

OPINIONS OF UNIVERSITY WOMEN REGARDING THE RELATIVE  
IMPORTANCE OF THERMAL COMFORT, CONFORMITY AND FASHION

by 4589

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B. S., Texas Southern University, 1968

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A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

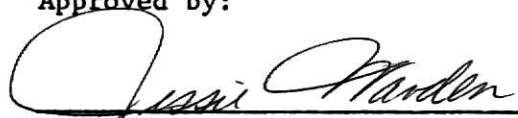
MASTER OF SCIENCE

Department of Clothing, Textiles and Interior Design

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Manhattan, Kansas

1970

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#### ACKNOWLEDGEMENT

The writer wishes to express sincere appreciation to Dr. Jessie A. Warden, Head of the Department of Clothing, Textiles and Interior Design, for her excellent direction and encouragement during the planning and development of the study. Her supportive guidance and resourcefulness made the study an educational and rewarding experience.

A special thank you is also extended to Dr. Ruth Hoeflin, Associate Dean, College of Home Economics; Mrs. Helen Brockman, Professor, Clothing, Textiles and Interior Design Department; Dr. Richard Owens, Associate Professor, College of Education; and Dr. Shirley Friend, Assistant Professor, Department of Clothing, Textiles and Interior Design, for their helpful suggestions and for serving on the writer's committee.

The writer is greatly indebted to the many students who kindly co-operated in the study, and to numerous other colleagues and faculty of both recent and remote past acquaintance, from whom she has learned.

Deepest gratitude is expressed to Mr. and Mrs. L. J. Holley, the writer's parents, for their tolerance and encouragement in times of stress, and for their broad general understanding throughout.

## DEDICATION

This study is proudly dedicated to Mr. and Mrs. L. J. Holley, the writer's parents, who supported her throughout the period during which the manuscript was written with their unfailing patience and encouragement.

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## INTRODUCTION

In spite of the increase in knowledge about adolescents' values, interests, and attitudes, most attempts to organize and present social psychological views of clothing for adolescents have been very brief and superficial treatments. Thus, more research is needed to study the interacting roles of the physical and psychological factors that influence clothing choices of college women.

The purpose of this study was to compare opinions of sophomore/junior residence hall women relative to the importance of thermal comfort, conformity and fashion. Hypotheses were formulated to gain a better knowledge of personal and clothing information which might be useful in helping college women to better ascertain their values and understand their attitudes. The following hypotheses were adopted as the bases that underlie the concept and methodology for use in the study:

1. There is no difference between sophomore/junior residence hall women in desire for clothing that is similar (conforms) to that worn by their peers and desire for clothing that is fashionable.
2. There is no difference between sophomore/junior residence hall women in desire for clothing that is thermally comfortable and clothing that conforms in style to that worn by their peers.
3. There is no difference between sophomore/junior residence hall women in desire for clothing that is fashionable and desire for clothes that are thermally comfortable.

Underlying these hypotheses are reasons why we wear clothes. Some writers have accepted the Biblical explanation of modesty that man is hiding from his shame. Others have thought that clothing was worn as protection against the elements, insects, enemies, or supernatural forces. Still others have

believed clothing was adopted as a form of decoration or as a symbol of excellence: as for example, the hunter or warrior with his trophies. In the last century clothing and textiles specialists and psychologists have been interested in fashion and how clothing satisfies both the need for group belongingness and the desire to differentiate oneself from others. Dearborn (8) wrote in 1918 on the physiology and psychology of clothing as well as the effects of clothing which he considered important. Some ideas expressed by these writers have been supported by subsequent research, others are still in need of investigation.

This study was initiated because of the lack of research in the field of thermal comfort and fashion. It was designed to give aid to those whose responsibility is to help students understand the role clothing plays in influencing human behavior. Although this study is exploratory in nature, it is hoped that any facts that are discovered in the investigation will act as a stimulus for more intensive research in the areas touched upon.

#### Definition of Terms

Throughout the report of this investigation, certain terms were interpreted with certain meanings. Definitions for these terms were evolved after reviewing numerous sources related to the topic. For the purpose of this study, the terms were defined in the following manner:

Clothing behavior: The individual's behavior caused by clothing experiences.

Clothing conformity: The individual's attempt to dress, more often than not, according to the accepted clothing norms of his peer group.

Psychological aspects of dress: Dress as it affects the behavior of an individual in relation to himself.

Sociological aspects of dress: Dress as it affects the behavior of an individual in relation to society.

Style: The characteristic or distinctive form, outline, or shape an article possesses.

Fashion: The prevailing custom of dress of a particular place or time, as established by the dominant section of society.

Fad: A style deviation noticeable in some article(s) of clothing which is impulsively adopted by a relatively small group for a relatively short time.

## REVIEW OF LITERATURE

Much discussion and emphasis in recent years has been placed on the adolescent and on his adjustment as a member of society. Previous studies have shown clothing behavior and general appearance to be important in an adolescent's development. These past studies were used as a guide in the exploration of college women's opinions, particularly as they relate to thermal comfort, conformity and fashion.

### Transition and the Adolescent

Adolescence has been traditionally accepted as a term to describe individuals who are in that transitional period between childhood and maturity. It is a time of seeking status and recognition as an individual; a time of significant physical growth and development; a time of great preoccupation with group and heterosexual activities; a time of intelligence expansion and development; and a time of development and evaluation of values. While it is true that an individual is a human being before he is an adolescent, it is equally true that the period presents many unique situations and adjustment problems. In effect, adolescence is more than a period of human development; it is a way of life whose repercussions affect much of the adult life of the individual (Horrocks, 15).

Tradition holds that radical changes take place in the individual as he emerges from childhood to maturity. This period of transition, known as "adolescence," is therefore regarded as one of marked importance in the life of the developing child. Adolescence is in the truest sense of the word a "between age." At this time the individual is neither child nor adult. He

is gradually leaving behind childish behavior, just as he sheds a childish appearance in favor of that which is characteristic of a mature individual. And because this transition is short-lived, with continual changes from one year to another, it is not surprising that the adolescent feels insecure and out of place in society (Hurlock, 16).

The term adolescent may be defined from several viewpoints: chronological, psychological, sociological, and physiological. Chronologically, the adolescent-youth group is made up of persons twelve to twenty-four years of age; psychologically, of those terminating a prolonged period of infancy; sociologically, of those trying to bridge the gap between dependent childhood and self-sufficient adulthood. Viewed from a sociological viewpoint, adolescence comprise that period in life when the individual is in the process of transfer from the dependent, irresponsible age of childhood to the self-reliant, responsible age of adulthood; the uncertain period when parents begin to relax their hold and shift responsibility from their shoulders to those of their offspring and during which the maturing child seeks new freedom and in finding it becomes accountable to society (Landis, 18).

Jersild (17) defined adolescence from the physiological aspect as:

... the period beginning roughly when young people begin to show signs of puberty and continuing until most of them not only are sexually mature, but have also reached their maximum growth in height and have approximately reached their full mental growth as measured by intelligence tests.

Adolescence comes from the Latin verb adolescere, which means "to grow" or "to grow to maturity." Adolescence may be considered a period in one's life when physical, mental, emotional, and social maturing takes place (Hurlock, 16).

If one broadens the concept of "growing to maturity" to include mental, emotional and social as well as physical maturity, it should be understandable that in modern times adolescence must be a longer period in the development of the individual than it was when maturity was judged by only one criterion, sexual maturity, as demonstrated by the individual's ability to produce offspring. Because mental, emotional, and social maturity are attained at a slower rate of development than is sexual maturity, there is a tendency to extend the adolescent period over a wider range of time than formerly (Hurlock, 16).

Adolescence should not, therefore, be confused with "puberty," the period in early adolescence when sexual maturing occurs. Puberty is a part of adolescence but not synonymous with it, since adolescence, as now recognized, includes all phases of maturing, not physical maturing alone (Hurlock, 16).

Horrocks (15) defined the adolescent as an inexperienced child in an adult situation. He is no longer a child and not yet a man. He has no status in society, nor does society seem to understand him. By some he is judged in terms of standards accepted for the childhood years; by others he is expected to conform to society's standards for adults. Neither set of standards fits him because he is no longer a child nor yet an adult.

#### Importance of Conformity in Appearance to Peer Group Expectations

According to Tornabene (40) who wrote in 1967, America contains 25,000,000 youth between the ages of thirteen and nineteen, and that teenage population had increased in the previous five years by 24 percent, the total population



by only 8 percent. For the first time in history, more than half of the population of the entire world was under twenty-five.

Horrocks (15) reported that a characteristic which is of immense importance in adolescence is the opinion of one's own age group. One must conform to both the opinions and the appearance of other adolescents. Adolescents are essentially conservative where their own age mates are concerned, however much they appear to depart from adult standards of conduct, dress, or acceptance of values. Hurlock (16) stated that to an adolescent, the fact that "other kids are doing it" is the most cogent and overpowering reason for doing a thing.

Schneiders (36) reported that cravings for conformity, approval and recognition are important determiners of adolescent behavior and personality. They need to participate, to socialize, and to communicate. There is also an impelling need to conform, and a craving for social approval and recognition. Josselyn (18) reported that the peer group dominates the adolescent's thinking and his behavior. To deliberately violate the peer group's patterns is extremely difficult. The peer group is perhaps more difficult to define at this age than at any other period of development or growth plateau. The peer group is composed of individuals at approximately the same emotional level of development. It is not primarily determined by chronological age or intellectual ability, although both play a part.

An adolescent often wants to be "different," but the difference usually takes the direction of conformity to certain basic patterns of peer behavior, or of even slavish conformity to the dictates and observances of an "in-group" which is trying to emphasize its differences from the "outsider." Of course, there is always the individual who becomes the leader and whose precept and

example are followed by others, but except for this individual who manages to master the peer group, most adolescents find that they must either conform or be excluded. Even a leader who can ignore and change peer-group customs and attitudes can do so only to a limited extent, and must not flout the accepted mores and observances lest he can earn for himself the dreaded appellations of "square," or whatever the term opprobrium happens to be at the moment (Horrocks, 15).

Takahashi and Newton (39) stated that conformity or nonconformity is relative to the perception of the norm. An individual may not attempt to conform or nonconform to the norms of the reference group in any degree and thus occupy a neutral position of indifference. Attitudes of conformity and nonconformity are expressed as degrees of positive and negative orientation to the norms of a reference group. Usually the individual must choose whether to conform to group expectations or to be an individualist. In fashion, an individual can express individual freedom and at the same time conform to a larger framework of norms. The trend in America is for new behavior patterns of adolescents to be acquired more from the peer group than from the family.

Conklin (6) stated that adolescence is the period of highest clothes consciousness. It was seen as a time, especially for girls, when nearly half develop a great desire to be designers. They manifest a taste for the loud and attention-attracting, and love to try on and exchange clothing with others. Hurlock (16) reported that 52.5 percent of the males and 59.9 percent of the females among fourteen hundred respondents reported that adolescence was the time in their lives when their happiness was most affected by matters of clothing.

Horrocks (15) reported that for some adolescents, style of clothing, personal adornment, and especially grooming are more important than physical attractiveness. What style of clothing the adolescent will accept depends upon the prevailing fashions of the moment. To be in style, to wear the latest fashions in clothing, adornment, and hairdress, and to appear to be "up to the minute" in fashion are frequently more important criteria of dress than becomingness (Hurlock, 16).

The wearing of clothing is a custom so firmly fixed in most human societies it must be looked upon as constituting one of the social pressures at work upon the growing personality. Every human being is born into a clothing-habitated world and wear it he must, in some form, whether he desires to or not. And among most peoples, the custom has become highly differentiated into special clothing customs.

In Hurlock's study (16) of attitudes toward clothing, nearly two-thirds of the boys and men and one-half of the girls and women said they would be willing to deprive themselves of certain pleasures in order to be in style. Relatively few of either sex said they would be willing to adopt a prevailing style if they disapproved of it.

Realizing this, most of the girls today spend endless time on their grooming and eagerly apply methods and aids they read about in newspapers and magazines. Boys are less conscious of the importance of grooming, primarily because girls are more willing to overlook poor grooming in boys than boys are in girls (Hurlock, 16).

### Thermal Comfort as A Function of Clothing

The primary function of clothing the human body may vary considerably, since it is an individual's personal opinion. However, most persons will agree that one function is protection against the environmental elements.

Man is assumed to have originated in tropical or subtropical latitudes, and generally spread toward colder latitudes. Naturally, as the temperature became lower, a new function was acquired by clothing, that of physical protection of the body. Climate, therefore, since the beginning of man, has played an important part in the evolution of clothes. Generally, as one travels from tropical to colder climates, the decorative value of clothes becomes of secondary importance in relation to its thermal protective value, and the farther one gets from the tropics, the greater the amount of clothing necessary to maintain the body in a comfortable state. There are, however, some very marked exceptions to this (Rees, 27).

Selle (35) reported that to insure maximum mental and physical health, it is necessary for man to remain comfortable while experiencing various climatic changes. This is particularly relevant to college students who must engage in long hours of concentrated study and find it necessary, nevertheless, to be alert at all times.

### Criteria for Thermal Comfort

Newburgh (25) stated that comfort is a complex, subjective sensation \* which is difficult to define and evaluate. It is associated with a combination of physical, physiological, and psychological factors. From the thermal viewpoint, comfortable environmental conditions are those under which

a person can maintain a balance between production and loss of heat, at normal body temperature and without sweating. Rohles (32) stated that the 15 or more factors which affect comfort can be separated into 3 groups: those associated with the physical environment; those associated with the person, or organismic factors; and those associated with his behavior, or reciprocative factors. Some of these factors exert a great influence on comfort while others affect comfort only slightly. The problem of defining criteria for comfort is further complicated by both the variation of an individual's reaction from day to day, and by variations among individuals (Nevins, 24).

No physical instruments nor any of the empirically determined indices have taken into account the many factors affecting comfort. In other words, no comfort standards have been fixed to apply to all conditions although it is possible to establish limits that will meet the requirements of a majority in any given homogeneous group under certain conditions. The factors determining selection are largely individual, owing to a wide biologic diversity and variable responses of different persons to a given physical environment. Climate and season, activity, clothing, state of health, sex, age, and degree of adaptation are among the important modifying factors (Newburgh, 25).

To achieve thermal comfort, the thermal environment should be such that the body is in thermal equilibrium. Thermal comfort was defined as "the absence of any unpleasant sensations of feeling too warm or too cool or having too much perspiration on the skin" (Nevins, 24:27). Stated more simply, thermal comfort can be defined as that condition of mind which expresses satisfaction with the thermal environment. The criteria for thermal comfort

are specifications for the indoor environment in which a large majority of the occupants will express their thermal comfort. The standard for thermal comfort conditions was newly adopted by the American Society for Heating, Refrigerating, and Air-Conditioning Engineers. A comfortable thermal environment was defined as an environment in which at least 80 percent of normally clothed men and women, living in the United States and Canada, while engaged in indoor sedentary or near-sedentary activities would indicate that a state of thermal comfort exists (Nevins, 24). Werden et. al. (43) reported that it is possible to achieve thermal comfort by two alternative routes: (1) engaging in more physical activity and consuming enough food to make such effort possible, or (2) utilizing clothing as a means of heat insulation.

#### Clothing as a Means of Heat Insulation and Transfer

Rees (27) reported that a textile fabric is not a homogeneous mass, but a disperse system consisting of textile substance and air, with conduction of heat through the fibers and through the air. There may be a transfer of heat by conduction within the fabric, and by radiation through the interstices. The proportion of heat flowing through the fibers will depend upon thermal conductivity of the fibers, their orientation, and the amount of fibers present in a given volume of the fabric. ✓

Heat transfer by conduction will depend on the orientation of the fibers. When the fibers are all arranged parallel to the direction of heat flow, they will exert their maximum effect on the total heat flow, and when they are all arranged at right angles to this direction, they will exert their minimum effect (Rees, 27).

Air is one of the best known thermal insulators provided it can be kept stationary, and ~~the function of the fibers is to prevent movement of the air.~~ As the density of a fibrous mass is increased, the effect of the fibers will become more pronounced, and the thermal conductivity of the mass will be increased. ~~Thermal conductivity decreases with decreasing density of packing,~~ but ~~below a certain density,~~ the fibers are not able to maintain the air in a stationary state, and convection and radiation contribute to the total heat flow (Rees, 27).

As discussed earlier, the air within a fabric must be still if the overall thermal transfer of the fabric is to be low. If the speed of the external wind is sufficiently high and/or if the fabric structure is sufficiently open, it may cause circulation of the air in the interstices. This would be equivalent to a convection effect within the fabric and the result would be an increase in the total heat flow. Rees (27) stated that for good thermal insulation, it is necessary to provide efficient shielding from the wind, particularly with fabrics of low density.

#### Physiological Theories of Man's Thermal Needs

Meier (22) indicated that the thermal needs of human beings stem principally from properties of their sensory nervous system. Specifically, the author said:

If the average temperature of the skin should deviate more than 3°C. from the standard figure of 33°C. the nervous system would mildly, but definitely protest. Any appreciable variation from this temperature would lead to discomfort and in extreme cases to death. With this range of surface temperature a person has a capacity for adjusting to heat production by internal regulatory controls. The control mechanisms have apparently evolved in order to protect the brain and internal organs from temperature variations, since they

are now so elaborate and complex that 1° to 2° deviation from the normal deep body temperature results in a noticeable loss of mental function.

For any flow of heat to take place there must be a temperature gradient, and the greater the gradient, the greater will be this flow of heat. Thus the human body, when it is at a higher temperature than its surrounding atmosphere, will lose heat to it, and if equilibrium of body temperature is to be maintained, the rate of heat loss from the body must be equal to its rate of production within the body. In case of a person under ordinary indoor conditions, the skin temperature of the trunk will be about 33°C., and the exposed face and hands about 30°C. If the temperature indoors is assumed to be 20°C., it is seen that a considerable portion of the total drop of temperature from the body to its surroundings occurs within the body itself. If the air temperature becomes high, the surface blood vessels dilate, resulting in a larger flow of heat through the skin. If the air becomes cold, these vessels contract, resulting in reduced heat transfer to the skin. By this means, the body can compensate for small changes in air temperature without the need of discarding garments or putting on extra clothing (Rees, 27).

Meier (22) stated that maintaining an environment which is thermally comfortable to everyone is difficult, if and when individuals, because of their unique natures, wear extreme layers of clothing. Thermal comfort also becomes particularly difficult to maintain at low levels of human activity when the temperature of the environment falls below 50°F. At the lower temperatures comfort can be maintained only at considerable inconvenience--such as wearing gloves when reading or sewing.



The loss of heat from the body to its surroundings takes place by radiation and convection, and by evaporation of water from the skin and lungs. As the air temperature drops, the rate of heat loss from the body is increased, and in order to keep the body temperature constant, there must be an increase in the metabolic rate of heat production. Shivering is an attempt to ~~decrease~~ <sup>increase</sup> heat ~~loss~~ <sup>production</sup> by muscular movement. Gooseflesh, an involuntary raising of hairs on the body, is an effort to retain as deep a layer as possible of warm air in contact with the skin. A function of clothing, therefore, is to restrict the loss of heat given up by the body to its cold environment to a rate compatible with body comfort (Rees, 27).

Thermal comfort in any environment is dependent largely upon skin temperature. The average temperature of the external surface of the body is 98.6°F. Meier (22) stated that the average temperature of the female is slightly higher than that of the male. The period of day has some influence on the warmth of the body; the minimum temperature is reached at night or in early morning, and the maximum temperature is reached in the late afternoon. The differences, however, do not extend beyond 1° to 1 1/2°F. Active exercise raises the temperature, but generally not more than 1° or at the most 2°F.

According to Marsh (20) the sensation of heat may be great, but it is only a sensation. The heat of the body is the same in temperate and tropical climates, although the sensations of warmth experienced under one climate may be more marked than those under the other. In like manner, the body temperature in summer is never more than 1/5 to 1/3°F. above that in winter.

### Thermal Implications for Clothing

Clothing must be designed so that the thermal exchanges between man and his environment are maintained at a comfortable rate under vastly different conditions of environment. In the tropics, the principle concern of the body is how to lose heat fast enough, and clothing should offer a minimum impedance to this heat loss while at the same time providing adequate protection from the sun's radiation on the body. In cold latitudes, man is generally concerned with restricting his rate of loss of heat, and sufficient clothing must be worn to do this under different degrees of activity, not forgetting that the elimination of body moisture must not be unduly restricted, particularly when the body is very active. Further, clothing must give adequate protection against external wind and rain, for these can reduce the protective value of clothing (Rees, 27).

It is generally assumed that certain fabrics are "warm" while others are "cool." Needless to say, articles of clothing possess neither warmth nor coolness in themselves. According to Werden et. al. (43) what is meant by a "warm" garment is one that is capable of retaining natural heat and a "cool" garment is one that allows heat to escape and immediately brings the surface of the body under the influence of the cooler atmosphere that surrounds it.

In 1959, Werden et. al. (43) conducted a study to test the commonly held assumption that the thermal comfort of clothing worn at elevated temperatures and humidities was affected by fiber content. Fabrics were chosen to compare natural versus man-made and high- versus low-moisture regain fibers. No significant differences were found among fibers in relation to the thermal comfort of clothing.

The body at all times, under ordinary circumstances, is perspiring. The role of perspiration is that of bringing a new process into play-- the evaporation of water at the skin surface. Since evaporation is carried out very close to the temperature-sensitive nerve endings in the skin, a large measure of relief is afforded by perspiration. The rate of cooling, however, depends ultimately upon the relative humidity and air flow. The drier the air, the more rapid the process. Control of these two factors (humidity and air flow) generally provides the most economical air-conditioning arrangement. Clothing can be adapted so as not to hinder, but may even slightly increase the cooling qualities of perspiration (Nevins, 24).

Meier (22) stated that within the halls and classrooms the air can be heated so that fewer layers of clothing are required. Clothing acts as an insulator in this instance. The clo value is defined as the amount of insulation necessary to maintain comfort in a normally ventilated room, with air movements less than 10 feet per minute, and relative humidity less than 50 percent, while the subject is resting in a sitting position at a temperature of 70°F. Because of the unwieldiness of any further layers, it is not convenient to wear clothing of more than 4 to 5 clo. The upper limit for convenient indoor clothing appears to be about 3 clo.

## METHOD OF PROCEDURE

The purpose of this investigation was to secure opinions of sophomore/junior residence hall women about their clothing.

### Instrument

A series of questions was set up to determine specifically:

- (1) if sophomore/junior women living in a residence hall showed a choice between clothing which conforms in style to that worn by their peers and clothing that is fashionable.
- (2) if sophomore/junior residence hall women showed a choice between clothing that is thermally comfortable and clothing which conforms in style to that worn by their peers.
- (3) if sophomore/junior residence hall women showed a choice between clothing that is fashionable and clothing that is thermally comfortable.

The questions were stated in a variety of ways. Check list, open-end, multiple choice, and simple "yes" or "no" questions were used in an attempt to keep the respondent interested in the questionnaire. Twelve short-answer questions on socioeconomic background, such as size of home community, and parent's education and occupation, were included in this section of the questionnaire.

Respondents were asked to make an empirical judgment regarding thermal comfort in relation to season, occasion, physical environment, and certain design features in clothing. Questions concerning fashion dealt with information about popularly accepted clothing styles and accessories, as well as knowledge of fashion trends gained from various communication media. Inherent in these questions was the concept of one's being a fashion innovator or

pacesetter rather than a follower of fashion. Questions assessing the importance of conformity in dress were developed to stimulate the respondents to choose between conformity and thermal comfort and fashion leadership. Questions were asked that forced the respondents to choose between dressing to please themselves and dressing to be like their peers.

A trial questionnaire was prepared and presented to a committee of seven graduate students and four clothing-and-textiles faculty members for review, and their suggestions were incorporated into the body of the instrument. The questionnaire was also presented to a committee of eleven graduate students residing in a residence hall and their suggestions for changes and additions were also included in the final form.

#### Pre-testing the Questionnaire

The final draft was given to twenty sophomore/junior women living in Putnam Hall, who were ineligible to participate in the study. Their answers were tabulated as a result and minor changes were made in the hope that the questionnaire would be more understandable. (See Appendix A, pp. )

Techniques for administering the questionnaire were developed from the pre-testing and in this way, the questionnaire was administered to all those included in the study using the same formulated techniques throughout. Questionnaire forms were distributed to students in their residence hall rooms and were collected by the investigator after they were filled in.

#### Selection of the Sample

The size of the sample was determined after consultation with a statistician. On the basis of his advice and suggestion, a random sample of 112

sophomore/junior women living in Kenney Ford residence hall during the spring semester of 1970 was used.

#### Methods of Analysis

Scores ranging from 1 (low) to 5 (high) were designated for thermal comfort, conformity and fashion respectively, and used to rate the subject's response. Only one score per question was recorded. The variables under investigation were given equal weight, though there may have been more questions appearing under one variable than under another.

Responses of each student to the questionnaire were tabulated, averaged, and later transferred to coding sheets. Data cards were punched according to the information on the coding sheets. Two-way analysis of variance tests were used where appropriate. Over-all mean scores for each of the three variables under investigation were computed by the Kansas State University Computing Center using an IBM 360 computer.

## DISCUSSION OF FINDINGS

The purpose of this investigation was to study the opinions of university women regarding the relative importance of thermal comfort, conformity and fashion. One hundred and twelve randomly selected sophomore/junior women living in Kenney Ford residence hall were surveyed. In the spring of 1970 when the survey was made there were 2,047 sophomore/junior women enrolled at Kansas State University. Forty-seven percent of these women were enrolled in the College of Arts and Sciences; thirty-two percent in the College of Home Economics; fourteen percent in the College of Education; three percent in the College of Architecture and Design; slightly more than two percent in the College of Commerce; one percent in the College of Agriculture; and a total of one percent in the Colleges of Engineering and Veterinary Medicine.

Table I. Table I shows the distribution of students who participated in the study by college enrollment, indicating that the sample was not a true random one of the university itself as desired. The students were enrolled in every college at Kansas State University except Architecture and Design.

TABLE I  
DISTRIBUTION OF SUBJECTS BY COLLEGE ENROLLMENT

College Enrolled	Number of girls	Percent
Home Economics	51	45.5
Education	25	22.3
Arts and Sciences	20	17.8
Commerce	7	6.3
Veterinary Medicine	5	4.5
Agriculture	2	1.8
No response	2	1.8
Total	112	100.0

Table II. Age differences among the subjects were small. Only 7 percent of the subjects reported their age as older or younger than the age range of 19-20 most common among sophomores and juniors. The age distribution of subjects is presented in Table II.

TABLE II  
DISTRIBUTION OF SUBJECTS BY AGE

Ages of Subjects	Number of Subjects	Percent
18	3	2.7
19	53	47.3
20	35	31.2
21	16	14.3
22	3	2.7
No response	2	1.8
Total	112	100.0
Mean age	19-20	78.5

Tables III and IV. It was believed that an individual's height and weight might be influential in his opinions about clothing. Although these variables were not analyzed statistically, heights and weights of the subjects were recorded and tabulated. As shown in Table III, more than half of the girls (51%) were 5'4" to 5'7" tall. Almost a third (29%) of the girls were between 5' and 5'3" tall and one-fifth (20%) were 5'8" or above.

Table IV shows a tabulation of the information on weight of the subjects. None of the women weighed less than 100 pounds, forty-three percent weighed between 100-120 pounds, forty-three percent weighed between 121-140 pounds, and all remaining subjects (12%) weighed above 140 pounds.



TABLE III  
DISTRIBUTION OF HEIGHTS OF SUBJECTS  
BY NUMBER AND PERCENTAGE OF RESPONDENTS

Height of Subjects	Number of Subjects	Percent
5' - 5'3"	32	29
5'4" - 5'7"	57	51
5'8" and above	23	20
Total	112	100
Mean Height	5'4" - 5'7"	51

TABLE IV  
DISTRIBUTION OF WEIGHTS OF SUBJECTS  
BY NUMBER AND PERCENTAGE OF RESPONDENTS

Weight of Subjects	Number of Subjects	Percent
100 - 120 lbs.	50	44.6
121 - 140 lbs.	48	42.9
Above 140 lbs.	14	12.5
Total	112	100.0
Mean Weight	121 - 140 lbs.	42.9

Table V. Table V shows the distribution of subjects by home community size. More than one-third of the subjects (41%) resided in home communities with a population less than 5,000. Almost one-fourth of the women (26%) lived in home communities with a population between 5,000-49,999, twenty-seven percent lived in communities with a population larger than 50,000, and the remaining four percent did not respond.

Table VI. Both parents were fairly well-educated in terms of years of school completed. Over one-half of the mothers (58%) and more than one-third of the fathers (45%) had a high school education. More fathers than mothers tended to have some college background. Forty-three percent of the fathers and thirty-six percent of the mothers had some college background. Almost 11% of the fathers and 5% of the mothers had only a grade school background (See Table VI, page 25).

Table VII. Almost three-fourths (71%) of the subjects worked in summer or during the school year to earn part of their school expenses. Only one-fourth of the women (25%) said they did not earn part of their school expenses (Table VII, page 26).

Table VIII. As shown in Table VIII, only six percent of the women were members of a sorority, while more than three-fourths (88%) were non-members. This may be due to the practice of sorority women above the freshman level to reside at sorority houses. Six women did not respond.

Table IX. Table IX shows the occupation levels of the subjects' fathers. Occupation scales by Reiss (29) and Roe (31) were used to group the occupations. Sixty-seven fathers (60%) were employed as professional workers, thirty-eight (34%) were non-professional workers, and seven (6%) of the subjects did not respond.

TABLE V  
DISTRIBUTION OF HOME COMMUNITY SIZE OF SUBJECTS  
BY NUMBER AND PERCENTAGE OF RESPONDENTS

Size of Home Community	Number of Subjects	Percent
Less than 5,000	46	41.1
5,000 - 49,999	30	26.7
Larger than 50,000	31	27.7
No response	5	4.5
Total	112	100.0

TABLE VI  
PARENTS' EDUCATION BY NUMBER AND PERCENTAGE

FATHERS			MOTHERS		
Highest Level of Education	Number	%	Highest Level of Education	Number	%
Grade school	12	10.8	Grade school	6	5.4
High school	51	45.5	High school	65	58.0
College	49	43.7	College	41	36.6
Total	112	100.0	Total	112	100.0

TABLE VII  
EMPLOYMENT STATUS OF SUBJECTS  
BY NUMBER AND PERCENTAGE OF RESPONDENTS

Employment Status	Number of Subjects	Percent
Employed	80	71.4
Not employed	29	25.9
No response	3	2.7
Total	112	100.0

TABLE VIII  
SORORITY MEMBERSHIP OF SUBJECTS  
BY NUMBER AND PERCENTAGE OF RESPONDENTS

Membership Status	Number of Subjects	Percent
Sorority member	7	6.3
Non-member	99	88.4
No response	6	5.3
Total	112	100.0

TABLE IX  
OCCUPATION LEVEL OF FATHERS BY NUMBER AND PERCENTAGE

Level of Occupation	Number of Fathers	Percent
Professional	67	60
Non-professional	38	34
No response	7	6
Total	112	100

## Description of Results from Questionnaire

### Thermal Comfort

Questions on thermal comfort were asked in relation to season, occasion, physical environment, and certain design features in clothing (Questions 6, 14, 16, 17, 19, 21, 22, page 40).

When asked if they considered warmth more important than fashion in a winter coat, 38% of the women said yes, 26% refrained from making a choice, 35% said no, and one person did not respond. Twenty-five percent of the respondents said fashion became less important to them when the outside temperatures were very hot or very cold, 17% were indifferent, and 58% said fashion did not become less important. Twenty-nine percent of the women answered positively when asked if they still preferred to wear the mini length when the weather was 32°F. or colder even though the midi length was warmer, 37% answered negatively, and 33% answered neutral. These findings might be attributed to the fact that the population was surveyed during early spring when outside temperatures were constantly fluctuating.

Thirty-nine percent of the respondents said that in winter, they wore a coat slightly longer than their skirts or dresses because their legs got cold, 38% said they did not, and 23% were indifferent or refrained from making a choice. When asked whether they were warmer when they wore a bra, 39% of the women answered yes, 47% answered neutral, and 19% answered no. Fifty-two percent of the women said they seldom thought of a dressy dress with a low neckline as being cooler than one with a high neckline, 28% said they thought of this often, and 20% made no distinction. When asked whether they preferred short sleeve dresses in summer, 80% of the respondents answered

yes, 8% answered no, and 12% were indifferent.

Findings of this study gave support to those of Nevins (24) that variations among individuals as well as their day to day reactions, made comfort criteria difficult to define. Newburgh's findings (25) which indicated that factors affecting comfort were largely individual, owing to a wide biological diversity and variable responses of different persons to a given physical environment, were borne out by the findings of this study.

### Conformity

Questions assessing the importance of conformity in dress were developed to stimulate the respondents to choose between conformity and one or the other of the two factors under investigation (thermal comfort and fashion). More specifically, students were asked to choose whether they preferred dressing to please themselves or dressing in a manner similar to their peers (Questions 4, 7, 9, 11, 12, 23, page 40).

When asked if they preferred to wear clothes that conformed to styles worn by their friends rather than wear the latest fads, 60% of the respondents answered yes, 20% answered no, and 20% refrained from making a choice. Almost three-fourths of the women (70%) said they often bought clothes similar to those worn by their peers, 9% said they did not, and the remaining 21% indicated they were not often affected by their peers and/or fads.

Findings of this study were consistent with those of Horrocks (15), Josselyn (18), and Schneiders (36), all of which showed strong feelings toward clothing conformity among adolescents. These authors agreed that cravings for conformity and/or an impelling need to conform, was one of the most important determiners of adolescent behavior. Also that it is extreme-

ly difficult to violate the peer group's pattern of dress. For example, when asked if they preferred to dress similar to their peers rather than be a pacesetter of fashion trends, 52% of the women answered yes, 22% answered no, and 26% made no distinction. Forty-three percent of the women said they would like to discard clothing which no longer conformed to the latest popular clothing styles worn by their peers, 25% said they would not, and 31% were indifferent.

When asked if they preferred their boyfriend to dress in a manner similar to his peers, only 13% of the respondents said yes, 30% were impartial, and 57% said no. Twelve percent of the women said they chose clothes that they thought their peers would admire, 20% were indifferent, and 68% said they did not. When asked if they enjoyed wearing the latest MOD look in glasses, 34% of the respondents answered yes, 36% answered no, and 29% refrained from making a choice.

#### Fashion

Questions concerning fashion dealt with information about popularly accepted clothing styles and accessories, and with keeping "up to the minute" with the latest fashion trends (Questions 1, 2, 5, 8, 10, 13, 15, 18, 20, 24, page 40 ).

When asked if they enjoyed dressing according to the latest fashion, more than 81% of the respondents answered yes, five percent answered no, and 14% made no distinction. Thirty-six percent of the women felt that they needed both the newest fads as well as the latest fashion styles to maintain an acceptable college wardrobe, 41% said fads were not needed, and 25% refrained from making a choice. Twenty-four percent of the respondents



said they would enjoy wearing fun accessories, such as a beaded head band this spring, 43% said they would not, and 33% were indifferent.

When asked if they would like to be among the first to wear the latest fashions, such as the midi length skirt, 8% answered yes, 69% answered no, and 23% answered neutral. Forty-six percent of the women dressed more for fashion than for comfort during hot weather when the classrooms were air-conditioned, 29% said they did not, and 25% were indeterminate. Twelve percent of the respondents answered yes when asked if they liked the midi length because it was fashionable, 71% answered no, and 17% refrained from making a choice.

Thirty-nine percent of the women said yes when asked if they considered fashion more important at a university dance than for school wear, 37% said no, and 24% made no distinction. Twenty-one percent of the respondents considered dressing for fashion more important than dressing for the weather, 47% said they did not, and 32% were impartial.

Findings of this study supported those of Takahashi and Newton (39) that in fashion an individual can express individual freedom and at the same time conform to a larger framework of norms. Also that an individual may not attempt either to conform or to nonconform to the norms of the peer group in any degree and thus occupy a neutral position of indifference.

Statistical analysis of data revealed there was very little difference in mean scores between thermal comfort, conformity and fashion. Mean scores for the three variables were 3.175, 2.981, and 2.805 respectively (See Appendix B, C, and D, pages 44, 46, and 48).

The hypotheses that there are no differences in opinions among university women regarding the relative importance of thermal comfort, conformity and fashion were accepted at the .05 level of significance.

## CONCLUSIONS AND RECOMMENDATIONS

This was an exploratory study and any generalizations that are made are largely in the realm of speculation. Many variables were recognized but not considered for this particular study. Conclusions reached as a result of this study are not applicable to all university women living in a residence hall, but are restricted to the selected population represented by Kenney Ford Hall sophomore/junior residents at Kansas State University. However, it is believed that the information presented here might give some insight into the relation of physical and social-psychological factors which influence clothing choices of late adolescent women enrolled in universities of similar size and socio-economic composition in the Midwest.

The hypotheses that there are no differences in opinions among university women regarding the importance of thermal comfort, conformity and fashion were accepted at .05 level of significance.

In a series of questions concerning fashion and warmth, almost two-thirds of the students consistently said warmth was a more important factor in the selection of wearing apparel than fashion. There tended to be more variation in response to questions concerning fashion and coolness than fashion and warmth, indicating that living in an air-conditioned residence hall and having many classes in air-conditioned buildings might influence results.

College students may have strong preferences for clothing which conforms to that of their peers as found by this investigator and numerous other researchers in clothing and psychology. Findings showed that while students

may enjoy "doing their own thing," they may, at the same time, conform to a larger framework of norms. From half to three-fourths of the students' answers expressed the desire to have clothes that conform to those of their own peers. Further research should be done to see if this is a change in trend developing along with many other social changes in everyday life.

Although 81% of the girls said they enjoyed dressing according to the latest fashion, few girls said they wanted to be the first to wear the latest 1970 fashions. It is suggested that further fashion-comfort research might be conducted in universities of similar size and type and with similar climatic conditions but where they are a number of air-conditioned buildings, and where there are few air-conditioned buildings.

Since there was found to be no significant difference in the percentage of students who desire clothing which conforms to that of their peers, clothing that is fashionable, and clothing that is thermally comfortable, it is suggested that a larger sample be used, in summer and in winter, involving on- and off-campus college students of many socio-economic backgrounds and different life goals.

Further studies could be done using the data presented in this study and the A.S.H.R.A.E. project, an unpublished study, and expanding it to include measures of clo value of popular assemblages using human subjects and the copper manikin.

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## APPENDIXES



## APPENDIX A

## QUESTIONNAIRE

DIRECTIONS: Please respond to each of the following statements by checking the appropriate response.

Range of Response

SA - Strongly agree  
 A - Agree  
 N - Neutral  
 D - Disagree  
 SD - Strongly

	SA	A	N	D	SD
1. I enjoy dressing according to the latest fashion.	(26)	(65)	(16)	( 3)	( 2)
2. I feel I need both the newest fads as well as the latest fashion styles to maintain an acceptable college wardrobe.	( 8)	(32)	(27)	(42)	( 3)
3. I often buy clothes that are similar to those worn by my peers.	(15)	(64)	(24)	( 6)	( 3)
4. I choose clothes that I think my peers will admire.	( 3)	(11)	(22)	(54)	( 5)
5. This spring I would enjoy wearing fun accessories, such as a beaded head band.	( 8)	(19)	(37)	(30)	(18)
6. I consider warmth more important than fashion in a winter coat.	(13)	(30)	(29)	(25)	(14)*
7. I enjoy wearing the latest MOD look in glasses.	(10)	(29)	(41)	(23)	( 9)
8. I like to among the first to wear the latest fashions, such as the midi length skirt.	( 2)	( 7)	(26)	(52)	(25)
9. I prefer that my boyfriend dress in a manner similar to his peers.	( 4)	(11)	(34)	(50)	(13)
10. During hot weather I dress more for fashion than for comfort when the classrooms are air-conditioned.	( 5)	(46)	(28)	(28)	( 5)
11. I would like to discard clothing which no longer conforms to the latest popular clothing styles worn by my peers.	( 3)	(45)	(29)	(30)	( 5)
12. I prefer to dress similar to my peers rather than be a pacesetter of fashion trends.	( 9)	(50)	(29)	(21)	( 3)

	SA	A	N	D	SD
13. I would enjoy being first among my friends and associates to wear a midi length skirt and blouse.	( 4 )	( 7 )	(18)	(48)	(35)
14. I know the midi length is warmer, but I still prefer to wear the mini length when the weather is 32°F. or colder.	( 9 )	(23)	(38)	(36)	( 5 )*
15. I like the midi length because it is fashionable.	( 5 )	( 8 )	(19)	(42)	(38)
16. Fashion becomes less important to me when the outside temperatures are very hot or very cold.	( 5 )	(23)	(19)	(55)	(10)
17. I am warmer when I wear a bra.	(10)	(34)	(47)	(14)	( 7 )
18. I think about a scarf on a dress as being an accessory and not chosen for warmth.	(30)	(76)	( 5 )	( 1 )	( 0 )
19. In winter, I wear a coat slightly longer than my skirts or dresses because my legs get cold.	( 5 )	(39)	(26)	(36)	( 5 )*
20. I consider fashion more important at a university dance than for school wear.	( 5 )	(38)	(26)	(37)	( 6 )
21. I prefer short sleeve dresses in summer.	(26)	(64)	(13)	( 9 )	( 0 )
22. I seldom think of a dressy dress with a low neckline as being cooler than one with a high neckline.	( 9 )	(49)	(23)	(26)	( 5 )
23. I prefer to wear clothes that conform to styles worn by my friends than to wear the latest fads.	( 1 )	(66)	(22)	(21)	( 2 )
24. I consider dressing for fashion more important than dressing for the weather.	( 1 )	(23)	(36)	(49)	( 3 )
25. Major _____					
26. Age _____ 27. Height _____ 28. Weight _____					
29. Sorority member _____ yes _____ no					
30. Size of Home Community					
1 ( ) Population under 1,000	6 ( ) 25,000 - 50,000				
2 ( ) 1,000 - 2,500	7 ( ) 50,000 - 100,000				
3 ( ) 2,500 - 5,000	8 ( ) 100,000 - 250,000				
4 ( ) 5,000 - 10,000	9 ( ) 250,000 - 500,000				
5 ( ) 10,000 - 25,000	10 ( ) 500,000 - 1,000,000				
	11 ( ) 1,000,000 or more				

\* denotes these questions received a no response answer.

## Highest Grade in School Completed by Parents

## 31. FATHER'S EDUCATION

- 1 ( ) Less than sixth grade
- 2 ( ) Grade school graduate
- 3 ( ) Some high school (9-11 yrs.)
- 4 ( ) High school graduate
- 5 ( ) Some college (13-15 yrs.)
- 6 ( ) College graduate
- 7 ( ) Graduate work

## 32. MOTHER'S EDUCATION

- 1 ( ) Less than sixth grade
- 2 ( ) Grade school graduate
- 3 ( ) Some high school (9-11 yrs.)
- 4 ( ) High school graduate
- 5 ( ) Some college (13-15 yrs.)
- 6 ( ) College graduate
- 7 ( ) Graduate work

## 33. Occupation of Father

- \_\_\_ Unemployed
- \_\_\_ Semi and unskilled
- \_\_\_ Skilled
- \_\_\_ Military
- \_\_\_ specify rank \_\_\_\_\_
- \_\_\_ Clerical and sales

- \_\_\_ Government employee
- \_\_\_ Farmer
- \_\_\_ Professional, semi-professional, managerial, or executive
- \_\_\_ Retired )
- \_\_\_ Deceased) Indicate former occupation
- \_\_\_ Other specify \_\_\_\_\_

## 34. Mother's employment outside the home

- \_\_\_ No work outside the home
- \_\_\_ Part-time work (1-39 hrs. per week)
- \_\_\_ Full-time work (40 hrs. or more per week)
- \_\_\_ Other specify \_\_\_\_\_

## 35. If EMPLOYED outside the home, list below your mother's occupation and describe her duties.

## 36. Do you earn a part of your school expenses?

- \_\_\_ yes
- \_\_\_ no

## APPENDIX B

## INFLUENCE ON QUESTIONS BY FATHER'S EDUCATION

Highest Level of Education	Number	MEAN SCORES		
		Thermal Comfort	Fashion	Conformity
High school	63	3.1582	3.0018	2.8454
College	49	3.1955	2.9556	2.7556
Total	112			
Grand Mean		3.17499	2.98099	2.80499

## APPENDIX C

## INFLUENCE ON QUESTIONS BY FATHER'S OCCUPATION

Level of Occupation	Number	MEAN SCORES		
		Thermal Comfort	Fashion	Conformity
Professional	67	3.1429	3.0048	2.8302
Non-professional	38	3.2471	2.9412	2.7794
No response	7			
Total	112			
Grand Mean		3.17937	2.98247	2.81237



## APPENDIX D

## INFLUENCE ON QUESTIONS BY SUBJECTS' HOME COMMUNITY SIZE

Size of Home Community	Number	MEAN SCORES		
		Thermal Comfort	Fashion	Conformity
Less than 5,000	46	3.0907	2.9349	2.8372
5,000 - 49,999	30	3.1555	2.9852	2.7259
Larger than 50,000	31	3.3321	3.0643	2.8464
No response	5			
Total	112			
Grand Mean		3.17754	2.98571	2.80918

OPINIONS OF UNIVERSITY WOMEN REGARDING THE RELATIVE  
IMPORTANCE OF THERMAL COMFORT, CONFORMITY AND FASHION

by

ZELDA ROYCE HOLLEY

B. S., Texas Southern University, 1968

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AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

Department of Clothing, Textiles and Interior Design

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

1970

The purpose of this study was to investigate clothing opinions of sophomore/junior residence hall women regarding the relative importance of thermal comfort, conformity and fashion. Selected socio-economic factors were also considered in relation to clothing behavior.

One hundred and twelve sophomore/junior women 18-22 years of age from Kenney Ford Hall were randomly selected and surveyed. Short-answer questions were used to determine opinions toward: (1) thermal comfort in relation to season, occasion, physical environment, and certain design features in clothing; (2) dressing to please oneself and dressing to be like one's peers; and (3) fashion styles and trends.

The hypotheses that there are no differences in opinions among university women regarding the relative importance of thermal comfort, conformity and fashion were accepted at the .05 level of significance.

In a series of questions concerning fashion and warmth, results indicated that almost half of the students consistently said warmth was a more important factor in the selection of wearing apparel than fashion. From half to three-fourths of the students expressed the desire to have clothes that conformed to that of their peers. Although more than three-fourths of the women said they enjoyed dressing according to the latest fashion, few women said they wanted to be the first to wear the latest 1970 fashions.

Further fashion-comfort studies were suggested involving universities of similar size and type with similar climatic conditions but where there are a number of air-conditioned buildings, and where there are few air-conditioned buildings. A larger sample could be used in summer and in winter, involving students living on and off-campus, and having many socio-economic backgrounds and different life goals.