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DETERMINATION OF FITTING ISSUES FOR MALAYSIAN PLUS SIZE WOMEN

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Abstract:

Fashion communication should take into account consumers' requirements and tastes. Unfortunately, the categorization of plus-size consumers is overflowing with issues and frustration. The aim is to discover current fitting concerns based on existing Plus Size Women (PSW) size in Malaysia. PSW is having problems identifying the appropriate size. The snowball sample approach was applied for gathering 116 adult women aged 20 to 50 in Selangor. The research results show the body weight and BMI of the PSW, which represents a significant value of data 0.00%. Data were analysed using SPSS version 20. Findings show the pear body shape is the most populated with 32.48% (n=28). The major critical part of measurements in fitting is hip with 48.72% (n=42). Findings revealed there was also PSW having issues in fitting comfort during purchase of their clothing. The study offers a useful ranking of terms that fashion companies can establish for the PSW needs. This study contributes to research on plus size consumer experiences and challenges faced by PSW consumers.

Keywords:

Plus Size; Body Sizing; Manual Measurement; Body Shapes.

Introduction

Over the last decade, retailers have paid more attention to the plus-size consumer as apparel companies have publicly debated whether to include or exclude plus-size clothing. In Malaysia, the total number of PSW is now estimated to be 33.6% (National Health and Morbidity Survey, 2019). Plus size is defined in the global marketplace as sizes 18 and up, or 1X-6X, while the

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extended size is 7X and bigger. 14W to 24W plus sizes are available. Extra and extended sizes are equivalent for sizes 26W and above. The size 26W is sometimes considered a plus size. In most plus-size retailers, the plus-size category begins with a waist measurement of 31.5-38 inches (Staton, 2019). Curvy is a relatively recent alternative word for plus size (or large size), and it is gaining market and media popularity. In a psychological sense, being curvy is perceived as less disrespectful to those who wear larger-sized apparel (Christel, 2012). In Malaysia, no anthropometry focusing sizing systems for the clothing industry. Malaysian bank data is also not identifiable in Malaysia measurement systems, therefore proper sizing procedures cannot be constructed to ensure that clothes are manufactured in accordance with local sizes. All garment sizes are determined by various sizing standards from other nations, and it is still unknown how many different sized groups exist in the clothing industry, such as petite range size, plus size, varying body proportion size, and many more (Norsaadah & Deepti, 2020). Plus-size customers enjoy vibrant colors and patterns. According to (Chow, 2021), one statement from the BURO, the blog's website in 2019, with a few plus-sized Malaysian women regarding an available plus-sized store in Kuala Lumpur. One of them, Isabelle Yong in 2019, shared that figuring out current in-trend designs that fit her body type is one of her issues. She added that sometimes when she goes shopping, she simply cannot fit into any garments, and when she does discover whatever clothes she wants, there is a significant price difference, making a plus-size more expensive body to purchase items. There are several statements from Malaysian Plus Size Women individually mentioning the difficulty they had in discovering clothes that fit properly. With wide-set hips, finding a comfortable pair of jeans with the appropriate fit is like discovering a needle in a haystack throughout the city. Many stores that serve PSW mistakenly believe that plus-sized women only wear straight-cut denim, shirts, and tunics, which is simply not true said (Nast, 2019). Everyone should be able to wear what everyone else is wearing. But she never let her size restrict her sense of style, and she isn't ashamed to admit that she sometimes had to shop in Topshop's maternity section.Therefore, the purpose of this research is to study and explain the size, condition, and problems of PSW with confused- sized clothing from the complaints about clothing sizing stemming from a different group of people. Some groups complain about the confusing sizing system and recently more about the different types of sizing groups like the plus size people. A complaint was initiated over the plus size measurements, causing the developing of a plus size website to share PSW dissatisfaction, according to Malay Mail Online in 2016. According to Nazirah in Malay Mail Online 2016, the blog's creator, she wanted to encourage plus-size clothing and see appropriate clothing manufactured for women like her. Several woman, stated in the same article in the Malay Mail online that she believes the concept for such a sizing label emerges from clothing manufacturers' irresponsibility (Tan, 2016, Gupta & Hodges, 2014) in researching plus size customers' needs. One size does not fit to all (Hauff & Greenleaf, 2021) unless it is a tent, and even that has sizes. Manufacturers are simply finding it difficult in researching product characteristics and ideal sizing.

Literature Review

Obesity is widespread in many developing nations, including Malaysia. Previous National Health and Morbidity Surveys (NHMSs) conducted in 2006, 2011, and 2015 revealed a growing pattern in overweight and obesity prevalence among Malaysian adults aged 18 and older: 14.5% in 2006 , 15.1% in 2011, and 17.7% in 2015, respectively. The results of a systematic study of global data on the prevalence of overweight and obesity in adults, the prevalence of obesity in Malaysia is 11.4% in men and 16.7% in women. The study conducted in 2019 in Malaysia found that obesity statistics has increased from 17.7% in 2015 and 19.9% in 2019. Obesity and overweight are linked to noncommunicable diseases such as stroke, heart

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disease, and diabetes. This phenomena has created a significant global health burden, including higher disability-adjusted life years (DALYs) and mortality. Recent research suggest that being overweight or obese may damage the immune system, increasing the risk of infectious diseases. Addressing overweight and obesity and promoting effective weight management practices are critical for reducing the health burden of NCDs and infectious diseases.

When it comes to identity construction in design, the phrases "fat," "plus-size," and "curvy" all have different connotations: "fat" is usually a common insult, "curvy" is regarded attractive and favourable, and "plus-size" is a neutral and right leaning choice. The current study's findings found that most of the society prefer the terms "fat" or "plus-size" over "curvy," which matches existing qualitative research. However, the findings also indicate that when it comes to the plus-size, there is a comparison of different categories application of these physical terms. A garment may be well-made and have all of the necessary practical and aesthetic features that attract a customer's eye, but if it fails to fit well, customers might hesitate to purchase it (Adhanom & Alvaro, 2023). A produced clothing should define a person's ideals, requirements, and preferences. Good-fitting clothing is useful. The customer not only preserves it in her closet, but also elegantly matches it with other outfits in order to enhance her self-esteem and appeal. All of the aspects of a good fit should be present in functional and well-fitting clothing.

Methods

Participants

Snowball sampling was used as a method to encourage the participation of PSW in Malaysia to join the survey through a questionnaire that included the demographic, BMI, also some issues related to plus size. This method is also known as a method that assists in recruiting individuals from a target group. Women between the ages of 20 and 50 who identified as plus-size and/or wore women's sizes 14 or higher and had a BMI of 30 were requested to complete a 10-minute survey about plus-size issues. The research is focused mainly on Shah Alam, Selangor. In order to reach a range of demographics, the researchers and graduate student volunteers posted the recruitment call on their social media such as WhatsApp and Telegram apps on smartphones. The link distribution also requested participants share and re-post the Google form link on their social media networks in order to increase the reach of participants. A total of 116 PSW respondents initiated the survey, and N=116 were completed and included in the data analysis.

Statistical Analysis

Body mass index (BMI) and age were used to categorize participants. BMI is calculated by dividing a person's weight (kg) by their height (m). Body size, or BMI classification, has been a key factor in discussion and is commonly utilized in fashion studies due to the growing number of plus size bodies throughout the last century. The BMI of respondents was determined using the Centers for Disease Control and Prevention's "obesity" categorization: overweight=25- 30, obese=30-35, obese II=35- 40, and obese III=40+ (Centers for Disease Control and Prevention, 2016). Participants were also divided into age groups: 20-24, 25-29, 30-34, 35-39, and 40-49. As tabulated in Table 1, sizing standards in the United States, and sizing systems range in measurements, labeling, and proportions (Dunn, 2016; Reczek & Benson, 2016), making it impossible to categorize human bodies by garment sizes.

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Table 1: Demographic Characteristics Of Participants (n=116)

Factor	Range	M	SD
Age	20 - 50	27.03	5.84
Weight (kilograms)	60 - 125	86.77	11.63
Height (centimeters)	145 - 170	51.20	5.32
BMI kg/m2	30.0 - 50.0	35.07	3.94
Ethnics		**%**	
Malay		1.96	1.173
Chinese		1.52	.981
Indian		2.77	.092
Others			1.42

M= Mean, SD= Standard Deviation

Results

A total of 116 completed surveys were used in data analysis. Demographic data are presented in Table2. Participants had a mean age of 27.03 (±5.84) years, mean weight of 86.77 (±11.63) lbs., mean height of 151.20 (±5.32), and a mean BMI of 35.07 (±3.94) kg/m2, classifying the mean BMI as "obese" I. The majority ethnic group of PSW was dominated by the Malay ethnic (n=70) and was classified with a mean of 1.96 (±1.173). Meanwhile, the mean of the Chinese ethnic is 1.52 (±.981), and the Indian ethnic group with a mean of 2.77 (±1.092). Another ethnic group representing the mean of 1.42 was identified as minorities.

Table 2 : Demographic Characteristics Of Participants In Three Bmi Groups

Group	N	M	Weight (Kilograms)	Height (Centimeters)	BMI(kg/m2)
Obese I	62	32.05±1.40	78.76±6.95	156.63±5.34	32.05±1.40
Obese II	40	37.10±1.51	92.80±7.04	158.30±5.18	37.10±1.51
Obese III	14	42.65±1.89	104.14±9.08	156.14±5.25	42.65±1.89

Participants' BMI was calculated to determine "obesity" classifications (i.e., BMI >30). Table 2 characterizes participants by BMI into ranges set by the Centers for Disease Control and Prevention. The largest group (n=62) was within a BMI of 30 - 35 with a mean of 32.05 (±1.40) known as Obese I. ObeseII recorded a mean of 37.10 (±1.51) with (n=40). Meanwhile, the mean of Obese III is 42.65(±1.89) with the (n=14). Participants were also grouped by age.

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Table 3 demonstrates demographics divided by age into 20-24, 25-29, 30-34, 35-39, and 40-49. The highest age group was (n=54) with a mean of 22.61 (±1.30) representing ages 20-24. The smallest age group (n=6) with a mean of 43.50 (±2.07) represented ages 40- 49.

Table 3 : Demographic Characteristics Of Participants In Five Age Groups.

Age Group	n	M	Weight (Kilograms)	Height (Centimeters)	BMI (kg/m2)
20 - 24	54	22.61±1.30	84.48±10.86	157.20±5.60	34.15±3.72
25 - 29	37	27.19±1.35	87.97±12.44	156.90±4.67	35.67±4.27
30 - 34	12	32.33±1.30	93.17±15.26	157.83±6.58	37.22±4.16
35 - 39	7	37.00±1.53	85.00±9.68	156.21±3.98	34.79±3.30
40 - 49	6	43.50±2.07	86.17±4.31	156.17±5.74	35.43±2.80

Table 4 : Statistics Table Of Weight Using The Anova Test

Anova					
Weight					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	14320.039	71	201.691	7.122	.000
Within Groups	1246.133	44	28.321		
Total	15566.172	115			
Bmi					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	1485.309	40	37.133	9.153	.000
Within Groups	304.259	75	4.057		
Total	1789.568	115			

According to the Table 4, the interpretation behind this is that body weight and BMI has an impact on defining the accurate measurement of all PSW body shapes, as well as making it difficult to determine the fitting when selecting appropriate garments.

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Table 5: Body Shape * Ethnic Crosstabulation

		Ethnic				Total
		Chinese	Indian	Malay	Others	
Body Shape	Apple Shaped	1	3	13	2	19
	Banana Shaped	2	0	7	4	13
	Diamond Shaped	5	1	5	1	12
	Figure Eight	1	3	6	0	10
	Hourglass	3	1	19	2	25
	Shaped	0	4	5	0	9
	Inverted Triangle	10	0	15	3	28
	Pear Shaped					
Total		22	12	70	12	116

Table 5 summarizes the Cross Tabulation Test-based ranking of each term among PSW respondents in the categories of body shapes and ethnic groups. Apple-shaped, banana-shaped, diamond-shaped, figure-eight- shaped, hourglass-shaped, inverted triangle shaped, and pear-shaped are the most common terms for plus-size women's body shapes. The remaining terms were rated as least preferred and heard infrequently.

According to the data above, the most highly populated category is pear-shaped, with (n=28) total. Malay ethnic (n=15) had the highest representation among the numbers. The hourglass-shaped category was listed (n=25), with the highest number of Malay ethnic group participants (n=19).

Table 6 : Body Shape * Critical Part Of Measurements Crosstabulation

		Critical Part Of Measurements					Total
		Shoulder	Chest	Waist	Hip	Crotch	
Body Shape	Apple Shaped	1	4	11	3	0	19
	Banana Shaped	1	3	3	5	1	13
	Diamond Shaped	2	3	5	2	0	12
	Figure Eight	2	2	2	3	1	10
	Hourglass Shaped	3	3	5	14	0	25
	Inverted Triangle	4	4	0	1	0	9
	Pear Shaped	3	3	8	14	2	28
Total		14	22	34	42	4	116

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As shown in the Table 6, the Cross Tabulation test seen between body shapes and the critical part of the body in terms of measurement reveals that the hip is the most challenging part of the body to measure among some of the PSW with (n=42), with the Hourglass Shaped respondent having the highest (n=14). The second rank part of the body was the waist (n=34), which was dominated by respondents with apple-shaped (n=11). Meanwhile, the crotch area of the body is resulting the least number of respondents from each body shape category for causing difficulties during body measurement.

Table 7 : Body Shape * Critical Part Of Buying Clothes Crosstabulation

		Critical Part Of Buying Clothes					Total
		Shoulder	Chest	Waist	Hip	Crotch	
Body Shape	Apple Shaped	2	7	5	3	2	19
	Banana Shaped	2	6	3	2	0	13
	Diamond Shaped	1	5	4	2	0	12
	Figure Eight	1	3	1	5	0	10
	Hourglass Shaped	4	8	3	9	1	25
	Inverted Triangle	4	1	3	1	0	9
	Pear Shaped	1	3	5	17	2	28
Total		15	33	24	39	5	116

Table 7 depicts the ranking of body shape categories, with the shoulder, chest, waist, hip, and crotch being the most important body parts to consider when shopping for clothes. Using the Cross Tabulation test to examine the data, it is possible to determine that the majority of body categories have issues with the hip area of the body when deciding to purchase clothes. The hip area has the highest number of respondents (n=39), the majority of whom are pear-shaped (n=17). The Chest body part was placed second with (n=33), representing an hourglass shape, as the majority of respondents (n=8) experienced problems when purchasing clothing. The crotch (n=5) has the lowest rating of a critical body part. The majority of participants in each category have no issues with this body part in terms of buying clothes.

Discussion

Obesity in Malaysia is increasing with time, as verified by figures comparing 2006, 2011, 2015, and 2019. Obesity rates rose up from 14.5% in 2006 to 15.1% in 2011, 17.7% in 2015, and 19.9% in 2019. This is the general statistics for both men and women. The rates of obesity for women in Malaysia are 16.7% higher than for males. The issue is even more concerning because obesity has been connected to a variety of ailments, including stroke, diabetes, and cardiovascular disease, if not treated and managed through an obesity-promoting diet and lifestyle.Obese women, often known as plus size, sometimes struggle to find the right clothes size for their plus size body. This study used the snowball sampling approach. A total of 116

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plus-size women completed the study questionnaire. According to the demographic data of the participants, the Malay ethnicity has the biggest representation with 70 participants. Ethnic groups from China and India came afterwards.

The higher age range for obesity in women plus size is 20-24 years old, with a total of 54 plus size women. Pear shape is the most common body shape for plus size women, representing 28 individuals. The hourglass body type had a total of 25 persons, being followed by the apple shape with 19 people. The problem highlighted in the problems associated with body measurement for plus size women is in the hip area, with 42 plus size women agreeing that the hip is an important feature during measurement. The waist is next, which is also a major issue because each plus size woman's waist curve is unique. The chest is also responsible for of complications in measurement because the breast size of each plus size women is different. The hips are the most critical portion of the body that poses a struggle when selecting clothing, with up to 39 plus size women agreeing that this part makes it tough to choose a garment. Next, the chest area is a major issue in the difficulties of finding clothes that fit 33 plus size women who believe that the current clothing on the market does not match the needs of their plus size body shape. Furthermore, the waist is regarded as an important feature, with 24 plus size women admitting that it is difficult to locate clothing that fits the contour of a plus size woman's waist.The hips are the most critical area of the body that causes a struggle when selecting clothing, with up to 39 plus size women agreeing that this part makes it tough to choose an outfit. Next, chest region is a major issue in the difficulties of finding clothes that fit 33 plus size women who believe that the current clothing on the market does not match the needs of their plus size body shape. Furthermore, the waist is regarded as an important feature, with 24 plus size women admitting that it is difficult to locate clothing that fits the curves of a plus size woman's waist.

Conclusion

The study was conducted to identify fitting concerns among plus-size women in Malaysia. Several points of information were gathered from the online questionnaire to indicate the fitting issues that plus-size women experienced. The hip, waist, and chest are three crucial areas which create a huge challenge in selecting the ideal garment for the plus size woman's physique. Furthermore, there are parts of of the body that provide issues during body measurement, such as the hip, chest, and waist, because these areas feature curves and various breast size shapes for each plus size woman depending on her body shape.

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