A COMPARATIVE STUDY OF SPECIFIED MEASURE-
MENTS FOUND IN WOMEN'S READY-TO-WEAR
GARMENTS ON THE CURRENT MARKET, IN
RELATION TO PRICE AND RETAIL SOURCE

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A THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF MASTER OF ARTS IN CLOTHING AND

TEXTILES IN THE GRADUATE DIVISION OF THE

TEXAS STATE COLLEGE FOR WOMEN

COLLEGE OF HOUSEHOLD ARTS AND SCIENCES

BY

JIMMIE DEE STURDIVANT JONES, B. S.

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# INTRODUCTION

In this age of scientific research, man has done much to discover basic body measurements and skeletal growth. Even with these data on anthropometry available, little has been done to apply this knowledge to the size and proportions of the garments available to consumers in the retail stores. Ever since the introduction of mass production of women's wear in the United States, each manufacturer has made his clothing with little or no standardization of garment measurements. Because of the lack of standardization, retailers and consumers have been caused unnecessary expense as a result of improperly fitted garments.

Garments often labeled the same size, but produced by different manufacturing companies, have been returned to the store because of great variation in sizes. A study conducted under the auspices of the United States Department of Agriculture (5) shows that an additional 25 per cent of the total cost of garments, on the average, is spent on alterations. This additional component of the total price of a garment results from the need for extensive alterations and the fact that a great number of garments are returned to the stores because of unsatisfactory fit. This constitutes, indirectly, a cause of money loss and of less good will for the retailer, as well as an annoyance and a waste of time for the purchaser.

The great need of standardization of sizes in ready-to-wear dresses was revealed first in a co-operative research project conducted under the auspices of the United States Department of Agriculture (4). It was stated in this report that no previous scientific study of body measurements used in the construction of women's clothing had ever been conducted. Most of the measurements used in the industry were chiefly obtained by trial and error, based upon measurements taken on a few women by various procedures of doubtful accuracy. The above study provided body measurements which could be used for improving the fit of women's garments and patterns. An important factor established in another study by the United States Department of Agriculture (5) showed the importance of combining vertical and horizontal measurements in order to predict with greater accuracy a proper fit of garment for the greatest number of women.

In a study entitled Resumé of an Eight-year Series of Consumer Studies in Silk and Rayon, Mack (3) reported that the variability of measurements in different parts of garments were particularly significant in that they revealed a definite lack of standardization in garment sizes. Up to this time, the trade had used a so-called standard sizing system, but this had been based primarily on vertical measurements; and each manufacturer had other measurements according to his own fashion interpretation. Actual anthropometric measurements, although available,

were not associated with fashion merchandise.

The chief purpose of the study reported in this thesis was to compare the variations of specified measurements in women's manufactured dresses found in the market today. Other objectives of this study were the following:

1. To compare specified measurements in a woman's basic dress in sizes 12, 16, 20, and 20 1/2 selected from five different types of stores.

2. To compare measurements in a woman's basic dress in relation to the fiber content of the fabric used in that garment. Indirectly, it was believed that this would establish whether or not the fabric, the total cost of the garment, and the measurements found in the garment bear any relationship to each other.

3. To study the techniques of finishing as related to price of the garment.

# EXPERIMENTAL PROCEDURE

## SPECIFIC STORES SELECTED FOR THE MEASUREMENT
## OF GARMENTS

Five stores were selected in which to make specified measurements on women's garments at different price levels and size ranges. Four of the stores were located in Stephenville, Texas—a small ranching and agricultural community. The fifth store was located in Dallas, Texas—a metropolitan area. Each of the stores was classified into one of three major groupings, namely: chain, suburban, and department or specialty shops.

A description of the stores follows in Table I. The table includes the classifications of the stores, the names of the stores, their locations, and their descriptions. This table appears on the following page.

# TABLE I

## DESCRIPTION OF STORES IN WHICH

## GARMENTS WERE MEASURED

| Classification | Name of Store | Location | Description |
|---|---|---|---|
| I. Chain | J. C. Penney Company | Stephenville, Texas | National chain of stores |
| II. Suburban | Anderson's Dress Shop | Stephenville, Texas | Locally controlled and owned |
| | Watts Ladies Store | Stephenville, Texas | Privately home owned and operated |
| III. Department or Specialty | R. E. Cox's | Stephenville, Texas | One of a group of department stores in Texas |
| | Neiman-Marcus | Dallas, Texas | Women's wear specialty shop |

## SPECIFIED SIZES OF GARMENTS MEASURED

Table II, page 7, includes the number of garments observed in the specified sizes and of the designated types of fabric with respect to fiber content.

## DESCRIPTION OF BASIC STYLE OF GARMENTS

## SELECTED FOR MEASUREMENT

Inasmuch as sizes of garments to be studied were to include misses' and women's measurements, it was necessary to select a style which would be found in any size or price range and made of fabrics of different fiber content. The following criteria were used in the selection of the garments:

1). The dress was to be made of woven cloth.

2). The dress was to have a normal waistline, a set-in sleeve with a normal armscye, a convertible collar, and buttonholes at least to the waist.

The figure shown on page 8 illustrates the general line of the garments selected for comparative study (see Figure 1).

# TABLE II

## NUMBER OF GARMENTS MADE OF FABRICS OF THE SPECIFIED FIBER CONTENT IN THE VARIOUS SIZES

| Fiber Content of Fabrics in Garments | Sizes | | | | Total |
|---|---|---|---|---|---|
| | 12 | 16 | 20 | 20 1/2 | |
| **Natural** | | | | | |
| Cotton | 40 | 31 | 34 | 37 | 142 |
| Silk | 5 | 3 | 5 | 1 | 14 |
| Linen | 1 | 4 | 4 | 0 | 9 |
| **Blend** | | | | | |
| Cotton-orlon | 5 | 4 | 0 | 0 | 9 |
| Cotton-silk | 1 | 3 | 1 | 2 | 7 |
| Rayon-acetate-cotton | 4 | 3 | 4 | 5 | 16 |
| **Synthetic** | | | | | |
| Rayon | 8 | 6 | 5 | 5 | 24 |
| Acetate | 1 | 2 | 2 | 4 | 9 |
| Nylon | 1 | 0 | 1 | 1 | 3 |
| Dacron | 0 | 0 | 0 | 1 | 1 |
| **Total** | 66 | 56 | 56 | 56 | 234 |
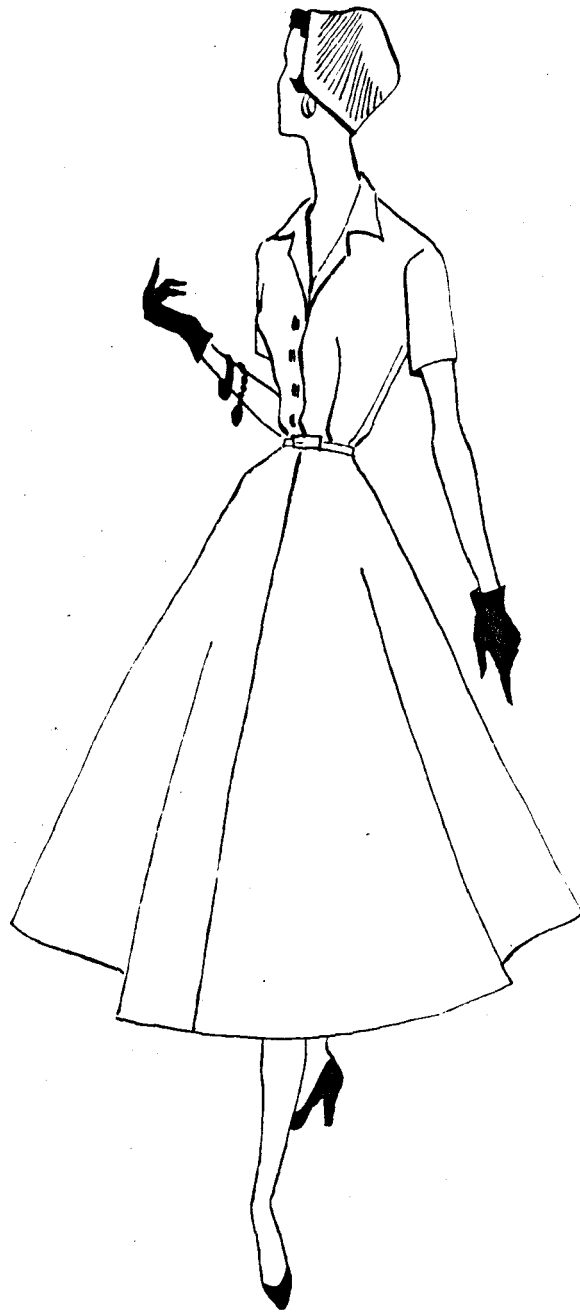
FIGURE 1

BASIC DESIGN OF THE GARMENT SELECTED

FOR THE MEASUREMENT STUDY

# EQUIPMENT USED IN MEASUREMENT OF GARMENTS

A standardized tape measure, which had been checked by a calibrated steel tape, was employed throughout the entire measurement of the garments. For greater precision, the same side and same end of the tape measure were utilized throughout the collection of data.

For comparative purposes, space was provided on the check list to indicate the techniques of finishing, such as the kind of button-holes, depth of seams and hems, and the various findings used on the individual specimens.

For each garment investigated, the following form was maintained. All calculations used in this study were based on the records of these completed forms.

# DRESS MEASUREMENTS

Size _____     Store _____

Price _____

Brand _____

Material _____

Labels _____

Shoulder seam length      _____

                          _____

Upper bust width          Front _____

                          Back _____

Lower bust width          Front _____

                          Back _____

Bust dart length

Waist girth               Front _____

                          Back _____

                          Total _____

Waist length              Front _____

                          Back _____

| | | |
|---|---|---|
| Waist underarm seam length | Right | _____ |
| | Left | _____ |
| Upper arm girth | | |
| Back neck girth | | |
| Skirt length | Front | _____ |
| | Back | _____ |
| | Side Right | _____ |
| | Left | _____ |
| Hem | Depth | _____ |
| | Hem tape | Yes _____ No _____ |
| Sweep of skirt | CF to side | _____ |
| | CB to side | _____ |
| Zipper length | | |
| Corded or piped buttonholes | Yes _____ No _____ | |
| Size of seam | | |
| Approximate number of yards in garment | | |

Belt (closed—using middle eyelet) girth _____

Self belt _____

Other _____

Interfacing                    Yes _____    No _____

Fastenings      Buttons        Covered _____

                               Other _____

                Snaps          Yes _____    No _____

                Hooks          Yes _____    No _____

## A DESCRIPTION OF THE MEASUREMENTS OBTAINED

## FROM SPECIFIED GARMENTS

Each garment was placed on a table in a relaxed position for
obtaining an accurate measurement of specified dimensions. The fol-
lowing explains the measurement areas investigated in this study:

1). The length of the right shoulder seam was determined
from neckline seam to armscye seam on the outside of the specified
garments.

2). The front bodice length was established by measuring the

distance from the center front neckline to the center front waistline on the straight grain of fabric.

3). The upper bust and blade point of measurement were established as half the distance between the armscye shoulder seam and the underarm seam.

4). The lower or full bust dimension was established by measuring the horizontal circumference of the garment at the armpit area.

5). The upper arm girth was measured on the straight grain around the circumference of the sleeve at the armpit area.

6). The underarm seam length, in all instances, was measured on the right side of the garment, from the juncture of the side seam under the arm to the point of the waist seam.

7). The waist measure was determined by following the actual seam construction in this location.

8). The length of the skirt was determined by the distance from the center front waist to the center front at the bottom of the hem.

9). The back neck dimension was obtained by checking the distance from shoulder seam to shoulder seam, following the curvature of the neckline seam.

10). The back bodice length was determined by the distance from the center back neck to the center back waist.

11). The depth of the hem was ascertained by measuring the amount of exposed fabric turned to the wrong side from the bottom of the skirt.

12). To determine the seam width, all measurements were taken on the right skirt seam from the inside of the garment.

13). The length of the belt was established by fastening it in the middle eyelet and measuring the circumference.
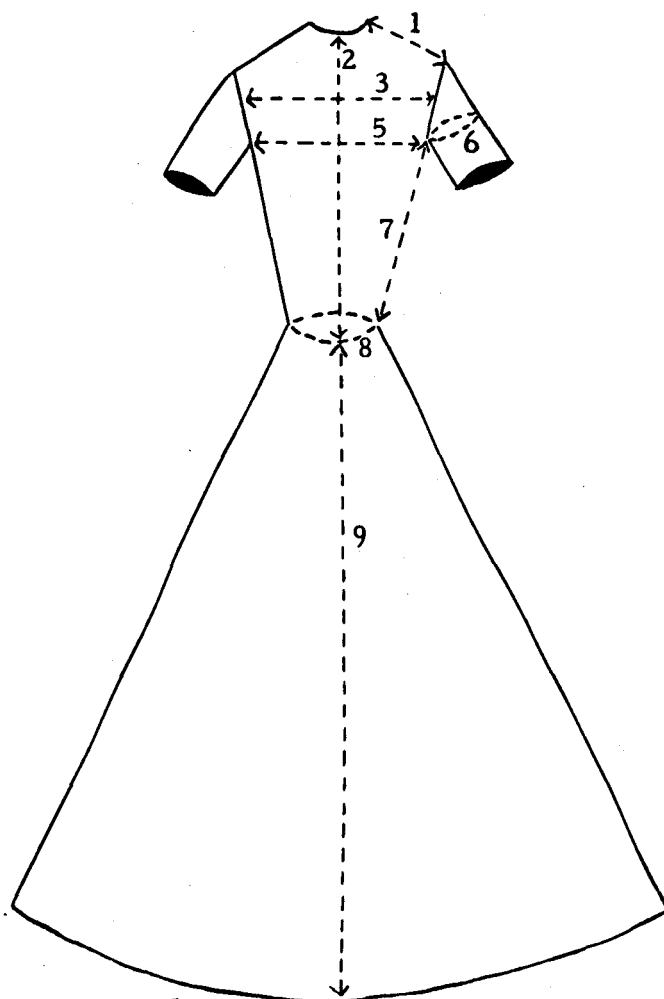
| | |
|---|---|
| 1. Shoulder seam width | 7. Under arm seam length |
| 2. Front waist length | 8. Waist girth |
| 3. Upper bust front width | 9. Skirt length |
| 4. Blade width | 10. Back neck girth |
| 5. Full bust width | 11. Back waist length |
| 6. Arm girth | 12. Hem depth |

FIGURE 2

DIAGRAM OF THE MEASUREMENTS OBTAINED

FROM THE OBSERVED DRESSES (FRONT VIEW)

# PRESENTATION OF DATA,

## WITH DISCUSSION

## A COMPARISON OF SPECIFIED MEASUREMENTS OF
## GARMENTS ACCORDING TO PRICE CATEGORIES

Table III summarizes the variation of specified measurements according to price categories as observed only on the cotton garments measured in this study. A total of 142 cotton garments was measured.

### PRICE GROUPINGS

Upon conclusion of the measurements, each measurement was grouped according to the position of the garment in three price ranges. Group A included those garments which fell between the limits of $2.98 and $10.99. Group B included those which were priced between $11.00 and $19.99. Group C was composed of those garments ranging from $20.00 to $119.98.

The table includes the high, low, and average measurements for each of the specified price ranges, with the data arranged according to garment sizes. An over-all average for each measurement for each size, regardless of price, also is given.

# TABLE III

## COMPARISON OF SPECIFIED MEASUREMENTS IN INCHES, ACCORDING TO PRICE CATEGORIES IN SPECIFIED SIZES

| Measurements, Inches | | Price Ranges | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Size 12 | | | | Size 16 | | | |
| | | Low | Medium | High | Over-all Average | Low | Medium | High | Over-all Average |
| 1. Shoulder | Low | 4.75 | 4.13 | 5.00 | | 5.00 | 5.00 | 5.13 | |
| | High | 5.75 | 5.63 | 5.75 | | 5.50 | 5.75 | 6.00 | |
| | Average | 5.15 | 5.13 | 5.27 | 5.17 | 5.27 | 5.28 | 5.43 | 5.31 |
| 2. Front waist length | Low | 13.13 | 13.63 | 14.38 | | 14.25 | 14.25 | 14.75 | |
| | High | 15.75 | 15.75 | 15.88 | | 15.13 | 16.13 | 16.50 | |
| | Average | 14.34 | 14.68 | 15.20 | 14.63 | 14.86 | 15.13 | 15.48 | 15.13 |
| 3. Upper bust— front | Low | 13.00 | 14.00 | 16.00 | | 15.75 | 14.38 | 14.75 | |
| | High | 16.50 | 17.50 | 17.75 | | 17.88 | 19.75 | 19.75 | |
| | Average | 14.79 | 16.13 | 16.58 | 15.64 | 16.55 | 17.39 | 17.30 | 17.21 |
| 4. Blade | Low | 14.25 | 14.50 | 14.88 | | 15.75 | 15.63 | 15.75 | |
| | High | 16.13 | 18.75 | 15.75 | | 16.88 | 17.88 | 16.88 | |
| | Average | 14.29 | 15.06 | 15.27 | 14.88 | 16.31 | 16.25 | 16.43 | 16.29 |
| 5. Full bust | Low | 36.00 | 35.63 | 39.88 | | 43.00 | 42.50 | 44.63 | |
| | High | 46.00 | 45.25 | 43.25 | | 51.00 | 51.88 | 47.63 | |
| | Average | 39.93 | 40.63 | 41.61 | 40.52 | 46.18 | 46.46 | 46.05 | 45.70 |
| 6. Arm girth | Low | 12.75 | 13.25 | 13.50 | | 14.50 | 14.00 | 14.00 | |
| | High | 14.63 | 14.50 | 15.00 | | 15.75 | 15.88 | 14.88 | |
| | Average | 13.74 | 13.81 | 14.21 | 13.85 | 14.04 | 14.39 | 14.46 | 14.71 |
| 7. Underarm seam | Low | 7.50 | 7.38 | 7.38 | | 7.38 | 7.75 | 8.00 | |
| | High | 8.75 | 8.38 | 8.38 | | 8.00 | 9.00 | 8.75 | |
| | Average | 7.95 | 8.02 | 8.04 | 7.99 | 7.84 | 8.13 | 8.30 | 8.10 |
| 8. Waistline | Low | 23.13 | 26.13 | 27.63 | | 29.38 | 29.50 | 29.88 | |
| | High | 28.63 | 31.27 | 28.63 | | 31.25 | 33.00 | 31.63 | |
| | Average | 27.23 | 28.20 | 28.22 | 27.79 | 30.32 | 30.84 | 30.80 | 30.73 |
| 9. Skirt length | Low | 28.00 | 29.00 | 29.75 | | 29.63 | 29.63 | 29.50 | |
| | High | 30.25 | 30.50 | 30.13 | | 31.00 | 31.50 | 30.00 | |
| | Average | 29.49 | 29.67 | 29.85 | 29.63 | 30.05 | 30.40 | 29.80 | 30.23 |
| 10. Back neck | Low | 5.63 | 6.00 | 6.50 | | 6.38 | 5.38 | 6.25 | |
| | High | 7.00 | 7.00 | 6.88 | | 6.75 | 7.25 | 6.88 | |
| | Average | 6.28 | 6.49 | 6.64 | 6.42 | 6.55 | 6.64 | 6.45 | 6.59 |
| 11. Back waist length | Low | 16.00 | 16.25 | 16.50 | | 16.13 | 16.38 | 16.88 | |
| | High | 17.88 | 18.13 | 17.88 | | 16.88 | 17.75 | 17.75 | |
| | Average | 16.64 | 16.83 | 17.43 | 16.86 | 16.50 | 16.97 | 17.32 | 16.93 |
| 12. Hem depth | Low | 0.75 | 1.38 | 1.75 | | 1.00 | 1.50 | 1.75 | |
| | High | 2.00 | 2.00 | 2.50 | | 2.00 | 2.25 | 2.13 | |
| | Average | 1.48 | 1.64 | 2.11 | 1.66 | 1.43 | 1.99 | 1.95 | 1.87 |
| 13. Belt circum-ference | Low | 26.00 | 26.88 | 26.88 | | 30.13 | 29.88 | 30.38 | |
| | High | 29.25 | 30.88 | 28.63 | | 31.00 | 33.50 | 31.88 | |
| | Average | 25.92 | 28.03 | 27.54 | 27.05 | 25.47 | 32.76 | 30.98 | 31.02 |
| 14. Seam width | Low | 0.25 | 0.38 | 0.63 | | 0.25 | 0.38 | 0.38 | |
| | High | 0.50 | 0.63 | 1.00 | | 0.50 | 0.75 | 0.75 | |
| | Average | 0.41 | 0.48 | 0.77 | 0.50 | 0.36 | 0.56 | 0.58 | 0.52 |

NOTE: Price ranges of dresses were as follows:

Low—$2.98 to $10.99.

Medium—$11.00 to $19.99.

High—$20.00 to $119.98.

TABLE III— CONTINUED

COMPARISON OF SPECIFIED MEASUREMENTS IN INCHES,
ACCORDING TO PRICE CATEGORIES IN
SPECIFIED SIZES

| Measurements, Inches | | Price Ranges | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | Size 20 | | | | Size 20 1/2 | | | |
| | | Low | Medium | High | Over-all Average | Low | Medium | High | Over-all Average |
| 1. Shoulder | Low | 5.50 | 5.63 | 5.75 | | 5.63 | 5.38 | 5.38 | |
| | High | 6.38 | 6.00 | 6.13 | | 6.25 | 6.25 | 6.13 | |
| | Average | 5.78 | 5.87 | 5.99 | 5.87 | 5.91 | 5.91 | 5.66 | 5.86 |
| 2. Front waist length | Low | 14.75 | 15.50 | 16.00 | | 14.13 | 14.75 | 14.88 | |
| | High | 15.75 | 17.00 | 17.13 | | 15.75 | 15.75 | 15.63 | |
| | Average | 15.39 | 16.26 | 16.63 | 16.10 | 14.93 | 15.33 | 15.31 | 15.04 |
| 3. Upper bust-front | Low | 14.00 | 16.38 | 17.38 | | 19.00 | 19.63 | 20.00 | |
| | High | 17.25 | 20.75 | 21.38 | | 21.50 | 22.00 | 20.38 | |
| | Average | 16.36 | 18.85 | 19.75 | 18.38 | 20.03 | 20.27 | 20.15 | 20.19 |
| 4. Blade | Low | 17.00 | 16.88 | 17.00 | | 16.88 | 16.38 | 17.25 | |
| | High | 17.75 | 18.88 | 18.88 | | 18.88 | 18.75 | 17.75 | |
| | Average | 17.17 | 17.97 | 18.24 | 17.81 | 17.60 | 17.65 | 17.49 | 17.61 |
| 5. Full bust | Low | 45.63 | 46.25 | 47.25 | | 41.38 | 42.75 | 44.50 | |
| | High | 49.13 | 49.00 | 49.38 | | 49.13 | 50.75 | 49.75 | |
| | Average | 47.60 | 47.68 | 48.36 | 47.78 | 46.87 | 48.46 | 48.54 | 48.05 |
| 6. Arm girth | Low | 15.50 | 15.38 | 15.75 | | 14.88 | 15.00 | 15.38 | |
| | High | 16.50 | 16.13 | 16.25 | | 16.00 | 16.25 | 15.75 | |
| | Average | 15.89 | 15.90 | 16.04 | 15.92 | 15.59 | 15.68 | 15.69 | 15.64 |
| 7. Underarm seam | Low | 7.88 | 7.38 | 7.63 | | 7.00 | 6.38 | 7.88 | |
| | High | 8.50 | 8.50 | 8.13 | | 8.13 | 8.38 | 8.75 | |
| | Average | 7.29 | 7.85 | 7.90 | 7.71 | 7.79 | 7.69 | 8.31 | 7.83 |
| 8. Waistline | Low | 33.75 | 33.13 | 35.00 | | 34.25 | 33.75 | 34.50 | |
| | High | 38.13 | 37.00 | 37.88 | | 37.75 | 37.00 | 36.25 | |
| | Average | 35.04 | 35.32 | 35.36 | 35.32 | 35.14 | 35.20 | 35.29 | 35.30 |
| 9. Skirt length | Low | 28.50 | 29.75 | 30.00 | | 30.00 | 30.00 | 30.00 | |
| | High | 30.50 | 31.75 | 32.00 | | 31.13 | 31.00 | 30.75 | |
| | Average | 30.03 | 30.47 | 30.79 | 30.42 | 30.43 | 30.48 | 30.39 | 30.45 |
| 10. Back neck | Low | 6.88 | 6.23 | 6.75 | | 6.38 | 6.63 | 6.63 | |
| | High | 8.00 | 7.13 | 7.13 | | 7.13 | 7.13 | 7.13 | |
| | Average | 7.20 | 6.95 | 7.03 | 7.03 | 6.84 | 6.86 | 6.79 | 6.84 |
| 11. Back waist length | Low | 16.88 | 17.00 | 17.38 | | 15.75 | 16.00 | 16.75 | |
| | High | 18.00 | 17.88 | 18.00 | | 17.13 | 17.75 | 17.50 | |
| | Average | 17.55 | 17.50 | 17.57 | 17.53 | 16.75 | 17.02 | 17.13 | 16.97 |
| 12. Hem depth | Low | 1.13 | 1.13 | 2.00 | | 1.00 | 1.13 | 2.00 | |
| | High | 2.00 | 2.50 | 2.50 | | 1.75 | 2.50 | 2.50 | |
| | Average | 1.41 | 1.63 | 2.14 | 1.68 | 1.38 | 1.79 | 2.16 | 1.73 |
| 13. Belt circumference | Low | 32.50 | 33.38 | 33.13 | | 34.88 | 35.38 | 35.63 | |
| | High | 38.38 | 35.88 | 35.75 | | 37.13 | 38.50 | 36.75 | |
| | Average | 34.29 | 34.97 | 34.65 | 34.72 | 36.05 | 36.25 | 36.30 | 36.16 |
| 14. Seam width | Low | 0.25 | 0.38 | 0.63 | | 0.25 | 0.38 | 0.63 | |
| | High | 0.50 | 0.75 | 0.75 | | 0.63 | 0.75 | 1.00 | |
| | Average | 0.45 | 0.54 | 0.70 | 0.55 | 0.42 | 0.52 | 0.75 | 0.54 |

NOTE:  Price ranges of dresses were as follows:

Low—$2.98 to $10.99.

Medium—$11.00 to $19.99.

High—$20.00 to $119.98.

## SHOULDER SEAM AND BACK

### NECK MEASUREMENTS

In most observations made, the distance from shoulder tip to shoulder tip, including the back neck measurement, was found to be greater in Price Groups B and C than in Group A. The data disclose that, in most instances, the shoulder seam tended to be longer in Group C. In Groups B and C, the total distance from shoulder tip to shoulder tip was comparable, although the back neck measurement differed in some cases.

## VERTICAL BODICE MEASUREMENTS:

### FRONT WAIST, UNDER ARM,

### BACK WAIST

With reference to the vertical bodice measurements, observations on the data reveal that, in some cases, there was an increase of as much as one and one-fourth inches in length in these measurements between the garments in the Group A price range and those which were found in Groups B and C.

In all cases except one, the vertical bodice measurements of the garments in Group C were equal to or greater than those of garments in Group B, whereas the vertical bodice measurements of the garments

in Group A were as much as three-fourths of an inch shorter than those

found in the Group B price range.

## BODICE HORIZONTAL MEASUREMENTS

### Upper Bust

The upper bust measurements observed in the garments disclose

the fact that, in some cases, there was an increase of as much as two

and one-half inches in width in this designated area between the Group A

price categories and the Group C price range.

### Full Bust

In most observed cases, ease usually was greater across the

full bust in the Group C garments, while there was as much as one and

one-half inches difference between the measurements in the Group A

price range as compared with measurements of the garments in Group C.

### Blade Measurement

The blade measurements revealed a gradual increase of ease

as the garments became more expensive. There appeared to be less

variation in this measurement between the three price classifications

than was found in the upper bust and full bust measurements.

## ARM GIRTH

There was a continual increase from Price Group A through Price Group C in the measurement around the arm muscle, in all specified size levels. The larger measurements occurred in the high or Group C price range.

## SKIRT LENGTH

There was a gradual increase in skirt length from Group A through Group C, with the longer skirts occurring in Group C, or the garments of higher price. There appeared to be very little difference in the skirt lengths, regardless of the size. This may be explained by the fact that the manufacturer assumes an average height for all women, regardless of size.

## WAIST AND BELT MEASUREMENTS

The waist measure, in most cases, tended to be greater in Group C, whereas the belts generally were larger in the medium or Group B price range.

## HEM DEPTH AND SEAM WIDTH

Garments observed in Price Group C appeared to have greater hem depth than did those in Group B, while the hems in the cheaper, or Group A dresses were as much as one-half inch less in depth than those of the garments in the Group B price range.

Examination of the seam allowances tended to show that larger side seams more often were found in the Group C category of merchandise. This might be explained by the fact that more expensive apparel tends to make a greater allowance for alteration.

## COMPARISON OF SPECIFIED MEASUREMENTS AND OF PRICES OBSERVED ON COTTON GARMENTS PURCHASED IN THREE DIFFERENT STORE CATEGORIES

Table IV describes the variation of specified measurements and average prices of cotton dresses purchased in three different types of stores. Cotton dresses were chosen for this comparison because they represented the largest group of dresses insofar as fiber content of fabric was concerned.

TABLE IV

## COMPARISON OF SPECIFIED MEASUREMENTS AND PRICES OF COTTON DRESSES IN THREE BASIC TYPES OF RETAIL STORES

| Measurements in Inches | Size 12 | | | Size 16 | | |
|---|---|---|---|---|---|---|
| | Classification of Stores | | | | | |
| | Group I | Group II | Group III | Group I | Group II | Group III |
| Average cost per garment | $ 6.26 | $10.74 | $33.02 | $ 4.92 | $15.75 | $16.56 |
| 1. Shoulder seam | 5.09 | 5.13 | 5.17 | 5.25 | 5.33 | 5.45 |
| 2. Front waist length | 13.50 | 14.50 | 15.03 | 14.94 | 15.39 | 15.49 |
| 3. Upper bust front | 14.08 | 15.23 | 16.55 | 16.41 | 16.96 | 17.57 |
| 4. Blade | 14.88 | 15.21 | 15.42 | 16.22 | 16.23 | 16.21 |
| 5. Full bust | 38.59 | 39.73 | 42.07 | 45.81 | 45.83 | 45.43 |
| 6. Arm girth | 13.84 | 13.86 | 14.07 | 14.03 | 14.58 | 14.89 |
| 7. Underarm seam | 7.59 | 8.04 | 8.01 | 7.75 | 8.18 | 8.18 |
| 8. Waistline | 27.70 | 27.46 | 28.01 | 30.16 | 30.85 | 30.86 |
| 9. Skirt length | 29.21 | 29.66 | 29.74 | 30.19 | 30.38 | 30.52 |
| 10. Back neck | 6.09 | 6.29 | 6.34 | 6.50 | 6.70 | 6.52 |
| 11. Back waist length | 14.87 | 16.70 | 17.20 | 16.47 | 17.12 | 16.72 |
| 12. Hem depth | 0.88 | 1.57 | 1.71 | 1.25 | 1.84 | 2.00 |
| 13. Belt circumference | 27.59 | 26.39 | 27.79 | 30.54 | 31.02 | 31.07 |
| 14. Seam width | 0.34 | 0.41 | 0.64 | 0.32 | 0.50 | 0.52 |

| Measurements in Inches | Size 20 | | | Size 20 1/2 | | |
|---|---|---|---|---|---|---|
| | Classification of Stores | | | | | |
| | Group I | Group II | Group III | Group I | Group II | Group III |
| Average cost per garment | $ 6.21 | $15.05 | $39.00 | $ 6.66 | $15.30 | $39.33 |
| 1. Shoulder seam | 5.79 | 5.86 | 5.90 | 5.54 | 5.60 | 5.64 |
| 2. Front waist length | 15.14 | 15.50 | 16.08 | 14.78 | 14.98 | 15.24 |
| 3. Upper bust front | 18.30 | 18.34 | 18.54 | 20.12 | 20.18 | 20.24 |
| 4. Blade | 17.58 | 17.76 | 18.00 | 17.62 | 17.66 | 17.68 |
| 5. Full bust | 47.36 | 47.65 | 48.29 | 47.10 | 47.10 | 47.83 |
| 6. Arm girth | 15.75 | 15.89 | 16.07 | 15.09 | 15.27 | 15.75 |
| 7. Underarm seam | 7.86 | 7.91 | 8.06 | 7.62 | 7.76 | 8.16 |
| 8. Waistline | 35.13 | 35.27 | 36.50 | 34.02 | 34.59 | 35.34 |
| 9. Skirt length | 30.07 | 30.37 | 30.61 | 29.12 | 29.36 | 30.38 |
| 10. Back neck | 6.98 | 7.03 | 7.06 | 6.65 | 6.85 | 6.80 |
| 11. Back waist length | 17.46 | 17.50 | 17.53 | 16.71 | 16.93 | 17.13 |
| 12. Hem depth | 1.03 | 1.64 | 1.84 | 1.25 | 1.68 | 2.21 |
| 13. Belt circumference | 35.17 | 35.34 | 36.10 | 35.96 | 36.24 | 36.84 |
| 14. Seam width | 0.34 | 0.52 | 0.57 | 0.38 | 0.67 | 0.67 |

NOTE: Store classifications were as follows:

Group I—Chain stores.

Group II—Suburban stores.

Group III—Department stores or specialty shops.

## AVERAGE COST PER UNIT

In all cases, the lowest average price of the garments in the various store categories was found in the chain store organization, while the most expensive average cost was found in the department and specialty stores. This finding may be due in part to the fact that chain stores, because of their organization, buy in larger quantities, thus making a lower price possible at the consumer level. Another partial explanation might be the hidden charges which department and specialty stores must include because of charge accounts, fashion prestige, and possibly the purchase of merchandise in smaller quantities. A major consideration, however, is the fact shown in the previous section of this report, that the garments of lower price—shown here to be centered in the chain store—did not tend to exhibit as many evidences of careful construction as did the higher priced merchandise.

## SHOULDER SEAM AND BACK NECK

### MEASUREMENTS

The total distance from shoulder tip to shoulder tip, including the back neck measurement, always was greater in Group II stores (suburban), and in Group III stores (department and specialty). The data show that the shoulder seams from shoulder tip to neck always were longer in the Group III stores. There was a variation of back neck lengths

between the Group I and the Group II and Group III stores, in that, in 50

per cent of the cases, the larger back neck measurement fell in one or

the other of the latter two classifications.


VERTICAL BODICE MEASUREMENTS:

FRONT WAIST, UNDERARM

SEAM, BACK WAIST


In reference to the vertical bodice measurements, the data

disclose the fact that, in some cases, there was an increase of as much

as one and one-half inches in the length of these measurements between

the stores in Group I (chain) and those in Group III (department and

specialty).


In every case, the garments purchased from department or

specialty stores were equal to or greater than those purchased in sub-

urban stores in the vertical bodice measurements. On the other hand,

these measurements in garments found in the chain stores usually were

as much as one-half inch shorter than those available at suburban

stores (Group II).

# HORIZONTAL BODICE MEASUREMENTS:

## UPPER BUST, FULL BUST, BLADE

## MEASUREMENT

### Upper Bust

The data concerning the upper bust front showed, in every case, a proportional increase in ease from Group I through Group II stores, and thence through the Group III measurements.

### Full Bust

In all observed cases, there was a tendency to have greater ease across the full bust in the garments available at the suburban and department stores. Interestingly enough, in the size 12 category, there was more than three inches difference in this area, between the average measurement of the chain store and the average measurement found in the department and specialty stores.

### Blade Measurement

The blade measurements exhibited a gradual increase of ease in the garments observed from Group I through Group III stores. There appeared to be less variation in this measurement, however, than in

the two previous horizontal bodice measurements. Attention should be drawn to the fact that, in both front bodice horizontal measurements— full bust and upper bust—there was a greater variation of measurements between the store classifications in the size 12 garments than was shown in any other size. It is possible that this might be explained by the fact that, in the smaller size, a greater age range of persons is being fitted than in the larger sizes, which tend to have more established anthropometric proportions.

## ARM GIRTH

There was a continuous increase from Group I through Group III stores in width around the arm muscle, at each specified size level. The larger measurements occurred in the department and specialty store categories.

## SKIRT LENGTH

In all size classifications, the skirt lengths appeared to be slightly longer in the department and specialty store categories than in the other two groups of stores. In examining the total length of the skirt, regardless of the size, it appears that a standard height was assumed for women, regardless of their size classification, since there

was very little difference in the skirt length of a size 12, 16, 20, or 20 1/2 garment.

## WAIST AND BELT CIRCUMFERENCE

Waist and belt measurements were found to have a greater ease allowance in the garments available in the department and specialty stores, than was found in the other two store classifications.

## HEM DEPTH AND SEAM WIDTH

Garments observed in the department and specialty stores had greater hem depths than those examined in the other two store classifications. In all observations, regardless of size groups, the smallest hems appeared in the chain store merchandise.

The seam allowance measurements showed that larger side seams generally were found in department and specialty store apparel, while the next larger seams appeared in the garments available in the suburban stores. These findings disclose the fact that greater alteration allowances were more likely to be found in the more expensive merchandise.

# A COMPARISON OF AVERAGE DRESS MEASUREMENTS

## IN SPECIFIED SIZES IN RELATION TO THE

## LAPICK STANDARD

Much has been said about the great number of necessary altera-
tions and the uncomfortable areas of fit in ready-to-wear garments.
Two of the measurements of this study which can be compared with a re-
liable standard for ready-to-wear dresses are the arm girth and the
back waist length.  Table V illustrates the fact that, in general, ready-
to-wear garments today are too small in the arm girth area to allow
for adequate freedom of body movement, according to Lapick (2).

A study of Table V shows that Lapick, cited above, suggests a
measurement for the arm girth which was approximately the same for
the size 20 garments, but which was approximately from one-half to
seven-eighths of an inch larger than the averages found in the dresses
measured in this study.  The back waist measurements recommended
by Lapick, on the other hand, were from one and one-half to one and
three-fourths inches shorter than those of this study.  It has been ob-
served by the author and associates that ready-made dresses are too
long-waisted for the average woman.

Measurements recommended by Lapick are based on the find-
ings of the United States Department of Agriculture (5).  The latter

included anthropometric measurements of 14, 698 women, representative

of a cross-section of American Caucasian adult females.  The study was

directed by O'Brien for the United States Department of Agriculture,

with the following co-operators:  Agnes Fay Morgan of the University

of California at Berkeley; Frances L. Swain of the Board of Education,

Chicago, Illinois; Marie Mount, of the University of Maryland; Helen

W. Hazen and Inez La Bossier of the New Jersey College for Women

and the New Jersey College of Agriculture, respectively; Margaret M.

Edwards and Agnes M. Coxe of the Woman's College of the University

of North Carolina; and Pauline Beery Mack of the Ellen H. Richards

Institute, College of Chemistry and Physics, of The Pennsylvania State

University.

The measurements resulting from this comprehensive study

should be regarded as a more reliable basis for pattern and garment

sizes than the stylized manufacturers' dummies which frequently bear

little relationship to actual persons.

# TABLE V

## COMPARISON OF AVERAGE MEASUREMENTS OF THE ARM GIRTH AND THE BACK WAIST LENGTH IN WOMEN'S DRESSES OF SPECIFIED SIZES, WITH THE LAPICK STANDARD FOR THESE MEASUREMENTS

| Size | Arm Girth | | Back Waist Length | |
|------|-----------|----------|-------------------|----------|
| | Average Observed Measure, Inches | Lapick Suggested Measure, Inches | Average Observed Measure, Inches | Lapick Suggested Measure, Inches |
| 12 | 13. 85 | 14. 50 | 16. 86 | 15. 00 |
| 16 | 14. 71 | 15. 25 | 16. 93 | 15. 50 |
| 20 | 15. 92 | 15. 75 | 17. 53 | 16. 00 |
| 20 1/2 | 15. 64 | 16. 50 | 16. 97 | 15. 50 |

# TECHNIQUES OF FINISHING

Chambers (1) states that, in general, the total cost of a low to moderate priced woman's garment can be divided approximately into thirds. One-third pays for the material and trim of the garment, one-third covers the cost of labor, and the last third is attributed to the profits and overhead. The author was interested to make a study of techniques of finishing the garments in this investigation, in relation to their price, inasmuch as finishes certainly represent a part of the cost to the ultimate consumer. Table VI summarizes these observations. This portion of the study, as in the case of the previous section, was confined to cotton garments so that the fiber content of the fabrics would not constitute a serious variable.

TABLE VI

## COMPARISON OF TECHNIQUES OF FINISHING IN COTTON DRESSES OF THREE PRICE RANGES

| Sizes | Price Range | Hem | | Zipper | Buttonholes | | Belts | |
|---|---|---|---|---|---|---|---|---|
| | | Serge | Tape | | Worked | Piped | Self-fabric | Other Materials |
| Size 12 | Low | 17 | 0 | 7 | 17 | 0 | 14 | 3 |
| | Medium | 16 | 0 | 3 | 16 | 0 | 16 | 0 |
| | High | 5 | 4 | 1 | 5 | 4 | 7 | 0 |
| Size 16 | Low | 6 | 0 | 1 | 6 | 0 | 4 | 2 |
| | Medium | 14 | 5 | 4 | 19 | 0 | 17 | 2 |
| | High | 4 | 2 | 1 | 4 | 1 | 6 | 0 |
| Size 20 | Low | 9 | 0 | 2 | 9 | 0 | 6 | 3 |
| | Medium | 16 | 2 | 1 | 15 | 1 | 17 | 1 |
| | High | 5 | 2 | 2 | 3 | 4 | 7 | 0 |
| Size 20 1/2 | Low | 9 | 0 | 0 | 9 | 0 | 9 | 0 |
| | Medium | 17 | 4 | 2 | 21 | 0 | 21 | 0 |
| | High | 4 | 3 | 3 | 4 | 3 | 7 | 0 |
| Total | | 120 | 22 | 27 | 129 | 13 | 131 | 11 |

| Sizes | Price Range | Interfacing | | Buttons | | Fasteners | |
|---|---|---|---|---|---|---|---|
| | | None | Front Bodice | Self-fabric | Others—Bone, Plastic, etc. | Snap | Hook |
| Size 12 | Low | 17 | 0 | 1 | 16 | 9 | 2 |
| | Medium | 15 | 1 | 2 | 14 | 1 | 5 |
| | High | 3 | 6 | 5 | 4 | 0 | 2 |
| Size 16 | Low | 5 | 1 | 1 | 5 | 1 | 2 |
| | Medium | 9 | 10 | 7 | 12 | 0 | 6 |
| | High | 1 | 4 | 4 | 2 | 1 | 4 |
| Size 20 | Low | 8 | 1 | 1 | 8 | 2 | 0 |
| | Medium | 11 | 7 | 5 | 13 | 4 | 3 |
| | High | 1 | 6 | 5 | 2 | 1 | 3 |
| Size 20 1/2 | Low | 9 | 0 | 0 | 9 | 1 | 1 |
| | Medium | 19 | 2 | 3 | 18 | 5 | 8 |
| | High | 1 | 6 | 4 | 3 | 1 | 2 |
| Total | | 98 | 44 | 35 | 107 | 26 | 36 |

NOTE: Price ranges for dresses were as follows:

Low—$2.98 to $10.99.

Medium—$11.00 to $19.99.

High—$20.00 to $119.98.

## HEM FINISHES

Observations of the hem finishes in 142 cotton garments, revealed that 120 were finished with a machine hemming stitch, while only 22 had taped finishes. The following summary shows the type of hem finish found on garments, as related to the three price classifications used in this investigation.

### SUMMARY OF HEM FINISHES IN COTTON DRESSES

### IN THREE PRICE RANGES

| Price Group of Dresses | Serge Finishes | | Tape Finishes | |
|---|---|---|---|---|
| | Number | Per Cent | Number | Per Cent |
| Group A (low priced) | 41 | 100.0 | 0 | 0.0 |
| Group B (moderate priced) | 63 | 85.1 | 11 | 14.9 |
| Group C (high priced) | 18 | 62.1 | 11 | 37.9 |

The preceding chart of summary figures shows a greater percentage of serge than tape hem finished in all price categories. The tape finish increased in per cent as the price range increased. One of several reasons why the serge hem finish may be more popular is the fact that industry has developed a very satisfactory power serging

machine, which will make a concealed hem finish, thus saving time and money.

## BUTTONHOLE FINISHES

All cotton dresses observed in this study had buttonholes on the front of the garments. Of the total, 129 of these buttonholes had the effect of being hand worked, although they had been worked by an automatic machine. Thirteen had piped buttonholes.

The type of buttonhole found in each garment is shown in the following summary in relation to the price classification.

## SUMMARY OF BUTTONHOLE FINISHES IN COTTON
## DRESSES IN THREE PRICE RANGES

| Price Group of Dresses | Machine Worked Buttonholes | | Piped Buttonholes | |
|---|---|---|---|---|
| | Number | Per Cent | Number | Per Cent |
| Group A (Low priced) . | 41 | 100.0 | 0 | 0.0 |
| Group B (moderate priced) | 71 | 89.6 | 3 | 10.4 |
| Group C (high priced) . | 16 | 57.1 | 13 | 42.9 |

This summary shows that the highest percentage of worked but-tonholes appeared in the lower priced merchandise, whereas the piped

buttonhole had a greater percentage in the more expensive or higher priced dresses.

As was explained with the concealed hem finish, automatic machine processes make it more feasible to use a worked buttonhole in the majority of garments. The piped buttonhole has an element of fashion and luxury, but costs more to produce. While industry today can obtain a machine which will make tailored cloth buttonholes automatically, it is an extremely expensive piece of equipment; and greater time and labor are required per buttonhole.

TYPES OF BELTS

In general, the vast majority of the belts found on the ready-to-wear garments observed in this study were of a self-covered fabric type. This is a more conservative style, probably representing a more economical type of decoration than belts of leather, metal, or some other material.

The following summary shows how belt finishes were related to the different price range classifications of the cotton dresses examined.

## SUMMARY OF BELT TYPES ON COTTON DRESSES IN

## THREE PRICE RANGES

| Price Groups of Dresses | Belts of Self Fabric | | Belts of Other Material | |
|---|---|---|---|---|
| | Number | Per Cent | Number | Per Cent |
| Group A (low-priced). | 33 | 80.5 | 8 | 19.5 |
| Group B (moderate priced) | 71 | 96.0 | 3 | 4.0 |
| Group C (high-priced). | 29 | 100.0 | 0 | 0.0 |

The data reveal a greater percentage of self-fabric belts in all price ranges, although the higher priced garments had the highest percentage of this type of belt.

## INTERFACING TECHNIQUES

In checking the number of cotton garments which had interfacings, primarily in the front areas, 99 were found to have no type of stiffening, while 44 used an interfacing.

The following summary shows the number and per cent of garments having interfacings, as divided into price classifications.

## SUMMARY OF PRESENCE OR ABSENCE OF

## INTERFACINGS IN COTTON DRESSES

| Price Groups of Dresses | Interfacings Used | | Interfacings Not Used | |
|---|---|---|---|---|
| | Number | Per Cent | Number | Per Cent |
| Group A (low priced) . . | 2 | 4.9 | 39 | 95.1 |
| Group B (moderate priced). | 20 | 27.0 | 54 | 73.0 |
| Group C (high priced) . . | 23 | 79.4 | 6 | 20.6 |

The garments found in the low and moderate price range categories had a larger percentage of dresses with no type interfacing, whereas the more expensive or high price category had a greater percentage of garments with interfacings. The per cent of dresses with interfacings increased with an increase in price.

It is believed by the author that fashion has promoted a more extensive use of interfacings in cotton garments used today than formerly was the case. While no figures concerning the use of interfacings in cotton dresses in general are available for comparative purposes, the fact that approximately one-third of the garments studied used an interfacing is worthy of mention.

TYPES OF BUTTONS

In observing the cotton garments in this study, only 35 had buttons covered with self-fabric, while 107 had buttons made of other materials, such as metal, glass, bone, or plastic.

The following summary is based upon relation to price in regard to the type of buttons used on the specified garments.

SUMMARY OF TYPES OF BUTTONS ON COTTON

DRESSES IN THREE PRICE RANGES

| Price Groups of Dresses | Self-fabric Buttons | | Buttons of Other Materials | |
|---|---|---|---|---|
| | Number | Per Cent | Number | Per Cent |
| Group A (low priced) . . | 3 | 7.3 | 38 | 92.7 |
| Group B (moderate priced). | 17 | 23.0 | 57 | 77.0 |
| Group C (high priced) . . | 11 | 37.9 | 18 | 62.1 |

The above summary shows more buttons of other materials than of self-fabric buttons in the total number of dresses. There was a gradual increase in the per cent of self-fabric buttons as the price range of the garments increased. Such materials as metal, glass, bone, or plastic decreased as the price range of the dresses increased.

Fashion and economic factors, apparently, determined the type of buttons selected for each individual garment.

# SUMMARY

Various government and private agencies have conducted body anthropometric studies involving women and children, respectively, in this country. Little attention by garment manufacturers, however, has been paid to the results of these studies. Since mass production of women's wear was first introduced in the United States, there has been little or no standardization of garment sizes in relation to the body measurements of representative women.

This study had as its chief objective the obtaining of specified measurements in representative women's manufactured dresses found in the market today. This study was designed to find the relation between certain garment measurements and the price levels of the garments. In addition, a relationship was sought, if any, between the measurement of the cotton garments in the study and the types of stores at which they were available. In conjunction with the above observations, a study was made of the finishing techniques in the cotton garments in relation to the price ranges.

In order to include comparisons of the findings and the types of stores from which the garments were available, the stores were

grouped into chain, suburban, and department or specialty organizations. A total of 234 women's garments in sizes 12, 16, 20, and 20 1/2 were selected from the described retail stores. For comparative purposes, a basically designed dress of woven cloth was used for observation purposes. This type of garment has a normal waistline, a set-in sleeve with a normal armscye, a convertible collar, and buttonholes at least to the waist.

A standardized tape measure and uniform methods of measurement were employed in obtaining the data. The following measurements were obtained from each specimen:

1. Shoulder seam;

2. Front waist length;

3. Upper bust front;

4. Blade measurement;

5. Full bust;

6. Arm girth;

7. Underarm seam;

8. Waist;

9. Skirt length;

10. Back neck;

11. Back waist length;

12. Hem depth;

13. Belt circumference; and,

14. Seam width.

A table was organized which described specific measurements according to price groupings. Price Group A was composed of those garments ranging in price from $2.98 to $10.99; Group B included those dresses priced from $11.00 to $19.99; Group C designated those garments which ranged in price from $20.00 to $119.98.

The following observations were made from the data organized according to the price group of the garments:

1. The total measurement from shoulder tip to shoulder tip, including the back neck measurement, usually was greater in garments classified as moderate or more expensive merchandise.

2. In most cases, the vertical bodice measurements of the more expensive garments were equal to or greater than the apparel in the moderate priced field.

3. The horizontal bodice measurements, in most cases, presented a gradual increase from the dresses in the lower priced through the higher priced categories.

4. The measurement of the arm girth indicated a continual increase in size from the lower priced merchandise through the higher priced garments, with the larger measurements falling in the higher price bracket.

5. The data show very little difference in skirt lengths for the various price ranges.

6. The waist and belt measurements tended to be greatest in the higher priced group.

7. The garments which were measured revealed greater hem depths and seam widths in the higher price ranges.

A table was devised to describe the variation of specified measurements in cotton dresses— the largest fiber content category—according to store classifications. The stores were divided into three groups: chain, suburban, and department or specialty stores.

The following observations were made from these data:

1. There appeared to be a distinct relationship between the type of store displaying the dresses and the price range of the garments, with those purchased at chain stores tending to be lowest in price, those at suburban stores intermediate, and those in department stores or specialty shops highest in price. It would be expected,

therefore, that at least some of the measurement variations with price range would recur when the dresses were grouped according to the type of store in which they were available.

2. The total measurement from shoulder tip to shoulder tip, including the back neck measurement, was always greater in the garments in the suburban and department or specialty store classifications.

3. There was an indication that the vertical bodice measurements of the garments in the department or specialty store grouping were equal to or greater than those of the garments found in the suburban store grouping.

4. The horizontal bodice measurements, in most cases, presented a gradual increase from the chain store through the department or specialty store classification.

5. The measurement of the arm girth indicated a continual increase in size from the chain store categories to the department or specialty store grouping.

6. The data show virtually no differences in skirt lengths, from the chain store through the department or specialty store grouping.

7. The waist and belt measurements tended to be greater in the

department or specialty store category.

8. Garments observed revealed greater hem depths and seam widths in the department and specialty store grouping.

A comparative table of average measurements on dresses of specified sizes was constructed from the observed data in relation to the Lapick (2) standards. Upon comparison of the measurements obtained in this study with Lapick's standards, it was noted that the arm girth of the garments available today were smaller than those suggested by Lapick. Also, a back waist length measurement suggested by this same investigator was shorter than was found in this study. The Lapick standards were based on a government-sponsored anthropometric study described earlier in the body of this report.

A table was organized to show the different techniques of finishing found on the measured specimens. The following statements summarize these finishing technique findings:

.1. A greater percentage of the hems on cotton dresses were finished with a machine hemming stitch rather than a taped finish.

2. A total of 129 of the 142 observed cotton garments had buttonholes which gave the effect of being hand worked, although they were done by an automatic machine. Only the more expensive garments had piped buttonholes.

3. The vast majority of the belts found on the ready-to-wear garments were of a self-covered fabric.

4. Approximately one-third of the garments which were studied used an interfacing primarily in the front areas.

5. About three-fourths of the cotton garments examined had buttons of other materials, such as metal, glass, bone, or plastic; while only about one-fourth of the garments had buttons covered with self-fabric.

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