Demands and Needs of Elderly Chinese People for Garment

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Abstract. The purpose of this paper is to determine the elderly people's consumer behavior, demands and needs about the garment. The sample consists of 106 aged people all around china. A questionnaire was prepared and given to these people to determine their consumer behavior, demands and needs. It was found that most elderly people would like to choose comfortable, pastel, loosely or a little loosely casual clothing. The garment with natural material and some special design on details will be favorable. Meanwhile, most of the interviewee complained about there is no enough suitable size to choose. Therefore, the height, neck circumference, shoulder width, bust, waist, abdominal circumference, hip circumference were measured, and these data would provide theoretical reference for apparel products to meet the needs of the elderly.

Keywords: Elderly people, garment, consumer behavior, demands and needs.

1 Introduction

The aging of the world population, that is, the increase in the ratio of the elderly in the population, has led to an increase of interest in old age generally [1]. In china, according to the data of the sixth nationwide population census the number of people above the age 60 was 177,648,705 in 2010，compared to the year 2000 the number has increased 2.93% [2].

The huge population size of elderly people has laid the groundwork for the aged market, but the elderly clothing market is in doldrums. The main reason was that the clothing couldn't satisfy the elderly people's demands and needs [3]. First, the garment enterprises did not grasp the elderly people's consume behavior, which led to the garment style and material couldn't meet the consumer's needs exactly. Second, degeneration takes place when people become old, such as cartilage elasticity decrease, muscle atrophy, balance, posture control and movement ability worsens. In comparison with the young people, the body characteristics of the aged people have changed evidently [4]. There are garment size standards for men, women and children, but there is no specific standard for elderly people, which led to the clothing now in the market can not fit the elderly people's body characteristic properly.

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Therefore, the purpose of this paper is to determine the consumer behavior, demands, needs and the body characteristics of the elderly people. A questionnaire has been prepared and given to elderly people in order to determine their consume behavior, demands and needs. Meanwhile, the body shape was measured to determine the garment size standard for aged people.

2   Methods

2.1   Determining the Population of the Study

The sample contains 106 people older than 50 years, these people are the parents and relatives of the students which from school of design of south china university of technology. Since the students come from all around of china, the sample is chosen randomly which could reflect the overall situation. Although people are familiar with clothing but few people know exactly the measurement used in the garment design and manufacture, so only students from school of design were chosen as the volunteers.

The questionnaire was distributed to the volunteers when they go back home for summer vacation in July 2012. The students' parents and relatives fulfill the questionnaire under the students' help.

2.2   Questionnaire

This study was to determine the consume behavior, demands, needs and the body characteristics of people older than 50 years; a questionnaire was prepared for this purpose. After necessary modification the final questionnaire was formed.

The questionnaire contains two parts. The first part mainly aims to get the general personal information and the second part focuses on the consume behavior, demands, needs and body characteristic.

2.3   Data Analysis

The data was collected and the SPSS software was used to analyze the frequency distribution.

3   Results

3.1   Demographic

In this paper the demographic characteristics of the surveyed individuals are summarized as following: number of subjects /frequency.

The sexual distinction of the subjects: the total number of the subjects is 106, the number of the female is 82/77%, while the number of male is only 24/23%.

The age of the subjects: 38/36% between 50 and 55 years, 24/23% between 56 and 60, 10/9% between 61 and 65, 18/17% between 66 and 70, the rest 16/15% of subjects are over 70.

Income: 22/21% under Rmb 500 per month, 10/10% between 500 and 1000, 32/31% between 1000 and 2000, 40/38% of them over 2000.

The education and vocation background were also been investigated, as shown in table 1 and 2.

Table 1. The education background of the subjects

Categories	Primary school	Junior school	Senior school	College and above	Others	Total
Number	24	18	22	32	10	106
Frequency/%	23	17	21	30	9	100

Table 2. The vocation background of the subjects

Categories	Government officer	Worker	Farmer	Individual private	Others	Total
Number	30	16	8	16	36	106
Frequency/%	29	15	7	34	6	100

3.2   Consumer Behavior and Demands and Needs

The consumer behavior of the elderly people was determined by several questions in the questionnaire, the results are shown in table 3. Table 4 showed table he results of demands and needs about aged garment.

3.3   Body Shape

The body shape data was analyzed in man and woman respectively, SPSS was used to calculate the maximum, minimum, mean value and standard devastation. All the invalid data was not considered into the analysis. The results were listed in table 5 and 6.

In order to reveal the change of body shape between elderly people and adult, the Mollison method was applied to identify the difference which can be calculated by the following equation [5]:

$$Mo= (Xel-XGB)/ Sel$$

Where XGB is one of the body shape parameter mean value in China national standard GB/T 10000-1988; Xel is the corresponding shape parameter mean value in this paper; Sel is the corresponding standard devastation. If Mo is greater than zero, it means the body shape parameter of the elderly people is greater than adult; while if Mo is less than zero it means the body shape parameter of the elderly people is less than adult; if the absolutely value greater than one it means the difference is distinct.

Table 3. The consumer behavior

	Categories	f	%
Source of clothing	Self or partner	52	49
	Offspring	47	44
	Given	2	2
	Others	5	5
	Total	106	100
Brands	International brand	12	12
	Domestic brand	13	13
	Ordinary brand	32	30
	Indifferent	49	47
	Total	106	100
Consumer place	Super market	47	44
	Special store	23	22
	Outlet	16	15
	Chain store	8	8
	Others	12	11
	Total	106	100
Acceptable price	<Rmb100	15	14
	100-300	41	39
	300-500	28	26
	500-800	15	14
	>800	7	7
	Total	106	100
Which country's clothing is better?	USA	21	20
	Japan	20	19
	France	16	15
	Italy	22	21
	Others	27	25
	Total	106	100

Table 4. The demands and needs

	Categories	f	%
Favorite style	Casual	46	43
	Sports	13	12
	Formal	17	16
	Household	30	29
	Total	106	100
Wearing style	Conventional	36	34
	Fashion	28	26
	Individual	21	20
	Indifferent	21	20
	Total	106	100

Table 4. (*continued*)

Favorite color	Black white gray	24	23
	Pastel	60	57
	Brightly	7	6
	Others	15	14
	Total	106	100
Flexible	Loosely	47	44
	A little loosely	55	52
	Tightly	2	2
	Others	2	2
	Total	106	100
Details	Wristband	22	21
	Collar	30	28
	Pocket	16	15
	Sweep	12	11
	Others	26	25
	Total	106	100
Attentions	Comfortable	29	28
	Hobby	14	13
	Quality	23	22
	Price	12	11
	Style	11	10
	Others	17	16
	Total	106	100
Clothing movable way	Pullover	18	17
	Zipper	23	22
	Button	40	37
	Indifferent	25	24
	Total	106	100
Color trends	Fashion color	12	11
	Suitable	62	59
	Indifferent	32	30
	Total	106	100
Fabrics	Natural fabrics	64	60
	Artificial fabrics	16	15
	Blending	8	8
	Indifferent	18	17
	Total	106	100
Size	Rich	6	6
	General	49	46
	Less	49	46
	Rare	2	2
	Total	106	100

Table 5. The body shape results of elderly woman

	N=82		Min/mm	Max/mm	m	SD
	Valid data	Invalid data				
Height	81	1	1375	1645	1588	51
Neck circumference	77	5	345	357	351	3
Shoulder width	81	1	305	387	354	26
Bust	81	1	724	1036	897	72
Waist	80	2	680	1017	823	98
Abdominal circumference	79	3	875	1021	952	40
Hip circumference	78	4	855	1067	933	53

Table 6. The body shape results of elderly man

	N=24		min	max	m	SD
	Valid data	Invalid data				
Height	23	1	1629	1783	1710	49
Neck circumference	20	4	344	361	354	5
Shoulder width	22	2	328	407	379	23
Bust	22	2	775	1009	915	76
Waist	23	1	670	1028	893	113
Abdominal circumference	21	3	901	1067	974	39
Hip circumference	23	1	796	1140	935	80

4   Discussion

4.1   Demographic

Demographic results suggested that the study has covered most of the elderly people. The results showed some interesting thing, for example most of the interviewees are female, only 24/23% of the subjects are male. The reason may be that the lifespan of female is longer than male. Over 50% of the subjects, their income over Rmb 1000 which indicated the purchasing power is enough, it means the market place for elderly people garment is large.

4.2   Consumer Behavior

The consumer behavior results are shown in table 3. 49% of the subjects buy garment by themselves or their partners, meanwhile 44% by their offspring. This indicated that most of the elderly people can decide which kind of clothing they want to buy. The

attitude toward name brand is not evident, 30% of the subjects buy ordinary brand clothing, while 46% think it's not important. Elderly people usually buy clothing from supermarket and special stores, as shown in table 3. For acceptable price most of the subjects think Rmb between 100 and 300 will be acceptable, only 7 percent will afford garment over Rmb 800. The most favorable foreign countries clothing for Chinese elderly people are USA, Japan, France and Italy.

4.3   Demands and Needs

Table 4 showed the elderly people's demands and needs about garment. Though 26% of the interviewee will wear fashion style clothing, 34% wear conventional style, meanwhile 20% wear individual style, 20% thought it's indifferent. So even most of the elderly people (46% Table 4) like casual clothing, but more and more people concern the wear style. When take color into count the pastel is deserved winner (57%), but black, white, gray (23%) are still the favorite color for elderly people. For fashion color, most of the subjects will choose suitable color, not certainly the fashion color in now. 42% and 52% of the interviewee hope loosely or a little loosely clothing. Details are important: collar, wristband, pocket and sweep are the subjects' focused part. When consider buying clothing, comfortable, hobby, quality and price are the most concerned aspects. The clothing movable way is not so complained, while most of the elderly people complain about the size. There is less suitable size that can be chosen by the aged. The natural fabrics such as cotton, woolen are the most favorable materials.

4.4   Body Shape

As shown in table 5 and table 6, the body shape parameters of elderly man are greater than woman. After calculated by Mollison method the results indicated that the difference in bust, waist, and abdominal circumference between aged woman and adult woman is distinct, while the difference in the height, neck circumference, shoulder width, hip circumference is not significant. The results also showed that the bust, waist, abdominal circumference of the elderly woman increased significantly compared to adult woman. The shoulder width, waist, abdominal circumference, hip circumference of the elderly man showed significant difference when compared to the adult man, especially the abdominal circumference and hip circumference increased obviously. The difference in height, bust and neck circumference is not obvious.

Hence, in order to adapt the change the body shape, the radian between sleeve and shoulder is needed to be increased. The length of the front and back skirt are needed to be modified in order to fit the bulge of the abdominal.

5   Conclusions

In this research, 106 aged people were investigated by questionnaire, and the body shape was also measured to determine the needs for garment of elderly people. The

main conclusions are summarized as following: i.e. 1) the purchasing power of Chinese elderly people is enough, which means the market place is larger for their garment need; 2) the attitude of Chinese elderly people toward name brand is not evident, supermarket and special stores are the main locations for purchasing garments, moreover, the garment accepted by the elderly people are medium-grade with price range from Rmb 100 to 300; 3) there is less suitable size that can be chosen by the aged. Pastel, loosely or a little loosely garment with special details design and natural materials are most favorable; 4) in order to adapt the change the body shape, the radian between sleeve and shoulder is needed to be increased. The length of the front and back skirt are also needed to be modified to fit the bulge of the abdominal. Obviously, these results of research will provide a reference of data for supporting the needs of the elderly Chinese people in garment size.

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