Research Article

Relationship between Aesthetics and Fit of Women's wear Designs in Hong Kong

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Abstract

Consumers primarily consider aesthetics and fit when selecting a garment. These two elements also affect a garment's ease allowance. This study investigated the relationship between the aesthetics and fit of women's wear designs in Hong Kong through the manipulation of ease allowances. Questionnaire and experimental methods were adopted in this study targeting 18–30-year-old Hong Kong women. Specifically, the participants' evaluations of the aesthetics and fit of medium-sized tops were analysed. The questionnaire and experimental findings indicated that participants preferred aesthetically pleasing clothing even if it came at the cost of comfort (e.g., if a piece of clothing highlighted their figure but at the cost of being uncomfortably tight).

In summary, characterising female fashion consumers is complex because not all women consider the same body figures and images ideal. Some women prefer garments with a smaller amount of ease allowance to make them look slim and sexy, whereas others prefer a greater ease allowance to emphasise comfort in their top selection; others still seek a balance between aesthetics and fit. Therefore, ease allowance manipulation should be determined according not only to anthropometric measurements but also such psychological considerations.

Keywords: Aesthetics; Fitting; Ease Allowance; Women's Wear Design

Introduction

The primary function of clothing is covering the human body, typically for aesthetic reasons. The aesthetics of a garment pertain to the design, fabric, richness of details, and how the garment fits the figure of a human body. The relationship between aesthetics and fitting is crucial for consumers in selecting a particular garment. Convincing a consumer to buy a nice dress that does not suit their body figure is difficult when presenting the aesthetics of the dress. Fit, design, and personal preference are the three principal factors considered when buying fashionable clothing [1].

Body image and the ideal figure differ depending on fashion trends and culture. Body image significantly affects consumers' aesthetic judgement of a garment [2]. Body image stems from a psychological need and is linked with clothing preferences [3]. Thus, fashion designers and garment pattern makers should consider the body image desired by their target customers because that image strongly affects the optimal size range, amount of ease allowances, and overall garment proportions to be produced.

Hong Kong women consider a slim and skinny figure to be ideal. However, most Hong Kong women experience problems with Western-size garments fitting too loosely because the ease allowances and garment proportions adhere poorly to the typical East Asian figure. As a designer, knowing the differences in garment size preferences between Western and Hong Kong women is useful because it can help the designer create more aesthetically pleasing tops that better fit the figures of local consumers.

Through a quantitative survey and a wearing trial targeting 18–30-year-old Hong Kong women, this study examined consumer perceptions of clothing performance in terms of the balance between aesthetics and fitting preferences in relation to a top. The specific study objectives were as follows:

- To acquire a comprehensive understanding of the relationship between garment aesthetics and fit and the importance of creating appropriate women's wear designs and upper garment patterns.

- To better understand the 18–30-year-old, 36–60-kg female customer group with regard to body figure and optimal ease allowances for upper garments at the three major levels of the bust, waist, and sleeve cap.

- To understand how ease allowance affects consumer evaluations of the aesthetics and fit of upper garments.

Suitable Garment Design

A garment should be functional, well-structured, and aesthetically pleasing, but its *raison d'etre* may lie in some but not all three of these desiderata. For example, clothing for skiing or space travel emphasise comfort and safety rather than aesthetics. In general, a garment's structural purpose is geared toward a specific set of activities. A garment's look may also serve functional rather than aesthetic purposes: some clothing, for example, is designed for high visibility (e.g., in construction) or to be visually striking. Thus, although many garments are worn for aesthetic reasons, they must still retain some measure of fit and functionality.

Understanding the target customers

During the design process, designers must acquire a comprehensive understanding of their target customers, including their physical body figures and their preferred appearance, body figure, degrees of physical and psychological comfort. These factors are all pivotal in determining consumer satisfaction. Customer satisfaction toward a piece of clothing depends primarily on aesthetics (i.e. the interaction between the body and apparel) [4]. The elements determining the quality of clothing fit are directly linked to the mechanical properties of the fabric, which affect the aesthetic drape and three-dimensional shape of a garment.

Fashion is constantly changing. Consumers purchase certain types of clothing according to their conception of the ideal figure. Although human beings share a similar anatomy, our bodies can

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be starved, overfed, patched up, supported, flattened, or tightened or have implants placed at various parts; the body can also have its parts fashioned into a variety of non-natural shapes to adhere to an individual's ideal figure. As the name suggests, an ideal figure is one that varies across time and cultures and exists in our minds rather than in reality. Nevertheless, conceptions of an ideal figure play a key role in garment selection [5].

Importance of aesthetic experience

The category of aesthetics encompasses aesthetic experience, which involves a heightened and concentrated consciousness in an individual [6]. This experience can be marked by an apprehension of the sensual and emotional power of things and an exaggeration of everyday events. Aesthetic experience also involves sensation, emotion, and condensed symbolism; aesthetic expression is a part of sensory knowledge [7].

Customers reported that the aesthetic aspects of apparel are most notable in the selection and purchase of that apparel. Fashion is defined as a style of bodily adornment [5]. In many cases, aesthetic experience is the result of the interaction between a fashion product and a consumer's body. The garment wearer is a gestalt including the body and all modifications of the body itself [8]. Thus, fashion designers should understand customers' response to the aesthetics of apparel to achieve successful development, selection, and promotion of apparel products, satisfying the majority of customers and ensuring the profitability of the apparel business.

Preferred body figure

Ideal body images differ between societies and over time [9]. Conformity to a given conception of an ideal figure can be reflected in two quantitative measures: body mass index (BMI) and waist-hip ratio (WHR). BMI is defined as an individual's body weight divided by the square of their height. WHR is the ratio of the circumference of the waist to that of the hips. Both measures are significant indicators of perceptions of the physical attractiveness of women. Women with lower WHR are usually perceived to be more attractive by men from European cultures, whereas a lower BMI is virtually preferred by present-day women across the globe [10]. However, other scholars have reported that BMI is far more strongly correlated with ratings of attractiveness than WHR is [11], which implies that women with a low BMI and a high WHR are judged to be more attractive than women with a high BMI and a low WHR.

A study on the sizing systems around the world [12] revealed that countries such as England, Germany, and Hungary have developed sizing systems which classify figure types according to height and drop value. In the United Kingdom, the Joint Clothing Council defined three figure types according to height: short, average, and tall. In Germany, heights are categorised into average, short, or tall. Each group is divided into the three hip types of slim, average, and full. Similarly, in the Netherlands, women's figures are classified according to three height groups (≤160, 161–168, and 169–175 cm) with three hip sizes (small, normal, and wide), which results in nine sizing charts. Austria divided the women's wear sizing system into the two height groups of short and normal. The Korean Industrial Standard Association developed a standard sizing system that involves classifying female body figures according to five height groups: 150–154, 155–159, 160–164, 165–169, and ≥170 cm.

Aesthetics and bodily movement

The interaction between garments and bodily figure is mainly determined by bodily movement. As the body moves, it interacts with the space and environment around it. Kinesthetics relates to the aesthetic satisfaction derived from the movement of one's own body and is an appreciation of the feeling involved with doing something [13]. The kinesthetic satisfaction of apparel originates from the wearers' sensory experiences during the interactions between their bodily movements and the apparel. Satisfaction can also result from an observer appreciating the movement of a garment when the garment is worn by another person.

When the body moves, the bones, muscles, joints, and skin are reconfigured. A garment that hugs the body cannot precisely flow with the body's movement. Garments commonly react to bodily movement by slipping, wrinkling, stretching, or sometimes restricting the wearer [14]. Information on how a piece of garment behaves in relation to bodily movement is thus useful in fashion design. The slipping, wrinkling, and stretching of a garment strongly affect the aesthetic judgement of the wearer.

Fit and ease allowance in upper garments

Clothing fit is regarded by consumers as the most critical element in clothing appearance. Well-fitted clothes are considered vital to an individual's psychological and social well-being. Fit is a term used in apparel design to describe how a garment sits on the wearer's body. Correct fit is evaluated according to the line, balance, and ease of the garment fabric [15] and by the tightness and shape of the clothing in relation to the wearer [16].

Garment fit is a factor influencing both aesthetics and comfort. In a recent study, consumer dissatisfaction with garment fit was as high as 62% and 50% among men and women, respectively [17]. A garment's fit involves interactions among multiple factors, including the size, proportions, and posture of the wearer as well as the dimensions and drape of the garment [18]. Physical and psychological comfort and appearance contribute to consumer satisfaction regarding garment fit. The elements determining the quality of fit are directly linked to the mechanical properties of the fabric which affect the aesthetic drape and three-dimensional shape. A study suggested that two external influences (i.e. the social message of the ideal body and fashion figures in the industry) and two personal influences (i.e. body cathexis and the physical fit of clothing) influence a customer's satisfaction with clothing fit [19].

Ease allowance is a technical term for a garment pattern introduced to indicate how much space should exist between the garment and the wearer's body. Ease is the garment fitting principle that allows for bodily movement. Fitting by measurement is accomplished by comparing the body measurements, with an ease allowance added to the measurements on the pattern [15]. Ease allowance is provided by incorporating additional length and width into a garment measurement beyond those corresponding to basic body dimensions. Ease allowance is thus dictated by style, movement, and fit considerations. Generally, two major types of ease are used in garment design, namely style ease and wearing ease.

Style ease is a design consideration for apparel that involves adding fullness into a garment to change the garment's shape or silhouette. Style ease is mainly for introduced for aesthetic purposes and may not enhance ease of bodily movement. The amount of style ease incorporated into garments is governed by the prevailing style

and fashion trends. Thus, the emphasis on this type of ease allowance changes over time. Wearing ease is comparatively more static and often involves minimal additions to the garment dimensions. Manipulation of ease allowance is a fundamental and basic practice in garment pattern making that is employed to achieve the fullness required for comfort and freedom of movement, allowing the garment to accommodate natural bodily movements such as breathing and swinging the arms [15]. For example, as stated in the patent of "Method of Producing a Sleeve Pattern," fullness for unrestricted freedom of movement that does not detract from the appearance of the garment is required in the cap portion of the sleeve [20]. Garment aesthetics and fit are intimately related. In the context of changing fashion trends and consumer physical and psychological perceptions, maintaining a balance between these two elements in garment design is challenging.

Methods

This study administered a questionnaire and conducted an experiment. Specifically, 51 women aged between 18 and 30 years, who wore size S or M clothing and weighed 36–60 kg, were invited to complete a questionnaire and perform wearing trials inquiring into the wearers' perspectives on the aesthetics and fit of women's upper garments.

Design of the questionnaire survey

The survey inquired into aesthetic preferences and fitting-related concerns as well as ideal body image to uncover the relationship between aesthetics and fit in the selection of fashion products. Ideal body image was indicated using variations in BMI instead of WHR because BMI is centred on weight and height instead of shape (as WHR is) [11]. Hence, in the questionnaire, weight and height were the key factors used to determine the participants' preferred body figure. The variable of height had three levels: ≤155, 156–165, and 166–175 cm, which were determined in accordance with the standard body measurements and sizing systems used around the world [21]. Weight was indicated using a size-based scale. By excluding the most underweight group and three overweight groups from the nine-figure scale [22], five female bodily types, from lightest to heaviest in weight, were selected as candidates for the ideal body type. Thus, the participants chose one of 15 bodily figures (3 heights × 5 weights) as their ideal (Figure 1).

Design of the experimental study

The 51 study participants were also requested to try on five medium-sized women's tops and comment on the levels of wearing comfort at specific parts of the body. These wearing trials were mainly focused on three aspects. First, the wearing trials inquired into the relationship between garment aesthetics and fit with changes in the amounts of ease allowance at the bust, waist, and shoulder, which are key areas in female apparel. Second, the trials revealed that ease-

allowance tolerance differed between customers. Third, the trials elucidated participant attitudes toward various garments. These results allow designers of women's tops for young Hong Kong women to balance between aesthetics and fit by optimising ease allowance.

Development of the sample garments

Sample garments of five distinct sizes were made of cotton poplin, which is a non-stretchable, lightweight, soft, and smooth material. To generate a more comprehensive set of standard ease allowance standards that are invariant across fashion trends and styles, this study determined the ease allowances for the standard sample garments by averaging 10 sets of ease allowances in size 8 garments (i.e., with bust measurements of 82 cm); this approach has been suggested in several major publications in recent decades on the design of upper garment patterns. Among these publications, five were based on the British system [21-26] and five were based on the American system [27-31]. A sample of a basic women's upper garment with sleeves was then developed. The standard sample was produced according to the ease allowance 3 specifications.

The ease allowances were divided into five different levels at three major areas of the female upper body (i.e. bust, waist, and shoulder). This ensured that all the ease allowances referred to the same points and enabled easier comparison with the samples with higher ease allowances added. Thereafter, two garment samples were made to be smaller than the standard one, and two other samples were made to be larger than the standard one by using pattern grading (Table 1).

Figure 2 illustrates the sleeve block, which was created by adopting various levels of ease allowance on the five samples (± 0.5-cm size intervals). Similar to garment grading practices, grading lines were incorporated at points 3, 4, and 5, but not at points 1 or 2; this was to control all the ease allowances applied at the sleeve cap (shoulder) area. Testing was focused on the bust, waist, and sleeve cap areas, and the other measurements remained constant (Figure 2).

Wearing poses

Each of the wearers was required to rate the five garments on the basis of six different poses (per garment) performed in front of a mirror. To test the bust and waist measurements, the wearers had to take a deep breath and hold it for about ten seconds and give ratings on each specimen. To test the sleeve cap area, the wearers were requested to place their arms in various positions such as straight down in the relaxed mode, raised up, crossed, straight forwards, and straight backwards. When they assessed each pose, the participants were encouraged to rate their perception of the fit and aesthetics of each garment according to a 5-point Likert scale.

Data analysis and presentation

The collected data were edited, encoded, and transferred to computer storage for further processing. SPSS was used for descriptive
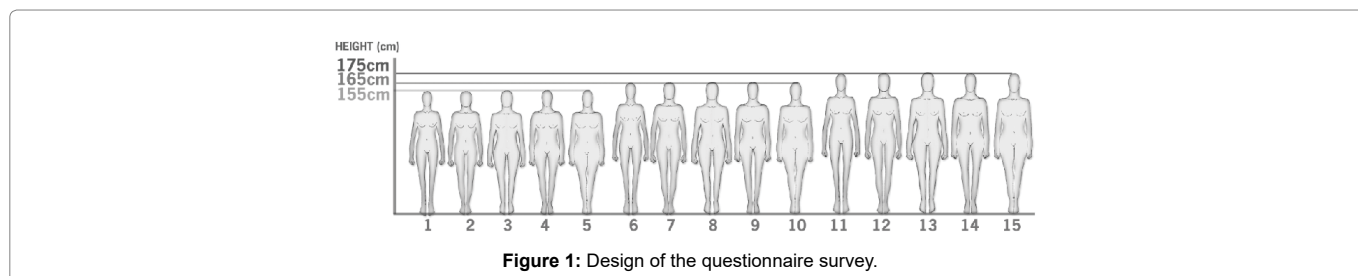

Figure 1: Design of the questionnaire survey.

Table 1: Ease allowances of 5 sample garments.

Ease 1	Sample 1	
Bust ease: 4cm (4.9%)	Bust: 86cm	
Waist ease: 3cm (4.7%)	Waist: 66.5cm	
Sleeve cap ease: 2cm (4.9%)	Sleeve head: 42.5cm	
Ease 2	Sample 2	
Bust ease: 6cm (6.8%)	Bust: 88cm	
Waist ease: 4cm (6.3%)	Waist: 67.5cm	
Sleeve cap ease: 2.5cm (6.2%)	Sleeve head: 43cm	
Ease 3	Sample 3	
Bust ease: 8cm (10.25%)	Bust: 90cm	
Waist ease: 5cm (7.8%)	Waist: 68.5cm	
Sleeve cap ease: 3cm (7.4%)	Sleeve head: 43.5cm	
Ease 4	Sample 4	
Bust ease: 10cm (12.2%)	Bust: 92cm	
Waist ease: 6cm (9.5%)	Waist: 69.5cm	
Sleeve cap ease: 3.5cm (8.6%)	Sleeve head: 44cm	
Ease 5	Sample 5	
Bust ease: 12cm (14.6%)	Bust: 94cm	
Waist ease: 7cm (11%)	Waist: 70.5cm	
Sleeve cap ease: 4cm (9.9%)	Sleeve head: 44.5cm	

and inferential statistics and data visualization to determine the relationship between aesthetics and fit preferences.

Results and Discussion

Profile of participants

The sample of 51 participants was divided into 5 groups according to the participants' weights (36–40, 41–45, 46–50, 51–55, and 56–60 kg); the 46–50, 51–55, and 41–45 kg groups were the most numerous at 20 (39.2%), 14 (27.5%), and 12 (23.5%) participants, respectively.

Among the participants, 1 (0.02%), 31 (60.8%), 18 (35.3%), and 1 (0.02%) participants usually wore sizes XS, S, M, and L tops in casual settings, respectively. Additionally, 76.5% of the participants claimed that foreign-sized tops were too loose for them when they tried them on.

Preferred women body figure

The level of attractiveness of the 15 female figure types was rated by the study participants (Table 2). For the ratings of each female figure type, the mean and standard deviations were calculated.
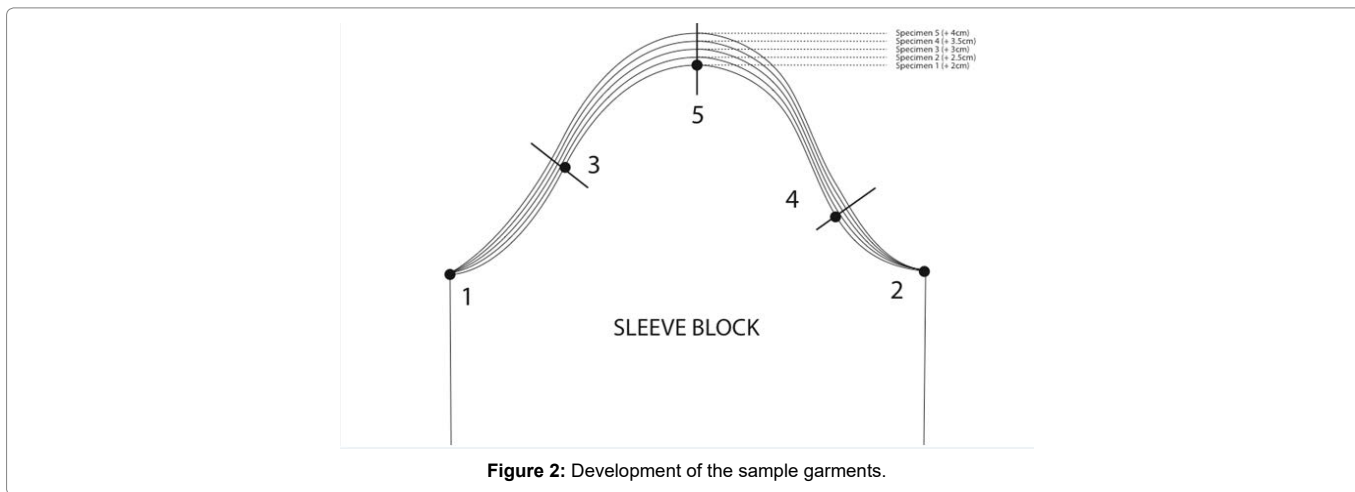
Figure 2: Development of the sample garments.

Table 2: Mean and standard deviation of ratings on attractiveness for 15 bodily figures.

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Figure1	51	0	4	1.86	1.132
Figure2	51	0	4	2.18	.953
Figure3	51	0	4	1.63	.958
Figure4	51	0	3	1.31	.969
Figure5	51	0	4	.63	.916
Figure6	51	0	4	2.47	1.155
Figure7	51	0	4	2.84	.987
Figure8	51	0	4	1.94	1.008
Figure9	51	0	4	1.88	1.032
Figure10	51	0	4	1.02	.990
Figure11	51	0	4	2.98	1.208
Figure12	51	1	4	3.29	.901
Figure13	51	0	4	2.24	1.012
Figure14	51	0	4	1.90	1.005
Figure15	51	0	3	1.16	.880

Table 3: Mean and standard deviation of participants on agreeableness with statements.

Descriptive Statistics			
Statement	Mean	Std. Deviation	N
5. I prefer a slimmer body	3.18	.590	51
6. I prefer to buy clothes that enhance my looking towards my preferred body figure (i.e., concealing the imperfect part of the body)	3.22	.642	51
7. I prefer a garment perfectly fitted to the body to provide maximum aesthetic appearance	3.06	.759	51
8. I prefer a garment loosely fitted to the body for the goal of providing comfort	2.04	.692	51
9. I would consider the ease of movement when I tried on new clothes	2.80	.825	51
10. A tightly fitted garment is aesthetically good	2.41	.898	51
11. I might buy fitted clothes with excellent appearance even if a little discomfort existed	3.02	.583	51
12. I might buy relatively loosely fitted clothes with better comfort even if a worse appearance was presented	1.39	.723	51
13. My preferences on aesthetics are varied over time because of fashion trend, body development, and/or psychological change (e.g., age)	2.94	.835	51
14. My preferences on fitting are varied over time because of fashion trend, body development, and/or psychological change (e.g., age)	2.71	.756	51

Among all the figure types, figure type 12 received the highest score, and figure types 11 and 7 received the second and third highest scores, respectively. After studying the scores for different figures, three notable peaks were discernible in relation to the 15 figure types. These peaks were observed between figure types 1 and 2, 6 and 7, and 11 and 12, respectively.

A crucial implication of these peaks relates to the participants' pre-existing preferences on body shape. The 15 female figure types could be grouped into 3 height levels, with 5 body shapes of different thinness. Notably, the figure types adjacent to the three peaks were of the similar body shapes- figure type 1 was the same as figure types 6 and 11 but of different height and figure type 2 was the same as figure types 7 and 12 but with different height. This implies that body shape was a higher priority than height when the participants considered a preferred body figure.

Unsurprisingly, the taller figure types were associated with higher levels of satisfaction. The 175 cm group was rated as the optimal group (in terms of mean value of satisfaction), whereas the 165 and 155 cm groups received the second highest and lowest mean values, respectively.

Similarly, in terms of satisfaction with the 15 figure types, body shape type 2 (i.e. figure types 2, 7, and 12) was considered the ideal body shape, with the highest mean value among all the 5 body shapes, whereas body shape type 1 (i.e. figure types 1, 6, and 11) were the second most preferred body shape for the participants, who tended to prefer a tall and slim figure as their ideal body type.

Weight and height are the two components involved in the calculation of BMI. Lower weight and more height yield a lower BMI. Accordingly, a lower BMI was typically preferred by the participants (Table 2).

Relationship between aesthetics and fit

Table 3 details the means and standard deviations of the participants' rated responses (on a 5-point Likert scale) to several statements about garment aesthetics and fit. Most of the participants agreed with statement 5, 'I prefer a slimmer body', and statement 6, 'I prefer to buy clothes that make my body look more like my preferred body figure', and those responses to those two statements were significantly correlated (Pearson correlation $r = 0.531$, $p \leqq 0.001$) (Table 4). This correlation implies that the participants preferred to

buy clothes that made them appear slimmer. The result also indicates that the participants preferred garments that were perfectly fitted to the body to provide the optimal aesthetic appearance rather than a garment that loosely fitted to the body to provide greater comfort. Ease of movement was considered when the participants tried on the new clothes. Notably, the participants did not strongly agree with the statement, 'A tightly fitting garment is aesthetically pleasing'. They reported that a tightly fitting garment might not be their choice and a garment should be assessed on the basis of other characteristics such as comfort and silhouette (Table 3).

Most of the participants stated that they were willing to trade some comfort for good fit and aesthetic beauty but not vice versa. This finding was also supported by the participants' reactions and comments during the wearing trials. Moreover, most of the participants agreed that their preferences on aesthetics and fit varied over time according to fashion trends, their body's development, or psychological changes, which was supported by strong correlation between the responses to statements 13 and 14 ($r = 0.496$, $p \leq 0.001$) (Table 4). A negative correlation ($r = 0.400$, $p \leq 0.05$) indicated that

participants preferring a slimmer body figure tended to be unwilling to trade visual appeal for greater comfort or a looser fit. A strong positive correlation ($r = 0.630$, $p \leq 0.001$; see Table 4) was observed between the responses to statements 6 and 11; this supported the claim that participants were willing to trade some comfort for well-fitting clothes (i.e., clothes that made them comfort better to their ideal figure) that were aesthetically pleasing. [Table 4 near here]

In stratified analyses by weight the 100–109 lb group had the strongest correlations (Table 5). For example, that group had a strong positive correlation ($r = 0.643$, $p \leq 0.003$) between responses to statement 6, 'I prefer to buy clothes that make my body look more like my preferred body figure (i.e. concealing the imperfect parts of the body)', and statement 7, 'I prefer a garment that is perfectly fitted to the body to provide the optimal aesthetic appearance' (Table 5).

Most of the study participants strongly agreed that garment fit implied an enhanced body figure and slim appearance. They also agreed that a better fit meant greater comfort; however, a few thought that a well-fitted garment implied a lack of excess fabric.

Table 4: Pearson Correlation values between statements from whole sample group.

Statement-to-statement	Pearson Correlation	Sig. (2-tailed)
"5. I prefer a slimmer body" And "6. I prefer to buy clothes that enhance my looking towards my preferred body figure (i.e., concealing the imperfect part of the body)"	.531**	.000
"5. I prefer a slimmer body" And "12. I might buy relatively loosely fitted clothes with better comfort even if a worse appearance was presented"	-.400**	.004
"6. I prefer to buy clothes that enhance my looking towards my preferred body figure (i.e., concealing the imperfect part of the body)" And "11. I might buy fitted clothes with excellent appearance even if a little discomfort existed"	.630**	.000
"11. I might buy fitted clothes with excellent appearance even if a little discomfort existed" And "13. My preferences on aesthetics are varied over time because of fashion trend, body development, and/or psychological change (e.g., age)"	.496**	.000
"13. My preferences on aesthetics are varied over time because of fashion trend, body development, and/or psychological change (e.g., age)" And "14. My preferences on fitting are varied over time because of fashion trend, body development, and/or psychological change (e.g., age)"	.543**	.000

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

Table 5: Pearson Correlation values between statements from the group of 46 to 50 kg.

Statement-to-statement	Pearson Correlation	Sig. (2-tailed)
"5. I prefer a slimmer body" And "6. I prefer to buy clothes that enhance my looking towards my preferred body figure (i.e., concealing the imperfect part of the body)"	.669**	.001
"6. I prefer to buy clothes that enhance my looking towards my preferred body figure (i.e., concealing the imperfect part of the body)" And "7. I prefer a garment perfectly fitted to the body to provide maximum aesthetic appearance"	.643**	.002
"6. I prefer to buy clothes that enhance my looking towards my preferred body figure (i.e., concealing the imperfect part of the body)" And "11. I might buy fitted clothes with excellent appearance even if a little discomfort existed"	.661**	.001
"11. I might buy fitted clothes with excellent appearance even if a little discomfort existed" And "13. My preferences on aesthetics are varied over time because of fashion trend, body development, and/or psychological change (e.g., age)"	.677**	.001

**. Correlation is significant at the 0.01 level (2-tailed)
*. Correlation is significant at the 0.05 level (2-tailed)

Notably, personal preferences regarding aesthetics and fit change and were indicated differently as the participants assessed distinct parts of the sample garments. During the wearing trials, a dilemma over whether to favour aesthetics or fit arose for most of the participants. In considering this, many of the participants would offer their two preferred choices from among the five sample garments (differing in size); one garment was selected for its aesthetic quality (specifically the garment's ability to favourably highlight the wearer's figure), and another was selected for its superior comfort (at the cost of visual appeal). When considering the optimal ease allowance for the bust and waist regions, the participants always preferred the option with superior aesthetics. However, when considering the ease allowance for the sleeve cap, they emphasised comfort over aesthetics in their selections, remarking that the frequent movement of the arms demanded such a choice.

Aesthetics and fit satisfaction with tops on the market

The participants were requested to rate their level of satisfaction (on a 5-point Likert scale) with the aspects of overall aesthetics and fit when trying on a top in a store. They were also asked to rate the aesthetics and fit at the bust, waist, shoulders, and armhole regions. Regression was performed to determine the extent to which each of the ratings from different body region dimensions (i.e. at the bust, waist, shoulders, and armholes) influenced the general aesthetics and fit ratings of the top. The two dependent variables were the general ratings of aesthetics and fit, whereas the independent variables were the specific ratings of aesthetics and fit at the bust, waist, shoulders, and armholes. For the entire sample group, the aesthetics rating at the bust exerted the greatest influence on the assessment of the general garment aesthetics ($\beta = 0.650$, $p \leq 0.001$), whereas the fit rating at the waist had the greatest correlation with the evaluation of the general fit ($\beta = 0.728$, $p \leq 0.001$) (Table 6).

A stratified regression analysis by weight was also conducted. For the 90–99 lb group ($n = 12$), the aesthetics rating at the bust exhibited the strongest relationship with the judgement of general aesthetics ($\beta = 0.955$, $p \leq 0.001$) but the rating of fit at the waist exerted the greatest influence on the overall assessment of fit ($\beta \approx 0.912$, $p \leq 0.03$) (Table 7). The 100–109 lb group ($n = 20$), the aesthetics rating at the bust had the strongest relationship with general aesthetic rating ($\beta = 0.701$, $p \leq 0.001$). However, no dependent variable (i.e. ratings at distinct regions of upper body) explained assessment of general garment fit. Finally, for the 110–119 lb group ($n = 12$), aesthetics rating at the bust had the strongest relationship with the judgement of general aesthetics ($\beta = 0.818$, $p \leq 0.05$). The rating of garment fit at the waist registered the strongest relationship with the evaluation of the general fit ($\beta \approx 0.775$, $p \leq 0.001$) and a significant relationship with armhole aesthetics rating ($\beta \approx 0.478$, $p \approx 0.01$) (Table 8). Although this significant relationship might not be particularly strong, it was the only relationship between ratings of aesthetics and fit (i.e. general fit and aesthetics at distinct bodily areas) (Tables 7 and 8).

Findings of wearing trials

The participants were required to wear five sample garments and rate their level of satisfaction with the aesthetics and fit on a 5-point Likert scale. The participants rated the 1) ease allowance at the bust and waist in a relaxed position and 2) ease allowance of sleeve cap in five poses. The optimal ease allowance measurements in terms of aesthetics, fit, or both were determined by comparing the various mean ratings. For the ease at the bust and waist, ten sets of mean for comparison were derived from the participants' ratings of aesthetics and fit for the five samples. For the ease of sleeve cap, two average means of aesthetics and fitting for comparison were derived from participants' rating on aesthetics and fit in five poses (Table 9).

Most of the participants were satisfied with the ease allowance at the waist and claimed they could notice the size variations at waist but not at the bust with the five garments; in some casFes, the garment was loose at the bust but tightly fitting at the waist. This was because the general bust measurements of the participants were too small for the size and ease allowance of the sample garments, which were made to foreign size specifications. Thus, the participants were dissatisfied with the excess amount of ease in the bust position. Most of the 41–45 and 46–50 kg group members preferred the ease allowance specification 2 or 3 for bust and waist dimensions. In the remaining groups, the preferred ease varied (specifications 1–4) according to personal preference and figure. However, ease allowance specification 5 was notably not preferred by most of the participants, even those in the 56–60 kg group. Moreover, the garment shapes at the bust were reported to be too angular with too high a neckline. Most of

Table 6: Regression coefficients for explaining general aesthetics by various levels of body in aesthetics and fitting concerns (Whole sample group).

Coefficients[a] (a. Dependent Variable: General aesthetic rating of top garment)							
Model		**Unstandardised Coefficients**		**Standardised Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
1	(Constant)	1.043	.337		3.100	.003		
	Aesthetics (bust)	.739	.123	.650	5.986	.000	1.000	1.000
2	(Constant)	.521	.373		1.398	.168		
	Aesthetics (bust)	**.650**	.121	.572	5.366	.000	.924	1.082
	Aesthetics (armhole)	.293	.110	.284	2.668	.010	.924	1.082
Coefficients[a] (a. Dependent Variable: General fitting rating of top garment)							
Model		**Unstandardised Coefficients**		**Standardised Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
		B	**Std. Error**	**Beta**			**Tolerance**	**VIF**
1	(Constant)	.799	.282		2.836	.007		
	Fitting (waist)	.671	.102	.684	6.571	.000	1.000	1.000
2	(Constant)	1.145	.321		3.569	.001		
	Fitting (waist)	**.728**	.103	.743	7.086	.000	.927	1.079
	Aesthetics (shoulder)	-.207	.101	-.215	-2.053	.046	.927	1.079

Table 7: Regression coefficients for explaining general aesthetics/fitting by various levels of body in aesthetics and fitting concerns (Group of 41 – 45 kg).

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
Coefficients[a,b] (a. Weight = 41 – 45kg; b. Dependent Variable: General aesthetic rating of top garment)								
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.045	.455		.100	.922		
	Aesthetics (bust)	**.955**	.157	.887	6.062	.000	1.000	1.000
Coefficients[a,b] (a. Weight = 41 – 45kg; b. Dependent Variable: General fitting rating of top garment)								
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-4.009E-16	.575		.000	1.000		
	Fitting (waist)	**.912**	.197	.825	4.621	.001	1.000	1.000

Table 8: Regression coefficients for explaining general aesthetics/fitting by various levels of body in aesthetics and fitting concerns (Group of 46 – 50 kg / 51 – 55 kg).

Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Collinearity Statistics	
Coefficients[a,b] (a. Weight = 46 – 50 kg; b. Dependent Variable: General aesthetic rating of top garment)								
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.341	.399		3.359	.003		
	Aesthetics (bust)	**.701**	.145	.751	4.827	.000	1.000	1.000
Coefficients[a,b] (a. Weight = 51 – 55kg; b. Dependent Variable: General aesthetic rating of top garment)								
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.026	.854		1.201	.253		
	Aesthetics (bust)	**.818**	.331	.580	2.469	.030	1.000	1.000
Coefficients[a,b] (a. Weight = 51 – 55kg; b. Dependent Variable: General fitting rating of top garment)								
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.545	.391		1.394	.189		
	Fitting (waist)	.713	.143	.822	4.996	.000	1.000	1.000
2	(Constant)	-.286	.435		-.659	.524		
	Fitting (waist)	.669	.116	.771	5.788	.000	.981	1.019
	Aesthetics (armhole)	.368	.133	.368	2.761	.019	.981	1.019
3	(Constant)	.011	.348		.031	.976		
	Fitting (waist)	**.775**	.096	.894	8.111	.000	.842	1.187
	Aesthetics (armhole)	**.478**	.109	.478	4.399	.001	.866	1.155
	Aesthetics (bust)	-.345	.117	-.347	-2.956	.014	.743	1.345

the participants preferred more ease allowance at the sleeve cap. A few participants preferred ease specification 1; they claimed that the tight armhole restricted their movement. The sleeve cap with more ease allowance provided greater comfort and sufficient space for movement with fewer creases.

In general, the ease allowances of the sample garments provided a balanced performance to the participants from various weight groups in terms of their ratings of garment aesthetics and fit. For example, the participants from the 41–45 kg group rated garments 2 and 3 as possessing the optimal aesthetics and fit for ease allowance at the bust and waist and the ease allowance at the sleeve cap, respectively. However, remarkably, the participants from the 46–50 and 51–55 kg groups rated garments 2 and 4 as having the optimal aesthetics and fit, respectively. Moreover, according to the mean ratings, these groups rated garment fit as a more vital attribute than aesthetics. This suggested that garments with less ease allowance at the sleeve

cap were more attractive to these participants, but they preferred the garments with more ease allowance because comfort was their key consideration in the evaluation of fit.

Conclusion

The results of this study on young Hong Kong women's preferred body figure and the relationship between garment aesthetics and fit suggest that Hong Kong women preferred to be taller; however, a slimmer body shape was much more vital in the context of an ideal body figure. A balance between garment aesthetics and fit was preferred by the participant group, and this perception affected their personal ease allowance preferences. The results of this study revealed that the participants were aesthetically oriented; they were willing to trade some comfort for aesthetics but not vice versa. However, ease tolerance and fit preferences were sources of frustration for participants and varied depending on the occasion. The meaning

Table 9: Satisfactory level of participants on 5 sample garments in terms of aesthetics and fitting.

Mean of ratings for ease of bust and waist (left) and ease of sleeve cap (right) – Overall						
	Mean of aesthetic ratings	Mean of fitting ratings	Average		Mean of aesthetics ratings	Mean of fitting ratings	Average
Sample 1	4.98	4.37	4.675	Sample 1	4.022	3.568	3.795
Sample 2	**5.25**	5.12	5.185	Sample 2	4.584	4.216	4.40
Sample 3	5.20	**5.27**	**5.235**	Sample 3	**4.494**	4.426	**4.46**
Sample 4	4.12	4.31	4.215	Sample 4	4.278	**4.57**	4.424
Sample 5	2.88	3.16	3.02	Sample 5	3.616	4.098	3.857
Mean of ratings for ease of bust and waist (left) and ease of sleeve cap (right) – Group of 41 to 45kg (n=12)						
	Mean of aesthetic ratings	Mean of fitting ratings	Average		Mean of aesthetics ratings	Mean of fitting ratings	Average
Sample 1	5.50	4.67	5.085	Sample 1	4.218	3.998	4.108
Sample 2	**5.83**	**5.42**	**5.625**	Sample 2	4.666	4.302	4.482
Sample 3	5.58	5.33	5.455	Sample 3	**4.98**	**4.664**	**4.822**
Sample 4	3.67	3.58	3.625	Sample 4	3.948	4.216	4.082
Sample 5	2.58	2.83	2.705	Sample 5	3.448	3.842	3.645
Mean of ratings for ease of bust and waist (left) and ease of sleeve cap (right) – Group of 46 to 50kg (n=20)						
	Mean of aesthetic ratings	Mean of fitting ratings	Average		Mean of aesthetics ratings	Mean of fitting ratings	Average
Sample 1	5.05	4.20	4.625	Sample 1	4.32	3.63	3.975
Sample 2	**5.85**	**5.65**	**5.75**	Sample 2	**4.970**	4.590	4.78
Sample 3	5.50	5.60	5.55	Sample 3	4.900	4.88	4.89
Sample 4	4.40	4.80	4.60	Sample 4	4.790	**5.07**	**4.93**
Sample 5	3.05	3.55	3.30	Sample 5	3.73	4.35	4.04
Mean of ratings for ease of bust and waist (left) and ease of sleeve cap (right) – Group of 51 to 55kg (n=12)						
	Mean of aesthetic ratings	Mean of fitting ratings	Average		Mean of aesthetics ratings	Mean of fitting ratings	Average
Sample 1	4.79	4.57	4.68	Sample 1	3.542	3.20	3.371
Sample 2	4.57	4.71	4.64	Sample 2	4.284	3.886	4.085
Sample 3	5.00	5.50	5.25	Sample 3	4.084	4.072	4.078
Sample 4	4.07	4.57	4.32	Sample 4	4.100	4.656	4.378
Sample 5	2.50	2.79	2.645	Sample 5	3.774	4.256	4.015

of what a well-fitting garment is could mean looking slim, being comfortable, or favourably highlighting one's bodily figure; the key factors differed among individuals.

During the wearing trials, the participants' preferences, concerns, and considerations differed when assessing the suitability of the ease allowances at the bust, waist, and sleeve cap. Most of the participants reported being more concerned about aesthetics than comfort in determining the fit of the sample garments. Therefore, better garment fit pertained to better aesthetics in general; aesthetics was the most influential attribute in determining perceptions of fit, even when discomfort was present. However, the 46–50 and 51–55 kg participants placed greater emphasis on comfort when rating the allowance ease at the sleeve cap, giving greater consideration to the mobility necessitated by their daily movements. Thus, fit in this case implied comfort.

In summary, characterising female fashion consumers is complex because women do not share the same ideal bodily figure. Some women prefer garments with a smaller amount of ease allowance to make them look slim and sexy, whereas others prefer a greater ease allowance to emphasise comfort in their top selection; others still seek a balance between aesthetics and fit. Therefore, ease allowance manipulation should be determined according not only to anthropometric measurements but also such psychological considerations.

Implications for Further Research

In this study, ease allowance was explored with a focus only on the aesthetics and fit aspects of medium-sized women's tops (basic block). Considerable scope for further study in this area remains. Researchers can investigate more garment sizes (such as small and larger sizes) with the assistance of a 3D body scanner to collect more objective anthropometric measurements. Nonetheless, psychology should not be ignored in any study regarding consumer evaluations of garment fit. Furthermore, other garment types such as skirts and trousers could be assessed such that the role of garment properties at other body parts can be investigated. Finally, the menswear market should not be neglected. The sets of ease allowances for menswear could also be vital for fashion design in the Hong Kong market.

Traditionally, pattern fitting and the amounts of ease allowance are judged according to physical comfort, but consumers' perspectives on these topics far more complicated. Other factors such as psychological and social influences as well as fashion trends can also be focused upon in future studies.

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