

# SUBJECTIVE WEAR TRIAL OF WOOL AND BLENDED WOOL APPAREL FOR SENSORIAL COMFORT

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**ABSTRACT:** Wear comfort is imperative property of clothing. The comfort of wool garment is main characteristic of consumer satisfaction principally for next to skin. Woollen garment have been some sensation feeling. These are related to sensorial, tactile and thermo physiological comfort of garment. The present study focus on wear comfort of woollen wear. The study compares the quality of commercial wool apparel and blended apparels of wool/ polyester/angora, wool/polyester/pashmina and finds the acceptability along with the wear trial of apparel. The study was based on paired attributes related to sensorial comfort. The result of subjective wear trials show that CW and WPP are found more soothe, warm, soft and smooth in wear, however, WPA is found less soothe but comfortable. It can conclude that CW, WPP and WPA apparels are overall comfortable to wear. In terms of suitability of working women like to wear lightweight apparel for work wear in winter clothing. CW, WPP and WPA blended fabrics apparels are applicable.

**Index terms:** apparel, blended, comfortable, soft, smooth, wear trial, uncomfortable,

## 1. INTRODUCTION

Wear comfort is necessary property of clothing. The comfort of woollen wear is main characteristic of consumer satisfaction principally for next to skin. Woollen garment have been some sensation feeling. These are related to sensorial tactile and thermo physiological comfort of garment. The present study focus on sensorial comfort of wearer related to woollen wear. These attributes are itchy, soothe, warm, cool, soft, harsh, smooth, rough, comfortable and uncomfortable. These are paired attributes. Fabric itchiness sootiness feeling is related to fabric prickle, Itch is also result of some irritation on skin. It has been found that the perception of itchiness in clothing is highly correlated with the perception of prickliness. Fabric warmth coolness feeling is sensation of warmth and coolness to touch when skin is brought into contact with a fabric is a transient heat conduction phenomenon and this contributes to the perception of comfort of the garment. Smoothness and Roughness is a surface micro-geometry which is defined as the sum of evenness and unevenness of the surface with relatively small distances. It is an important attributes influencing subjective hand feeling and connected with the behaviour of textiles layers in mutual

Softness harshness feeling is a pleasant and unpleasant behaviour of touch and harshness is an unpleasant behaviour of touch. Soft and harsh can also be used to describe fabric is gentle or not gentle. Comfortable-uncomfortable is also paired attributed related to overall comfort of woollen wear. These attributes cover the comfort of woollen wear. The present study focus on subjective wear trail of CW apparel (commercial wool apparel) WPA apparel (wool/ polyester/ angora apparel) and WPP apparel (Wool/Polyester/Pashmina apparel) based on paired attributes and analysis the comfort of wearer towards woollen apparel.

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## 2. MATERIAL AND METHODS:

### 2.1. Subjective wear trial of apparel:

Constructed kurtis, ponchos and performa of wear comfort were given to 10 working women for wear trial. Subjective wear trial was carried out in winter season. The wear period of constructed apparel was ten days to each woman.

### 2.2 Preparation of wear comfort ranking Sheet and rating Scale:

Assessment was done with ranking sheet. The criterion of assessment was done according to five attributes as mentioned below.

**TABLE 1  
PAIRED ATTRIBUTES FOR WOOLLEN APPAREL**

Attributes		
Sootiness	–	Itchiness
Warmness	–	Coolness
Softness	–	Harshness
Smoothness	–	Roughness
Comfortable	–	Uncomfortable

### 2.3 Method of assessment:

Five point rating scale was used to assess the sensorial comfort. Five points was used for five responses of attributes. First evaluation gathered by sensation feeling of fabric touch on skin in few minutes, it is called sootiness itchiness. The subjects were required to express the feeling about the garment by warmth and coolness. Feeling of softness harshness, smoothness, roughness comfortable and uncomfortable is time consuming. Five point rating scale are given below:

- Soothiness\_Itchiness - 5 (soothe), 4 (slightly soothe), 3 (neutral), 2 (slightly itchy) and 1 (itchy).
- Warmness\_Coolness – 5 (warm), 4 (slightly warm), 3 (neutral), 2 (slightly cool) and 1(cool).
- Softness\_Harshness - 5(soft), 4 (slightly soft), 3 (neutral), 2 (slightly harsh) and 1(harsh).
- Smoothness\_Roughness - 5 (smooth), 4 (slightly smooth), 3 (neutral), 2 (slightly rough) and 1 (rough).
- Comfortable\_Uncomfortable - 5(Comfortable), 4(slightly comfortable), 3 (neutral), 2(slightly uncomfortable) and 1(uncomfortable).

## 2.4. Data analysis:

Weighted mean scores were calculated by using following formula

$$\text{Weighted Mean Score} = \frac{\sum \text{Total obtained Score}}{\text{Maximum Weighted Score}}$$

## 3. RESULT AND DISCUSSION:

The three set of kurtis and ponchos each in WPA, WPP and CW fabrics are given to the respondents. They are asked to wear the kurtis and ponchos. They are asked to expressed their view regarding soothe, itchy, warmness, coolness, softness, harshness, smoothness, roughness, comfortable and uncomfortable attributes.

**TABLE2**  
**SUBJECTIVE WEAR TRIAL OF WOOL AND BLENDED WOOL APPAREL**

N=10			
Attributes	Apparel	Total score obtained	Weighted average
Soothe-Itchy	CW	44	4.4
	WPA	33	3.3
	WPP	44	4.4
Warmness- Coolness	CW	49	4.9
	WPA	48	4.8
	WPP	43	4.3
Softness-Harshness	CW	48	4.8
	WPA	39	3.9
	WPP	48	4.8
Smoothness- Roughness	CW	44	4.4
	WPA	49	4.9
	WPP	41	4.1
Comfortable- Uncomfortable	CW	49	4.9
	WPA	41	4.1
	WPP	49	4.9

The above table shows that wear trial of commercial wool and blended wool apparel.

Subjective evaluation of paired attributes results is obtained in sootherness– itchiness feeling. Weighted score of both CW and WPP apparel is found to be 4.4. Whereas the score of WPA is found lower (3.3). It can also be examined that CW and WPP apparel is found in the range of 41-50. This indicates that it is in the high range of positive attributes and WPA is found in the medium range of 31-40. Results shown that the CW and WPP are soothe in wear as compared to WPA apparel. However, WPA is also found within an adequate range of sootherness. Subjective wear trial is related to sensorial comfort. First evaluation gathered by a sensational feeling of fabric touch on skin in a few minutes it's called sootherness itchiness. It is reported by McGregor, Doughty, Thompson, Naebe and Tester (2015) that, blending of pashmina fiber (cashmere fiber) in sheep wool increases the skin comfort in terms of soothe and soft feel in wear. Subjective wear trial indicates that the weighted mean score of CW, WPA and WPP apparels are 4.9, 4.8 and 4.3 respectively. It can also observe that, CW, WPP and WPA apparel is found in high range of 41-50 indicating of positive attributes. Therefore, the results indicate that CW and WPP apparel are warm compared to WPP apparel. It is clear from other studies such as Sharma and Pant (2013) that blending of speciality hair fiber in wool increases the thermal insulation. Thermal insulation is directly related to the warmness of fabrics. In terms of Softness- harshness, weighted average of WPP apparels is found highest score (4.8) followed by CW apparel (4.4) and WPA(3.9) It is observed from table, WPP

and CW apparel are found in high range (41-50) and WPA apparel is found medium range (31-40) on softness attributes. The result confirms that the CW and WPP apparel are found very soft and WPA apparel is not so soft. It is clearly explained by McGregor and Postle (2004) that blending of pashmina in wool increases the softness of fabric. In terms of smoothness and roughness feeling, WPA and CW apparel is found highest mean score (4.9) followed b WPP apparel is found (4.1). It can also examine that CW, WPA and WPP apparel is found high range (41-50) in smoothness attributes. Results show that CW and WPA apparel are smooth as compare to WPP apparel.

Feeling of softness - harshness and smoothness and roughness are time consuming and the perception of working women are differently expressed for the apparels. In comfortable and uncomfortable feeling weighted average of CW and WPP apparel is found highest (4.9) and WPA apparel is found lowest score (4.1). It can also observe from table that CW, WPP and WPA are found in high range (41-50) of comfort attributes. Result revealed that in terms of comfortable – uncomfortable feeling, CW and WPP apparel are more comfortable as compared to WPA apparel. However WPA apparel is found in acceptable range.

Dirgar and Oral (2014) reported that angora rabbit hair is generally blended with wool to get better its performance both in processing and fabric wear ability.

## 4. CONCLUSION

Based on the result obtained, the analysis of subjective wear trials concluded that CW and WPP are found more soothe, warm, soft and smooth in wear, however, WPA is found less soothe but comfortable. Henceforth CW, WPP and WPA apparels are overall comfortable to wear. In terms of suitability of working women like to wear lightweight apparel for work wear in winter clothing. CW, WPP and WPA blended fabrics apparels are applicable.

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