

ISASE 2020

Suitable range for ease allowance and appearance of women's shirts

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Abstract: We investigated the suitable range for ease allowance with ready-made women's shirts in two different styles using a sensory test for evaluating appearance. We employed two women's shirts (samples I and II) in different styles (fit and straight). We modified the size of the bust, waist, and hips with a changeable-size dress form; we took pictures from the front of the dress form wearing a shirt. Using those pictures, we conducted a sensory test for evaluating appearance. The study participants made their evaluations using seven terms (wrinkles, fit, silhouette, beauty, fashionable, comfort, and purchase intention) with a five-point scale (-2 to 2). The subjects were 20 Japanese university students in their 20s. The proportion of subjects who scored 1 or more was 40% or greater when using ease allowance in the suitable range. With sample I, the suitable range of ease allowance for the bust was 1–7 cm, for the hips 2–6 cm, and for the waist 13 cm. However, with sample II, the suitable range of ease allowance was about 4 cm for all parts. Thus, the suitable range of ease allowance varied according to the style and part of the shirt. Our results provide a guideline for designing and selecting ease allowance for women's shirts, taking into account both comfort and purchase intention.

Keywords: *women's shirt, body-size changes, ease allowance, fit, straight*

1. INTRODUCTION

The size of ready-made clothes in Japan is based on the Japanese Industrial Standard (JIS), which is defined by the height and dimensions of the bust, waist, and hips (JIS L4005-1997). However, consumers have different shapes and sizes: many do not conform to this standard. When creating a clothing pattern, ease allowances are set for body dimensions to promote appearance and comfort. The appropriate amount of ease allowance varies according to the purpose of wearing and type of clothing. The amount of ease allowance also varies with the pattern maker, and there is no clear standard for the amount of ease allowance—especially for women's shirts. To make a fitting, comfortable shirt, some researchers have investigated the pattern-making method using body dimensions [1, 2]. However, those studies examined men's—not women's—shirts. Further, the effect of ease allowance on shirt appearance was not investigated. Monobe et al. [3] researched the effect of ease allowance on jacket appearance and determined suitable ease allowance in terms of fit, appearance, comfort, and purchase intention. However, that was conducted only on tailored jackets: the ease range differs for shirts. Moreover,

different shirt styles will affect the suitable range for ease allowance.

To define a guideline for ease allowance with women's shirts with respect to appearance and purchase intention, we examined the suitable range for ease allowance with two women's shirts of different styles in terms of appearance evaluation with various body sizes.

2. EXPERIMENTAL

We used two women's shirts (samples I and II) in different styles (fit and straight) as shown in Figure 1. We altered the size of the bust, waist, and hips using a changeable-size dress form (i.Dummy, Hong Kong) from the 9AR size (Bust 83, Waist 64, Hip 91) to 2 cm larger or smaller at each body part, as shown in Table 1; we took pictures from the front of the dress form wearing a shirt. We conducted a sensory test of the appearance evaluation using those pictures. Our study participants evaluated the appearance using seven terms (wrinkles, fit, silhouette, beauty, fashionable, comfort, and purchase intention) using a five-point scale (-2 to 2). The subjects were 20 Japanese university students in their 20s (15 women, five men).



(a) Sample I (b) Sample II

Figure 1. Appearance of samples

Table 1. Body sizes for appearance evaluation (cm)

	part	Body size						
Bust Size change	Bust	79	81	83	85	87	89	91 (only for Sample I)
	Waist	64						
	Hip	91						
Waist size change	Bust	93						
	Waist	64	66	68	70	72	74 (only for Sample II)	
	Hip	91						
Hip size change	Bust	83						
	Waist	64						
	Hip	89	91	93	95	97	99	

3. RESULTS AND DISCUSSION

Figures 2 and 3 show that the proportion of subjects who scored 1 or more was 40% or greater with each evaluation item for the two samples when the bust size changed. The proportion of subjects who scored 1 or more was 40% or greater when we used ease allowance as the suitable range. Table 2 shows the suitable range of ease allowance for each sample from the front. With sample I, the suitable range of ease allowance for the bust was 1–7 cm, for the hips 2–6 cm, and for the waist 13 cm. However, with sample II, the suitable range of ease allowance was about 4 cm for all parts. Therefore, it was evident that the appropriate range of ease allowance varied according to the style and part of the shirt.

4. CONCLUSION

Using a dress form, we determined suitable ranges of ease allowance for two women's shirts in fit and straight styles with seven bust, six waist, and six hip sizes. We found that the suitable range of ease allowance depended on the style and part of the shirt. Our results can act as a guideline for designing and selecting ease allowance for women's shirts, taking into account both comfort and purchase intention.

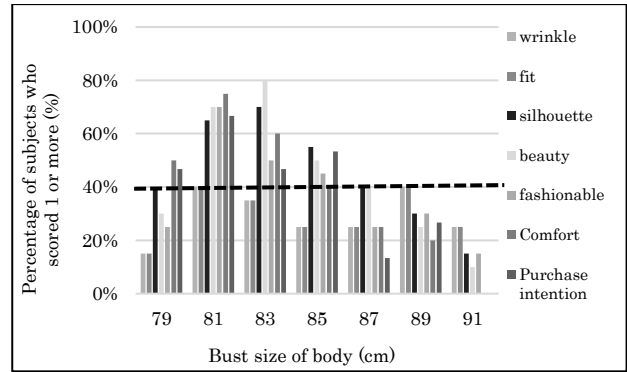


Figure 2. Proportion of subjects who scored 1 or more for sample I on changing bust size for each evaluation term (front view)

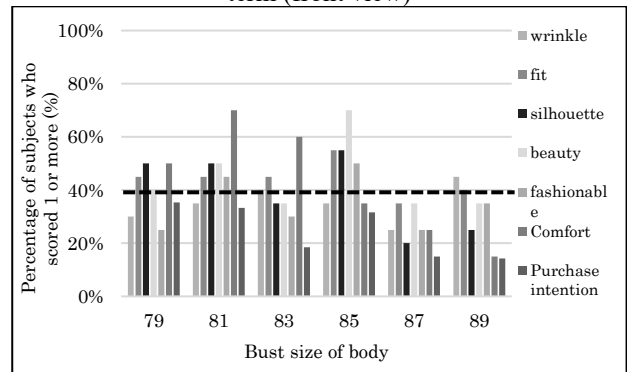


Figure 3. Proportion of subjects who scored 1 or more for sample II on changing bust size for each evaluation term (front view)

Table 2. Suitable range of ease allowance for each sample from the front (cm)

Sample	Part	Suitable range
Sample I	Bust	1~7
	Waist	13
	Hip	2~6
Sample II	Bust	9~11
	Waist	15~19
	Hip	2~6

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