Abstract

This study devised and drew custom sleeve patterns by using a regression equation with the data from 7 models along with the sleeve that was slightly modified to make the general-purpose sleeve pattern.

To devise a general-purpose sleeve pattern, the sleeve pattern was drawn as an object for comparison by applying the Bunka drafting system (sleeve pattern by the Bunka drafting system) to the basic upper garment. Actual sleeves, made by using the three types of patterns above, were created and tested by models. Next, 30 panel members participated in a sight test of the compatibility of the sleeves to examine the validity of the sleeve drafting method acquired using the regression equation.

The test proved that the custom sleeve pattern and the general-purpose sleeve pattern were more suitable for the characteristics of arm structures. Thus, the new sleeve-cap part drafting method using the regression equation was shown to have validity.

As a result, since a very significant correlation was obtained for the body measurement figures and the basic pattern of the adequate basic pattern of the sleeves, this study concludes that it is possible to come up with primary data that can be widely used by increasing the number of subjects.

Key Words : general-purpose sleeve pattern, sleeve-cap part, regression equation, sensory test, verification of compatibility

I. Introduction

In the mass-produced ready-made clothes industry, the product pattern is being prepared with the plane drawing such as CAD in almost every case. In that sense, the highly compatible pattern design based on the human characteristics data is important. It is generally known that

* This Paper is an excerpt from the doctoral dissertation.

Corresponding author : Cho Kyunghee, Tel.+82-10-3210-4033, Fax.+82-31-450-5222,
E-mail : kyonghee-cho@hanmail.net
the compatibility around the shoulder and upper arm greatly relates to the design of the armhole with the good wear sensation and beautiful form. Good compatibility is concerned with the good or bad pattern. Hence, in order to enhance the human costume compatibility with a wearer, it is important to check the size and pattern factors of a human body.

In the precedent study\(^{(11)}\), the conditions\(^{(23)}\) of the compatibility with the human body to make the sleeve for the basic pattern were clarified in the relation between the pattern and the human body, the three-dimensional form, and the relation of the sleeve pattern data with the human body’s form data was considered by measuring the required length from the compatible pattern collected from the draping. The basic bodice pattern and the basic sleeve pattern found in the precedent study\(^{(11)}\) are hereinafter called the compatible basic bodice pattern and the compatible basic sleeve pattern respectively. It resulted in the regression equation that is the basic of the drafting system focusing on the sleeve-cap height, sleeve width, and sleeve-cap width that are the components of the sleeve pattern but attained the drafting system as the sleeve for the basic pattern.

In the precedent study\(^{(24)}\), the explanatory variable was reviewed and reported with the measurement value of a basic human body, the measurement value of the form of a human body, and the measurement value of the compatible basic bodice pattern to derive the pattern-making method and the calculation formula of the high sleeve-cap part generally utilized as the basic sleeve pattern for education. The equation to calculate the dimensions of each sleeve-cap part showed the real difference from the conventional sleeve making method\(^{(20-21)}\). Hence, it can be used for various clothes like the general-purpose basic sleeve pattern for an adult female. It is necessary to devise the compatible and general-purpose sleeve pattern making method for an adult female on the basis of the theoretical study on the relation between a human body and the pattern.

In the study, the basic sleeve pattern made with the estimated value of the regression equation and the basic sleeve type slightly modified to prepare it as the general-purpose basic sleeve pattern were devised and produced. Furthermore, in order to derive the general-purpose basic sleeve pattern, the basic sleeve pattern prepared with the Bunka drafting system\(^{(14)}\) by using the compatible basic bodice pattern\(^{(1)}\) as the comparison subject was made. The effectiveness of the theory of making the pattern of the sleeve-cap part through the compatibility verification experiment is to be reported by producing the actual object based on the three kinds of the sleeve patterns.

II. Methodology

1. Samples

The three kinds of sleeves are used as samples.

1) The Basic Sleeve Pattern for Individuals

It is the basic sleeve pattern prepared with the regression equation in the precedent study\(^{(24)}\). The item with the significantly high contribution rate in the regression analysis result was selected. It is the sleeve prepared with the estimated value of the regression equation of each basic sleeve part by focusing on the sleeve pattern components being composed of the sleeve-cap height, sleeve width, sleeve-cap...