क, गोपनीय वस्त्र आदि ऑनलाइन पुनर्विक्रय साइट निपटान से पहले परिधान के उचित उपयोग को संकल्प बना सकती हैं।
- घरेलू स्तर पर पुनर्चक्रण तकनीकें जैसे, परिधानों और वस्त्रों से दर्श, पायदान आदि बनाए जा सकते हैं।
- पुराने परिधानों के पुनः उपयोग की तकनीक न केवल कचरे को संकुचन इकोनॉमी में धकेलेगी बल्कि छोटे पैमाने पर उद्योगिता के अवसर भी प्रदान करने में सहायक हो सकती है।

**संभावित तरीके जिनसे सतत परिधान खपत पर जागरूकता उत्पन्न की जा सकती है**

- ✓ स्कूलों और कॉलेजों में शिक्षा के विभिन्न स्तरों पर पाठ्यक्रम पाठ्यक्रम में "टिकाऊ खपत" की अवधारणा को शामिल करना।
- ✓ जागरूकता अभियानों की योजना बनाना और उन्हें क्रियान्वित करना।
- ✓ सरकार के प्रयासों को एकीकृत करने के लिए नेटवर्क विकास, आपूर्ति श्रृंखला की संस्थाओं और गैर सरकारी संगठनों ने स्थायी परिधान उत्पादन की ओर ध्यान केंद्रित किया।
- ✓ यू ट्यूब, इंस्टाग्राम, लिंक्डइन जैसे मीडिया पर वीडियो रिक्रट, जिस पर युवा सक्रिय हैं।

**उपभोक्ताओं के रूप में, युवाओं को परिधान उपभोग प्रथाओं में स्थिरता को निम्नानुसार आत्मसात करना चाहिए:**

- ❖ अलमारी की योजना बनाना; नियमित रूप से अलमारी में पहनने योग्य और गैर-पहनने योग्य परिधान वस्तुओं और उनके उचित निपटान का आकलन करना।

- ❖ विभिन्न परिधान वस्तुओं की लचीली जोड़ी रखना जो कम खरीद को बढ़ावा देते हैं क्योंकि एक वस्तु की कई जोड़ी अलग-अलग शैलियों के लिए पहनने योग्य वस्तुओं की आवश्यकता होती है।
- ❖ जान पहचान के लोगों के साथ अलमारी साझा करना। भाई-बहन, रिश्तेदार और दोस्त। यह संसाधनों के अधिकतम उपयोग और ठोस अपशिष्ट उत्पादन को कम करने में मदद करता है।
- ❖ आवेगपूर्ण खरीदारी का विरोध करने के लिए परिधान खरीदते समय पुनर्विचार करें और वास्तविक आवश्यकता होने पर ही खरीदारी करें।
- ❖ टिकाऊ उत्पादों की दिशा में निर्णय लेने के लिए कच्चे माल की प्रसंस्करण जानकारी के लिए लेबल देखना।
- ❖ जहां भी संभव हो संश्लेषित कपड़े की खरीद को मना करें और जैविक या हरे (Green apparels) सामग्री आधारित परिधान चुनें।
- ❖ परिधान में टिकाऊ (Sustainable) उत्पादों की मांग करना ताकि निर्माता इस तरहके उत्पादन की शुरुआत कर सकें और QR Code के उपयोग के माध्यम से उपभोक्ताओं को सूचित कर सकें।
- ❖ स्थानीय रूप से निर्मित स्वदेशी वस्त्र आधारित परिधान वस्तुओं के उपयोग को बढ़ावा देना।
- ❖ उत्पाद लेबलों और प्रचारों में जानकारी की भ्रान्तियों के खिलाफ फ़ीडबैक सबमिट करें ताकि दोषपूर्ण खुदरा प्रथाओं की जांच को सक्षम किया जा सके, उदाहरण के लिए ग्रीनवाशिंग।
- ❖ न पहनने योग्य परिधानों के उपयोग को सुनिश्चित करने के तरीकों की खोज-
  - मामूली दोषपूर्ण परिधान वस्तुओं को ठीक करना।
  - आउट ऑफ फिट परिधान वस्तुओं में परिवर्तन करना।
  - भाई-बहनों या रिश्तेदारों को परिधान आइटम सौंपना।
  - त्योहारों, शादियों के लिए दोस्तों के साथ अलमारी साझा करना।
  - किराये की सेवाओं, इस्तेमाल किए गए कपड़े की पुनर्विक्रय आदि जैसे खरीद के लिए उपलब्ध वैकल्पिक विकल्पों को अपनाना (आर्थिक लाभ)।
- ❖ यह सुनिश्चित करने के लिए नियमित रूप से वस्तुओं का दान करें कि ठोस अपशिष्ट में जोड़ने के बजाय परिधान वस्तुओं का इष्टतम उपयोग करें
  - गृह सहायकों के लिए (पुनः उपयोग का सिद्धांत)।

## टिकाऊ परिधान खपत: ठोस अपशिष्ट के लिए सामुदायिक समाधान



सुश्री रेणु  
डॉ. अनीता रानी  
डॉ. मनीषा गहलोत  
डॉ. शेफाली मेसी

2022

वस्त्र और परिधान विभाग  
गृह विज्ञान महाविद्यालय  
जीबी पंत कृषि और प्रौद्योगिकी विश्वविद्यालय,  
पंतनगर-263145  
यूपी नगर, उत्तराखंड (भारत)

## स्थिरता क्यों?

हमारी धरती को लंबे समय तक जीवित रखने के लिए जीवन के हर पहलू में स्थिरता की जरूरत है। संसाधनों की निरंतर और बिना सोचे-समझे खपत और कचरे को ठोस, तरल और गैसीय रूपों में निपटान करने से वैश्विक स्तर पर जलवायु परिवर्तन के दुष्प्रभाव बढ़ते जा रहे हैं। नकारात्मक प्रभावों को सहने और आने वाली पीढ़ियों के लिए प्रकृति के संरक्षण का एकमात्र साधन " स्थिरता " है।

## परिधान की खपत का पृथ्वी ग्रह पर प्रभाव

कपड़ा मनुष्य की मूलभूत आवश्यकताओं में से एक है। वर्तमान परिदृश्य में, यह न केवल परिधानों और घरेलू सामानों में खपत तक ही सीमित है, बल्कि इसका उपयोग व्यापक रूप से अनुप्रयोग क्षेत्रों में असीमित रूप से बढ़ा है। प्रौद्योगिकी, विकास और इसके कपड़ा उत्पादन में एकीकरण के कारण मानव की छलांग के साथ वस्त्रों का उपयोग भूमि से अंतरिक्ष तक बढ़ा है। अनुप्रयोग के विभिन्न क्षेत्रों की उभरती और सटीक जरूरतों को पूरा करने के लिए कपड़ा उत्पादन अब केवल पारंपरिक न रहकर तकनीकी हो गया है; इसलिए, कपड़ा उत्पादन और इसकी प्रसंस्करण में प्राकृतिक और संश्लेषित कच्चे माल, दोनों का, उपयोग होता है जिससे बड़ी मात्रा में अपशिष्ट पर्यावरण में निकलता है। कपड़ा उत्पादन और इसके प्रसंस्करण में उपयोग किए जाने वाले संसाधनों के अति उपयोग के कारण कपड़ा उद्योग विश्व स्तर पर सबसे अधिक प्रदूषणकारी उद्योगों में सम्मिलित हो गया है।

औद्योगिक क्रांति के बाद परिधान उत्पादन में वस्त्रों का उपयोग बढ़ा है। कपड़ा उद्योग का उत्पाद जैसे कपड़ों, परिधान और फैशन उद्योग के लिए प्राथमिक कच्चा माल है। विभिन्न गतिविधियों में व्यक्ति की भागीदारी के कारण परिधान विभिन्न उद्देश्यों के लिए खरीदे जाते हैं। प्रयोज्य आय में वृद्धि ने भी आवश्यकता-आधारित खपत को अति-उपभोग में बदल दिया है। विभिन्न वातावरणीय समस्याओं के उभरने के पीछे वस्त्र और परिधान की अत्यधिक खपत है! अतः वर्तमान संदर्भ में मुख्य समस्याएं इस प्रकार हैं:-

- जलवायु परिवर्तन
- ओजोन रिक्तिकरण
- महासागरों में माइक्रोप्लास्टिक
- प्राकृतिक संसाधनों (जल, ऊर्जा) का हास
- जैव विविधता का नुकसान
- ठोस अपशिष्ट प्रबंधन की समस्याएं
- खाद्य श्रृंखलाओं में हानिकारक तत्वों का जैव आवर्धन
- जल, वायु और भूमि प्रदूषण

## सार्वभौमिक रूप से प्रभावित होने वाली इन पर्यावरणीय समस्याओं पर विचार करते हुए, संयुक्त राष्ट्र द्वारा सतत विकास लक्ष्य निर्धारित किए गए हैं -

यह सतत विकास लक्ष्य (SDGs) मानव और पृथ्वी ग्रह की स्वस्थता को प्रभावित करने वाले विभिन्न पहलुओं पर ध्यान केंद्रित करते हैं। **संयुक्त राष्ट्र SDGs 2030:** सतत विकास लक्ष्य में 17 लक्ष्यों का समूह है, जिन्हें वैश्विक स्तर पर मानव प्रकार और ग्रह पर हानिकारक प्रभाव के तहत विकास गतिविधियों के कारण उत्पन्न होने वाली समस्याओं के समाधान के लिए बनाए गए हैं। इन SDGs में, SDG-12 हर क्षेत्र में "जिम्मेदार उत्पादन और खपत" पर केंद्रित है। इसे सरकार द्वारा लागू किया जाना चाहिए और आपूर्ति श्रृंखला में स्थित सभी निर्माताओं, खुदरा विक्रेताओं और उपभोक्ताओं द्वारा अभ्यास में लाना चाहिए। उपभोक्ता द्वारा उपभोग कम करना (Reduce), पुनः उपयोग (Reuse), पुनःचक्र (Recycle) और मनाही (Refuse) के सिद्धांतों को लागू करके उत्पादन और खपत में स्थिरता प्राप्त करने में महत्वपूर्ण भूमिका निभा सकते हैं। इसलिए, यह आवश्यक है कि उपभोक्ताओं को विविध स्थिरता (Sustainability) पहलुओं के बारे में पता होना चाहिए। यह उपभोक्ताओं को सकारात्मक दृष्टिकोण बनाने और स्थायी उपयोग प्रथाओं (Sustainable practices) को अपने दैनिक जीवन में अपनाने में सक्षम करेगा।

## "उत्तर भारत के युवाओं के बीच सतत परिधान खपत के प्रति

## जागरूकता, दृष्टिकोण और व्यवहार" पर किए गए अध्ययन के शोध अध्ययन निष्कर्ष इस प्रकार हैं

उत्तर भारत के पांच राज्यों (उत्तराखंड, उत्तर प्रदेश, हरियाणा, राजस्थान और पंजाब) में स्थित के सात राजकीय कृषि विश्वविद्यालय में किया गया स्नातकोत्तर छात्रों से प्रश्नावली और दृष्टिकोण पैमाने के माध्यम से जानकारी एकत्रित की गई और जानकारी के आधार पर विश्लेषण किया गया।

शोध के निष्कर्ष निम्नलिखित हैं:

- स्थिरता प्राप्त करने के लिए, पारदर्शिता (Transparency) और पता लगाने योग्य (Traceability) महत्वपूर्ण अवधारणाओं, पर पीजी छात्रों के बीच जागरूकता कम पाई गई।
- स्नातकोत्तर छात्र इस अवधारणा से भी परिचित नहीं थे कि हस्तनिर्मित स्वदेशी (स्थानीय रूप से उत्पादित) उत्पाद टिकाऊ होते हैं।
- स्नातकोत्तर छात्रों को परिधान उत्पादों पर पाए जाने वाले GOTS और मोबियस लूप जैसे इको लेबल के बारे में जानकारी नहीं थी।

- स्नातकोत्तर छात्रों को ऑर्गेनिक कॉटन के बारे में पता था, जबकि इस बात से अनजान थे कि परिधान निर्माण में जैविक कच्चे माल के उपयोग से परिधान उत्पाद की स्थिरता में सुधार होता है।
  - स्नातकोत्तर छात्रों को ऑनलाइन पुनः विक्रय साइट्स और पुनः विक्रय काउंटरों के बारे में अच्छी तरह से जानकारी नहीं थी।
  - पुरुष उत्तरदाताओं की तुलना में महिला उत्तरदाताओं को परिधान उत्पादन के साथ-साथ खपत में स्थिरता की ओर ले जाने वाले पहलुओं की अधिक जानकारी थी।
  - स्नातकोत्तर (उत्तर भारत के विभिन्न राजकीय कृषि विश्वविद्यालय से) छात्रों में जागरूकता का स्तर उच्च और मध्यम पाया गया।
  - परिधान में उपयोग होने वाले टिकाऊ (Sustainable) कच्चे माल के बारे में और इको लेबल के प्रति स्नातकोत्तर छात्रों का रवैया सबसे अनुकूल पाया गया।
  - महिला उत्तरदाताओं की तुलना में स्थायी परिधान खपत पहलुओं के प्रति पुरुष उत्तरदाताओं का दृष्टिकोण अधिक सकारात्मक पाया गया।
  - स्नातकोत्तर छात्रों का सबसे स्थायी व्यवहार अलमारी साझा करने की प्रथाओं के लिए और कम से कम परिधान खरीदने के आग्रह के लिए पाया गया था।
  - पुरुष और महिला उत्तरदाताओं के स्थायी व्यवहार में अंतर महत्वपूर्ण पाया गया।
  - उनके उच्च स्तर की जागरूकता और अनुकूल रवैये के बावजूद स्थायी व्यवहार उस सीमा तक प्रतिबिंबित नहीं हुआ।
- जिन बिंदुओं पर जागरूकता उत्पन्न करने की आवश्यकता है वे हैं:**
- आपूर्ति श्रृंखला में पारदर्शिता (Transparency) और पता लगाने (Traceability) की अवधारणा जो मानव अधिकार शोषण को कम करने में सहायक हो सकती है।
  - हस्तनिर्मित स्वदेशी उत्पाद की स्थिरता का पहलू जो अन्य सामाजिक मुद्दों जैसे रोजगार, प्रवासन की जाँच आदि को भी संबोधित करने में सहायक हो सकता है।
  - बायोडिग्रेडेबल प्रकृति के कारण जैविक और पुनर नवीनीकृत कच्चे माल और उनके लाभ।

## Curriculum Vitae

**Name** : Renu **Phone** : 9729577724  
**Mailing Address:** Ward no.11 RWD **Permanent Address** : Same as mailing  
Vill. Bhuranpura address  
Tehsil Tibbi, Distt.  
Hanumangarh (Rajasthan)

**E-Mail** : messigodara@gmail.com

**Career Objectives** : To progress in the field of research and contribute towards the teaching profession

### Educational Qualification:

S. No.	Examination Passed	Institution	Year	Percentage/ CGPA
1.	M.Sc. (Clothing and Textiles)	GBPUA&T, Pantnagar	2022	Pursuing
2.	B.Sc. (Hons.) Community Science	CCSHAU, Hissar	2020	7.79
3.	Intermediate RBSE	D.N. Senior Secondary School, Topriya (Nohar)	2014	88.00%
4.	High School RBSE	R L Public School, Bhuranpura, (Rajasthan)	2012	77.83%

- **Specialization:** Major : Clothing and Textiles Minor: Nil
- **Thesis Title:** “AWARENESS, ATTITUDE AND BEHAVIOUR TOWARDS SUSTAINABLE APPAREL CONSUMPTION AMONG YOUTH OF NORTH INDIA”
- **Publication:** Nil
- **Conference/Seminars/Workshops/Training attended:** 11
- **List of paper presented in conference/seminar during degree programme:** Nil
- **Software Skills:** Ms Word, Ms Excel, Ms Power Point, SPSS
- **Professional Skills:** Team work, Work ethics, Management and Communication skills
- **Professional Affiliations/ Achievements:** Nil
- **Awards/Honours/Achievements:** Gargi award, NTS fellowship, ICAR-PG 2020 All India Rank-6 in Home Science and JRF fellowship

**Place:** Pantnagar

**Date:** 06/10/2021




(Renu)

**Name** : Renu **Id. No.** : 56767  
**Sem. & Year of admission** : 1<sup>st</sup> Sem, 2020-21 **Degree** : M.Sc.  
**Department** : Clothing and Textiles  
**Major** : Clothing and Textiles **Minor** : Nil  
**Thesis title** : “Awareness, attitude and behaviour  
towards sustainable apparel consumption among youth of  
North India”  
**No. of pages** : 122 **Advisor** : Dr. Anita Rani

### ABSTRACT

The textile and apparel industry has significant role in Indian economy. The total revenue from the textile and apparel industry contributes the most important part in GDP. Besides this positive part, it has the dirty secrets that have negative impact on environment and society. The major players in the importance of sustainability are the manufacturer, retailer, government rules /regulations and consumers. As consumers we consume the goods and services and only focus on the quality, price and aesthetic attributes of the goods and do not think about the life-cycle process of a product. Hence, the consumers should have awareness about the sensitive issues of environment and society emerging due to regarding the apparel consumption. In present scenario, the most active population is youth which has more disposable income at hands. They follow the latest fashion trends and most of the innovations in apparel and fashion industry. So, youth can make change by adapting the sustainable apparel consumption behaviour and products. The study was therefore, planned to find out the awareness level, attitude, and behaviour towards sustainable apparel consumption among the youth of North India. Twenty male and 20 female postgraduate students were selected randomly from 7 SAUs located in 5 states of North India totalling to 280 postgraduate students. The research study was exploratory in nature wherein data was collected through survey method using two questionnaires and an attitude scale.

Maximum respondents were in the age group 20-27 years, practiced Hindu religion and were from College of Agriculture. More than half of the respondents belonged to the families that had more than Rs. 5 lakh annual income and had 0-2 siblings. The awareness level of majority of postgraduate students from different universities except CCSHAU, Hisar was found high. The maximum awareness was found on sustainable practices of apparel consumption while least awareness was for the eco labels on apparels. The attitude of the postgraduate students was also found highly positive towards sustainable apparel consumption. Further, significant difference was also found between male and female students for awareness level as well attitude towards sustainable apparel consumption aspects. The female respondents were more aware about aspects of sustainability in apparel consumption and production comparatively. The male respondents held much positive (favourable) attitude as compared to the female respondents towards the different domains of attitude in sustainable apparel consumption. Despite high level of awareness and strongly positive attitude, the behaviour was not found sustainable to that extent. The awareness, attitude and behaviour of respondents was found to be affected by independent factors viz., gender, source of finance, annual family income, type of family and number of siblings.

  
(Anita Rani)  
Advisor

  
(Renu)  
Authoress

नाम	: रेणु	परिचयांक	: 56767
सत्र एवं प्रवेश का वर्ष	: प्रथम, 2020-21	उपाधि	: स्नातकोत्तर
विभाग	: वस्त्र और परिधान		
मुख्य विषय	: वस्त्र और परिधान	गौण विषय	: —
शोध का शीर्षक	: “उत्तर भारत के युवाओं में सतत परिधान खपत के प्रति जागरूकता, दृष्टिकोण और व्यवहार”		
पृष्ठों की संख्या	: 88	सलाहकार	: डॉ. अनीता रानी

### सारांश

भारतीय अर्थव्यवस्था में कपड़ा और परिधान उद्योग की महत्वपूर्ण भूमिका है। कपड़ा और परिधान उद्योग का कुल राजस्व सकल घरेलू उत्पाद में सबसे महत्वपूर्ण हिस्सा है। इस सकारात्मक भाग के अलावा, इसमें बुरे रहस्य हैं जो पर्यावरण और समाज पर नकारात्मक प्रभाव डालते हैं। स्थिरता के महत्व में प्रमुख खिलाड़ी निर्माता, खुदरा विक्रेता, सरकारी नियम/विनियम और उपभोक्ता हैं। उपभोक्ता के रूप में हम वस्तुओं और सेवाओं का उपभोग करते हैं और केवल वस्तुओं की गुणवत्ता, कीमत और सौंदर्य संबंधी विशेषताओं पर ध्यान केंद्रित करते हैं और किसी उत्पाद की जीवन-चक्र प्रक्रिया के बारे में नहीं सोचते हैं। इसलिए,

उपभोक्ताओं को परिधान की खपत के संबंध में उभर रहे पर्यावरण और समाज के संवेदनशील मुद्दों के बारे में जागरूकता जरूरी है। वर्तमान परिदृश्य में, सबसे अधिक सक्रिय जनसंख्या युवा की है जिनके पास अधिक प्रयोज्य आय है। वे नवीनतम फैशन रुझानों और परिधान और फैशन उद्योग में अधिकांश नवाचारों का पालन करते हैं। युवा सतत परिधान खपत व्यवहार और उत्पादों को अपनाकर बदलाव ला सकते हैं। इसलिए अध्ययन की योजना उत्तर भारत के युवाओं के बीच सतत परिधान खपत के प्रति जागरूकता स्तर, दृष्टिकोण और व्यवहार का पता लगाने के लिए बनाई गई थी। उत्तर भारत के 5 राज्यों में स्थित 7 राजकीय कृषि विश्वविद्यालयों के कुल 280 स्नातकोत्तर छात्रों (20 पुरुष और 20 महिला स्नातकोत्तर छात्र प्रति विश्वविद्यालय) को यादृच्छिक रूप से चुना गया था। शोध अध्ययन प्रकृति में खोजपूर्ण था जिसमें दो प्रश्नावली और एक दृष्टिकोण पैमाने का उपयोग करके सर्वेक्षण विधि के माध्यम से जानकारी एकत्र की गई।

अधिकतम उत्तरदाताओं की आयु 20-27 वर्ष थी, हिंदू धर्म का पालन करने वाले और कृषि महाविद्यालय के छात्र-छात्रा थे। आधे से अधिक उत्तरदाता उन परिवारों से थे जिनके पास रु. 5 लाख वार्षिक आय और 0-2 भाई-बहन थे। को छोड़कर विभिन्न 4 विश्वविद्यालयों के सभी स्नातकोत्तर छात्रों का जागरूकता स्तर उच्च पाया गया जबकि सीसीएसएचएयू, हिसार के सबसे कम प्रतिशत उत्तर दाताओं में उच्च जागरूकता स्तर पाया गया। परिधान की खपत की स्थायी प्रथाओं के बारे में अधिकतम जागरूकता पाई गई, जबकि सबसे कम जागरूकता परिधानों पर इको लेबल के लिए थी। स्थायी परिधान उपभोग के प्रति स्नातकोत्तर छात्रों का दृष्टिकोण भी अत्यधिक सकारात्मक पाया गया। इसके अलावा, जागरूकता स्तर के साथ-साथ टिकाऊ परिधान खपत पहलुओं के प्रति दृष्टिकोण के लिए पुरुष और महिला छात्रों के बीच महत्वपूर्ण अंतर भी पाया गया। महिला उत्तरदाताओं को तुलनात्मक रूप से परिधान की खपत और उत्पादन में स्थिरता के पहलुओं के बारे में अधिक जानकारी थी। टिकाऊ परिधान खपत में दृष्टिकोण के विभिन्न क्षेत्रों के प्रति महिला उत्तरदाताओं की तुलना में पुरुष उत्तरदाताओं ने बहुत सकारात्मक (अनुकूल) दृष्टिकोण था। उच्च स्तर की जागरूकता और सकारात्मक दृष्टिकोण के बावजूद, व्यवहार उस सीमा तक टिकाऊ नहीं पाया गया। उत्तरदाताओं की जागरूकता, रवैया और व्यवहार तीनों स्वतंत्र कारकों जैसे लिंग, वित्त के स्रोत, वार्षिक पारिवारिक आय, परिवार के प्रकार और भाई-बहनों की संख्या से प्रभावित पाए गए।

Anita  
6/10/22  
(अनीता रानी)  
सलाहकार

Renu  
(रेणु)  
लेखिका