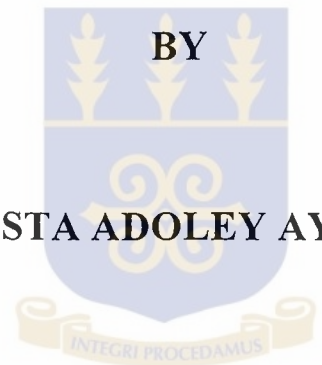
BODY SIZES OF GHANAIAN FEMALE STUDENTS OF THE UNIVERSITY OF GHANA, LEGON

BY

AUGUSTA ADOLEY AYERTEY



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DECLARATION

I AUGUSTA ADOLEY AYERTEY do hereby declare that, this work is a true record of an actual study, which I personally conducted with the Ghanaian female students of the University of Ghana, Legon.

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DEDICATION

To those who understand and appreciate the human body structure as an individual issue.

ACKNOWLEDGEMENT

To God be the glory, great things He has done, beyond human understanding.

I wish to express my deep sense of appreciation and gratitude to my Supervisor, Prof. Mrs. Docea Fianu for her useful suggestions, corrections, active and willing co-operation in the preparation of this paper. I am also very grateful to my co-supervisor Mrs. Edith Francois for her very thoughtful corrections and suggestions.

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To my study sample, I owe you a lot of gratitude.

Finally I am very thankful to my family for its role in my education.

God bless you all.

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ABSTRACT

The main objective of the study was to classify the Ghanaian female figure into body sizes. A proportionate sample of 313 Ghanaian female students from the University of Ghana, Legon selected from four age strata were the respondents. The Statistical Package for Social Science (SPSS/PC) software was used to analyse the background information, perceived figure types, and figure preferences. The Combination Statistic was used to categorise body measurements to obtain the respondents body sizes. Bust less waist, hip less waist and hip less bust measurements were calculated and compared with those of the Caucasians' as reported by the Simplicity Pattern Company (1976). The chi-square statistic was used to test the relationship between age and body sizes while the Mean, Standard Deviation and Standard Error of Difference were computed to test the hypothesis that there would be no significant differences in the Hip less Bust, Bust less Waist and Hip less Waist measurements among the various age groups of the respondents. The respondents were within the age range of 18 years to 40 years and above with majority within 21-29 years (72.2%). The figure type they preferred was the mesomorphic type (87.8%). Nine body sizes, which were labelled, for the purpose of this study, as Smallish, Short-plump,

Mayfair, Medium-cute, Medium-lady, Cutemum, Allslim, Tall-Graceful and Tall-Heavy, by the researcher and with corresponding measurements were identified. The figures the respondents perceived of themselves were however different from the findings of the study. With the standards set by the Simplicity Pattern Company (1976), 13.8% of the respondents conformed to the Hip-les-bust; 32.6% for Bust-less-waist while the Hip-less-waist recorded 38.0%.The Standard Error of Difference indicated that there was a significant difference between the age groups 18-20 years and 40 years and above on one hand and between the age groups 30-39 years and 40 years and above in the Hip less Bust measurements. There were also significant differences between the age groups 18-20 years and 40 years and above in the Bust less Waist measurements. The Standard Error Difference for the Hip less Waist measurements also indicated that significant differences existed between the age groups 18-20 years and 21-29 years;18-20 years and 30-30 years; 21-29 years and40 years and above and 30-39 years and 40 years and above. The chi-square statistic revealed that there was a significant difference between body size and age at 5% level of significance. This is a pilot study and the findings are therefore limited to female students of the University of Ghana students at Legon and cannot be generalised to cover all Ghanaians. It is suggested that further studies be

done, taking a representative sample of Ghanaians in different age strata, occupation and marital status, among others. This may help to obtain body sizes that can be used as standards for the Ghanaian figure.

CHAPTER ONE

INTRODUCTION

Background of Information

Man's desire to seek an identity is achieved by conforming to a given set of norms, while at the same time striving to achieve some distinction from his fellow men (Horn, 1968). Horn (1968) further reported that a personal dilemma arises from the fact that an individual may want to be a conforming member of some social group and at the same time a distinctive individual. Identification and loyalty in relation to dress and figure type are aspects of conformity. Individuality and conformity are social tendencies and they form the basis for all fashion behaviours. Should one of these social tendencies be absent, fashion will not be formed.(Horn,1968).

Kefgen and Touchie-Specht (1986) explained that one of the most important features that makes individuals different from each other is the way the bones in the body are formed. The human body is made up of about two hundred bones which are joined together to make up the skeleton (Barclay and White, 1990). The skeleton, therefore, gives the body its shape or framework. Kefgen and Touchie-Specht (1986) further reported that the bone structure of an individual may be influenced by one's racial heritage. This framework is one thing that cannot change and thus contributes to the specific differences in body

conformation. For instance, the Khoikhoin of Southern Africa are slightly taller with longer and narrower heads than the San also of Southern Africa. The San are identified by their prominent buttocks, flattish faces, broad nose with small but broad heads (New Encyclopaedia Brittanica Vol.6 and Vol.10, 1994). Perry (1972) also stated that the bone structure in relation to build and individual features play a significant role in the height of a person. Craig (1968), however, emphasised that there are no standard height, bust, waist and hip measurements. This is because many people of the same relative size may have well proportioned figures and yet may vary greatly in height, weight and other body measurements. She further emphasised that adults' heights and bone structure may be relatively constant, but weight and shape may shift depending on age, diet, activity and type of undergarment worn.

Fashion has created an awareness of figure consciousness and as such one sees herself to be either too fat, too thin, too short or too tall plus a host of other figure problems. Fashion therefore reveals and moves easily with the body since body ideals are the prototypes used in both designing and fashion promotion. Mcjinsey (1973) however reported that the beautifully proportioned Greek Statue, 'Venus de Milo' which represented the classic ideal of the feminine figure is admired, yet it bears little resemblance to the present day concept of ideal female fashion figure which is taller and slimmer. This is

confirmed by Perry (1972) when she reported that in terms of body language, posture communicates on one's attitude, hence the woman who stands tall takes a positive stand in the world.

Statement of the Problem

Individuals have different body conformations. Caucasians have therefore grouped the body conformations of individuals in their societies into figure types. Each figure type has specific body measurements which are used to design paper patterns for the production of garments. Besides custom-made clothes, Ghanaian clothing consumers also purchase ready-made clothes, which sizes and fit specifications are based on the figure statistics of the Caucasian figure type.

Even though not documented, it has generally been observed that Caucasian figures are different from those of the Negroid. Because of such body differences, there is the need for producers of ready-made garments for the Ghanaian market to use appropriate size specifications in order to produce garments which will fit the African, or the Ghanaian figure.

Since there is the lack of categorised body measurements of the African, It was worthwhile to embark on classifying body measurements of the African into sizes for use by off-the-peg dressmakers for the following reasons such as market for mass production, world trade, geographical mobility, among

others.For the purpose of this study a representative sample of Ghanaian female students of the University of Ghana, Legon were the respondents.

Aim

The aim of the study was to classify the body measurements of the Ghanaian female into sizes.

Specific Objectives

The specific objectives were to:

classify the body measurements of the Ghanaian female into body sizes;;

compare the differences in hip less bust, hip less waist, and bust less waist of the sample with those of the caucasians as established by the Simplicity Pattern Company (1976)

- find the extent to which body size differs with age

Hypotheses of the Study

There would be no significant differences in the bust less waist, hip less bust and hip less waist measurements, specified by Simplicity Pattern Company (1976) among the various age groups of the respondents.

- There would be no significant differences among the body sizes of the various age groups.

Significance of the Study

It is a known fact that African garment consumers patronise custom-made more than ready-made clothes. African seamstresses and tailors, particularly those in Ghana, very often design styles directly on fabric before cutting out. However, some styles, like panel and princess lines, according to these dressmakers are better cut on paper before use.

It is therefore envisaged that when the Ghanaian female body measurements are grouped into body sizes, paper patterns may be developed for each figure size. Those who sew but cannot design may benefit from such paper patterns. The patterns may be marketed in other countries thus circulating Ghanaian artistry worldwide and to also bring in the needed foreign exchange for national development.

The findings may benefit any designer who may wish to produce ready-to-wear garments with female students at the University of Ghana, Legon as his target group, since this knowledge may aid the one to produce the required number of sizes for the various categories identified. The results of the study would also provide important information for both Ghanaian and other African fashion designers who produce garments for export. Since different African countries appear to have similar body sizes, other African designers can use this information generated in Ghana to produce garments for export for world trade

and also for geographical mobility within the continent and to Africans in the diaspora.

DEFINITION OF CONCEPTS

Caucasian (Caucasoid geographic race)

They are also referred to as European Geographic race. They are the light skin division of human kind largely located in Europe, North Africa, Middle East, North and South America, Australia, New Zealand and some parts of Asia. They are characterized by minimal skin pigmentation; straight to curly hair; large, rather narrow and high-bridged noses and a heavy body hair.

Negro (Negroid geographic race)

They are also called African Geographic race; a group of human populations occupying sub-Saharan Africa. Characteristic of the Negro race are medium to heavy skin pigmentation, curly to extreme spiral-tuft hair forms, broad lips and nose and minimal body hair.

Body Type

The physical structure of the human body.

Body Conformation

The way the human structure or body type agrees with the standard body type.

Custom-made

Made to a customer's order

Khoikhoin

They are referred to as the Hottentos of Southern Africa.

San

They are the Bushmen also of Southern Africa.

Off-the-peg clothes - ready- made clothes.

Plump-body-size

The term plump-body size is used for the purpose of this study as a slender, athletic figure with less body fat.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Literature for the study is reviewed under the following areas and they were as follows:

anthropometrical research

fashion and figure type

the concept of body image

body cathexis

somatotypes

body proportions, fashion and age

height –weight distribution

preferred figure types over the ages

figure types of today and

taking of body measurements among others.

Anthropometrical Research

The anthropometry discipline is used for the sizing of clothing, to design car seats and cockpit of aeroplanes among others. Cooklin (1990) explained that the discipline, anthropometry is the measurement of man to other primates and for the comparison of different racial groups.

Even though there were many small-scale surveys that were carried out to determine the sizes and measurements of specific groups of women

within a given population, they were of limited value because of the small sample sizes taken and their lack of scientific method. However, Cooklin (1990) confirmed that the four large scale surveys that were carried out between 1956-1968 are of major importance in that to a very large extent, they still provide the only authoritative basis for women's measurements and sizes. The Table 1 below indicates the four large - scale surveys of women sizes and measurements that were reported by Cooklin (1990).

Table 1

Surveys of Women's Sizes and Measurements

Country	Sample Size	Body Measurements Taken	
U.S.A.	10,000	49	Designed for the clothing industry
England	50,000	37	Analyses of the measurements and size groupings of the entire female population between the ages of 18-65
West Germany	10,000	21	The survey contained proposals for a new system of sizing nomenclature
France	8,000	26	Designed for the Federation of clothing manufacturers

Fashion and Figure Type

Kefgen and Touchie-Specht (1986) defined fashion as a general social phenomenon that affects and shapes man as a whole. Fashion can affect the appearance of the human body and all modes of its expression. It is therefore said to be the code language of status. It also represents the total style of human activity that is accepted by a large group of people at a specific time. Today's fashion, through magazines, television and movies,

have particularly made people figure conscious. The concept of fashion is composed of many elements, which are:

i) body image

ii) body cathexis and

iii) somatotype.

The Concept of Body Image

Trollope and Caton (1995) reported Kaiser (1990) that the concept of body image is the mental picture one has of his or her body at any given moment. It is how one sees one's own physical self at any specific time, or the attitude one takes towards his or her own body. The body image may be a distortion of reality. This is because how a person sees oneself is not necessarily the same as how others see him or her. Kefgen and Touchie-Specht (1986) further explained body image distortion that, some overweight people see themselves as slender while some slender people see themselves as heavy. Therefore inaccurate body image tends to making wrong choice of clothing that exaggerates irregularities rather than concealing or carmouflaging figure problems.

Body cathexis

According to Trollope and Caton (1995) body cathexis is the degree of satisfaction one has with his or her own body and that there is a positive relationship between body cathexis and satisfaction with the self. Body cathexis is measured using a scale which may include physical skills, fitness and health, facial and general appearance, upper body strength, physique and muscular strength making it to have a more evaluative function than body image.

Somatotypes

A somatotype is a body classification which differentiates among the shapes of the body builds. Based on the infinite variety of forms, Kefgen and Touchie-Specht (1986) reported that the human body has been categorised into three basic somatotypes.

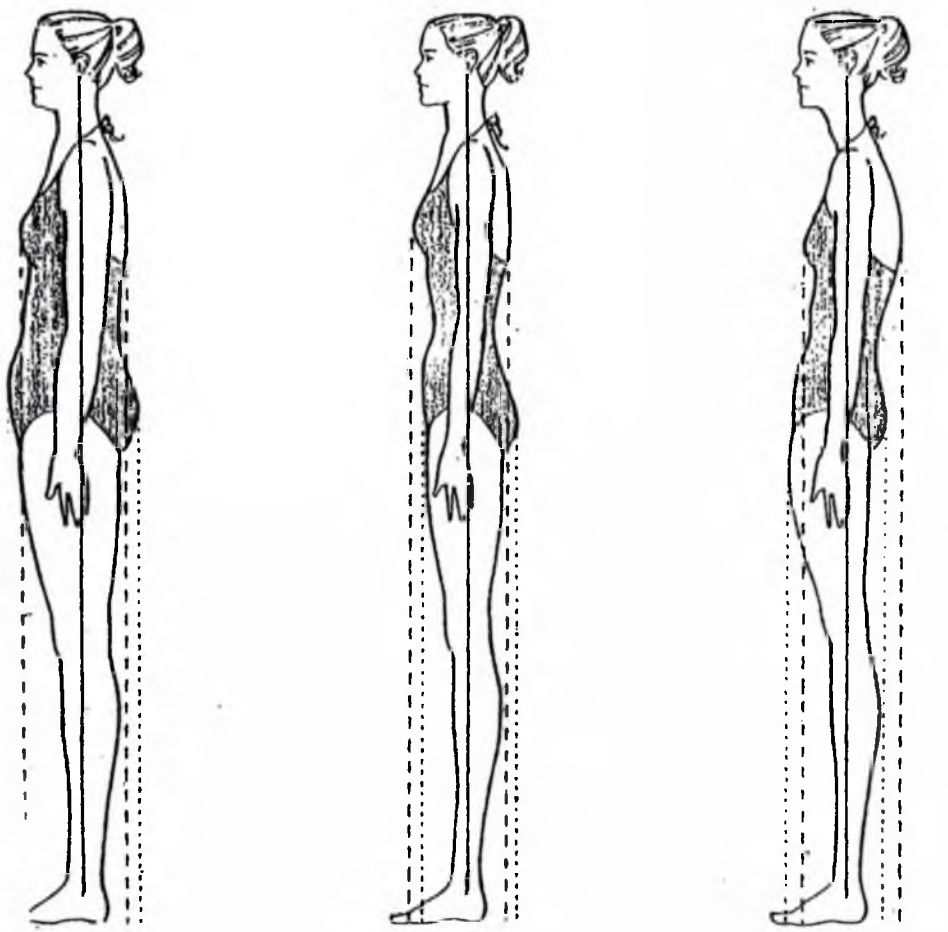
Figure 1 represents the female somatotypes which are as follows:

i) endomorph
ii) mesomorph and
iii) ectomorph figure types (Kefgen and Touchie-Specht,1986).

The Endomorph

This body type has a high amount of fatty tissue and a little muscle tissue. The body framework has a relatively prominent abdomen and generally tends toward certain softness or roundness of the body parts.

FIGURE 1.THE FEMALE SOMATOTYPES



ENDOMORPH MESOMORPH ECTOMORPH

This figure type has a sizeable round body with neck and limbs being short (Figure)

The Mesomorph

The mesomorph frame is bony, angular with a high amount of muscle tissue and little fatty tissue. It is often called an athletic built. The frame has large shoulders and chest, well developed arm and leg muscles.(Figure 1)

The Ectomorph

The ectomorph body frame is long, lean, tall and narrow while the limbs are also long and thin. There are low amounts of both muscle and fatty tissue (Figure1)

The Somatotype Idea

Kefgen and Touchie-Specht (1986) further explained that the somatotype idea does not presuppose that all people can be definitely typed. Assigning people to one of the three somatotypes is therefore not always simple since human beings are offsprings of random-mating. Men and women come in all shapes and sizes with many variables. Some people therefore may be combinations of the three types. This was emphasized by Trollope and Caton (1995) when they cited Kaiser (1990) that since most people do not fall distinctly into one category, subgroups were developed within the categories to help cater for such people. The sub-groups are

i) meso-endomorph and

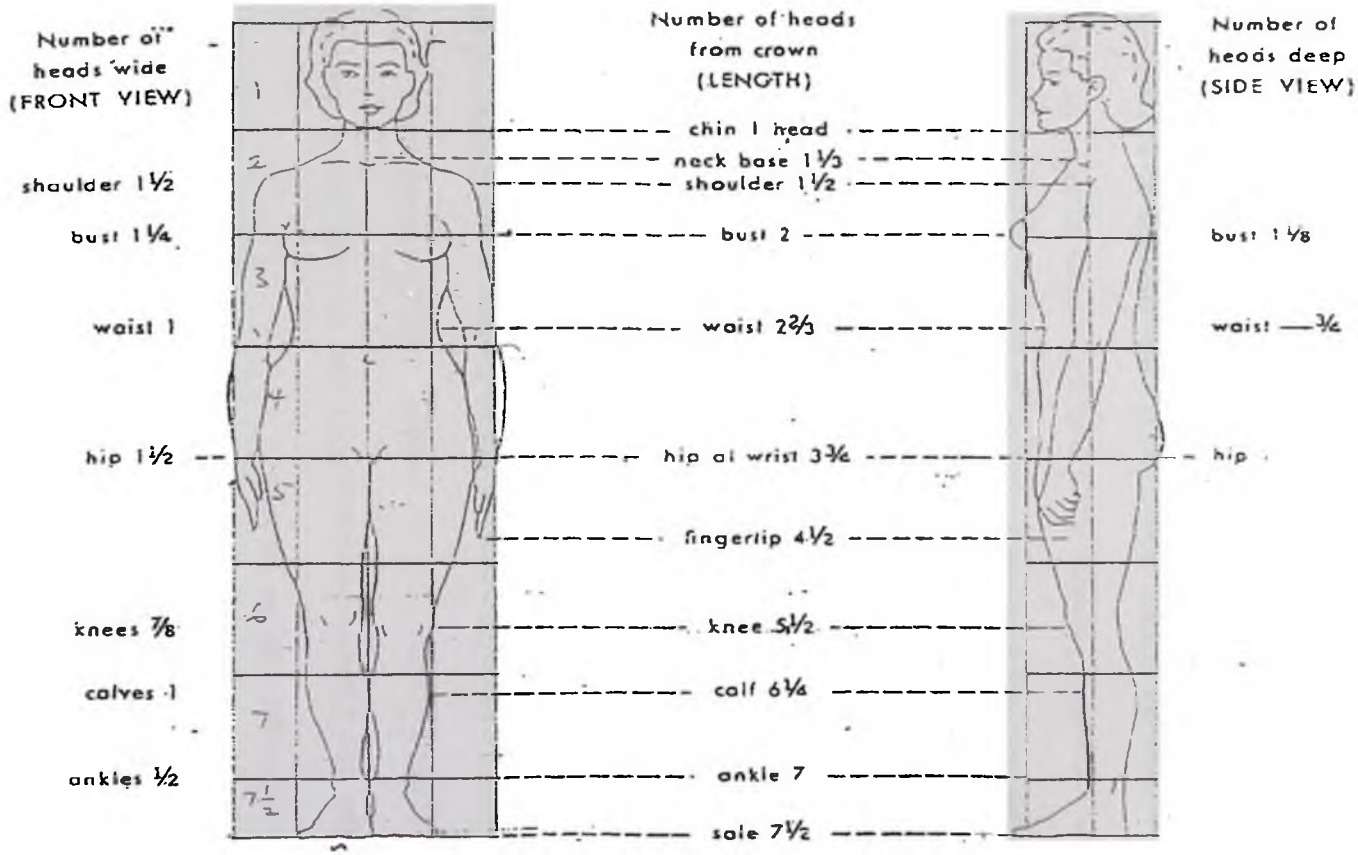
ii) meso-ectomorph

The somatotype theory according to Kefgen and Touchie-Specht (1986), in reality helps people to understand why no matter how hard they try, there are some body types that are impossible to achieve.

Body Proportion

Proportion is the relationship of all parts to each other and of the parts to the whole. Body proportion therefore includes the size relationship of the head to the torso, to the arms, to the hands, to the legs and to the feet and the relationship of each part of the anatomy to the entire body conformation. According to Horn (1968), the average body is approximately seven and one half heads high and the fullest part of the body is at the hip-line or the wrist-level and this almost divides the total length of the body to half. Figure 2 shows the average proportion of the female figure. From the diagram, the neck is about one-third the length of the head and the shoulder line slopes a distance of a half head length from the level of the chin. The fullest part of the bust or chest is located two head lengths from the crown and the smallest part of the waist to two and two-thirds heads from the crown.

Figure 2. Average Proportion of the Female figure.



Source: Horn(1968)

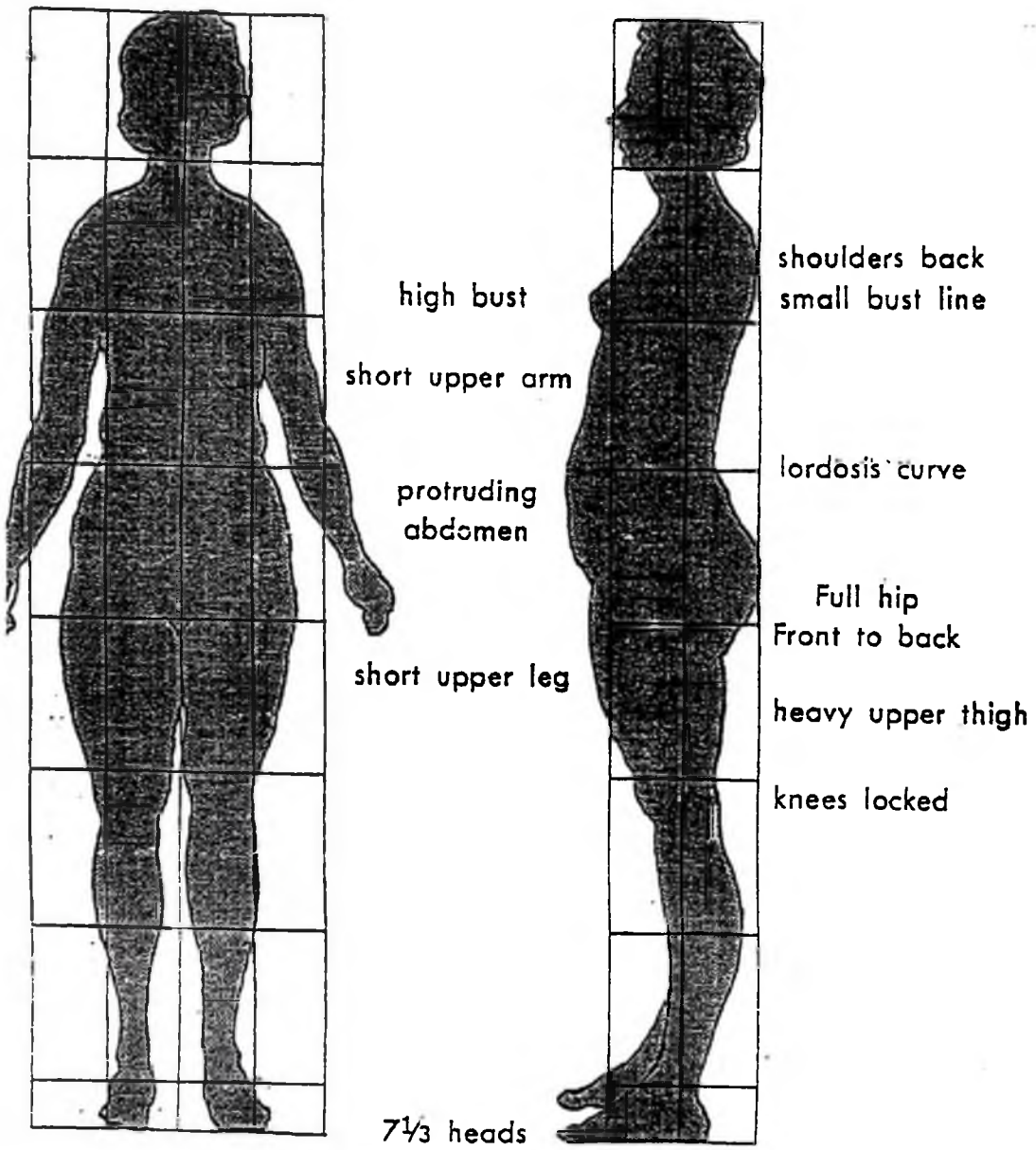
Figures 3 and 4 show two different proportions of the female figure. Figure 3 is taller and more slender than the average body length of seven and half heads high. The body length of this figure is equal to more than seven and three quarter heads (Horn,1968). Figure 4 is less than seven and half head lengths and is virtually shorter than average. In figure 4 body type, most of the length is lost in the upper leg since the torso is about a third of a head longer than the leg span.

Kefgen and Touchie-Spetcht (1986) also reported that a vertically well proportioned human body is divided into four even parts. The distance from the top-of-the-head to the under arm is one quarter of the total length of the figure. Figure 5 illustrates a well proportioned body divided into four equal parts. From the top of the head to the hip is one-half of the total length of the body. The waist divides the underarm to hip section in half. From the hip to the knee is three quarters of the total length of the body. The fourth quarter of the total length of the body is from the knee to the bottom of the foot.(Kefgen and Touchie-Specht,1986).

Body Proportion and Fashion

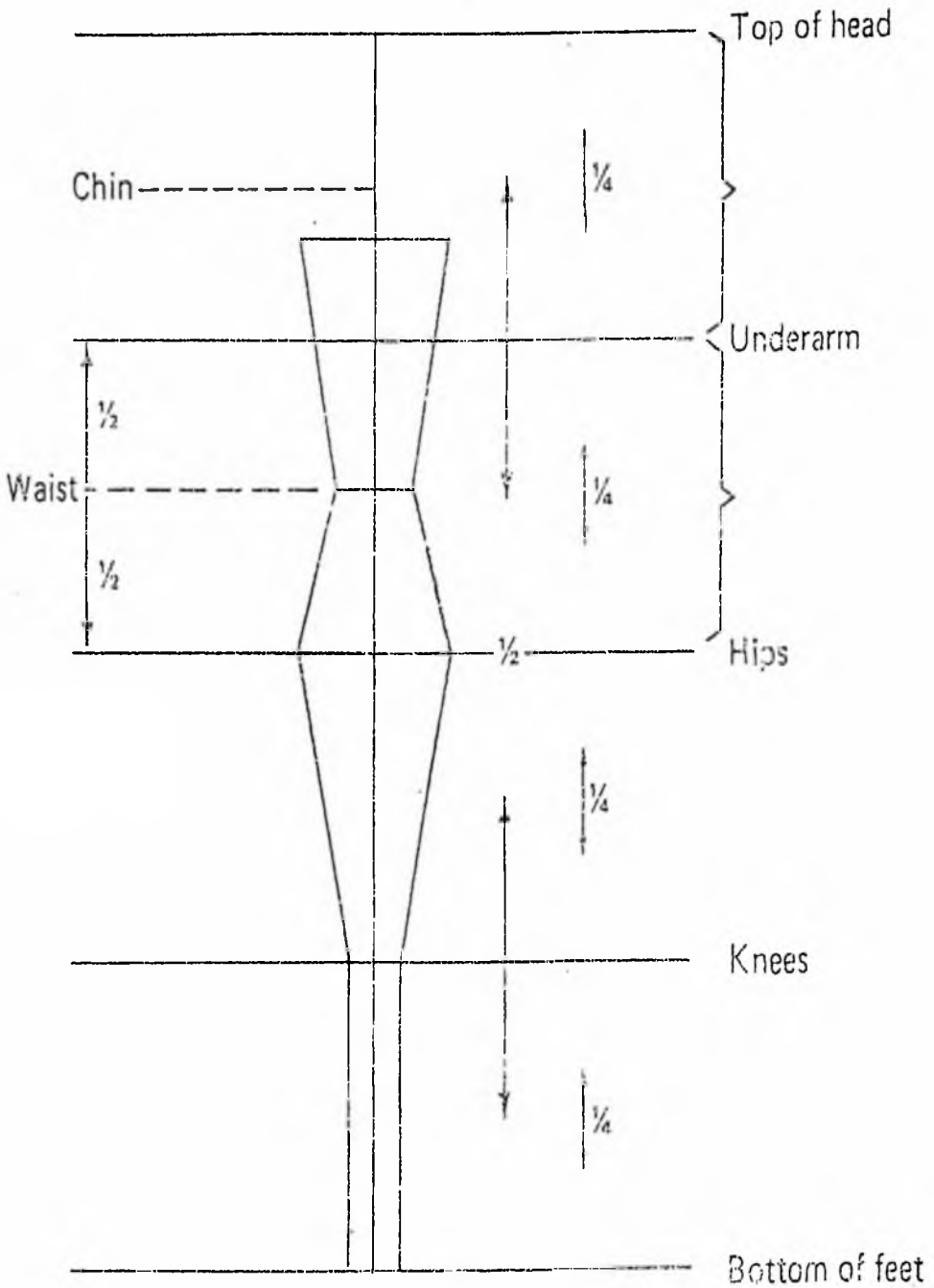
The importance of knowing one's body proportion, as stated by Kefgen and Touchie-Specht (1986) gives a better understanding as to how one's body relates to the fashion ideals

FIG. 4 OTHER PROPORTIONS OF THE FEMALE FIGURE



SOURCE: HORN (1968)

Fig. 5 FEMALE FIGURE DIVIDED INTO FOUR



SOURCE: Kefgen and Touchie-Specht (1968)

Body Proportion and Age

Chambers and Moulton (1969) stated that besides ethnic, racial and socio-economic background, age also affects body build. The individual generally reaches his maximum height between the ages of eighteen and twenty-four. After this period there is a slight but continuous decrease in height

Height-Weight Distribution

Kefgen and Touchie-Specht (1986) further reported that when analysing the body it is important to consider the distribution of weight on the body frame. The body mass is expected to be evenly distributed from the centre core of the body or the spine as the body is viewed from the front, back and sides. The actual weight therefore is not so important as the way it is arranged to create the shape of the body. Figure 6 a,b,c,d, illustrates the various ways one's weight is arranged on one's body creating the shapes of the individual body types as reported by Kefgen and Touchie-Specht, 1986.

Preferred Figure Types Over the Ages

Since different body conformations exist, the female fashion world has since time immemorial designed garments for the various figure types. Different eras have also been associated with figure types that were most preferred. Figure 7 a,b,c,d,e, show some of these figure types and

FIGURE 6. WEIGHT DISTRIBUTION ON THE BODY FRAME

FIG. 6a

This is the ectomorph body type which is long and lean. There are low amounts of both muscle and fatty tissue as depicted by the diagram on the left.

(Kefgen and Touchie-Specht, 1986)

FIG.6b

The framework of the hip and upper thigh of this figure is broad carrying much weight, hence creating an imbalance in proportion to other parts of the body.

(Kefgen and Touchie-Specht, 1986)

FIG 6c

This figure is the excessive endomorph type with the weight distribution quite enormous at the hip, buttocks, upper thigh and bust level making the body very full.

(Kefgen and Touchie-Specht, 1986)

FIG. 6d

The weight distribution in this figure is more centred in the hip region making the buttocks very pronounced.

(Kefgen and Touchie-Specht, 1986)

FIGURE 7. FIGURE TYPES PREFERRED OVER THE YEARS

FIG. 7a

The characteristics in this figure type was a pronounced bust line with a high protruding belly.

1810

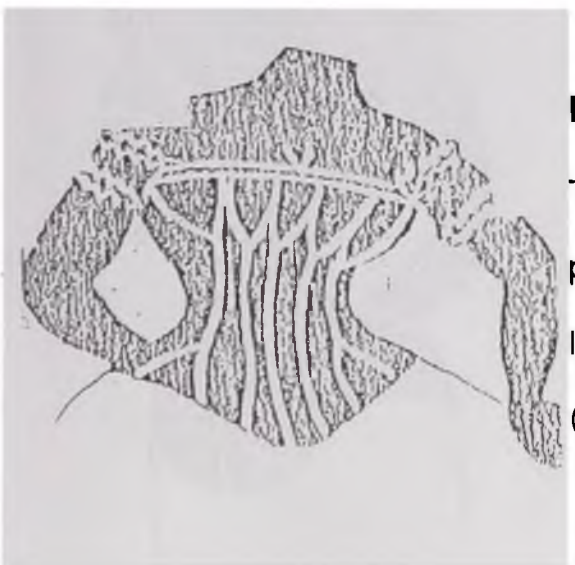


FIG. 7b

The bust line of the figure type was pronounced but had a narrow waist line with broad hips.

(HORN 1968)

1830

1850

FIG. 7c

The figure type was almost similar to that of 1830 but with a much narrower waist line.

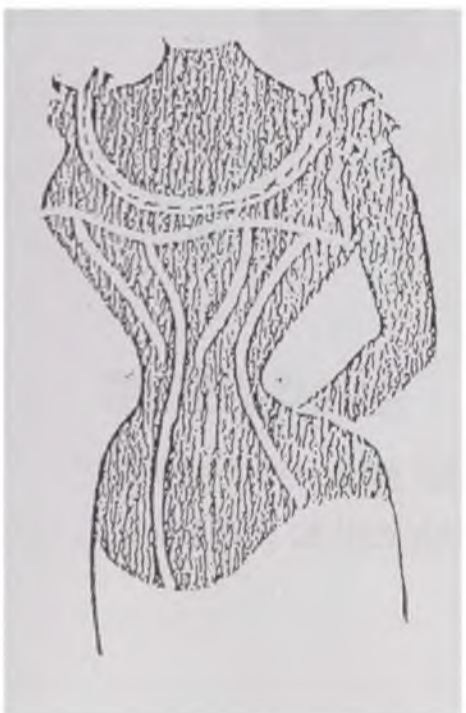


FIG. 7d

This figure had a well pronounced bust line. The waist line was far narrower than the figure of 1850, but with much weight concentrated at the hip level emphasising the hip with a bustle.

FIGURE. 7e

The 1985 Figure.

This figure had even weight distribution throughout the whole body with no pronounced area thus making the figure slender.

the periods in which they existed. For instance, the period 1810 through1985 to the present era saw variations in accepted figure types in the female fashion. These figure types were accepted as the standards during those dates and were adored. Fashion therefore moved alongside such figure types.(Horn ,1968).

Even though each era had particular preferred figure types there were problems associated with such ideal figure. Figures 8 and 9 show the variations in the bust, waist and hip measurements.

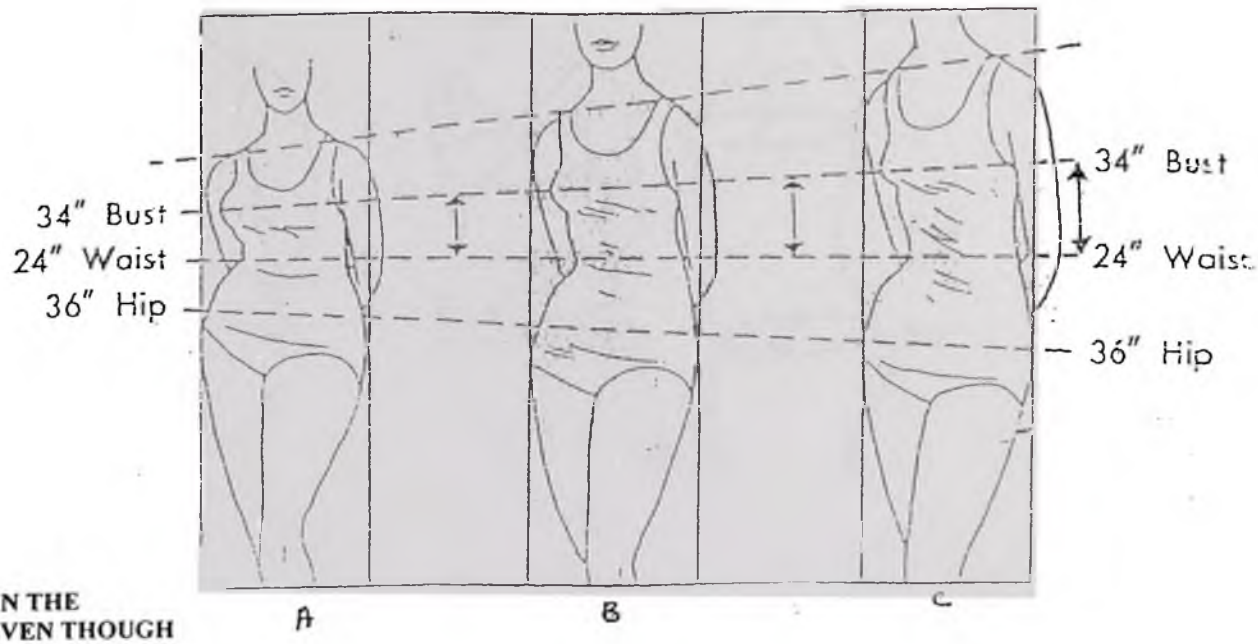
The Ideal Figure Problem

Horn (1968) stated that it is difficult to present a tangible model of an ideal figure even in the confines of a particular fashion era. For example the three diagrams in Figure 8 and the four in Figure 9 respectively have exactly the same bust, waist and hip measurements. However, they appear to be quite different in size due to the variations in heights (Horn, 1968). The ideal body conformation for women is usually based on the tall slender figure type. In figure 8 the taller figure (diagram C) may be preferred as the ideal because it is the tallest of the three diagrams and of a slender build. Equally in Figure 9, diagram B looks more slender and taller than diagram A and as such may be preferred as the ideal of the two figure types.

Even though bust, waist and hip measurements may be the same, these variations in height pose a problem to many in achieving the desired body ideals.

Fig. 8

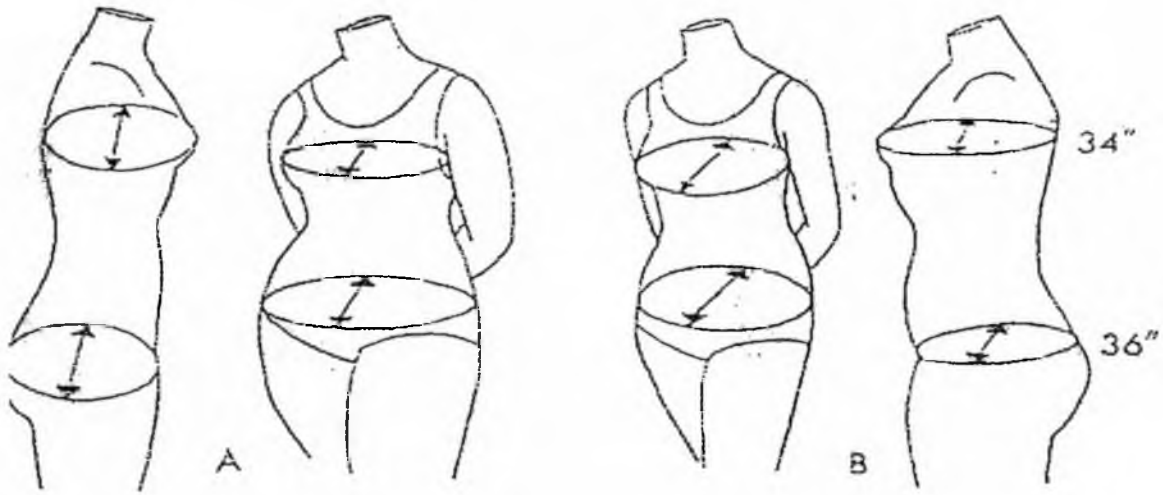
VARIED HEIGHTS OF THE FEMALE FIGURE



THERE ARE VARIATIONS IN THE HEIGHT OF THE FIGURE EVEN THOUGH BODY MEASUREMENTS ARE EQUAL. THE TALLER FIGURE IS PREFERABLY TAKEN AS THE IDEAL.

SOURCE: HORN (1968)

Fig. 9 **VARIED DEPTHS OF THE FEMALE FIGURE**



SOURCE: HORN (1968)

Figure Types of Today

Due to the variations in the female figure type, emphasis is not only on one particular figure of yester-years. Pattern Companies in countries such as America, Canada and Europe, among others, have grouped individuals into body sizes with corresponding body measurements and have developed patterns to suit each body type and size of Caucasians. Figure 10 (a,b,c,d,e,f) represent diagrams of figure type by Simplicity Pattern Company of New York, U.S.A. which form the basis of the patterns for the Caucasians figures.

FIGURE 10 CALCASIAN FIGURE TYPES

Fig. 10a Misses

The misses figure type is a well-proportioned and developed figure with a height between 5ft 5inches. (1.65m) and 5ft 6inches. (1.68). It is the tallest figure type and would be considered the average figure. For instance Misses size 10 measurements for bust, waist and hip and back waist length are 83, 64, 88 and 40.5cm respectively.

Figure 10b. JUNIOR Figure Type

Junior

The junior figure is a well-developed figure but slightly shorter than the misses,with a shorter waist length. the height is about 5ft 4 ins(1.63m) to 5ft 5ins(1.65m).

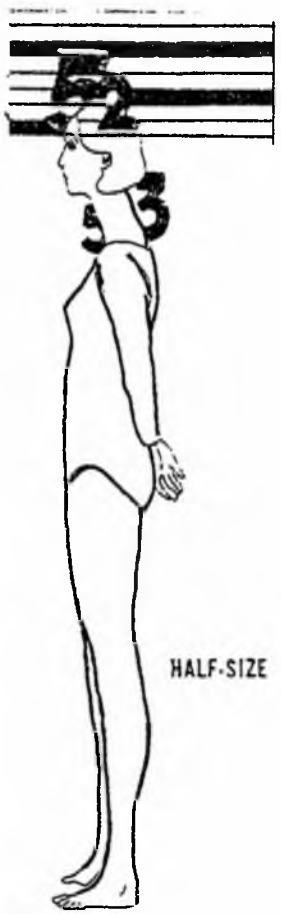
For instance, Junior size 9, has the bust, waist, hip and back waist length are 81,62,87 and 39.5cm respectively.

Figure 10c Junior Petite Figure type

Junior Petite

This figure type is a short, well developed figure with a small body build than any other figure type. The height is 5ft (1.52m) to 5ft 1 in (1.55m). Junior petite size 9 measurements for bust, waist, hip and back waist length, for example are 84, 64, 87 and 37.5cm respectively.

Figure 10d Miss Petite Figure Type



Half Size

This is a fully developed figure with a short back waist length. It has narrower shoulders than the misses and the waist is larger in proportion to bust than other mature figure types. The half-size figure is 5ft 2 ins (1.57m) to 5ft 3ins (1.60m) in height. A half-size 14.5 measurements for bust, waist hip and back waist length are 94, 79, 99 and 39.5cm respectively.

Figure 10e Half Size Figure Type

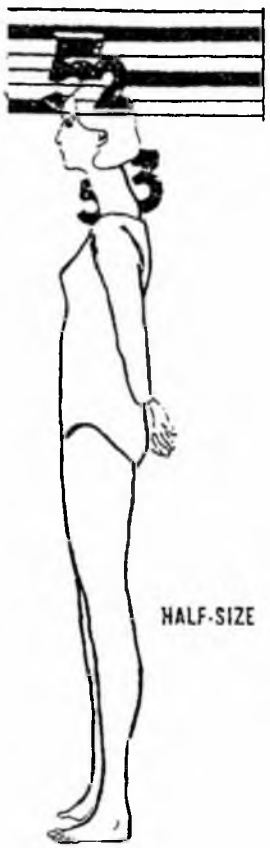


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FIG. 10F Women's Figure Type

Women's

The women's figure is larger, longer and more developed figure than misses. It is a well proportioned figure with a height of 5ft 5ins (1.65m) to 5ft 6ins (1.68). The figure has a fuller back and a longer back waist length. A women size 42 measurements for bust, waist hip and back waist length are 110,99, 122 and 44.5cm respectively.

Taking of Body Measurement

According to Tuit (1983) there are two reasons for taking body measurements, which are to:

i) ascertain the size of the figure and

ii) determine the proportions of the various parts of the figure.

Based on these, it is essential that measurements are taken accurately, at the correct positions on the body and with equal amount of tension on the tape. Inaccurate measurements could cause an unnecessary amount of fitting and reshaping after the garment is put together. Cooklin (1990) reported four groupings of measurements which were used in the four major survey done on women's body sizes between 1948-1968 in the USA, England, Germany and France. The four groupings were girth, arc, vertical and width and length:

Girth

These are measurements taken around the body and limbs, such as bust girth, and hip girth, among others.

Arc

They were measurements which were taken at specific parts of girth measurements such as the bust arc anterior or the bust separation which is part of the bust girth.

Vertical

These measurements were related to the height of various girth lines to the soles of the feet, such as body height and knee height.

Width and Length

This group contained the primary and secondary measurements of width and length such as across back and across chest

Directions For Taking Body Measurements and Areas on the Body Where Measurements Are Taken

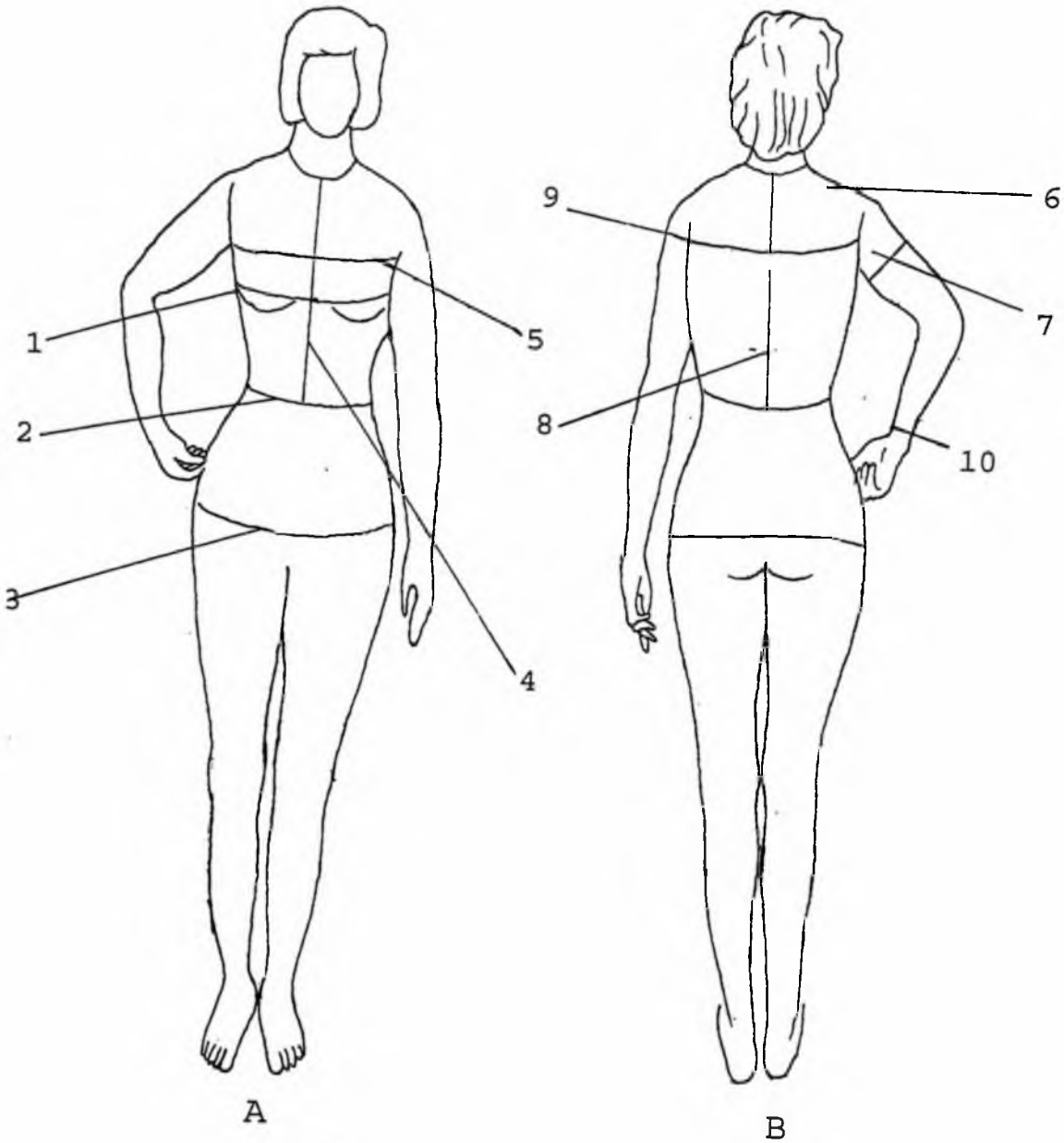
Perry (1972) reported that in taking body measurements, the measuring tape must be held snug and taut against the body and paralled to the floor for most circumference or width measurements. The tape should not slide down in the front or back. Tuit (1983) advised that, before beginning to take measurements a piece of tape could be tied around the waist of the figure to define the exact location of the waist, so that accurate measurement may be taken to and from the tape. Perry (1972) and Tuit (1983) however gave the following guidelines in taking the various body measurements. Figures 11A and B indicate the areas where the measurements are to be taken.

Bust

This measurement is usually taken first as it gives an indication of the other measurements to expect particularly, if the figure is in proportion.

The measurement is taken over the fullest part of bust and straight across the back. The area for the bust is indicated as Number 1 in Figure 11A.

Fig 11 Taking the Body Measurements



TUIT (1983)

Waist

A piece of string could be tied around the thinnest part to establish the waist line and the measurement is taken at the string. The waistline is marked Number 2 in Figure 11A

Hip

This measurement is at the fullest part of hips, which may be anywhere between 7 inches to 11 inches (17.8cm – 27.9cm) below the waist, but it is usually 8 inches to 9 inches (20.3 – 22.9cm) below the waist. The hip position is indicated by the Number 3 in Figure 11A.

Front Waist Length

The measurement is taken from the base of the neck at the centre front to the tape at the waist. This measurement should be approximately 1.5 inches (3.8cm) shorter than the back waist length. Number 4 in Figure 11A indicates the position of the front waist length measurement.

Front Waist Length

The measurement is taken from the base of the neck at the centre front to the tape at the waist. This measurement should be approximately 1.5 inches (3.5cm) shorter than the back waist length. Number 4 in Figure 11A indicates the position of the front waist length measurement.

Front Width (Across Chest)

The across chest is also measured at the same level as the back width approximately 1.5 inches (3 .8 cm) below the base of the neck at the

centre front. Number 5 in figure 11A shows the position of the across chest measurement.

Shoulder

The shoulder measurement is shown as Number 6 in Figure 11B. The measurement is taken from the side of the neck to the end of the shoulder bone.

Arm Girth

The measurement for the arm girth is taken around the widest part of the arm approximately 6 inches (15.2cm) below the shoulder point. Number 6 on Figure 11B shows the position of the arm girth.

Back Waist Length

It is measured from the small prominent bone at the back of the neck to the tape at the waist.This measurement is indicated as Number 8 in Figure 11B.

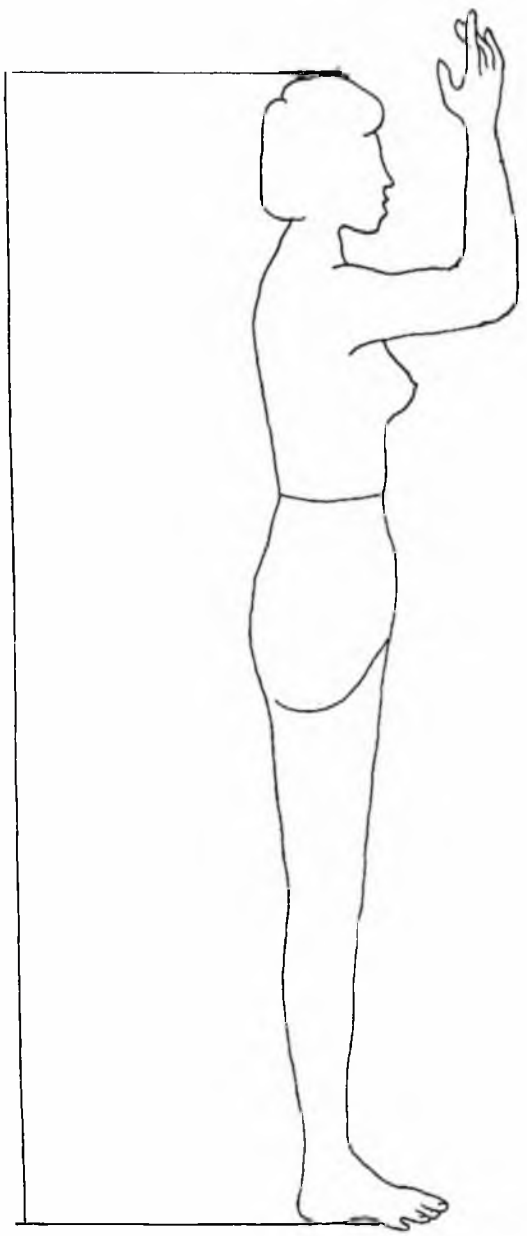
Back Width (Across-Back)

It is measured from armhole to armhole approximately 4 inches (10.2cm) below the back of the neck. This measurement is indicated as Number 8 in Figure 11B..

Height

According to Bruckheim (1997) height is best measured with the person barefoot or in stocking feet with the feet flat on the floor. The person should stand as erect as possible at time of measurement. Figure 12 indicates the height measurement The measurement is however taken from the head to the floor.

Fig.12 Taking the Height Measurment



Source: TUIT (1983)

CHAPTER THREE

METHODOLOGY

Study Area

The study was conducted within the University of Ghana community for proximity and also to save cost.

Study Population

Ghanaian female students of the University of Ghana, Legon formed the population of the study. These were the target group for the study because they cut across the majority of the female population of the country.

Sampling Techniques

A list of all the female students in the 1999/2000 academic year with their ages was obtained from the Administration of the University of Ghana, Legon. The total population of 2,415 female students was stratified into four age groups by the researcher. Table 2 below represents the stratification into the four age groups and the corresponding population in each age stratum.

Table 2

Age Groups with Corresponding Population in Each Age Stratum

Age (In Years)	Female Group	Population
18-30	Late teens	174
21-29	Young women	1,560
30-39	Middle age	437
40 and above	Older women	244
Total		2,415

To obtain a representative sample from each age group, the percentage of each age group in the total population was calculated. For example, for age groups 18-20 and 21-29 years, the percentages were calculated as shown respectively below:

i) $\frac{174}{2415} \times 100$

$= 7.2\%$

ii) $\frac{1560}{2415} \times 100$

$= 64.6\%$

The minimum sample size for a study is expected to be ,at least,ten percent of the population. Ten percent of the population for this study was therefore about 242. However, in order to have a true picture of the body sizes of the female students of the University of Ghana, Legon, the researcher decided to use 400 respondents, that is about 17% of the population, for the study. For a representative sample size for each age group within the 400 female students to be selected, the formula below was used. For example, the population percentage for the age groups 18-20, 21-29, 30-39 and 40 years and above were 7.2%, 64.6%, 18.1% and 10.1% respectively. The value of these population percentages were then calculated based on the 400 respondents as follows:

i) $\frac{7.2}{100} \times 400$

$= 28.8 = \underline{29}$

ii) $\frac{64.6}{100} \times 400$

$= 258.4 = \underline{258}$

iii) $\frac{18.1}{100} \times 400$

$= 72.4 = \underline{72}$

iv) $\frac{10.1}{100} \times 400$

$= 40.4 = \underline{41}$

A table of random numbers was used to pick the representative sample size from each age stratum to obtain the 400 respondents. Table 3 below indicates the population in each age stratum and the sample sizes selected from each age stratum.

Table 3

Population and the Sample Sizes for Study in Each Stratum

Age Group A	Population B	Percentage of Population C	Sample Size Selected to Be Studied D	Number of Responses E
18-20	174	7.2	29	20
21-29	1,560	64.2	258	229
30-39	437	18.1	72	42
40+	244	10.1	41	25
Column Total	2,415	100.0	400	313

The sample sizes expected to be studied from the age groups, 18-20, 21-29, 30-39 and 40 years and above were 29, 258, 72 and 41 respectively. Out of the 400 questionnaires sent out, 313 (78.3%) responses were

received. The sample size studied in each age stratum, therefore, is also shown in Table 3.

Collection of Data

The data collection was in two parts.

Part One

A structured questionnaire with open and close-ended questions was used to collect data on:

i) respondents' age perceived body sizes, (whether slim, plump or large) and body size preferred;

ii) style preferences of respondents in relation to figure type and figure faults.

Part Two

This section involved the taking of body measurements (height, bust, waist and hip) of the study sample.

The researcher visited each prospective respondent in her room and explained the rationale for the research. Those who were selected but refused to take part in the study were replaced. If a respondent agreed to take part in the study, the researcher took her body measurements and then left the questionnaire with her to answer the questions in part-one. Each person was given two weeks to complete the questionnaire. After a

minimum of four personal reminders, the researcher could retrieve 313, that is, 78.3% of the questionnaire as indicated in Table 3.

Data Analyses

The data were analysed under four main headings. They are:

(a) the respondents' knowledge of their individual body size and body size preferred

(b) comparison in hip less bust, hip less waist and bust less waist of the respondents with those of the Caucasians' as established by the Simplicity Company (1976).

(c) grouping the recorded measurements taken into body sizes

(d) the relationship between age and body sizes.

The Study Sample's Perceived Body Sizes and Body Size Preference

The Statistical Package for Social Sciences (SPPS) software was used to analyse the data and the results presented using frequency and percentage distributions.

Comparison of the Study Sample's Hip Less Bust, Hip Less Waist and Bust Less Waist With Those of the Simplicity Pattern Company (1976)

The standard differences reported by Simplicity Pattern Company (1976) are as follows:

a) hip less bust = 2 ins (5cm)

b) bust less waist = 7-8 ins (17.5-20cm)

c) hip less waist = 8-10 ins (20-25cm)

The differences in the body measurements of the various body areas of the respondents as indicated above were calculated and compared with those established by Simplicity Pattern Company (1976).

Creating Body Sizes for the Study Sample

Levels of Body Measurements

The height, bust, waist and hip measurements which are considered as the vital body statistics of the female figure were used to group the respondents into body sizes. Each of the measurements was categorised into three levels. The levels reported by the Simplicity Pattern Company (1976) for height, bust, waist and hip served as guidelines for the groupings. Table 4 below represents the measurements used to categorise the respondents into the various levels.

Table 4a

Measurements Used to Categorise the Sample Into Different Levels Of Height.

Levels of height	Measurements
i) Short	50-60 inches (125-150cm)
ii) Medium	61-64 inches (152.5-160cm)
iii) Tall	65+ inches (162.5+ cm)

Table 4b

Measurements Used to Categorise the Sample Into Different Levels Of Body Size

Body size	Measurement for		
	Bust	Waist	Hip
i) Slim	30-34 ins (75-85cm)	24-26 ins (60-65 cm)	34-36 ins (85-90 cm)
ii) Plump	35-39 ins (87.5-97.5cm)	27-30 ins (67.5-97.5)	37-40 ins (92.5-100 cm)
iii) Large	40+ in (100+cm)	31+ ins (77.5+ cm)	41+ ins (102.5+ cm)

The height measurements were grouped as (a) Short (S), (b) Medium (M) and (c) Tall (T). The bust, waist and hip measurements were also grouped into three levels each which are (i) Slim (S) , (ii) Plump (P) and (iii) Large (L). With regard to this study, a short person, was one who was 50-60 ins (125-150 cm) tall, medium height person being 61-64 inches (152.5-160 cm) tall while a tall person is 65 inches plus (162.5 cm plus). A respondent with a bust measurement of 30-34 inches (75-85 cm), waist measurement of 24-26 inches (60-65 cm) and 34-36 inches (85-90 cm) for hip was regarded as a slim person. Similarly, a respondent with a bust measurement of 35-39 inches (87.5-97.5 cm), waist being 27-30 inches (67.5-75 cm) and a hip measurement of 37-40 inches (92.5-100 cm) was

considered as a plump figure. Those who were regarded as Large had a bust measurement of 40 plus inches (100 plus cm), waist measurement of 31 plus inches (77.5 plus cm) and a hip measurement of 41 plus inches (102.5 plus cm).

Categorising Body Measurement

In categorising the body measurements , the statistical procedure, Combination, was used. In using this technique, one level of height was held constant against each of the three levels of bust, waist and hip measurements. For instance, one level of height against each of the levels of bust, waist and hip measurements gave 27 categories as follows:

height (1 level) x bust (3 levels) x waist (3 levels) x hip (3 levels)

1 x 3 x 3 x 3 = 27

If therefore one level of height against the three levels each of bust, waist and hip gave 27 categories, then the 3 levels of height against each of the levels of bust, waist and hip measurements gave 81 categories calculated as:

3 x 27 categories = 81 categories

Tables 5, 6 and 7 show the 27 categories each for short, medium and tall heights respectively.

Table 5

Categories of Body Measurements (Height, Bust, Waist, Hip)

	Height Level - Short			
	Height	Bust	Waist	Hips
1.	S " "	S " "	S " "	S+ P+ L+
2.	S " "	S " "	P " "	S+ P* L
3.	S " "	S " "	L " "	S+ P L++
4.	S " "	P " "	S " "	S+ P* L
5.	S " "	P " "	P " "	S* P* L*
6.	S " "	P " "	L " "	S+ P L++
7.	S " "	L " "	S " "	S+ P L++
8.	S " "	L " "	P " "	S P* L++
9.	S " "	L " "	L " "	S++ P++ L++

\+ = Short and Slim
* = Short and Plump
++ = Short and Large

Table 6

Categories of Body Measurements
(Height, Bust, Waist, Hip)

	Height Level - Medium Height			
	Height	Bust	Waist	Hips
10.	M “ “	S “ “	S “ “	Sm Pm Lm
11.	M “ “	S “ “	P “ “	Sm Pn L
12.	M “ “	S “ “	L “ “	Sm P Lo
13.	M “ “	P “ “	S “ “	Sm Pn L
14.	M “ “	P “ “	P “ “	Sn Pn Ln
15.	M “ “	P “ “	L “ “	S Pn Lo
16.	M “ “	L “ “	S “ “	Sm P Lo
17.	M “ “	L “ “	P “ “	S Pn Lo
18.	M “ “	L “ “	L “ “	So Po Lo

m = Medium and Slim
n = Medium and Plump
o = Medium and Large

Table 7

Categories of Body Measurements
(Height, Bust, Waist, Hip)

	Height Level - Tall			
	Height	Bust	Waist	Hips
19.	T “ “	S “ “	S “ “	Su Pu Lu
20.	T “ “	S “ “	P “ “	Su Py L
21.	T “ “	S “ “	L “ “	Su P Lz
22.	T “ “	P “ “	S “ “	Su Py L
23.	T “ “	P “ “	P “ “	Sy Py Ly *
24.	T “ “	P “ “	L “ “	S Py Lz
25.	T “ “	L “ “	S “ “	Su P Lz
26.	T “ “	L “ “	P “ “	S Py Lz
27.	T “ “	L “ “	L “ “	Sz Pz Lz

u = Tall and Slim
y = Tall and Plump
z = Tall and Large

Identifying Study Sample's Measurement with Categories

After obtaining the categories, the body measurements of the study sample were compared with the categories. For instance, a respondent with the measurements listed below was labelled as Tall and Plump as indicated in Table 7, category 23c.

Height	=	65 inches (162.5cm)	T
Bust	=	38 inches (95cm)	P
Waist	=	29 inches (72.5cm)	P
Hip	=	44 inches (110cm)	L

The comparison with categories enabled the researcher to group the study sample into body sizes.

Criteria for Grouping into Body Sizes

For one's body measurements to fall into a particular body size, at least two or all the three levels of the bust, waist and hip measurements held against a level of height should be of the same level. From Table 5, and with regard to the study, one who is short could have the following description of being short and slim, short and plump and short and large. Similarly in Table 6, a medium height person could also be described as medium and slim, medium and plump and medium and large, while a tall

person in Table 7 could be labelled as Tall and Slim, Tall and Plump and Tall and Large.

The Relationship Between Age and Body Measurement of the Study Sample

The chi-square statistic was used to test the relationship between age and body sizes for the hypothesis of the study, which stated that,there would be no significant differences among the body sizes of the various age groups, while the mean, standard deviation and standard error of difference were computed to test the hypothesis that there would be no significant differences in the Hip less Bust, Bust less Waist and Hip less Waist measurements as specified by Simplicity Pattern Company (1976) among the various age groups of the respondents.

CHAPTER FOUR

RESULTS AND DISCUSSION

The Age of Respondents

The age ranges of the respondents are shown in Table 8.

Table 8

Age Distribution of the Respondents

Age Range (in Years)	Female Group	No	%
18-20	Late teens	20	6.4
21-29	Young women	226	72.2
30-39	Middle Age	42	13.4
40+	Older Women	25	8.0
Total		339	100.0%

The age range of the respondents was between 18 and 54 years and they were stratified into 18-20 years as late teens; 21-29 years as young women;30-39 years as middle-aged and 40 plus years as older women. Due to the nature of the population where majority of the female population in the university were within the age range of 21-29 years, a representative sample from each age stratum is therefore skewed towards the age 21-29 years with a percentage of 72.2% However the number obtained for those in the 18-20, 30-39 and 40 plus years were quite close and small as compared to the population in the age range 21-29 years. This would be

because the age range 30-40 plus years is expected to have completed school and might be working while the age range 18-20 years could be seen somewhat young for University education in Ghana.

Perceived Body Size_Preference and Figure Faults in Relation to Fashion

Perceived Body Sizes

Table 9 represents the perceived body sizes of the study sample with regard to height and size.

Table 9

Distribution of the Study Sample Perceived Body Sizes

Perceived Body Size	Number	(%)	
Short and Slim	9	2.9)	
Short and Plump	1	0.3)	4.2
Short and Large	3	1.0)	
Medium and Slim	94	30.0)	
Medium and Plump	10	3.2)	63.2
Medium and Large	94	30.0)	
Tall and Slim	58	18.5)	
Tall and Plump	13	4.2)	32.6
Tall and Large	31	9.9)	
Total	313	100.0	

Short Height

About four percent stated they were short. Those who indicated that they were short and slim (ectomorphic) were 2.9%. The short and large, an endomorphic figure, were 1% and the short and plump which is a mesomorphic built was one person. Very few respondents therefore thought they were short.

Medium Height

About 63% of the respondents indicated they were of medium-height. While 30% each stated that they were of medium height and slim and medium height and large, 3.2% reported that were of medium height and plump. The medium height and slim was an ectomorphic build while the medium height and large and medium height and plump were endomorphic and mesomorphic builts respectively.

Tall Height

The respondents who reported that they were tall were 32.6%. Of this 18.5% indicated they were slim which was an ectomorphic figure. However 9.9% perceived themselves as large (endomorphic figure) while 4.2% thought they were plump which was a mesomorphic built.

Irrespective of whether short, medium or tall, about 51.4% of the respondents perceived their body sizes to be ectomorphic. Those who perceived themselves to be endomorphic were 40.9% and 7.7% were mesomorphic built. It has been observed that students on campus prefer

slim builts so that they can wear current trend of clothes which are slim and A-shaped. The perceived figures of respondents were in accordance with Kefgen and Touchie-Specht' (1986) report that the human body has been categorised according to similarities into three somatotypes which are the endomorph, the mesomorph and the ectomorph.

Like or Dislike for their Body Size

Table 10 represents the study sample's like or dislike for their body sizes.

Table 10

Distribution of Respondents' Like or Dislike for Their Body Figures

Age	Liked No. (%)	Disliked No. (%)	Total No. (%)
18-30	18 (90.0)+		20 (6.4)
2 (10.0)+			226 (72.2)
21-29	202 (89.4)+		42 (13.4)
24 (10.6)+			25 (8.0)
30-39	36 (85.7)+		
6 (14.3)+			
Column Total	224 (87.5)++	39 (12.5)++	313 (100.0)

( )+ percentage based on Sample size in each age Stratum.

( )++ percentage based on total Sample size.

Like and Dislike for Body Figure

About 88% of the study sample liked their figures. This finding is consistent with Trollope and Caton (1995) who reported that there is a positive relationship between body cathexis and self satisfaction. About 13% however, did not like their figures. The percentage for likeness of body figure slightly decreased with increase in age.90% for those in the age range 18-20 years ; 89.4% for the age 21-29 years , 85 .7% for the age range 30-39 years and 72% for 40 plus years. Similarly, dislike for body figure increased with age. These findings are consistent with the observation that as people grow old fat is deposited around the waist, among others. The beautiful shape of a young girl may be distorted as she increases in age making her dislike her new figure.

Reasons for Disliking Their Body Size

Table 11 indicates why 12.5% did not like their body sizes.

Table 11

Distribution of Reasons for Disliking Body Size

Age	Wished to be Taller	Wished to be Slimmer	Wished to be Fatter	Wished to be Shorter	Felt Figure not Proportional	Row Total
18-20	1 (50.0)	1 (50.0)	0.0	0.0	0.0	2 (5.1)
21-29	3 (12.5)	10 (14.7)	2 (8.3)	1 (4.2)	8 (33.3)	24 (61.5)
30-39	0.0	3 (50.0)	1 (16.7)	0.0	2 (33.3)	6 (15.4)
40+	0.0	6 (85.7)	1 (14.3)	0.0	0.0	7 (8.5)
Column Total	4 (10.3)	20 (51.3)	4 (10.3)	1 (2.5)	10 (25.6)	39 (100.0)

Of the 39 who did not like their body sizes, four wished they were taller while 20 of them desired to be slimmer than they were. Similarly four respondents also wished to be fatter and only one respondent expressed the desire to be shorter. About 51% wished they were slim. The observation that 20 out of the 39 students did not like their built because they desired to be slim supports the fact that in this era, many people prefer to be slim. The slim figure would enable them wear current fashion which favours those who were slim. Those who felt their bust, waist and

hip among others were not proportional in relation to each other were 25.6% representing ten respondents.

Perry (1972) indicated that fashion had created an awareness of figure consciousness among consumers so that one may see oneself as too tall, too short, too fat or too thin among others. Kefgen and Touchie-Specht (1986) also reported that prevailing fashion influences the body ideals.Ghanaian women prefer to have some flesh on the body. One respondent in the 40 plus years age group might be concerned about the dictates of the culture which expects a woman of that age range to be plump.

Body Size Preferences

The body sizes preferred by the sample are indicated in Table 12

Table 12

Frequency and Percentage Distribution of Body Sizes Preferred

Figure Preferences	Figure Type	No. %	Percentage
Tall and Plump	mesomorph	118	37.7
Medium Height and Slim	ectomorph	98	31.3
Tall and Slim	ectomorph	62	19.8
Short and Plump	mesomorph	16	5.1
Medium Height and Plump	mesomorph	9	2.9
Tall and Fat	endomorph	5	1.6
Medium Height and Fat	endomorph	3	0.9
No Response	_	2	0.6
Column Total		313	100.0

Seven different figure types were preferred. The tall and plump size which is likened to a mesomorphic build, was best preferred by 37.7%. Trollope and Caton (1995) reported that the man with the mesomorphic figure type was judged more favourably than his ectomorph counterparts in a number of ways, such as being healthy, cheerful, among others. This may be the result why the respondents prefer the mesomorphic figure the best.

This was closely followed by medium height and slim,31.3%.The tall and slim and the short and plump figures were preferred by 19.8% and 5.1% respectively, while medium height and plump were preferred by 2.9%.The tall and fat, medium height and fat, both endomorphic figures, were the least preferred. According to Horn (1968), contemporary figure ideals change with times. The current body ideal for both men and women is a naturally curved, slender, strong and physically fit form, where greatest emphasis for conformity is on weight control. Trollope and Caton (1995) reported that the mesomorphic figure is considered to be the most physically attractive and healthy. The respondents perhaps regarded such a figure as attractive and healthy and therefore preferred it. Trollope and Caton (1995) again reported that the endomorphic figure was considered to be dirty and physically unfit. These qualities might have been either imagined or observed by the respondents making the endomorphic figure to be the least preferred.

Awareness of Individual Figure Fault

When a part of the body is not proportional to other parts in relation to size and position, making that part quite pronounced on the figure, such a part could be seen as a figure fault on that particular figure. For example, a very large bust on a slim body size could be considered as a figure fault. From the study, various forms of figure faults were mentioned by the

respondents. Table 13 below indicates the respondents awareness of their figure faults.

Table 13

Awareness of Individual Figure Faults

Age (in Years)	Yes	No	No (%)
18-20	9	11	20 (6.4)
21-29	116	110	226 (72.2)
30-35	21	21	42 (13.4)
40+	21	4	25 (5.6)
Total	167 (53.4)	146 (46.6)	313 (100.0)

About 54% (167) of the respondents indicated that they had figure faults against 46.5% (146) who did not. Of those in the age range of 18-20 years, 21-29 years and 30-39 years, 45%, 51.3% and 50.0% reported of figure faults respectively. However, 84%, in the age range of 40 years and above stated that they had figure faults. The vast difference between older women of 40 years and above and the younger ones of 18-29 years suggests that as an individual advances in age, fat is deposited on certain parts of the body changing the body conformation of the individual.

Individuals with such fat deposits may not like their figures and may regard the figure as having faults. Goldsberry and Reich (1996) stated that waist thickening, lowering of bustline or the back shoulder becoming broader, among others, could however be seen and accepted as a figure fault among older women.

Specific Figure Faults Related to Bust, Waist and Hip

The researcher investigated those that felt they had figure faults with respect to their bust, waist and hip, since these body areas are considered as the vital statistics of the female figure. For instance, Perry (1972) reported that the bust, waist and hip form the basis in comparing any female figure to a standard. Table 14 presents the specific figure faults mentioned by the respondents.

Table 14

Frequency and Percentage Distribution of Figure Faults Affecting Bust, Waist and Hip

Age	Protruding Stomach	Large Bust	Flat Chested	Narrow Waist	Low Waist	Large Hip	Narrow Hip	Row Total
18-20	1 (50.5)	1 (50.5)	0.0	0.0	0.0	0.0	0.0	2 (1.6)
21-29	35 (40.2)	6 (6.9)	10 (11.5)	1 (1.1)	17 (19.6)	17 (16.1)	14 (16.1)	87 (70.2)
30-39	11 (64.6)	2 (5.9)	2 (11.8)	0.0	0.0	1 (5.9)	2 (11.8)	17 (13.7)
40+	7 (38.8)	1 (5.6)	1 (5.6)	0.0	0.0	9 (50.0)	0.0	18 (14.5)
Total	54 (43.5)	9 (7.3)	13 (10.5)	1 (0.8)	4 (3.2)	27 (21.8)	16 (12.9)	124 (100.0)

It was observed that 124 out of the 167 respondents with figure faults had their faults related to bust, waist and hip. Those who indicated that they had figure faults were more concerned about their waistline (47.6%) than the bust and hip lines. This is because of the 47.6%,43.5% mentioned that they had protruding stomach , 3.2% indicated low waist and 0.8% had narrow waist. Those who had problems related to the hip were 34.7% out of which 21.8% stated they had large hips and 12.9%, narrow hips. About 18% said that they had problems with the bust as 7.3% had large bust and 10.5% were flat chested. More of those in the age range of 21-29 years mentioned faults related to the waistline and those who were 40 years and above had their problem in the hip line. Those in the age group 21-29

years are very conscious since today's fashion emphasizes slimness, especially around the waistline.

Figure Faults And Age

The extent to which the reported figure faults were related to the respondents' age was determined and it is represented in Table15.

Table 15

Frequency Distribution of General Figure Faults in the Bust,Waist and Hip against Age.

Age (In Years)	Number with General Figure Faults (A)	Number With Figure Faults In Bust, Waist and Hip (B)			(%) of B and A (C)
		Bust	Waist	Hip	
18-20	9	1	1		(22.2)
21-29	116	16	40	31	(75.0)
30-39	21	11	3	3	(80.0)
40+	21	2	7	9	(85.7)
Column Total	167	124			

It was observed that 22.2% and 75.0% in the age groups of 18-20 and 21-29 years had problems relating to the vital areas respectively. However, with

the age group 30-39 years, 80.0% was recorded while the highest percentage of 85.7% was recorded for the age group 40 years and above. From the results it appeared that younger women had less problem with the bust, waist and hip regions. As age increased, however there was an increase in figure faults affecting the vital areas. This observation is similar to that of Goldsberry and Reich (1996) who indicated that older women experience body changes like waist thickening or bustline lowering ,among others ,as they grow

Figure Faults and How They Affected The Clothing Choice of Respondents

The extent to which figure faults affected respondents' choice of clothing is presented in Table 16.

Table 16

Figure Faults and Choice of Clothing

Age (in Years)	Figure Fault Problem to Fashion Choice	Figure Fault not A Problem to Fashion Choice	Total
18-20	1 (11.1)	8 (88.9)	9 (5.4)
21-29	16 (52.6)	55 (47.4)	116 (69.4)
30-39	15 (71.4)	6 (28.6)	21 (12.6)
40+	14 (66.7)	7 (33.3)	21 (12.6)
Total	91 (54.5)	76 (33.3)	167 (100.0)

It was observed that 53.4% of the respondents had figure faults (Table 13). Out of that number 91 (29.1%) respondents indicated that their figure faults affected their choice of clothing. About fifty-three percent in the age group 21-29 years indicated that their figure faults posed problems to their choice of clothing, while 71.4% and 66.7% expressed the same view in the age groups30-39 years and 40 years and above respectively. However, the least percentage of 11.1% representing one respondent in the 18-20 years group also had that problem. Age had an influence on one's figure and choice of fashion. More respondents in the age groups 30-39years and 40 years and above had more problems than those in the 18-20and 21-29 ranges. This

might be due to the fat deposition in the body in the age range 30-40 years and above causing figure distortion hence affecting choice of clothing.

Respondent with figure faults commented that, it was sometimes difficult to accept certain fashions especially current fashion trends as they might expose their faults such as pronounced body curves, among others. Others stated they were very conscious of their bodies and therefore chose clothes that would enhance their figures rather than expose them.

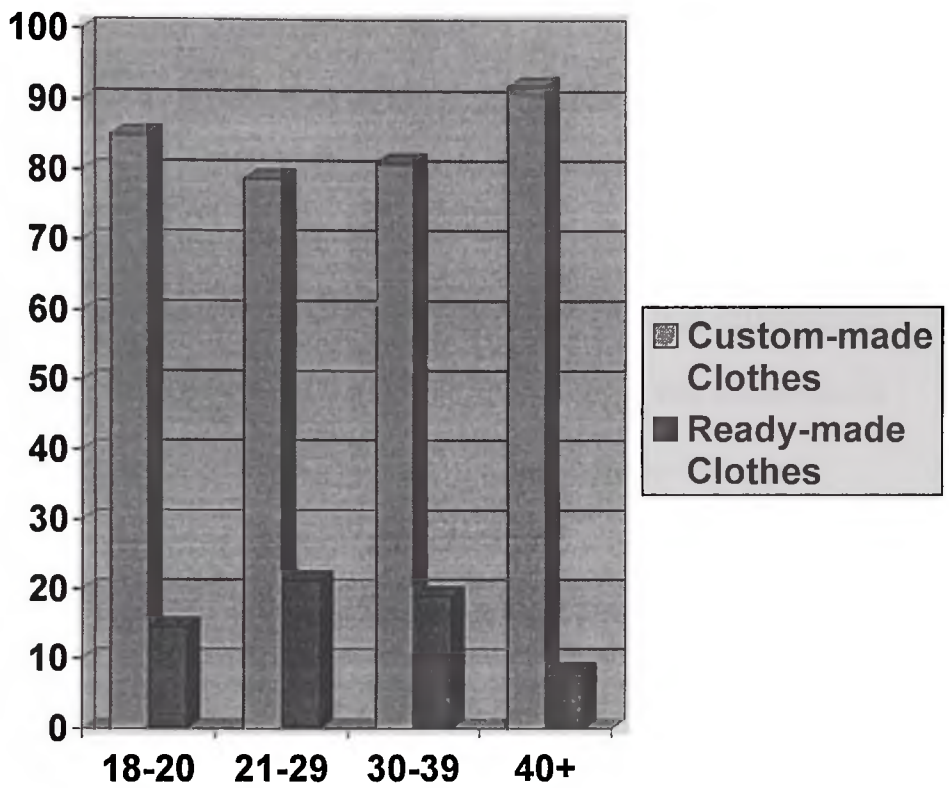
Choice of Clothing

Figure 13 presents the type of clothing chosen by the respondents.

Custom-made clothes were more patronised by 252 (80.5%) of the respondents and 61 (19.5%) patronised more ready-made clothes than custom- made ones. This result is consistent with the observation that Ghanaians patronise more custom-made clothes than ready made ones. This is not surprising because one does not come across the Ghanaian traditional outfit, which is sewn and sold as a ready-made garment. Those who patronise custom-made indicated that such garments could be designed to fit one's figure perfectly. They also said it was difficult to get ready-made garments in one's correct size. Adjustments had to be made to obtain a perfect fit. Goldsberry and Reich also found that 77% of the women they studied purchased ready-made garments but complained about having to adjust the garments to fit properly.

Fig 13.Age by Respondents

Choice of clothing



Within the age groups, 40 years and above and 18-20 years, 92%and 85% each patronised custom-made clothes while 81% of the 30-39 years and 78.8% for the age group 21-29 years patronised custom-made. More people who were 40 years and above patronised more custom-made clothes than the other age groups. Possibly it was difficult to get their sizes in the ready-made garments. This is because Goldsberry and Reich (1996) reported that fit problems were more apparent for older people as few garments were designed to fit the changing bodies of older women. This however might be a contributing factor why older women of the study patronised custom-made clothes more than the ready-to-wear clothes. This could be that custom-made clothes can be made to accommodate the changing figures as they aged.

The high cost of ready-made clothes compared with custom-made ones might be the reason why the respondents in the age range 18-20 years preferred to sew current styles in custom-made garments. Those in the age ranges 21-29 years and 30-39 years patronised ready-made clothes more than the age group 18-20 years. The reason might be that those in the age ranges 21-29 and 30-39 years might be on study leave with pay and therefore could afford ready-made clothes.

Comparing the Ghanaian Female Figure, Hip less Bust, Bust Less Waist and Hip less Waist Measurements with Those of Caucasians

Hip Less Bust

Table 17 presents the hip less bust measurements for the respondents. It can be observed that only 13.7% of the respondents conformed to the standard of 2 inches (5cm) as specified by Simplicity Pattern Company (1976) while the rest, 86.3% did not. This confirms the general observation that there exist a difference between the Caucasian and the African figure and for that matter the Ghanaian female figure. Those in the study sample with no difference in their hip less bust measurement were 1.9% while one respondent each had their bust sizes larger by one and two inches (two and half and five centimeters) than their hip measurements.

However, those with differences (hip larger than bust) by 1 inch (2.5cm) were 4.5%; 3 inches (7.5cm) were 14.4% while 4 inches (10cm) difference recorded 16.6%. Others who had their hip measurements larger than the bust by 5 inches (12.5 cm) and 6 inches (15 cm) were 20.4% and 13.1% respectively. About eight percent and five percent out of the respondents had 7 inches (17.5) and 8 inches (20cm) difference in their hip less bust measurements respectively, while 0.6% recorded 9 inches (22.5cm) and 10 inches (25cm) hip less bust difference for 0.9% of the respondents.

Table 17

Frequency and Percentage Distribution of Hip Less Bust Measurement of Respondents

Age Groups (in Years)	Differences in inches																Total
	-2	-1	0	1	2*	3	4	5	6	7	8	9	10	11	12	13	18	
18-20	-	-	1 5%	-	3 15%	5 25%	2 10%	3 15%	3 15%	2 10%	1 5%	-	-	-	-	-	-	20 (6.4)
21-29	1 0.4	1 0.4	3 1.3	9 4.0	29 12.8	32 14.1	41 18.1	50 22.1	30 13.3	17 7.5	9 4.0	2 0.9	2 0.9	-	-	-	-	226 (72.7)
30-39	-	-	2 4.8	3 7.1	9 21.4	5 11.9	5 11.9	8 19.0	4 9.5	3 7.1	2 4.8	-	-	-	-	-	1	42 (13.4)
40+	-	-	-	2 8.0	2 8.0	3 12.0	4 16.0	3 12.0	4 16.0	2 8.0	3 12.0	-	1	1	-	-	-	25 (8.0)
Column Total	1 (0.3)	1 (0.3)	6 (1.9)	14 (4.5)	43 (13.7)	45 (14.4)	52 (16.6)	64 (20.4)	41 (13.1)	24 (7.7)	15 (4.8)	2 (0.6)	3 (0.9)	1 (0.3)	-	-	1 (0.3)	313

Standard Difference: 2 ins (5cm)

One person each recorded a difference of 11 inches (27.5cm) and 18 inches (45cm).

Those in the age group of 30-39 years had a higher percentage of the respondents (21.4%) having their hip less bust measurements conforming to the standard of 2 inches (5cm). This was followed in a descending order by age range 18-20 years (15.6%) 21-29 years (12.8%) and 40 years and above (8%).In an average figure the hip is expected to be larger than the bust measurement with a standard difference of 2 inches (5cm). However, many females easily deposit a lot of fat at the hip area as they increase in age while the bust may decrease in size. The least percentage (8%) recorded by the age group 40 years and above for the hip less bust standard difference might probably be due to the deposition of fat in the hip area.

Bust Less Waist

Table 18 presents the bust less waist measurements of the study sample. The standard for the bust less waist measurements was reported to be between 7-8 inches (17.5-20cm) by the Simplicity Pattern Company (1976). Of the study sample 38% conformed to the 7-8 inches (17.5-20cm) standard of bust less waist measurement and 62% of the study sample did not. This may be a possible observation that the Caucasian figure is different from the African particularly the Ghanaian female figure.

Within the age groups,40 % of the respondents in the 18-20 years conformed to the standard, while 41% was observed within the age group

Table 18

Frequency and Percentage Distribution of Bust Less Waist Measurement of Respondents

Age Groups (in Years)	-1	0	1	2	Differences in inches									12	13	14	15	16	Total
					3	4	5	6	7*	8*	9	10	11						
18-20	-	-	-	-	-	-	3 15.0	3 15.0	3 15.0	5 25.0	3 15.0	1 5.0	2 10.0	-	-	-	-	-	20 (6.4)
21-29	1 0.4	-	-	3 1.3	2 0 9	13 5.8	34 15.0	42 18.6	50 22.1	42 18.6	26 11.5	7 3.1	5 2.2	-	-	-	-	1 0.4	226 (72.2)
31-39	-	-	-	-	1 2.4	7 16.9	5 11.9	11 26.2	6 14.5	4 9,5	3 7.1	2 4.8	-	2 4.8	1 2.4	-	-	1	42
40+	-	-	-	-	-	5 20.0	5 20.0	2 8.0	7 28.0	2 8.0	2 8.0	1 4.0	1 4.0	-	-	-	-	-	25
Column Total	1 (0 3)	-	-	3 (0 9)	3 (0.9)	25 (8.0)	47 (15.0)	58 (18.5)	66 (21.1)	53 (16.9)	34 (11.0)	11 (3.5)	8 (2.6)	2 (0.6)	1 (0.3)	-	-	1 (0.3)	313 (100.0)

Standard Difference: 7-8 ins (17.5- 20 cm)

21-29 years. Among those between age 30 and 39 years, 24% met the standard while 36% was obtained among the 40 plus years. At 18-20 and 21-29 years there might not be unnecessary fat deposition on the vital parts of the body. The bust measurement might be in proportion to the waist explaining why more persons in these age groups met the 7 and 8 inches (17.5-20 cm) as specified by Simplicity Pattern Company (1976).

The respondents with bust less waist differences less than 7-8 inches (17.5-20cm) were as follows: about nineteen percent (18.5%) had a difference of 6 inches (15cm); 15% had a difference of 5 inches (12cm).Four inches (10 cm) was observed among 8% while 0.9% respondents each had a difference of 3 inches (7.5cm) and 2 inches (5cm).

The study sample with bust less waist more than 7-8 inches (17.5-20cm) and with differences of 9 inches (22.5cm) were 11% and those with a difference of 10 inches (25cm) were 3.5%.Those with difference of 11 inches (27.5cm) and 12 inches (30cm) were2.6%, 0.6% respectively. Very few, 0.3% had a difference of 13inches (32.5cm).Respondents in the age ranges of 18-20 and 21-29 years had their waist measurement much smaller than their bust. More respondents in these age groups conformed to the standard of 7 to 8 inches (17.5-20cm) more than the other groups. The 18-20 and 21-29 years had probably not deposited much fat around the waist line.

Hip Less Waist

Table 19 indicates hip less waist measurement of the sample. The standard for the hip less waist measurement for Simplicity Pattern Company (1976) is between 8 to 10 inches (20-25cm).One hundred and two respondents,102 (32.7 %) that is about a third of the sample conformed to the standard while 67.3 % did not. This result again is in accordance with the observation made that the African and for that matter the Ghanaian female's figure is different from that of the Caucasian.

About 43% of those in the age group 30-39 years conformed to the standard which was the highest and was followed by 36% for the age group 40 years and above. For the age group 21-29 years, they were 31.4% and for the 18-20 years they were 20%.These findings, where the younger respondents conformed less to the standard than the older women may be as a result of their age. Between 18 and 29 years possibly the body sizes were not fully matured and therefore the results observed. A difference which is lower than the standard for hip less waist set by the Simplicity Pattern Company (1976) meant that the waist measurement was larger in proportion to hip size. About 1%, 3.2% and 4.2% of the sample had 4 inches (10cm) 6 inches (15cm) and 7 inches (17.5cm) differences respectively giving an indication of about 8.4% of the sample having differences in the hip less waist which was lower than the standard.

Table 19

Frequency and Percentage Distribution of Hip Less Waist Measurement of Respondents

Age Groups (in Years)	2	3	4	5	Differences in inches									15	16	17	18	22	Total
					6	7	8*	9*	10*	11	12	13	14						
18-20	-	-	-	-	-	-	1 5.0	2 10.0	1 5.0	8 40.0	-	2 10.0	5 25.0	1 5.0	-	-	-	-	20 (6.4)
21-29	-	-	1 0.4	-	8 3.5	12 5.3	16 7.1	23 10.2	32 14.2	65 28.8	29 12.8	30 13.3	6 2.7	1 0.4	-	1 0.4	1 0.4	1 0.4	226 (72.2)
31-39	-	-	2 4.8	-	2 4.8	1 2.4	4 9.5	6 14.3	8 19.0	7 16.7	3 7.1	4 4.9	4 4.9	1 2.4	-	-		-	42 (13.4)
40+	-	-	-	-	-	-	2 8.0	3 12.0	4 16.0	4 16.0	1 4.0	5 20.0	3 12.0	3 12.0	-	-	-	-	25 (8.0)
Column Total	-	-	3 (0.9)	-	10 (3.2)	13 (4.2)	23 (7.3)	34 (11.0)	45 (14.4)	84 (26.8)	33 (10.5)	41 (13.1)	18 (5.8)	6 (1.9)	-	1 (0.3)	1 (0.3)	1 0.3)	313 (100.0)

Standard Difference 8-10ins (20 – 25 cm)

The findings however revealed that 26.8% of the respondents had a difference of 11 inches (27.5cm) in their hip less bust measurement , while a difference of 12 inches (30 cm) was recorded by 10.5% of the respondents. Fewer respondents, however, recorded a difference of 13 inches (32.5cm). The age groups 18-20 years and 21-29 years with their waist measurements smaller in proportion to the hip size were 80% and 58% respectively. These could be due to the fact they were young and many, probably, might not had gone through child birth.However with the older women the deposition of fat in the hip region could increase the hip size giving an indication of waist measurement being smaller in proportion to the hip.

The standards of 2 inches (5cm) in the hip less bust, 8-10 inches (20-25cm) for the hip less waist and 7-8 inches (17.5-20cm) in the bust less waist measurements are significant for developing sizes for individuals with varied body measurements in the garment industry since the human form comes in a variety of stature and sizes. According to Craig (1968), because of the varieties in the human form, there are no specific measurements that are considered to be standard for height, bust, waist and hip, since many of the same relative sizes may have well proportioned figures and yet may vary greatly in height, weight and other body measurements. Based upon these, therefore, the differences among one's own body measurements such as bust,

waist and hip are considered vital in comparing the female figure to the ideal and are also needed for sizing purposes.

Testing of Hypothesis

Hip less Bust.

Table 20a presents the mean and deviation from standard for the Hip less Bust measurements.

Table 20a

Mean and ranges of Hip Less Bust.

Age group (Years)	Deviation from standard	
	Mean	Range
18-20	4.20	-0 to 8
21-29	4.36	-2 to 10
30-39	3.73	0 to 8
40+	5.16	1 to 11
SED	0.42	

Standard difference expected=2 inches (5cm)

SED: Standard error difference.

From the ranges, it was observed that the sizes were quite variable within each age group .Some age groups are more variable than others.For instance ,the 40 plus-year and the 21-29 year groups departed more from the

standard of 2 inches (5cm) than the 18-20 and 30-39 year groups. The Standard Error Difference for the Hip Less Bust was 0.42. Twice the SED is equivalent to the smallest difference between two means that must be declared significant, that is, if the difference between any two means is more than 2 x SED, then the difference is statistically significant.

The mean differences were calculated within the age groups and the difference of 0.96 was obtained for the age groups 18-20 years and 40 years and above while 1.43 was the difference between 30-39years and 40years above. These differences 0.96 and 1.43 however, meant that the Null Hypothesis (Ho) which stated that there would be no significant difference in the Hip Less Bust measurements among the various age groups of the respondents was rejected for the 18-20 years and 40 years and above on one hand and for 30-39 years and 40 years and above on the other. These meant that statistically there were significant differences between the above age groups in their Hip Less Bust measurements.

Bust less Waist

Table 20b presents the mean and deviation from standard for the Bust less Waist

measurement.

Table 20b

Mean and ranges of Bust Less Waist

Age Group (Years)	Deviation from standard	
	Mean	Range
18-20	7.47	5 to 11
21-29	6.86	-1 to 16
30-39	6.67	3 to 13
40+	6.44	4 to 14
SED	0.31	

Standard difference expected = 7 to 8 inches (175-20cm)

The mean for the 18-20 years was within the standard difference expected while those of the remaining age groups departed slightly downwards from the minimum standard difference expected. However, with the ranges, some age groups were more variable than others. For instance, the age groups 21-29 and 30-39 years departed more from the standard of 7 to 8 inches (17.5 to 20cm) than the remaining age groups .

The mean differences were calculated within the age groups and 0.8 was obtained for the age group 18-20 years and 30-39 years. A difference of 1.03 was also obtained for the age groups 18-20 years and 40 years and above. The mean differences between these age groups were more than twice SED ie 2SED= 2 x 0.31=0.62 which indicate significant differences

between the age groups 18-20 and 30-39 years and 18-20 years and 40 years and above. In the Bust Less Waist measurement.

Hip Less Waist

Table 20c presents the mean and deviation from standard for the Hip less Waist.

Age Group (Years)	Deviation from Standard* (inches)	
	Mean	Range
18-20	11.00	8 to15
21-29	10.62	2 to22
30-39	10.21	4 to15
40+	11.64	8 to15
SED	0.43	

Standard difference expected = 8-10 inches (20-25cm)

Table 20c presents the mean and deviation from standard for the Hip less Waist. The Standard Error Difference (SED) for the Hip less Waist was 0.43.The mean difference between the 18-20 years and 21-29 years groups was 1.62 while the difference between 18-20 years and 30-39 years was 1.21.Between the age groups 21-29-years and 40 plus years and 30-39 years and 40 plus-years the mean differences were 1.02 and 1.4 respectively. These differences observed were greater than twice the SED which was 0.86 (2 x 0.43). These however meant that the Null Hypothesis (Ho) which stated

that " there would be no significant difference in the Hip less Waist measurements among the various age groups of the respondents was rejected for the age groups already mentioned above which had their mean differences greater than twice the Standard Error Difference (SED) indicating that there was a significant difference between such age groups. The African figure and specifically the Ghanaian figure is definitely different from that of the Caucasian.

Creating Body Sizes for the Study Sample

Identification of Categories and Body Sizes

Table 21 presents body sizes and the number of categories identified for each body size.

Table 21

Identification of Categories of Body Sizes

Body Shapes	No. of Categories Identified	No. (%)
Short Height		
Slim	4	10
Plump	4	16
Large	3	7
Total	**11**	**33** (10.5)
Medium Height		
Slim	4	37
Plump	4	65
Large	5	70
Total	**13**	**172** (55.0)
Tall Height		
Slim	4	19
Plump	6	54
Large	3	35
Total	**13**	**108** (34.5)
Grand Total	**37**	**313 (100.0)**

A total of 37 categories were identified with the three (3) levels of height. Those in the study who were of medium height were more (55%) than those who were tall (34.5%) and short (10.5%) heights. Out of the 37 categories, nine (9) body sizes evolved from the sample which were short and slim, short and plump, short and large, medium-height and slim, medium height and plump, medium height and large, tall and slim, tall and plump and tall and large.

For the purpose of the study, three letters, for example, SSS, PPL and SSP among others were used to identify the categories of the body sizes. The first and second letters were for the levels of bust and waist sizes respectively, while the third letter was for the hip size.

Short Body Sizes

Short and Slim

Table 22a shows the distribution of the short and slim body size categories.

Table 22a

Frequency and Percentage Distribution of Short and Slim Body Size by Age

Age	SSS (1)	SSP (2)	SPS (3)	PSS (4)	Row Total
18-20	1 (100.0)	0.0	0.0	0.0	1 (10.0)
21-29	4 (44.5)	3 (33.3)	1 (11.1)	1 (11.1)	9 (90.0)
30-39	0.0	0.0	0.0	0.0	0.0
40+	0.0	0.0	0.0	0.0	0.0
Column Total	5 (50.0)	3 (30.0)	1 (10.0)	1 (10.0)	10(3.2)* (100.0)

*Percentage based on study sample

Four categories were identified in the short and slim body size. These were slim in bust, waist and hip (SSS), slim bust and waist but plump in hip (SSP), slim bust, plump waist and slim hip (SPS) and plump bust slim waist and hip (PSS). Those who were identified as short but slim were 10 (3.2%). Five (5) were in the SSS category, three (3) in SPP, while one each was in the SPS and PSS categories respectively.

With the exception of one individual all those who were short and slim were in the age range of 21-29 years. Between 18-29 years, one might not have started putting on much weight around the waist and hip. It is therefore not surprising that they were slightly more people who were short and slim in the SSS categories than the other categories. The short and slim were labelled as SMALLISH by the researcher with the following body measurements of;

Height = 50-60 inches (125-150cm)

Bust = 30-34 inches (75-85cm)

Waist = 24-26 inches (60-65cm)

Hip = 34-35inches (85-90cm)

Short and Plump

Table 22b shows the distribution of the categories of the short and plump body size.

Table 22b

Frequency and Percentage Distribution of the categories of Short and Plump Body Size by Age

Age	SPP (1)	PPS (2)	PPP (3)	PPL (4)	PLP (5)	Row Total
18-20	0.0	0.0	0.0	0.0	0.0	0.0
21-29	11 (78.7)	0.0	1 (7.1)	1 (7.1)	1 (7.1)	14 (87.5)
30-39	1 (100.0)	0.0	0.0	0.0		1 (6.25)
40+	1 (100.0)	0.0	0.0	0.0	0.0	1 (6.25)
Column Total	13 (81.1)		1 (6.3)	1 (6.3)	1 (6.3)	16(5.1)* (100.0)

* Percentage based on study sample

The categories identified that were short and plump were five. These were slim in bust but plump in waist and hip (SPP); plump in bust and waist but slim in hip (PPS); plump in bust, waist and hip (PPP) plump in bust and waist and large hip (PPL) and plump bust, large waist and plump hip (PLP) Sixteen (5.1%) individuals in the study sample were short and plump with 13 out of the 16 having the SPP body size .Fourteen

respondents (4.5%) identified with the short and plump body size were in the age range of 21-29 years. The ageranges of 30-39 years and 40 years and above had one individual each being short and plump. There was no respondent who had the PPS body size, because this appeared a rare body size since any individual who is plump in bust and waist is expected with a likely similar level of hip size.

The name given to this body size is SHORTPLUMP by the researcher and the body measurements are:

Height	=	50-60 inches	(125-150cm)
Bust	=	35-39 inches	(87.5-97.5cm)
Waist	=	27-30 inches	(67.5-75cm)
Hip	=	37-40 inches	(92.5–100cm

Short and Large

The categories for short and large body size by age are indicated in Table 22c.

Table 22c

Frequency and Percentage Distribution of the categories of Short

Age	PLL (1)	LSL (2)	LPL (3)	LLP (4)	LLL (5)	Row Total
18-20	0.0	0.0	0.0	0.0	0.0	0.0
20-29	1 (16.7)	0.0	0.0	1 (16.7)	4 (66.6)	6 (85.7)
30-39	0.0	0.0	0.0	0.0	1	1 (14.3)
40+	0.0	0.0	0.0	0.0	0.0	0.0
Column Total	1 (14.3)	0.0	0.0	1 (14.3)	5 (71.4)	7(2.2)* (100.0)

*Percentage based on Study Sample

Five categories were identified with the short and large body size. These categories were plump bust ,large waist and hip (PLL), large bust ,slim waist and large hip (LSL) arge bust, plump waist and large hip (LPL).Large bust and waist and plump hip (LLP) and large bust, waist and hip (LLL) Seven (2.2%) individual in the study sample were short and large. Six (1.9%) out of the seven were in the age range of 21-29years. The age range 30-39 years recorded one student with the short and large body size. No respondent had the LSL and LPL body sizes where especially the LSL body size is seen as not common a figure since any individual with a

large bust and hip is expected to have a waist line corresponding to the other two measurements. However, the findings revealed that fewer Ghanaian female students of the University of Ghana, Legon are short in height.

The name given to this body size is 'MAYFAIR' by the researcher with these body measurements:

Height	=	50-60 inches (125-150cm)
Bust	=	40 plus inches (100 plus cm)
Waist	=	31 plus inches (77.5 plus cm)
Hip	=	41 plus inches (102 plus cm)

Medium Height Body Sizes

Medium and Slim

Table 23a presents the categories for the medium and slim body size by age .

Table 23a

Frequency and Percentage Distribution of categories of Medium- Slim Body Size by Age

Age	SSS (1)	SSP (2)	SPS (3)	SLP (4)	PSS (5)	Row Total
18-20	0.0	3 (100.0)	0.0	0.0	0.0	3 (8.1)
21-29	15 (45.5)	10 (30.3)	5 (15.2)	3 (9.1)	0.0	33 (89.2)
30-39	0.0	0.0	1 (100.0)	0.0	0.0	(2.7)
40+	0.0	0.0	0.0	0.0	0.0	0.0
Column Total	15 (40.5)	13 (35.1)	6 (16.2)	3 (8.1)	-	37(11.8)* (100.0)

*Percentage based on study sample

There were five categories of those who were of medium-height and slim. They were slim bust, waist and hip (SSS), slim bust and waist and plump hip (SSP), slim bust, plump waist and slim hip (SPS) slim bust, large waist and plump hip (SLP) and plump bust and slim waist and hip (PSS).Thirty seven, that is 11.8% of the sample were of medium height and slim. Out of the 11.8% about 4.8% were in the SSS category, thirteen(4.2) in the SSP while six (1.9%) and three (0.9%) were in the SPS and SLP categories respectively. Thirty – three (10.5%), individuals out of the 37

were in the age range 21-29 years while three (0.9%) students were identified in the 18-20 years. However, only one (0.3%) student was medium height and slim in the 30-39 years and no individual with the body size was identified in the 40 years and above age group. Physiologically, this could be as a result of the effect of age on body build as well as deposition of fat in the body as reported by Chambers and Moulton (1969). This body size was labelled "MEDIUM CUTE" by the researcher and has the following body measurements:

Height	=	61-64 inches	(152.5-165cm)
Bust	=	30-34 inches	(75-85cm)
Waist	=	24-26 inches	(60-65 cm)
Hip	=	34-36 inches	(85-90 cm)

Medium Height and Plump

Table 23b shows categories for medium height and plump body size

Table 23b

Frequency and Percentage Distribution of Medium-Height Plump Body Size and Age

Age	SPP (1)	PSP (2)	PPS (3)	PPP (4)	PPL (5)	PLP (6)	Row Total
18-20	1 (16.6)	0.0	0.0	1 (16.7)	4 (66.6)	0.0	6 (9.2)
21-29	26 (50.0)	0.0	0.0	14 (26.9)	11 (21.2)	1 (1.9)	52 (80.0)
30-39	2 (28.6)	0.0	0.0	3 (42.8)	1 (14.3)	1 (14.3)	7 (10.0)
40+	-	0.0	0.0	0.0	0.0	0.0	0.0
Column Total	29 (44.8)	0.0	0.0	18 (27.7)	16 (24.6)	2 (3.0)	65(20.8%)* (100.0)

*Percentage based on study sample

There were six (6) within this group and these were, slim bust, plump waist and hip (SPP) plump bust, slim waist and plump hip (PSP), plump bust and waist and slim hip (PPS) plump bust, waist and hip (PPP), plump bust and waist and large hip (PPL) and plump bust, large waist and plump hip (PLP).Sixty-five (20.8%)of the sample were of medium height and had plump body size. Twenty-nine (9.3%) were in the SPP, eighteen (5.7%) in PPP while sixteen

(5.1%) and two (0.6%) were in the PPL and PLP categories respectively. No respondent had the PPS body size.

With the exception of the age group 40 years above, the medium-height and plump body size was observed in all the age groups. Fifty-two (16.6%) were in the age range 21-29 years, while six (1.9%) and seven (2.2%) were in the age range 18-20 and 30-39 years respectively. The researcher named the body size `MEDIUM-LADY'.The measurements for the medium-lady body size are

Height	=	61-64 inches (152.5165cm)
Bust	=	35-39 inches (87-97.5 cm)
Waist	=	24-26 inches (67.5-75 cm)
Hip	=	37-40 inches (92.5-100 cm)

Medium Height and Large

Table 23c indicates the categories of the medium height and large body sizes.

Table 23c

Frequency and Percentage Distribution of the categories for Medium-Height
Large Body Size and Age

Age Group	PPL (1)	LSL (2)	LPL (3)	LLS (4)	LLP (5)	LLL (6)	Row Total
18-20	1 (100.0)	0.0	0.0	0.0	0.0	0.0	1 (1.4)
21-29	14 (40.0)	1 (2.9)	2 (5.7)	0.0	1 (2.9)	17 (48.5)	35 (50.5)
30.39	7 (26.8)	0.0	1 (5.3)	0.0	0.0	11 (57.9)	19 (29.2)
40+	6 (40.0)	0.0	2 (13.3)	0.0	0.0	7 (46.7)	15 (21.4)
Columr Total	28 (44.0)	1 (1.4)	5 (7.2)	- 0.0	1 (1.4)	35 (50.0)	70(22.4)%* (100.0)

*Percentage based on study sample

The medium height and large body size had six (6) categories. These categories were, plump bust, large waist and hip (PLL) large bust, slim waist and large hip (LSL), large bust, plump waist and large hip (LPL) large bust and waist and slim hip (LLS), large bust and waist and plump hip (LLP) and large bust, waist and hip (LLL).

Those with the medium-height and large size were 70 (22.4%) of the sample with 35 (11.2) in the age group 21-29 years, while (6.1%) had this body size in the 30-39 years and 40 years and above respectively.The

medium height and large body size was labelled CUTEMUM by the researcher, with the following measurements;

Height = 61-64 inches (152.5-160 cm)

Bust = 40+ inches (100 +cm)

Waist = 32 + inches (77.5+cm)

Hip = 42 + inches (102.5+cm)

The LLS body size appeared rare and therefore had no respondent. This might be due to the observation that any individual with a large bust and waist is usually expected with a hip measurement of a similar level. However the medium height and large body size was the highest (22.4%) within the sample, giving an indication that this probably might be a predominant body size among Ghanaian women since the study sample cuts across the female population of the country.

Tall Height Body Sizes

Tall and Slim

Table 24a presents the categories of the tall and slim body size

Table 24a

Frequency and Percentage Distribution of the categories for Tall and Slim Body Size

Age	SSS (1)	SSP (2)	SPS (3)	PSS (4)	Row Total
18-20	2 (40.0)	1 (20.0)	0.0	2 0.0	5 (26.3)
21-29	2 (16.7)	6 (50.0)	1 (8.3)	3 0.0	12 (63.2)
30-39	0.0	0.0	0.0	0.0	0.0
40+	2 (100.0)	0.0	0.0	0.0	2 (10.5)
Columr Total	6 (31.6)	7 (36.8)	1 (5.3)	5 (26.3)	19 (6.1%)* (100.0)

*Percentage based on study sample

Four categories were identified with the tall and slim body size. These categories were, slim bust, waist and hip (SSS), slim bust and waist and plump hip (SSP), slim bust, plump waist and slim hip (SPS) and plump bust, slim waist and hip (PSS).

Those who were identified as tall and slim were 19 (6.1%) Six (1.9%) out of this number were in the SSS category, seven (2.2%) in SSP while one (0.3%) and five (1.6%) were in SPS and PSS categories respectively. Twelve out of the nineteen who were identified with this body size were in age range 21-29 years. In the age group 18-20 years and 40 years and

above five (1.6%) and two (0.6%) respondents were identified with the tall and slim body size respectively. No student was identified with this body size in the age range 30-39 years. Despite the middle age spread, it is interesting to note that, at age 40 years and above some respondents were slim.

The body size was named ALL-SLIM by the researcher with the following body measurements:

Height = 65 + inches (162 5+cm)

Bust = 30-34 inches (75-85 cm)

Waist = 24-26 inches (60-75cm)

Hip = 34-36 inches (85-90 cm)

Tall and Plump

Table 24b presents the categories of the Tall and Plump body size.

Table 24b

Frequency and Percentage Distribution of the categories Body Tall and Plump Body Size by Age

Age	SPP (1)	PPS (2)	PSP (3)	PPP (4)	PPL (5)	PLP	Row Total
18-20	1 (25.0)	1 (25.0)	0.0	0.0	1 (25.0)	1 (25.0)	4 (7.2)
21-29	7 (17.1)	0.0	2 (4.9)	16 (39.0)	15 (36.6)	1 (2.4)	41 (75.9)
30-39	1 (14.3)	0.0	1 (14.3)	3 (42.1)	2 (28.6)	0.0	7 (13.0)
40+	-	1	0.0	0.0	0.0	1	2 (3.7)
Column Total	9 (16.7)	2 (3.7)	3 (5.5)	19 (35.1)	18 (33.3)	3 (5.5)	54(7.3)* (100.0)

*Percentage based on study sample

Six categories were observed in the body size. These were, slim bust, plump waist and hip (SPP), plump bust and waist and slim waist (PPS), plump bust, slim waist and plump hip(PSP), plump bust, waist and hip (PPP), plump bust, waist and large hip (PPL) and plump bust ,large waist and plump hip (PLP) Those who were identified as tall and plump were 54 (17.3%). Nine (2.9%) were SPP, two (0.6 %) were PPS nineteen (6.1%) were PPP while eighteen (5.7%) were PPL and three (0.9%) were PLP. Within the age group 21-29 years 41 (13.1%) were tall and plump while 4 (1.3%) and 7 (2.2%) were in the 18-20 years and 30-39 years respectively.

Two (2) individuals were, identified with the tall and plump body size, in the 40 years and above age group. This body size was named TALL GRACEFUL by the researcher and the measurements for the body size are as follows:

Height = 65+ inches (162.5+cm)

Bust = 35-39 inches (87-97.5cm)

Waist = 27-30 inches (76.5-75cm)

Hip = 37-40 inches (92.5-100cm)

Tall and Large

Table 24c shows the tall and large body size categories. The tall and large body size was identified in six (6) categories. These were, plump bust large waist and hip (PLL), large bust slim waist and large hip (LSL), large bust plump waist and large hip (LPL) large bust and waist, and slim hip (LLS) large bust and waist and plump hip (LLP) and large bust, waist and hip (LLL).

Table 24c

Frequency and Percentage Distribution of the categories for Tall and Large Body Size by Age

Age	PPL (1)	LSL (2)	LPL (3)	LLS (4)	LLP (5)	LLL (6)	Row Total
18-20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
21-29	9 (37.5)	0.0	1 (4.2)	0.0	0.0	14 (58.3)	24 (68.6)
30-39	1 (16.7)	0.0	0.0	0.0	0.0	5 (83.3)	6 (17.1)
40+	2 (40.0)	0.0	0.0	0.0	0.0	3 (60.0)	5 (14.3)
Column Total	12 (34.2)	0.0	1 (2.9)	0.0	0.0	22 (62.9)	35(11.2)* (100.0)

*Percentage based on study sample

Thirty five (35) which represent 11.2% of the sample were identified with the tall and large body size. The three categories PLL, LPL and LLL had 12 (3.8%), 1 (0.3%) and 22 (7.0%) of the study sample respectively Twenty-four (24) representing (7.7%) of the sample with the tall and large body size were in the 21-29 years age group while six (6) which was 1.9% were in the age range 30-39 years. Within the 40 years and above range 5 (1.6%) were tall and large. With proper nutrition and care, an individual

can grow tall and large. It is therefore not surprising that between 21-29 years, such young girls were tall and large.

Nobody in the age range 18-20 years was tall and large. This is not surprising since the age group was quite young in relation to weight gain and depositing of body fat around the hip and waist region. TALL HEAVY was given to the tall and large body size by the researcher, with the following measurements:

Height	=	65+ inches	(162+cm)
Bust	=	40+ inches	(100+ cm)
Waist	=	31+ inches	(77.5+cm)
Hip	=	41+ inches	(102.5 cm)

The nine body sizes obtained have their corresponding body measurements. Goldsberry and Reich (1996) carried out a research entitled `Retooling the industry sizing standard,' and recommended that women needed to become more aware of their actual body measurements and proportions rather than focusing on hang tag numbers which varied greatly in measurement and proportions from one manufacturer to another. This size specifications of the nine body sizes would therefore aid, Africans and for that matter Ghanaian designers and garment producers in the clothing industry to enable them produce for target groups.

Kim (1999) emphasized that consumers of garments are so diverse in their needs and tastes, that it is very difficult for manufacturers of ready-made clothes to satisfy all of their consumers in every respect. According to Goldsberry and Reich (1996), finding a well fitted clothing is vital to an individual's psychological and social well being. Kim (1999), suggested that there is the need for producers to have sufficient information on appropriate size specification of their consumers. Goldsberry and Reich (1996) conducted a study by taking 45 body measurements of their study sample. The results were compared with the 1941 PS-42-70 data base by USA, France, Britain and Germany. It was observed that 27 of Goldsberry and Reich (1996) body measurements were slightly greater than the 1941 data base on sizing system. With this information and the observation made about the difference in the Caucasian and the Ghanaian figure type, it is expected that this study provides for designers and garment producers, sufficient information on appropriate size specification for the adult Ghanaian females of the University of Ghana, Legon.

Body sizes, are necessary to be developed since it would be economically impossible to produce garments for every specific body size and to ensure their correct distribution. Kim (1999),therefore reported that manufacturers should produce a small amount of products for the less frequent size specifications. By so doing, it would reduce not only the dissatisfaction of consumers from the mismatch of demand and availability

of products, but also production cost by reducing inventories. Such a benefit would also be valuable to Ghanaian designers and garment producers who may produce the required quantity for his or her target group, which will be, with regard to this study ,the female students of the University of Ghana, Legon. The researcher will however recommend to garment producers the Cutemum, Medium-lady, and Tall-graceful body sizes which were more identified in the sample for the female students of the University of Ghana, Legon.

Relationship Between Age and Body Size

Even though the age ranges are skewed toward age range 21-29 years, there appears to be a pattern of relationship between body size and age. There were more respondents in the younger age group who were slim than those who were 30 years and above. To support this observation, two age ranges have been compared with different body sizes. The two age ranges are 18-29 years and 30-54 years.

Short Height Body Size by Age

Table 25a represents short body size by age.

Table 25a

Frequency and Percentage Distribution of Short Body Size by Age

Age	Slim Size	Plump Size	Large Size	Row Total
18-29	10 (33.3)	14 (46.7)	6 (20.0)	30 (90.9)
30-35	0.0	2 (66.7)	1 (33.3)	3 (9.1)
Column Total	10 (33.3)	16 (48.5)	7 (21.2)	33(10.5)* (100.0)

*Percentage based on study sample

Of the 33 (10.5%) of the sample who were of short body size 30 (90.9%) were within the age range of 18-29 years and 3 (9.1%) in the 30-54 years. Of the few who were within the group 30-54 years none was slim indicating that as one grows, there is the likelihood that one will not stay slim. A third of those who were between 18-29 years were however slim. Also Table 25a indicates that there were more younger respondents who had slim body sizes than the older women who were plump or large in sizes.

Medium-Height Body Size by Age

Table 25b indicates medium height body sizes by age.

Table 25b

Frequency and Percentage Distribution of Medium-Height Body Size by Age

Age	Slim Size	Plump Size	Large Size	Row Total
18-29	36 (27.7)	58 (44.6)	36 (27.7)	130 (75.6)
30-54	1 (2.4)	7 (16.6)	34 (81.0)	42 (24.4)
Column Total	37 (21.5)	65 (27.8)	70 (40.7)	172(55.0)* (100.0)

*Percentage based on study sample

From the table 36 (27.7%) and 1 (2.4%) were medium height and slim in the age groups 18-29 years and 30-54 years respectively. The percentage distribution shows that younger women were identified more with the slim body size than the older women.

With the plump body size 44.6% of the younger women identified with the body size as against 16.6% by the older women. However 81.0% of the older women were larger sizes while the younger women were 27.7% of the same size which shows the pattern that as age increased, there is also an increase in body size.

Tall Height Body Size by Age

Table 25c shows the tall body size by age.

Table 25c

Frequency and Percentage Distribution of Tall Body Size by Age

Age	Slim Size	Plump Size	Large Size	Row Total
18-29	17 (19.8)	45 (52.3)	24 (27.9)	86 (79.6)
30-54	2 (9.0)	9 (40.9)	11 (50.9)	22 (20.4)
Column Total	19 (17.6)	54 (50.0)	35 (32.4)	108 (43.5)* (100.0)

*Percentage distribution based on study sample.

There were more tall and slim body size (19.8%) in the age range 18-29 years than within age range 30-54 years(9.0%). This again confirms the earlier findings that younger women were identified more with the slim body sizes than older women. However,27.9% and 50% in the age groups 18-29 years and 30-54 years respectively were large sizes. This again is consistent with the pattern that as age increased, body size also increased within the age limit of the sample.

Relationship Between Body Size and Age Irrespective of Height

The relationship between age and body size irrespective of height was also determined. Table 26 represents the relationship between body sizes and age.

Table 26a

Body Size by Age (Irrespective of Height)

Age	Slim Size	Plump Size	Large Size	Row Total
18-20	63 (25.6)	117 (47.6)	66 (26.8)	246 (78.6)
30-54	3 (4.5)	18 (26.9)	46 (68.6)	67 (21.4)
Column Total	66 (21.1)	135 (43.1)	112 (35.8)	313 (100.0)

Irrespective of height, 66 (21.1%) respondents were slim, 135 (43.1%) were plump while 112 (35.8%) were large. In the age group 18-29 years and 30-54 years, 63(25.6%) and three 4.5% were slim respectively. This had confirmed an earlier observation made from Table 25c that younger women were identified more with the slim body size than with older women. Even though the plump body size had the highest percentage distribution among the younger women, yet the number of respondents identified with the body sizes did not reveal any pattern to give a meaningful conclusion on age and plump body size relationship.

However with the large body size, the older women were 46 (68.6%), as against 66 (26.8%) identified by the younger women within the age range of 18-29 years. This is consistent with the pattern created that within the age limit of the study sample, as age increased there was also an

increase in body size. This is in accordance with Perry (1972) and Kefgen and Touchie-Specht (1986) who reported that the weight and shape of the individual may shift depending on age, diet, activity and the type of undergarments used.

However in relation to height being held constant so as to find the relationship between age and body size, Chambers and Moulton (1969) reported that the individual generally reaches his maximum height between the ages of eighteen and twenty-four years. After this period, there is a slight but continuous decrease in height. Perry (1972) also reported that, the adult's height and bone structure are relatively constant. Accordingly, it was expected that respondents might not grow taller than what they were which made it possible for height to be held constant so as to find the relationship between age and body size.

Testing of Hypothesis

The chi-square statistic was used to test the null hypothesis that 'there would be no significant difference among the body sizes of the various age group. The data in Table 26a were used for the test at 5% level of significance with 6 degrees of freedom. Table 26b show the chi-square statistic to test the difference among the body sizes of the various age groups .

Table26b

The Chi-Square Analyses between Body Size.

Body Sizes	Fo	Fe	Fo-Fe	(Fo-Fe)2	(Fo-Fe)2 Fe
Slim	66	104	-38	1444	13.9
Plump	135	104	31	961	9.2
Large	112	104	8	8	0.6
				X^2 =	24.7

The calculated value of 24.7 was greater than the critical value of 12.59 at 5% level of significance. The null hypothesis was therefore rejected and the conclusion was that statistically there were differences among the body sizes of the various age groups.

The percentage distribution of slim body size was higher with the younger respondents than with the older ones. Similarly the large body size was also higher with the older respondents than with the younger ones. Age had an influence on one's figure, as fat is deposited on certain parts of the body changing the body conformation of the individual as one advances in age (Goldsberry and Reich, 1996).

Perceived Body Sizes by Respondents and the Body Sizes revealed by the Study

The way a person sees himself or herself is not necessarily the same as others see him or her. This was demonstrated in Table 27 of the perceived body sizes by respondents as against the findings of the study.

Table 27

Distribution of Respondents Perceived Body Sizes and those of the Findings of the Study

Body Sizes	Perceived Body Sizes by Respondents	Body Sizes as revealed by the results of the study
Short and Slim	9 (2.9)	10 (3.2)
Short and Plump	1 (0.3)	16 (5.1)
Short and Large	3 (1.0)	7 (2.2)
Medium and Slim	94 (30.0)	37 (11.8)
Medium and Plump	10 (3.2)	65 (20.4)
Medium and Large	94 (30.0)	70 (22.4)
Tall and Slim	58 (18.5)	19 (6.1)
Tall and Plump	13 (4.1)	54 (17.2)
Tall and Large	13 (9.9)	34 (11.1)
Total	313 (100.0)	313 (100.0)

The perceived body sizes of the respondents did not correspond with their actual size revealed by the study. The short and slim body was perceived by 9 (2.9%) respondents while the findings of the study revealed that 10(3,2%) were short and slim. With the short and plump body size only one (0.3%) respondent identified herself as against 16 (5.1%) respondents identified by the study. Similarly 94 (30.0%) respondents perceived themselves to be medium and slim while the findings of the study however identified37 (11 8 %) respondents. With the medium and plump body size the results of the study revealed 65 (20.8%) as against 10 (3.2%) perceived by respondents. Likewise, the medium and large body size, 94 (30 %) respondents perceived themselves to have that figure while the study identified 70 (22.4%).

The tall body size also differed in what respondents perceived they were as against the findings of the study. The respondents, 58 (18.5%) perceived themselves as tall and slim while the results of the study revealed (16.1%). While 54 (17.25%) were found to be tall and plump, 13 (4.2%) of the respondents perceived themselves as tall and plump. Lastly,31(9.9%) respondents perceived themselves to be tall and large but the results of the study indicated 35 (11.2%) to have the tall and large body size.

The researcher wished to know to what extent the study sample had wrong mental pictures of their stature and body size. Table 28 below

represents the perceived height by respondents and those of the findings of the study.

Table 28

Comparison of Respondents Perceived Heights and those of the Findings of The Study

Height	Perceived Height	Height as revealed by Results of the Study.	Difference in Wrong Height Perception
Short	13 (4.2%)	33 (10.5%)	20 (6.4%)
Medium	198 (68.2%)	172 (55.0%)	26 (8.3%)
Tall	103 (32.6%)	108 (34.5%)	6 (1.9%)
Total	313 (100.0)	313 (100.0)	52 (16.6)

The short height was perceived by 13 (4.2%) respondents while the results revealed 33 (10.5%) respondents. As 172 (55.0%) thought they were of medium height the study indicated that 198 (63.2%) were of medium height. Lastly the results showed 108 (34.5%) as tall and the respondents who perceived themselves as tall were 102 (32.6%). It is interesting to note that more respondents perceived themselves as medium height and this was consistent with the results of the study.

This however meant that from calculations for differences between the perceived height by the respondents and the findings of the study, 20 (6.4%) short respondents had wrong perceptions of their individual body stature. Similarly 26 (8.3%) and 6 (1.9%) respondents who were of medium and tall heights respectively also had wrong height perceptions of their individual body stature.

With regard to body size, the researcher wished to know how the sample perceived their body sizes. Table 29 below indicates the perceived body sizes by respondents as against the findings of the study.

Table 29

Distribution of the Respondents' Body Size and those of the Findings of the Study

Body Sizes	Perceived Body Size	Body Size as revealed by the Study	Difference With Wrong Body Size Perception
Slim	161 (51.4)	66 (21.1)	95 (30.0)
Plump	24 (7.7)	135 (43.1)	111 (35.5)
Large	128 (40.9)	112 (35.8)	6 (1.9)
Total	313 (100.0)	313 (100.0)	212 (67.7)

The respondents 161 (51.4%) perceived themselves to be slim whereas the study identified only 66 (21.1%) respondents as slim. While the results of the study revealed 135 (43.1%) to be plump only 24 (7.7%) perceived themselves to have the plump body size. With regard to the large body size 128 (40.9%) perceived themselves to be large while the findings of the study indicated that 112 (35.8%) were large.

The differences between the respondents' perceived body sizes and those of the findings of the study indicated that 95 (30.3%), 111 (35.5%) respondents in the slim and plump body sizes respectively and 6 (1.9%) respondents in the large body sizes actually had a different mental pictures about their body sizes. This however goes to confirm Trollope and Caton (1995) who cited Kaiser (1990) that the concept of body image refers to the mental picture one has of his or her body at any given moment in time. Thus, how a person sees himself or herself is not necessarily the same as how others see him or her (Kaiser, 1990).

Calculating the differences that existed between the perceived body sizes and height by the respondents and the findings of the study, 52 (16.6%) and 212 (67.7%) had different mental perceptions of their height and body size respectively. Such perceptions could however result in incorrect choice of clothing. Kefgen and Touchie-Specht (1986) also reported that the body image is the individual's perception of his or her own being. It may be a distortion of reality, where some overweight people

see themselves as slender while some slender people see themselves as heavy. They again reported that because of inaccurate body image, clothing that exaggerates irregularities may be selected rather than clothing that conceals. Examples of this are the very thin woman who does not see herself as skinny and wears clothing that exaggerates her boniness, the potty man who does not visualize himself as heavy and wears skin tight clothes which reveal each bump and bulge. The objectivity required for true self physical perception as proposed by Kefgen and Touchie-Specht (1986) further was not evident in the findings. A true concept of one's physical self is quite vital in achieving an accurate body image for clothing decisions that will enhance the body assets and camouflage figure problems.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This exploratory study was conducted with the Ghanaian female students of the University of Ghana, Legon in the 1999-2000 academic year. A representative, sample of 313 students stratified into four age groups of 18-20 years, 21-29 years, 30-39 years and 40 years and above was used.

Majority of the study sample did not fall within the standard differences between hip less bust, bust less waist and hip less waist measurement as identified by Simplicity Pattern Company (1976).

Nine body sizes, in decreasing order which were medium and large called (Cutemum) 70 (22.4%), medium and plump (Medium Lady) 60 (20.8%), tall and plump (Tall Graceful 54 (17.3%), medium and slim (Medium Cute)37 (11.8%) and tall and large (Tall Heavy) 35(11.2%) were identified in the study. The rest of the body sizes identified were tall and slim (All-slim) which were 19 (6.1%), short and plump (Short-plump)16 (5.1%). The short and slim (Smallish) and short and large (Mayfair) body sizes were however identified with 10 (3.1%) and 7 (2.2%) respondents respectively. Three each of the nine groups could be identified with the endomorphic (Mayfair,Cutemum and Tall-Heavy) mesomorphic (Short-

plump, Medium Lady and Tall Graceful) and ectomorphic (Smallish, Medium Cute and All-slim) figure types.

The sample is skewed towards the age range 21-29 years,. This indicates that no meaningful conclusion could be drawn for the relationship between age and body size. However there was a pattern which revealed that, as age increased there was an increase in body size. The findings of the study revealed that 87.5% liked their sizes, while the remaining 12.5% did not. The perceived body sizes of the respondents were at variance with the results of the study indicating that some of the respondents had different perceptions of their bodies.

However, the results revealed that the Tall and Plump,(a mesomorphic figure) was the most preferred by the respondents. The rest in the decreasing order of preference were medium height and slim, tall and slim, short and plump, medium height and plump, tall and fat and the least was medium height and fat.

Those who reported that they had figure faults were 167 (53.4%) and out of that number 124 (39.6%) of them stated that their faults had altered their bust waist and hip measurements. This however may be the reason why 91 (29.1%) of the sample with figure faults had problems choosing current clothing styles which are body-fitting..

Custom-made clothes were patronised by 252 (80.5%) of the study sample while the remaining 61 (19.5%) patronise ready-made clothes.

The poor patronage of ready-made clothes by the respondents were mainly due to the sizing system which did not favour them since majority of them did not conform to the sizing standards set by Caucasians' garment industry. The relative high cost of the ready- made clothes might also be a factor since the respondents were students with meagre funds.

Conclusion

Based on the results of the study, nine body sizes which are medium and large (Cutemum), Medium and plump (Medium lady), tall and plump (Tall Graceful),medium and slim (Medium Cute), tall and large (Tall Heavy), tall and slim (Allslim), short and plump (Short-plump),short and slim (Smallish) and short and large (Mayfair) with their corresponding height, bust, waist and hip measurements were observed. The popular sizes were the Cutemum, Medium-Lady while the least were the Smallish and Mayfair, among others. The perceived body sizes of the sample were at variance with the results of the study.

Even though the sample is skewed towards the age range 21-29 years it was observed that as age increased, there was an increase in body size. The general observation, with regard to the hip less bust, bust less waist and hip less waist was that the African particularly, the Ghanaian female's figure is different from that of the Caucasian.

Recommendations

This study was limited to Ghanaian female students at the University of Ghana, Legon. The researcher therefore recommends that further studies be carried out using representative samples covering the different age groups in Ghana. This may identify body sizes for the whole nation, since a pattern grading system cannot be fundamentally correct if the principal prepositions have not been derived from authoritative data obtained by scientific method.

The researcher further recommends that Home Scientists and people in the fashion trade organise workshops and discuss body size and choice of clothing. These may help individuals, firstly, to know their body sizes and secondly select clothing styles to suit their figures, since some of the respondents in this study had wrong perceptions of their figures.

REFERENCES

Borg, W.R. and Gall M.D. Educational Research. An Introduction. Longman, 1983, N.Y.

Bruckheim, A. "Body Measurement". Tribune Media Service, Houston Chronicle, 2000.

Chambers, H. and Moulton V. Clothing Selection. J.B. Lippincot Company, N.Y. 1969.

Colins, W. Encyclopaedia of Dressmaking, Marshal Cavendish Ltd London, 1972.

Cooklin, G. Pattern Grading for Women's Clothes. The Technology Of Sizing. Blackwell Scientific Publication,

London 1990.

Craig H. T. Clothing –A comprehensive study
J.B. Lippincott Company
Philadelphia N.Y. 1968 pgs193-194

Goldsberry E. and Reich N. "Retooling the Industry Sizing Standard" Report of Arizona Experiment Research, 1996.

Horn, M.J. The Second Skin. Houghton Mifflin Company, Boston, 1968

Kefgen M. and Touchie-Specht, P. Individuality in Clothing Selection and Personal Appearance.
Macmillan Publishers
Company,N.Y.,1986

Kim, K. "Size Specifications of the Korean Adult Males for Ready-Made Pants". Journal of Asian. Regional Association for Home Economics

Mcjimsey H.T. Art and Fashion in Clothing Selection
Iowa State University Press/Ames/1973
Pgs200

New Encyclopaedia Brittanica. Encyclopaedia Brittanica Inc. 1994
Vol. 2. pgs 964-966
Vol. 6. pgs 80-81
Vol. 8. pg 584
Vol.10 pg. 383

Perry, P. The Vogue Sewing Book. Butterick Division American Company, 1972.

Sarantokas, S. Social Research. Macmillan Press, Britain, 1994.

Simplicity The ABC's of Shortcut Sewing. Simplicity Pattern Company, Inc. U.S.A., 1976.

Trollope, A. Caton T.S.C. "Fashion Ideals for Men" Journal of Canadian Home Economics 45 (1), 1995.

Tuit, A. Introducing Pattern Cutting. Heinemann Educational Book Ltd., London, 1983.

APPENDICES

QUESTIONNAIRE

A. **Background information of respondents**

1. Age: Last Birthday:.....

2. Course of Study:.....

3. What is your religion?

   (a) Orthodox (Christian)

   (b) Pentecostal

   (c) Islamic

   (d) Traditional

   (e) Others

B. Ethnic background and body type preferences.

4. Where do your parents come from?

   Father:.....

   Mother:.....

5. Will you say you are slim?

   (a) slim and tall

   (b) middle built and fat

   (c) middle built and slim

   (d) tall and fat

   (e) others

(Specify).....

6. Do you like your figure type?

   Yes [ ]

   No [ ]

7. Give reason for your answer.....

.....

8. What is the body type of your parents?

(a) slim and tall

(b) large and tall

(c) middle built and fat

(d) middle built and slim

(f) Others (specify).....

Father:.....

Mother.....

9. Do you like your parents figure types?

Mother: Yes/No

Give reason(s) for your answer:.....

Father: Yes/No

Give reason(s) for your answer:.....

10. What is your role model's figure type?

(a) tall and slim

(b) tall and slender

(c) short and slender

(d) middle built and slim

(e) others (specify)

C. **Figures faults and awareness of figure type.**

11. Are you aware of any figure faults in you? Yes/No

12. If Yes; mention them

(i) .....

(ii) .....

(iii) .....

13. With these figure faults, do you have any problem moving in fashion?

Yes/No

14. Give reasons for your answer.....

.....

15. What other problems do you have as far as your fashion taste is concerned?

.....

.....

16. What do you do to conceal these problems?

.....

17. What are your becoming points as an individual?

.....

18. How do you enhance these points?

.....

D. Fashion taste of respondents.

19. Which one of these do you patronise more.

(i) custom - made clothes:

(ii) ready-made clothes:

20. Give reasons for your choice.

(i) Custom made clothes:

(ii) ready-made clothes:

21. Do you consider your figure before choosing a style? Yes/No

22. Give reason(s) for your answer.....

.....

23. If you patronise ready-made clothes; what is your pattern-size?

.....

24. What criteria do you use to select the ready-made clothes?

.....

25. Do you encounter any problem when selecting the ready-made clothes?

Yes/No

26. If yes; what are the problems?

.....

27. What do you do to overcome the problems?

.....

28. If you patronise custom-made clothes; are your clothes made from:

(i) free-hand cutting

(ii) Commercial patterns

29. If you have clothes made from both methods: which of the two methods give you a better fit?.....

30. With experience from your clothes, can you give any comment on the two methods.

(i) free-hand method:

(ii) commercial patterns:

31. Which of the following do you consider most when choosing style?

(a) age

(b) education

(c) religion

(d) social status

(e) family background

32. Give reason(s) for your answer.....

.....

33. Can you say your clothes portray the fashion of the day? Yes/No

34. Give reasons for your answer.....

.....

35. What is your favourite colour?.....

36. Give reasons for your choice of colour.....

.....

37. Which one of these motifs do you prefer.

(a) large prints

(b) small prints

(c) medium prints

38. Give reason(s) for your answer. .....

.....

39. Do you take part in sports and games? .....

.....

40. Give reasons for your answer.....

.....

41. If yes; what is your favourite sport/games? .....

.....

42. How often do you involve your self in sports/games? .....

.....

43. What should the figure type for Miss Lux/Ghana Beauty Pageants be?

.....

44. Give reason(s) for your answer. .....

.....

45. Do you diet? .Yes/No

46. Give reason(s) for your answer.....

.....

Body Measurements of Respondent

Height:.....

Bust:.....

Waist:.....

Hip:.....

Hip level.....

Shoulder.....

Back waist length:.....

Across chest:.....

Across back:.....

Head length.....

Under arm length:.....

Waist length:.....

Bust level:.....

Arm girth:.....

Arm length:.....