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The Influence of Clothing Looseness on Female Body Attraction

Xiaohui Wang
College of Textiles and Clothing Engineering
Soochow University
Suzhou，215123，China

Xiaofeng Jiang（Correspondence author）
College of Textiles and Clothing Engineering
Soochow University
Suzhou，215123，China

***Abstract*—Clothing size affects the assessment of a woman's physical attractiveness. In the field of physical attractiveness, there are many studies on waist-to-hip（WHR） ratio and breast attractiveness. The purpose of this study is to investigate the changes in attractiveness before and after dressing with different levels of tightness,36 Soochow University graduate students were selected to participate in the behavioral experiment. The study showed that there are significant differences between different WHR in the nude state;Clothing tightness intersected with WHR and bust size. The average attractiveness of the clothing was greater than that of the nude, and there were also significant differences between different tightness levels of clothing.**

***Key words*—WHR; Clothing looseness; Physical attraction**

INTRODUCTION

Nowadays, the purpose of people's dressing has shifted from the initial purpose of hiding from the cold to the expression of human aesthetic feeling, more to highlight the beautiful features of human body and becomea tool to make up for their own defects [1]. Buckley and Hefner (1984) suggest that those who wish to be positively evaluated may want to change their clothing and embellishing their own shortcomings in order to enhance their physical attractiveness[2].

A large number of studies have shown that the chest, waist and hip are important areas affecting women's physical attractiveness. In eye-tracking studies of female attractiveness assessment, it has been found that men focus more on the breast, waist and hip areas of the body (Dixson et al, 2011 [3] Suschinsky, Elias & Krupp, 2007 [4]). After puberty, the surge of estrogen in the female body causes the pelvis to expand and selectively deposit fat on the buttocks and thighs (Tovee, Maisey, ery & Cornellisen, 1999[6]), causing changes in the ratio of Waist to hip. This change has resulted in women having distinctly different physical characteristics from men. Surveys have shown that women with a low WHR are generally considered more attractive [5](Singh& Yang,1995). The range of WHR for healthy, premenopausal white women is 0.67-0.80 (Lanska, Lanska, Hartz & Rimm, 1985[7]; Marti et al, 1991[8]). However, numerous studies have found that the most attractive women have a WHR of 0.7[9]. Because men view women with low WHR as more attractive, healthier and more reproductive than women with high WHR [10].

Men generally think that the line drawing of medium-sized women is the most attractive (Horvath, T [17]; Wiggins, J. S., Wiggins, N., & Conger, J. C., 1968 [18]). Clothing is often used by religions to hide different parts of the body. For example, Muslims use headscarves and burqas to cover their bodies. In addition, Jewish married women will cover their hair (Schiller, 1995) [19]. Experiments have shown that when a woman shows body-curved clothes, a man’s perception of attractiveness increases compared to when she is in a black burqa (Farid Pazhoohi et al, 2014[20]). Research by Cundall, A.et al. found that women with smaller body types wearing loose or tight-fitting clothing were rated as equally attractive, while women with larger body types wearing loose-fitting clothing were rated as more attractive than tight-fitting clothing[21]. According to previous self-reported attractiveness studies (Parker et al,1995), African-American women believe that models with clothes are more attractive than models without clothes, and their dress status will not affect the attractiveness of white women[22]. Studies have shown that clothing has a certain effect on the attractiveness of the human body, but there are few studies on the changes in the attractiveness of clothing under different degrees of tightness. This study aims to explore whether the attractiveness of women's bodies is related to their clothing and the effect of changes in clothing tightness on female attractiveness.

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1 Experiment

1.1 Participants

36 students (ages 18-23 years old, including 4 boys and 32 girls) from Soochow University. The subjects were all right-handed, with normal or corrected vision, and volunteered to participate in the experiment.

1.2 Stimulus materials

The stimulus material for this experiment was made using PGM software. In the PGM, the human body height is set to 160cm, the waist circumference is 58.2cm, 68cm, 77.6cm, and the hip circumference is 97cm to form different WHRs (0.6, 0.7, 0.8), and the clothing is set in four dressing states: undressed, tight, moderate and loose. Among them, there is no amount of relaxation in the tight-fitting state; in the moderate state, for every 0.1 increase in the WHR, the amount of garment relaxation increases by 4cm; in the loose state, for every 0.1 increase in the WHR, the amount of garment relaxation increases by 8cm, resulting in a total of 12 stimulating pictures.

1.3 Experimental equipment

This experiment was programmed using E-Prime 2.0 software and run on a computer.

1.4 Experimental procedure

In order to familiarize the subjects with the experiment process and ensure the accuracy of the data, 6 stimulus pictures were used for pre-experiment exercises to familiarize themselves with the experiment operation. After being familiar with the experiment process, the distance between the test subject and the screen that presents the stimulus is about 70 cm. Participants rated the overall attractiveness of the stimulus picture using a 5-point Likert scale, "1" means very unattractive; "2" means not attractive; "3" means average; "4" means attractive; "5" means very attractive. The presentation of each stimulus is shown in Figure 1-1.

2 Results and Analysis

2.1 Evaluation results of attractiveness perception on different WHR

In order to study the differences in the perception of attractiveness in different WHR, clothing and nakedness, we analyzed the average value of attractiveness perception evaluation, and it can be concluded that people have the lowest perception of attractiveness with a WHR of 0.8 regardless of whether they are dressed or not. As shown in Figure 2-1:In the naked state, a WHR of 0.7 is the most attractive, and a WHR of 0.8 is the least attractive; in a dressing state, the average attractiveness of a WHR of 0.7 is slightly higher than 0.6, and a WHR of 0.8 has the lowest

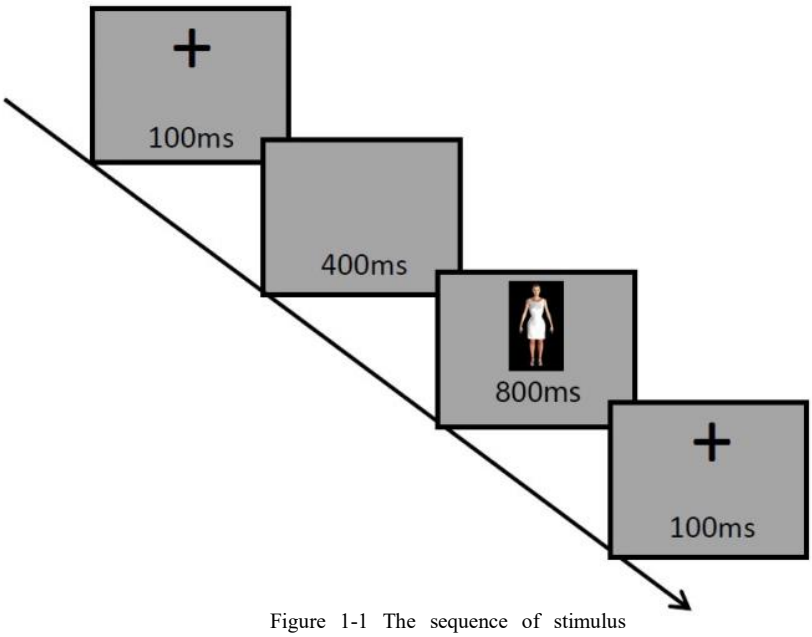

Figure 1-1 The sequence of stimulus

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average attractiveness.In the dressing state, a WHR of 0.7 does not have obvious advantages compared to 0.6, because clothing easily hides the human body curve and reduces people's perceived attractiveness. While for the WHR 0.6 and 0.8, Mean attractiveness increases after dressing. The increase in force average indicates that clothing can increase the attractiveness of lower and higher WHR.

We performed repeated measures analysis of variance on the mean attractiveness, and got the results in Table 2-1. It can be seen that the WHR has the main effect (F=20.00, P=0.000). A paired sample T test was performed for different WHR in nude and dressed states. The results are shown in Table 2-2. When the WHR is 0.6 and 0.8, there is no significant difference between nude and dressed states, and when the WHR is At 0.7, there is a significant difference between the attractiveness scores of nakedness and clothing. It shows that when the WHR is 0.7, clothing has a greater impact on the perception of attractiveness.

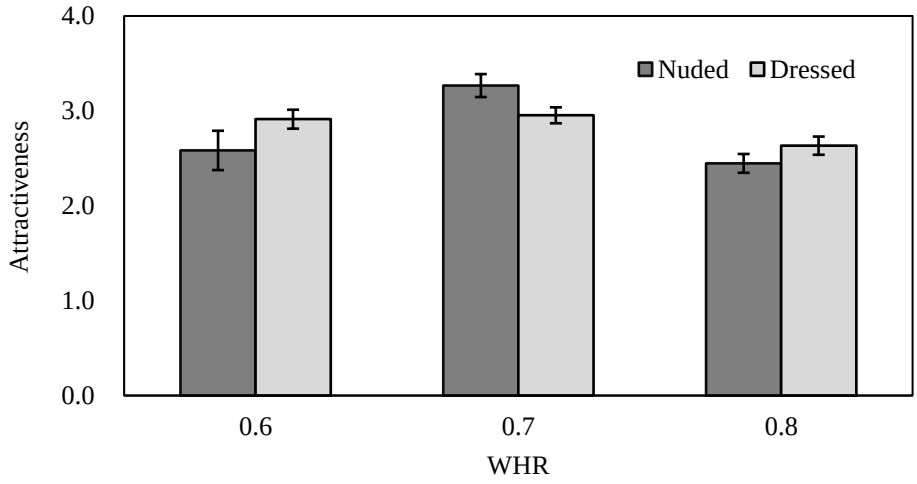

Figure 2-1 Evaluation of attractiveness perception of WHR

Table 2-1 Variance analysis table of different WHR attractiveness perception evaluation

source	Type III sum of squares	df	Mean square	F	Sig.	Partial Eta party
WHR	28.242	1.986	14.221	20	0.000**	0.364

Note a: ** means a significant correlation at the 0.01 level

Table 2-2 Nude and dress (WHR) attractiveness evaluation t Test

Nude versus dress	t	p
Naked 0.6 - dressed 0.6	-1.753	0.088
Naked 0.7 - dressed 0.7	2.071	0.046
Naked 0.8 - dressed 0.8	-1.658	0.106

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From SPSS analysis, it can be concluded that WHR and dressing state have a cross effect (F=5.276, P<0.01). With the same WHR, tight-fitting and moderate clothing is more attractive. It can be seen from Figure 2-2 that when the WHR is 0.6 in the dressing state, the attractiveness perception score of the moderate state is the highest, and the tightness is the lowest. When the WHR is 0.6, the waist of the human body is thinner, which makes people feel unhealthy and has low reproductive value, so the average attractiveness of tight-fitting clothing is not high. Since loose clothing completely covers the body curve, the attractiveness value is also low. When the WHR is 0.7 and 0.8, the average attractiveness in tight-fitting state is the highest, followed by moderate and the lowest in loose-fitting state; women's normal WHR should be between 0.67-0.80. It shows that within the range of normal WHR, tight-fitting clothing can best highlight the female figure and enhance the attractiveness of the body.

Comparing clothing with different degrees of tightness and nakedness, the average change of attractiveness will be different. When the WHR is 0.6 in the dress state, although the average attractiveness of tight-fitting is the lowest, it is higher than nude. This shows that clothing has a certain enhancement effect on the attractiveness of the human body at this time. In a moderate and loose state, when the WHR is 0.7, the average attractiveness decreases compared with the naked body. It shows that clothing can hide the waist curve of the human body, thereby reducing physical attractiveness.

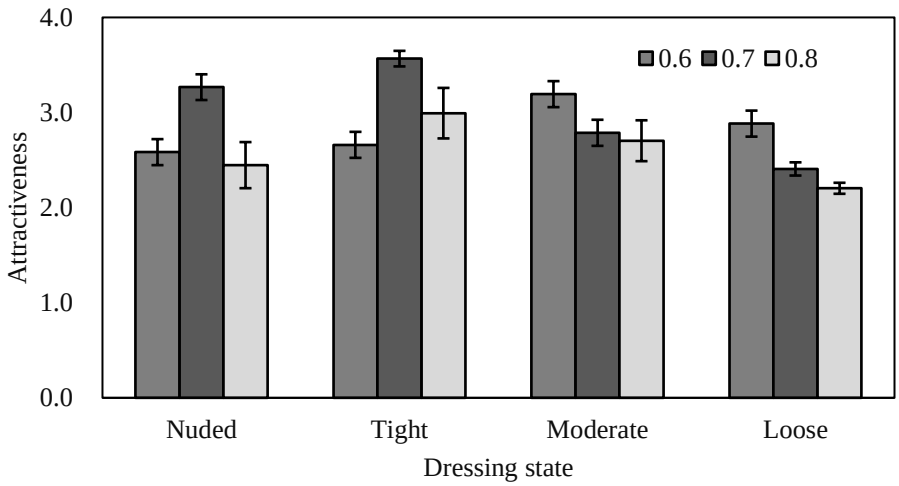

Figure 2-2 Cross analysis of waist-hip ratio and clothing tightness

We conducted a paired-sample T test on the experimental data, and it can be concluded that regardless of the dressing state, when the WHR is 0.6 and 0.7, there is a significant difference in the attractiveness score. It can be seen from Table 2-3 that in the nude state, when the WHR is 0.6 and 0.7 and the WHR is 0.7 and 0.8, the attractiveness scores are significantly different; there are significant differences in the attractiveness evaluation of WHR of 0.6 and 0.7 and WHR of 0.7 and 0.8 in a tight-fitting state; in the moderate state, the attractiveness scores of the WHR of 0.6 and 0.7 and the WHR of 0.6 and 0.8 are significantly different; in a relaxed state, there are significant differences in the attractiveness scores of WHR of 0.6 and 0.7 and WHR of 0.6 and 0.8.. That is to say, because the tight-fitting state best reflects the changing law of the WHR of the human body, the significant difference is the closest to the naked state; the moderate and loose state, the body curve is hidden, and the attractiveness scores of different WHR are relatively similar.

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Table 2-3 T-test results of attractiveness evaluation in different dressing states (WHR)

Dress comparison (WHR)	t	p
Nude 0.6 - Nude 0.7	-3.503	0.001
Nude 0.6 - Nude 0.8	0.724	0.474
Nude 0.2 - Nude 0.8	7.190	0.000
Tight 0.6 - Tight 0.7	-5.070	0.000
Tight 0.6 - Tight 0.8	-1.900	0.066
Tight 0.7 - Tight 0.8	2.668	0.011
Moderate 0.6 - Moderate 0.7	2.356	0.024
Moderate 0.6 - Moderate 0.8	3.564	0.001
Moderate 0.7- Moderate 0.8	1.491	0.145
Loose 0.6-Loose 0.7	3.067	0.004
Loose 0.6-Loose 0.8	4.163	0.000
Loose 0.7-Loose 0.8	1.792	0.082

In order to explore the influence of WHR on the average change of attractiveness, first use SPSS to estimate the curve and look for a larger value of R2. Use OriginPro software to make a fitting curve of WHR and mean value of attractiveness, which meets the Parabola model, as shown in Figure 2-3. The fitting equation for WHR is $y=-29.7x^2+40.392x-10.7415$, $R^2=0.97322$. It can be seen from the figure that when the WHR approaches 0.7, the average attractive force takes the maximum value. When the WHR increases, the attractive force decreases.

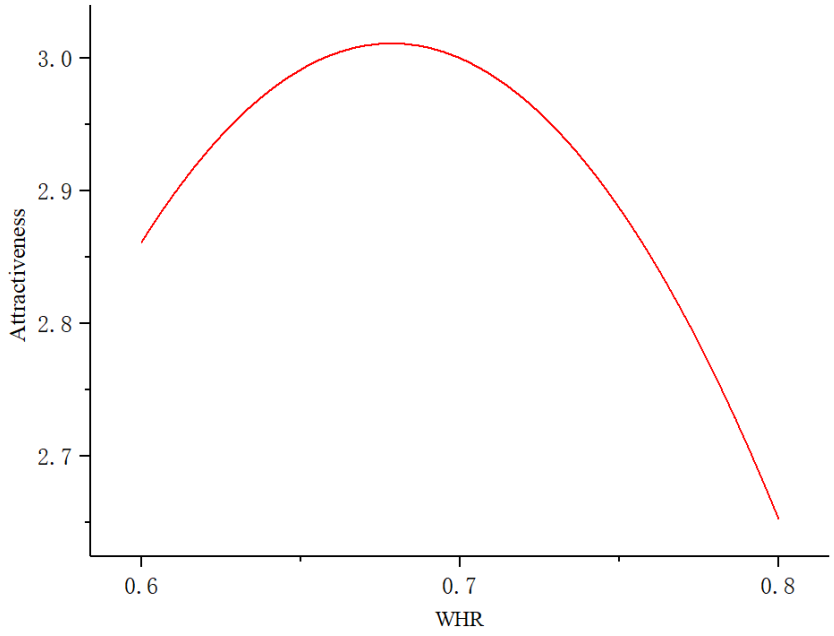

Figure 2-3 Rregression curve of WHR

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2.2 Appraisal results of attractiveness perception in different dressing states

Clothing has an impact on the attractiveness of women, and the average value of attractiveness brought by different dress states will also be different. It can be seen from Figure 2-4(a) that dress is more attractive than naked.That is, clothing can enhance the perception of attractiveness. From Figure 2-4(b), it can be seen that in the dressing state, the average attractiveness from high to low is tight-fitting, moderate, nude, and loose.

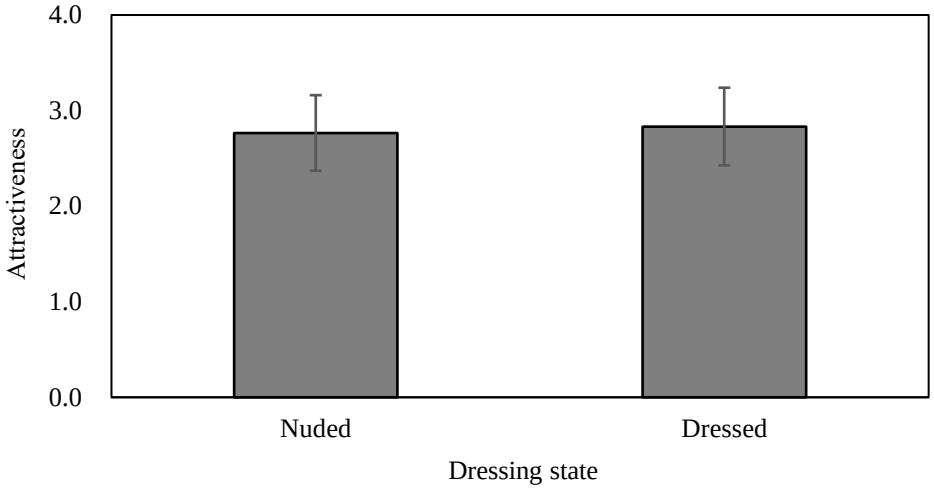

Figure 2-4 (a) Appraisal of attractiveness perception of dressing state

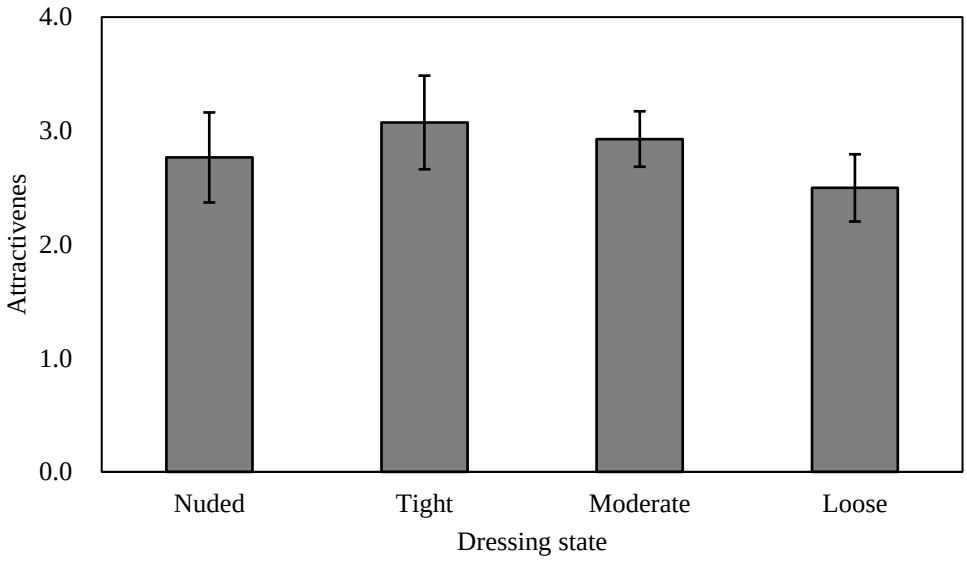

Figure 2-4 (b) Appraisal of attractiveness perception of dressing state

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3 CONCLUSIONS

This research mainly analyzes the perception of attractiveness for changes in dressing status, WHR and bust size. Through behavioral experimental data analysis, we can get:

1) Because clothing can hide the body curve, it has a certain enhancement effect on the attractiveness of the WHR of 0.6 and 0.8, and has a certain weakening effect on the WHR of 0.7.

2) Clothing had a significant effect on waist-hip ratio of 0.7;

3) The average value of naked attraction was lower than that of dressed state, and the effect of dressing on physical attraction was enhanced; Different dress states showed different patterns of change: tight dress showed the strongest body attractiveness, while loose dress showed the lowest body attractiveness.

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