AN ANALYSIS OF THE CREEKMORE SCALES OF EIGHT CLOTHING VARIABLES

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ABSTRACT

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by Nelma Irene Fetterman

The purpose of this study was to estimate the reliability and validity of responses made to the Creekmore Scales of Eight Clothing Variables as found in the Importance of Clothing questionnaire and to propose recommendations for the improvement of the scales. The subjects whose responses were analyzed were 269 girls and 236 boys in grades ten, eleven, and twelve of a high school located in a mid-western city of the United States.

The Creekmore Scales of Eight Clothing Variables were Likert-type summated rating scales pertaining to aspects of clothing: aesthetics, modesty, interest, social approval, management, comfort, special attention, and psychological dependence.

Hoyt's analysis of variance method of estimating the reliability of the scores of each of the scales was used. The "interest" scale had the highest reliability coefficient for the girls' responses, the "psychological dependence"

scale had the second highest, "special attention," "modesty," and "social approval" were tied for third highest. The "management," "comfort," and "aesthetic" scales had the lowest reliability coefficients. For the boys' responses to the eight scales all of the reliability coefficients except for the "modesty" and "management" scales were higher than the coefficients for the girls' responses. The ranking of the scales according to their reliability coefficients for the boys' responses was the same as for the girls' responses except that the "social approval" scale had a higher reliability coefficient than the "modesty" scale.

An item analysis consisting of item-total correlations and discriminatory power was conducted for each item of each of the scales for the boys' and girls' responses. On the basis of the results of the item analysis recommendations were suggested for improving some of the scales, especially the "management," "aesthetic," and "comfort" scales.

An attempt was made to estimate the validity of the scores obtained from the first seven of the eight scales. For each of the 199 girls and 151 boys who completed the scales and the criterion measure, a rank order correlation coefficient was calculated. The rank of each of the seven variables according to their importance was determined by the scores the subject obtained on the first seven scales.

This ranking was compared with his ranking of seven words and phrases in the criterion measure which corresponded to the aspects measured in the first seven scales. No conclusions could be drawn concerning the validity of the scales because very few rank correlation coefficients were significant and the reliability and validity of the criterion measure were unknown.

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by

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CHAPTER I

INTRODUCTION

Prior to 1947 the major concerns of studies in the area of clothing were garment construction and design.[1] Since that time more and more people have come to recognize the importance of the socio-psychological aspects inherent in the use of clothing. For example, clothing plays a significant role in the way we perceive people; clothing influences the actions of the wearer; clothing partially determines the role one plays in society.[2] All of these aspects are indicative of the role clothing plays in social interaction.

Because the study of the socio-psychological aspects of clothing is recent, the total area of attitudes toward and behaviors related to clothing is relatively un-

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[1]Mary Shaw Ryan, Clothing: A Study in Human Behavior (New York: Holt, Rinehart and Winston, Inc., 1966), p. 2.

[2]Ibid., p. 3.

explored and there is a need for more research.[1] At the same time there exists a lack of valid and reliable techniques for measuring these attitudes and behaviors. Effective measuring techniques are necessary for "if one does not know the reliability and validity of one's data little faith can be put in the results obtained and the conclusions drawn from the results."[2]

Good measuring devices are not developed in a single effort. It is usually necessary to revise and refine statements in a measuring instrument many times before a useful, valid and reliable technique is developed. Then the refined instrument should be administered to many samples and the reliability and validity of its scores calculated so that its usefulness can be established.

One of the objectives of a recent Agricultural Experiment Station Project at Michigan State University was the composition of an instrument for measuring various aspects of attitudes toward and behaviors related to cloth-

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[1] Betty L. Brady, "Clothing Behavior: Refinement of a Measure and Relationships with Social Security and Insecurity for a Group of College Women" (unpublished Master's thesis, Department of Clothing and Textiles, Pennsylvania State University, 1963), p. 2.

[2] Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1965), p. 429.

ing.[1] It was the desire of the participants of this research project that the instrument, Importance of Clothing, hereafter referred to as the Creekmore Scales of Eight Clothing Variables, be used with many samples of populations and that it become the basis for a standardized measure of the attitudes and behaviors of adolescents toward clothing.[2]

In order for other investigators to consider the use of the Creekmore Scales of Eight Clothing Variables, it is necessary to determine the degree of success already attained for securing reliable and valid responses from the use of the scales. At present only the discriminatory power of the first seven scales and the assurance of the face validity as judged by five authorities are available. More information about the scales is necessary.

The purpose of this study is to investigate the reliability, internal consistency and validity of the Creekmore Scales of Eight Clothing Variables. On the basis of

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[1]Anna M. Creekmore, "The Relationship of Clothing to Self-Concept and to Attitudes toward Clothing" (unpublished research in progress for Michigan State University Agricultural Experiment Station, Project M-784).

[2]Mary Jane Young, "The Relationship of Social Acceptance to Clothing and to Personal Appearance of Adolescents" (unpublished Master's thesis, Department of Textiles, Clothing and Related Arts, Michigan State University, 1967), p.77.

the results recommendations will be made for improvements in the scales.

CHAPTER II

REVIEW OF LITERATURE

In addition to knowing the reliability and validity of the responses made to the items of a scale, an investigator must know the theoretical basis for the formulation and selection of the statements in the scale if the results are to be properly interpreted. The following discussion will be concerned with the history of the development of the Creekmore Scales of Eight Clothing Variables, a description of summated-rating scales, and methods of determining the reliability and validity of Likert-type summated-rating scales.

The Development of the Creekmore Scales of Eight Clothing Variables

In her exploratory study, Creekmore (1963)[1] sought to investigate some of the factors which might be responsible for differences in the use of clothing by individuals and to

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[1] Anna Mary Creekmore, "Clothing Behaviors and Their Relationship to General Values and to the Striving for Basic Needs" (unpublished Ph.D. thesis, Department of Clothing and Textiles, Pennsylvania State University, 1963).

discover possible relationships among eight basic needs, eight general values, and fourteen clothing behaviors for a group of college women. The investigation was based upon the theory that needs are most basic to human beings and that in the process of striving to satisfy needs values evolve. These values may be observed in the behavior of the individual and for each value there may be a congruent clothing behavior.

For the study of basic needs, Creekmore added action or activity needs to Maslow's list of needs which consisted of belongingness, safety, physiological, self-actualizing, self-esteem, aesthetic, and cognitive. When investigating the general values of her subjects Creekmore used two values, Exploratory and Sensuous, in addition to Spranger's six value orientations which Vernon, Allport and Lindzey used in their Study of Values. It appeared to Creekmore that there existed two levels of values. The Social, Economic, Exploratory, and Sensuous were the first order while the Religious, Political, Theoretical and Aesthetic types could be refinements from the first order types, and hence more closely related to those parallel to them.

To determine which behaviors should be included, Creekmore analyzed the eight specific value orientations and derived eight specific clothing behaviors which corres-

ponded to the value orientations. However, literature revealed that six more global behaviors were often discussed. Thus, Creekmore proposed fourteen clothing behaviors for her investigation. The eight specific clothing behaviors were altruistic use of clothing, management emphasis, interest in the tactual aspects, experimentation, interest in symbolic meaning, emphasis on status symbol use, interest in appearance, and interest in theoretical aspects. The six general clothing behaviors were use of clothing construction, fashion interest, conformity, tool use, emphasis on modesty in dress, and no concern for clothing.

With the eight specific clothing behaviors and six general clothing behaviors as a basis, Creekmore developed 216 statements to which subjects could indicate their agreement or disagreement on a five point scale ranging from "almost always" to "almost never." The 216 statements were pretested with 30 undergraduate and graduate students from home economics. Their responses to the items were analyzed and the items which failed to differentiate the high and the low scorers on the measure were deleted. The remaining items were examined and some revisions were made. The revised Clothing Interest Inventory consisted of 130 statements with seven to ten of these statements fitting into each of the fourteen clothing behavior categories.

No attempt was made to validate the clothing behavior items because no known criterion existed. However, on an odd-even item basis, reliability coefficients were established for the responses of the 30 individuals on the pretest. All of the scales, except Appearance and Tactual Aspects, had acceptable levels of reliability. The Appearance and Tactual Aspects scales were retained, although they had low reliability, because Creekmore felt that the multidimensionality of the variables caused the low reliability.

Brady[1] analyzed the responses given by Creekmore's 300 subjects to the Clothing Interest Inventory. First frequency distributions of the five possible choices for each item were computed. Those statements which had highly skewed distributions of responses were eliminated. The item-total correlations were calculated in each category for the remaining statements. As a result of both procedures 28 items were eliminated. Further revisions were made on the basis of clarity of meaning, agreement with the definition of the behavior category, applicability to people or situations, and directness of statement

When Brady examined the sections of the inventory and the definitions she found that some overlapping had

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[1]Brady.

occurred between sections and as a result additional changes and modifications were made. The following behavior categories were eliminated: altruistic use of clothing; tool use of clothing; no concern for clothing; and theoretical interest in clothing. The definition of experimental use of clothing was modified to include "the planning, trying on, and putting together parts of ensembles which the wearer feels are new, different, or unusual."[1] The section on tactual aspects of clothing was replaced by a section dealing with comfort. The statements concerning judgment of social status were incorporated with the statements about the symbolic meaning of clothing.

As a result of the revisions made by Brady, the final form of the refined questionnaire consisted of ten statements in each of the following nine behavior categories: experimental use of clothing; construction; concern for appearance; management; symbolic meaning of clothing; fashion; conformity; modesty; and comfort.[2] The 90 statements used in the inventory consisted of 29 of Creekmore's original statements, 6 modifications of the original statements, and 55 new statements composed by Brady.

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[1] Brady, p. 28.

[2] Ibid., p. 30.

When item-total correlations were computed within the nine clothing behavior categories for the responses given by 120 unmarried female Education undergraduate majors, each statement was found to correlate with its respective total above the .01 level of confidence. According to Brady, this indicated that the items in each of the nine behavior categories were internally consistent and discriminating.[1]

Sharpe[2] developed a Likert-type scale to measure the degree of clothing interest and two aspects of clothing importance, importance from a prestige viewpoint and importance in terms of ego satisfaction, for use with college females.

Sharpe's initial instrument consisted of 80 statements, 74 attitudinal, 1 pertaining to knowledge of fashion designers, and 5 concerning the numbers of specific items in the respondents' wardrobes. The responses obtained in three pretests were examined by the scale value difference method of item analysis and by factor analysis. As a result, statements which gave results that were inconsistent with the total scores or statements which measured some other related

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[1] Ibid., p. 60.

[2] Elizabeth Susan Sharpe, "Development of a Clothing Interest-and-Importance Scale" (unpublished Master's thesis, Ohio State University, 1963).

variable were eliminated.[1] The final form of Sharpe's scale consisted of 14 attitudinal statements of which 10 pertained to clothing interest, 2 pertained to importance from ego satisfaction, and 2 pertained to importance from prestige.[2]

The split-half reliability of the responses of 54 coeds to the 14 statements was .89 when corrected by the Spearman-Brown prophecy formula.[3]

The 14 attitudinal statements were administered to 24 women, 12 of whom were predicted to have high interest in clothing and 12 of whom would have low interest in clothing, to determine if the scores obtained were valid. Eleven of those predicted to have high interest scores did obtain the highest scores, and 10 of those predicted to have low scores did obtain the lowest scores. When a t-test was applied to the mean scores of the two groups of women, the difference between the scores was found to be highly significant. Thus, Sharpe assumed that the scale gave valid results.[4]

A recent Agricultural Experiment Station Project at

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[1] Ibid., p. 38.

[2] Ibid., p. 39.

[3] Ibid., p. 40.

[4] Ibid., pp. 40-41.

Michigan State University investigated the relationship of clothing to the self-concept of adolescents.[1] One of the features of this project was the composition of an instrument to measure various aspects of attitudes and behaviors toward clothing.

For the five researchers[2] in the Michigan State University Project under the direction of Dr. Anna Creekmore the first step in the composition of the instrument was to list "as many situations or feelings involving clothing as possible"[3] and "reasons why clothing was important to individuals"[4] so that a basic theoretical structure could be established. "After extensive discussion a compromise list of seven categories"[5] involving clothing was formulated and the seven category headings were defined. The categories and

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[1]Anna M. Creekmore, Relationship of Clothing . . . .

[2]Carolyn Andree Humphrey, Karen Engel, Winifred Sue Hundley, Mary Green Klaasen, Mary Jane Young.

[3]Carolyn Andree Humphrey, "The Relationship of Stability of Self Concept to the Clothing of Adolescents" (unpublished Master's thesis, Department of Textiles, Clothing and Related Arts, Michigan State University, 1968), p. 34.

[4]Mary Green Klaasen, "Self Esteem and Its Relationship to Clothing" (unpublished Master's thesis, Department of Textiles, Clothing and Related Arts, Michigan State University, 1967), p. 35.

[5]Young, p. 40.

their definitions were:

> Aesthetic refers to the use of clothing to achieve a pleasing or beautiful appearance. Included as a part of appearance is neatness in dress.
>
> Comfort means the use of clothing to achieve comfort whether this relates to temperature, physical response to certain textures, or to acceptance of tightness or looseness in garments.
>
> Interest in clothing includes the willingness to give attention, to investigate, manipulate, or experiment with the putting together of the parts of a costume.
>
> Management refers to the thoughtful and careful use of time, money, and energy in planning, buying, and using clothing; thus, it can be an economic aspect of clothing usage.
>
> Modesty refers to the use of inconspicuous clothing which is quite conservative in design, color, fit, and body exposure.
>
> Social Approval is the use of clothing to attain a feeling of belongingness or the approval of others in a particular role situation and usually indicates conformity to the group norm.
>
> Special Attention is the seeking of prestige and status through the use of clothing. The attention that is sought may be either socially approved or not approved depending upon the reference group.[1,2,3,4]

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[1]Winifred Sue Hundley, "The Relationship of Clothing to Social Class, High School Position and Status Inconsistency of Adolescent Boys and Girls" (unpublished Master's thesis, Department of Textiles, Clothing and Related Arts, Michigan State University, 1967), pp. 25-26.

[2]Humphrey, pp. 28-29.

[3]Young, pp. 30-31.

[4]Klaasen, pp. 30-31.

The seven categories and their definitions represented improvements and refinements of Creekmore's original specific and general behavior categories. The aesthetic category corresponded to the original specific behavior of "emphasis on appearance" and included neatness and cleanliness. Comfort was the same as the original specific behavior entitled "emphasis on tactual aspects." Interest corresponded to the specific behavior of "experimentation in clothing usage" but deleted the aspect of planning. Management was the same as the original specific behavior of "management" except for the addition of planning for the acquisition of clothing. Modesty referred to Creekmore's original general category of "modesty" but was altered slightly to include use of inconspicuous or conservative clothing whereas previously it emphasized new unusual designs as well as body exposure. The category of social approval combined the original general behavior categories of "conformity" and "tool use." Special attention incorporated the original general behavior categories of "clothing used as a tool" and "fashion" and the specific behavior of "emphasis on clothing as a status symbol." This category was altered to include both socially approved and disapproved behavior. The specific behavior, "interest in the theoretical aspects," of the original clothing inventory was incorporated into each of the catego-

ries and appeared as the last statement in each of the scales. Although there were alterations, deletions, additions and combinations, the seven categories remained very similar to Creekmore's original specific categories with certain aspects of the general clothing behaviors incorporated where they fit.

The second step involved the formulation of statements. The researchers used statements which referred to concrete situations. "I do" statements rather than "I feel" statements were used because the researchers "felt that the subjects would respond to the 'I do' situations more truthfully than 'I feel' because they would be more aware of their activities than their feelings"[1] and there would be less chance of subjects responding in a "stereotype, socially desirable manner."[2]

"The original ideas for some of the statements for the scales began with those developed by Creekmore, Brady, and Sharpe because they contained short groups of objective statements on many aspects of clothing."[3] Some statements were adopted verbatim and some were modified. In addition

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[1]Humphrey, p. 33.

[2]Ibid.

[3]Young, pp. 40-41.

many new statements were developed. Prior to the first pretest the researchers had collected and developed 170 statements which "included all parts of the defined aspects of clothing in an appropriate proportion and at various levels of importance . . . . Negative statements were also introduced to avoid response set."[1] Because the scales were designed for use with adolescents, both boys and girls, a conscious effort was made to delete statements which could not be answered by boys or to modify the statements so that they could be answered by the boys.

Three pretests of the "Importance of Clothing" scales were conducted. The first pretest which contained 170 statements was administered to 28 education and retailing majors.[2] Following an analysis to determine which statements discriminated adequately between high and low scorers, 47 statements were deleted and other statements were revised.[3]

The second pretest of 123 statements was administered to 21 adolescents, 4 boys and 17 girls,[4] and the third pretest was given to 68 graduate and undergraduate students in

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[1] Ibid., p. 41.

[2] Hundley, p. 38.

[3] Ibid.

[4] Ibid.

an education service course at the Pennsylvania State University.[1] The responses given during the second and third pretests were analyzed to determine again which statements discriminated best between the high and low scorers.

Following the selection of the items for the seven categories, an eighth category, psychological dependence, was added and defined as being "used to indicate a person's sensitivity to the influence of clothing on his feelings which includes general good feelings, sense of well being and changing of moods."[2] The statements of this category were very similar to some statements in Creekmore's original general behavior "clothing used as a tool" but were more limited. The decision to include this category was based upon the need for items to assess the effect of clothing upon moods, emotions and feelings and to measure emphasis placed on end use of clothing. Because the eleven statements for this category were developed after the pretests no information was obtained about the discriminatory power of the items.[3]

The final instrument entitled "Importance of

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[1] Young, p. 41.

[2] Ibid., p. 31.

[3] Humphrey, p. 36.

Clothing" consisted of eight separate scales, one for each of the categories that had previously been defined, and an introductory statement which was not included in the analysis of the data. Each of the eight scales contained eleven statements. The respondents were instructed to indicate how they would act in each of the situations described in the statements which generally referred to the school situation.

The subjects responded to each statement by indicating the number which corresponded to their behavior in the given situation. The numbers ranged from 1 to 5 and represented the following responses: "Almost Never," "Seldom," "Sometimes," "Usually," and "Almost Always," respectively. The weights for the responses were identical to the numbers the subject placed beside the statements with the exception of items 2, 6, 10, 60, and 76 for which the weights were reversed because the items were negatively stated. The subject's score for a given scale was obtained by the summation of the weight for the 11 items in that scale. The possible range of scores in each of the eight scales was 11 to 55.

A high score was representative of a favorable attitude toward the aspect being measured and conversely, a low score represented a less favorable attitude toward the clothing variable. However, the scores could not be used to say how much more favorable one subject was than another nor

could these scores be compared with scores obtained from a second administration of the scales to the same group to determine whether there had been changes in attitudes.

Up to the present time ideas and statements have been taken from Creekmore's original Clothing Inventory[1] and instruments have been developed from her original ideas. Brady[2] refined the Creekmore Clothing Inventory and used it to study the relationship between clothing behavior and social security and insecurity. Renn[3] used Brady's refinement for investigating relationships between clothing behavior and desire for social participation. Phillips,[4] in her investigation of knowledge and use of brand-named clothing as related to certain personal and social characteristics, used ideas from the original Clothing Inventory. Some of the statements from Creekmore's new scales were used by

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[1] Creekmore, Clothing Behaviors . . . .

[2] Brady.

[3] Emma Jane Renn, "Clothing Behavior and Relationships to Desire for Social Participation and to Reasons for Desiring Social Participation" (unpublished Master's thesis, Pennsylvania State University, 1965).

[4] Emma Jane Phillips, "The Relationship of the Knowledge and Use of Brand-Named Clothing with Certain Personal and Social Characteristics of a Selected Group of Sorority Women" (unpublished Master's thesis, Department of Textiles and Clothing, University of Tennessee, 1966).

Dickey[1] in her study. Klaasen,[2] Hundley,[3] Young,[4] Humphrey,[5] and Hacklander[6] used the "Importance of Clothing" questionnaire to obtain data for their studies of clothing as it related to self esteem, social class, peer acceptance, stability of self concept, and concern for the body, respectively.

Summated Rating Scales

Attitudes toward clothing, like other attitudes cannot be measured directly; they can only be measured by the observation of behavioral indicants of the attitudes. Operational definitions specify what behavioral indicants must be observed in order that the attitudes can be

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[1]Lois Edith Dickey, "Projection of the Self through Judgments of Clothed-Figures and Its Relation to Self-Esteem, Security-Insecurity and to Selected Clothing Behaviors" (unpublished Ph.D. dissertation, Department of Clothing and Textiles, Pennsylvania State University, 1967).

[2]Klaasen.

[3]Hundley.

[4]Young.

[5]Humphrey.

[6]Effie Hewitt Hacklander, "The Relationship of Concern for the Body and the Clothing of Adolescents" (unpublished Master's thesis, Department of Textiles, Clothing and Related Arts, Michigan State University, 1968).

measured. One method of collecting observations of behavioral indicants so that the attitudes can be measured involves the use of self-reporting summated rating scales.

A summated rating scale consists of a series of statements to which a subject indicates his reaction.[1] These statements should be clear, concise, interesting expressions of opinions and not facts, and expressions of a single attitude variable.[2,3] It is not necessary that the statements pertain specifically to the aspect being measured. As long as the item is found to be consistent with the total score, it is considered satisfactory.[4] No attempt is made to have items which will be distributed evenly over a scale of favorableness or unfavorableness (or whatever the scale is measuring).[5] Instead only those statements which seem either definitely favorable or definitely unfavorable to the aspect

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[1] Claire Selltiz et al., Research Methods in Social Relations (New York: Holt, Rinehart and Winston, Inc., 1965), p. 366.

[2] Rensis A. Likert, "A Technique for the Measurement of Attitudes," Archives of Psychology, CXL (June, 1932), p. 12.

[3] Quinn McNemar, "Opinion-Attitude Methodology," Psychological Bulletin, XLIII (1946), p. 313.

[4] Selltiz, p. 367.

[5] Ibid., p. 366.

in question are used.[1] There should be an equal number of favorable and unfavorable statements in the scale.[2,3]

The subjects indicate their degree of agreement or disagreement with the statement by selecting the appropriate response. The responses are usually on a five point scale ranging from a strongly negative attitude through neutral to a strongly positive attitude.[4] The responses are arbitrarily weighted with a "1" representing almost total disagreement through "5" representing almost total agreement for a positive statement and the reverse for negative statements. The Likert-type method which is the most frequently used method for constructing summated rating scales[5] does not yield equal intervals between the responses.[6,7] For example, the the distance between 1 and 2 on the continuum does not

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[1] Ibid.

[2] Likert, p. 44.

[3] Allen L. Edwards, Techniques of Attitude Scale Construction (New York: Appleton-Century-Crofts, Inc., 1957), p. 155.

[4] Jum C. Nunnally, Jr., Tests and Measurements (New York: McGraw-Hill Book Company, Inc., 1959), p. 301.

[5] Selltiz, p. 366.

[6] Ibid., p. 369.

[7] A. N. Oppenheim, Questionnaire Design and Attitude Measurement (New York: Basic Books, Inc., 1966), p. 140.

necessarily equal the distance between 2 and 3.

The subject's score for a summated rating scale is the result of the addition of the weights for the responses he made to the individual statements of the scale. This score places the subject on a continuum which has agreement at one end and disagreement at the other end. His position is relative to the positions of the other subjects because the scores from a summated rating scale provide only a rank ordering of people along a continuum according to their attitudes as indicated by their scores.[1] The score does not provide a basis for saying how much more favorable one subject's attitude is than another's nor for measuring the amount of change after some experience. Instead it is the aim of the Likert-type scaling technique to provide a unidimensional scale[2] which rank orders subjects along a continuum according to their attitudes relative to the other members of the group.

Reliability

After the subjects have been rank ordered along a continuum according to their scores obtained on a Likert-type

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[1]McNemar, p. 298.

[2]Oppenheim, p. 133.

summated rating scale, it is necessary to determine the accuracy,[1] consistency,[2] and stability[3] of the rank ordered positions. The accuracy, consistency and stability all refer to the reliability of the scale or the ability of the scale to estimate the true scores of the subjects or their true positions on the continuum. To the degree that the obtained scores are free of error in estimating the subject's position, to that degree the scores are reliable.[4]

There are several methods of determining the reliability of scores for scales. One of the methods, the test-retest, involves administering the same test twice to the same group. If a very similar or the same rank ordering of subjects occurs both times the instrument produces stable or reliable results. However, many problems are encountered with this technique of determining reliability because other factors than the stability of responses are involved. The subjects may remember what their responses were to the items

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[1]McNemar, p. 298.

[2]N. N. Downie and R. W. Heath, Basic Statistical Methods (New York: Harper and Row, 1965), p. 216.

[3]Selltiz, p. 168.

[4]Ibid. p. 166.

if the time span is too short;[1] intervening experiences may alter the subject's attitudes so that his responses are not the same;[2] sometimes the same group is not available for the second administration of the scale;[3] if the responses are anonymous so that more "honest" responses are obtained, there is no method of matching the subject's responses to both scales.

Another method of assessing the reliability of a scale without having to ask the same questions twice is the split-half technique.[4] In this method, the items in the scale are divided in half on an odd-even basis or by random assignment and the product-moment correlation coefficient is calculated between the scores on the two halves. After this process, the Spearman-Brown prophecy formula is applied to give an approximation of what the reliability would be if the scale is twice as long.[5] Again there are drawbacks; if there is an uneven number of items one item will have to be

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[1]G. C. Helmstadter, Principles of Psychological Measurement (New York: Appleton-Century-Crofts, 1964), p. 65.

[2]Ibid.

[3]Selltiz, p. 177.

[4]Oppenheim, p. 74.

[5]Helmstadter, p. 68.

omitted from the analysis when the scale is divided in half.[1] Another hindrance is the occurrence of an unfortunate split in the items so that too high or too low a correlation results.[2]

A third method of calculating the reliability of a scale is based on the theory that all measurement contains some error. An individual's obtained score on a scale consists of his true score and the error score. The error score is composed of both systematic error and random error. The smaller the random error, the more reliable the measuring instrument.[3]

The true scores and the error scores are never known but it is possible to estimate the error variance and to know the variance of the obtained scores for the subjects of the sample. From the estimate of the error variance and the known variance of the obtained scores the reliability can be estimated because "reliability is the proportion of error variance to the total obtained variance of the data yielded by the measuring instrument subtracted from 1.00,

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[1]Likert, p. 28.

[2]Cyril Hoyt, "Test Reliability Estimated by Analysis of Variance," Psychometrika, VI (1941), p. 155.

[3]Downie and Heath, pp. 215-216.

the index 1.00 indicating perfect reliability."[1] The results obtained from Hoyt's variance method of estimating the reliability of the scores of a scale are equivalent to the results obtained from using the Kuder-Richardson 20 formula[2] and similar to the results obtained when the split-half method is used.[3]

Another interpretation of reliability is that if the items are internally consistent or are homogeneous the scale is reliable.[4] To determine if the items are internally consistent the subjects' scores for each statement are correlated with their total scores for the scale. If the resulting correlation coefficient for the correlation of the item with the total is zero or very low, the statement is ambiguous[5] or measures some extraneous attitude factor.[6] If the correlation coefficient is high the statement is consistent with the attitude being measured.

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[1]Kerlinger, p. 434.

[2]Helmstadter, p. 73.

[3]Kerlinger, p. 438.

[4]McNemar, p. 297.

[5]Lee J. Cronbach, Essentials of Psychological Testing (New York: Harper and Brothers, 1949), p. 371.

[6]Nunnally, p. 305.

The total score for the scale is used as the criterion with which to correlate the statements because the total score is the best available criterion.[1] It is the most convenient and the most relevant.[2] Some authors dispute the use of the total score and have indicated that the total score minus the score for the item should be used as the criterion. However, Oppenheim suggests that this is unnecessary when the number of statements is large.[3]

The determination of the discriminatory power of each of the items is another method of determining the internal consistency of the items of a scale. If the scale fulfils its purpose of rank ordering subjects along a continuum and if the content is consistent with what the whole scale measures, the subjects at the more favorable end of the continuum should score higher on the item than the subjects at the less favorable or less agreeable end of the continuum.[4] To the extent that the items discriminate the high and low scorers, to that extent are the items of the scale internally consistent or reliable.

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[1]Oppenheim, p. 138.

[2]Robert L. Ebel, Measuring Educational Achievement (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1965), p. 356.

[3]Oppenheim, pp. 138-139.

[4]Selltiz, p. 184.

In order to determine the discriminatory power of the items of a scale, a high group and a low group must be selected. Likert suggests that the subjects with the highest 10% of the scores and the subjects with the lowest 10% of the scores be selected.[1] Selltiz suggests using the subjects who have the highest and lowest 25% of the scores.[2] Kelley has found that using the upper and lower 27% of the subjects provided the best compromise between making the extreme groups as large as possible and yet making the extreme groups as different as possible.[3] Ebel states that in "almost all situations, the use of 27% for the upper and lower groups will be convenient as well as most logically defensible."[4]

After the sums of the scores for a single item for the high and low groups have been calculated and the difference between the sums found and divided by the number of subjects constituting the 27% of the sample, the resulting number is the discrimination index for the item. The larger

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[1]Likert, p. 51.

[2]Selltiz, p. 368.

[3]Truman L. Kelley, "The Selection of the Upper and Lower Groups for the Validation of Test Items," Journal of Educational Psychology, XXX (1939), p. 24.

[4]Ebel, p. 350.

the discrimination index, the better the item differentiates among subjects and the more reliable the scale is.

All of the procedures which have been described with the exception of the test-retest method require more than ordinal measurement in order to be used legitimately. In order to use means, product-moment coefficients of correlation and analysis of variance which are necessary for these procedures, the intervals on a scale must be equal but the intervals on an ordinal scale are not equal. If the assumption is made that the intervals on the scale are equal, then the procedures can be used providing the investigator is constantly aware of the possibility of error when interpreting the data and the relations inferred from the data. Many of the psychological measures which are used are basically ordinal but have been treated as though the intervals were equal and the results have been satisfactory. If one fails to make the assumption that the intervals are equal, many powerful methods of analysis are eliminated and only inadequate techniques are left for use in solving problems.[1] The recommended procedure seems "to be to treat ordinal measurements as though they were interval measurements, but to be constantly alert to the possibility of

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[1]Kerlinger, p. 427.

gross inequality of intervals."[1]

Various statements have been made about what a satisfactory reliability coefficient should be. Oppenheim suggests that reliability coefficients of .80 or over are common;[2] Edwards states that reliability coefficients for scales constructed by the method of summated ratings are usually above .85 even when fewer than 20 items constitute the scale;[3] Nunnally claims that although no definite rule states how high a reliability coefficient should be one suspects a test that has a reliability coefficient less than .80.[4] Downie and Heath summarize the situation well when they state:

> In general, reliability coefficients of well-made standardized tests tend to be high, .90 or above. There is no hard and fast rule that says that any reliability has to be of a certain size before any test or measurement instrument can be useful. Today we look upon reliability as a relative thing, and there are certain areas and certain techniques where reliability coefficients fall well below this .90, and the techniques are still used and found to be very useful. Rating scales are an example of this.[5]

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[1] Ibid.

[2] Oppenheim, p. 122.

[3] Edwards, p. 156.

[4] Nunnally, p. 110.

[5] Downie and Heath, p. 220.

Validity

Validity is generally defined as the ability of a measuring instrument to measure what it was designed to measure.[1] When this definition is applied to an attitude scale it is translated to mean the ability of a scale to measure one's true attitude toward an object as it is expressed through behavior as indicated by responses to "I do" statements. Although attitudes are not behaviors but predispositions to behavior, the only way that attitudes can be measured is through their expression in behavior.[2] Herein lies the problem of validation of attitude scales because one must be certain that the behaviors observed are determined by the attitude being measured and not by some other attitude.

What is essential to the approach of validation is a reasonably reliable and valid criterion with which the scores on an attitude scale can be compared.[3] One criterion that has been suggested for validating the responses to an attitude scale is observation of the respondent's overt behavior for if one's attitude is his tendency to react

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[1] Oppenheim, p. 121.

[2] Theodore M. Newcomb, Social Psychology (New York: Henry Holt and Company, Inc., 1959), p. 160.

[3] Selltiz, p. 157.

favorably or unfavorably toward an attitude object, a valid test should predict his behavior.[1] However, reactions are difficult to observe and they can be influenced by the subject's desire to create a good impression.[2] Therefore, observation of overt behavior may not be a valid and reliable criterion for validating an attitude scale.

Another suggestion for validating attitude scales is the administration of the scales to criterion groups who are known to have favorable and unfavorable attitudes toward the attitude object being measured by the scale. If the scale distinguishes between those who have the particular attitude from those who do not, the scale is considered to be valid.[3] Oppenheim disputes the use of this procedure when he says:

> At best there can only be rough correspondence between the two indicators. We cannot necessarily predict behavior from attitudes, nor are attitudes readily inferred from behavior with any validity, nor is behavior necessarily a more valid expression of an attitude than a verbal statement. The links between attitudes and behaviors are complex, and group membership may or may not be a valid criterion for a particular attitude.[4]

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[1] Nunnally, pp. 312-313.

[2] Cronbach, p. 375.

[3] Sharpe, pp. 40-41.

[4] Oppenheim, p. 75.

A third criterion which can be used for validating an attitude scale is another verbal technique which is known to be reliable and valid and which is known to measure the same attitude.[1] Just as Creekmore noted, it is extremely difficult if not impossible to find an adequate criterion to which the scores can be compared.[2] The solution which Selltiz offers is the selection of the most adequate criterion available for the purpose but to be constantly alert to the limitations of its use.[3]

The lack of an adequate criterion for the validation of scales has been the cause of serious criticism for those who use attitude scales which have not been validated.[4] Yet no one has devised a more effective method of assessing attitudes and until such time as a better means is developed attitude scales will have to be used for measuring subjects' attitudes. Oppenheim summarizes the dilemma when he says that "the problem of validity remains one of the most difficult in social research and one to which an adequate solution

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[1]Selltiz, p. 158.

[2]Creekmore, Clothing Behaviors . . ., p. 144.

[3]Selltiz, p. 158.

[4]Cronbach, p. 375.

is not yet in sight."[1] The best that one can do is to use an available criterion and keep in mind the limitations of the criterion.

[1]Oppenheim, p. 78.

CHAPTER III

STATEMENT OF THE PROBLEM

As part of a recent project investigating the relationship of clothing to the self-concept of adolescents, the participants of the project composed eight scales for measuring attitudes toward and behaviors related to clothing using approximately the same theoretical basis that Creekmore[1] used for her original Clothing Inventory. The participants hoped that the scales would "become the basis for a standardized clothing measure"[2] because of the need for techniques for measuring attitudes toward clothing. In order to know the value of the scales for measuring attitudes toward and behaviors related to clothing, the results obtained from the administration of the scales must be analyzed to determine whether the responses obtained from the subjects were reliable and valid indications of their attitudes toward and behaviors related to clothing.

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[1]Creekmore, Clothing Behaviors . . . .

[2]Young, p. 77.

The purpose of this study was to analyze the responses obtained from the administration of a questionnaire containing the eight scales to determine the reliability and validity of the scores obtained. On the basis of the results of the analysis, recommendations were proposed for improvement of the scales.

Definition of Terms

In addition to the definitions already given for the clothing variables, the following definitions were used to clarify other terms which occurred in this study:

Analysis is the evaluation of the reliability and validity of the scores obtained from the use of the Creekmore Scales of Eight Clothing Variables.

Creekmore Scales of Eight Clothing Variables are eight summated rating scales which constitute the Importance of Clothing questionnaire and which were compiled by Creekmore and students for Michigan State University Agricultural Experiment Station, Project 784.

Scale is a device for measuring attitudes and rank orders subjects along a continuum according to their total or summated scores for the scale.

Reliability is the accuracy and consistency with

which a scale measures a subject's "true" score for a specific attitude.

Validity is the ability of a scale to measure the variable it was designed to measure.

Attitudes are predispositions to behavior.

Discrimination is the ability to distinguish between two groups according to their scores.

Item is a statement used in a scale to obtain a subject's response toward a particular behavioral indicant of an attitude.

Objectives

The objectives for this study are:

1. To estimate the reliability of the data obtained from the use of the Creekmore Scales of Eight Clothing Variables.

2. To estimate the validity of the data obtained from the use of the Creekmore Scales of Eight Clothing Variables.

3. To propose recommendations for the improvement of the Creekmore Scales of Eight Clothing Variables.

Assumptions

In order to fulfil the objectives of this study the following assumptions were made:

1. Attitudes toward clothing can be measured by the use of Likert-type summated rating scales.

2. The subjects for this study do possess the attitudes toward clothing which are being measured by the scales.

3. The data have been honestly and sincerely supplied by the subjects.

4. For purposes of estimating the reliability of the responses, the intervals on the scale are equal, i.e., the distance between 2 and 3 on the scales is the same as the distance between 3 and 4.

5. The relationship between the item scores and the total or summated score is linear.

6. The criterion with which the scores from the attitude scales are compared is a reliable, valid and independent criterion.

CHAPTER IV

PROCEDURE

The results of the administration of the Creekmore Scales of Eight Clothing Variables were analyzed according to selected procedures and within certain limitations so that estimates could be made of the reliability and validity of the scores.

Description of the Research Site

The high school which the subjects for this study attended was located in a mid-western industrial city which had a population of approximately 15,000. The criteria for the selection of the high school were: location in a community which had a range of family socio-economic positions which approximated that of the United States as a whole; the only high school in the county so that both rural and urban students would be in attendance; an enrollment which was large enough to provide a sample of approximately 500 students. The high school which was selected had an

enrollment of 1,850 students in grades nine, ten, eleven and twelve.[1,2,3,4]

Description of the Sample

Because the students attended school on staggered schedules and because there were no vacant rooms where randomly selected subjects could complete the questionnaire, a random sample was impossible. Consequently, the students in grades ten, eleven and twelve who attended study halls on Monday constituted the non-random sample. The sample for the project was composed of 270 girls and 251 boys but 1 girl and 15 boys did not complete the Creekmore Scales of Eight Clothing Variables. Therefore, all of the discussion of this study referred to the responses of 269 girls and 236 boys except in the investigation of the validity where only 151 boys and 199 girls completed the criterion measure, the ranking question.

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[1]Klaasen, pp. 41-42.

[2]Hundley, pp. 29-31.

[3]Humphrey, pp. 41-42.

[4]Young, pp. 34-35.

Description of the Questionnaire

The first part of a two-part self-administered questionnaire used in the project for the collection of data contained the 89 statements of the Creekmore Scales of Eight Clothing Variables and a list of seven words and phrases which corresponded with the first seven variables of the scales. The statements of the Creekmore Scales were grouped according to the variables but they were neither separated according to variable nor titled. The subjects indicated their responses to each item by placing in the blank to the left of the statement the number which corresponded to the frequency of their behavior described in the statement. After responding to the statements of the scales, the subjects ranked the seven words or phrases according to their degree of importance when they selected clothing for their wardrobes. A phrase referring to psychological dependence was not included in the list.

The remainder of the first part of the questionnaire consisted of a Self Rating Inventory. The second part of the questionnaire which was administered one week later asked questions for background information of the subjects, for social class, and body characteristics and contained the Self Rating Inventory. The subjects remained anonymous; only their initials, birthdates and sex were requested so that

the two parts of the questionnaire could be matched for each subject.

Selection of Techniques

In compliance with the objectives of this study, the investigator had to select the techniques for assessing the reliability and validity of the Creekmore Scales of Eight Clothing Variables and methods for ascertaining what improvements were necessary. The selection of the techniques was based not only on the value of the techniques but also on the practical possibilities open and the resources available for the investigation.

In the review of literature three procedures were discussed for obtaining reliability coefficients for Likert-type summated rating scales: test-retest; split-half; and Hoyt's method of analysis of variance for estimating error variance of measurement. Two of these procedures were not possible. The test-retest method for estimating reliability could not be used because the same sample was not available for the second administration of the scales. The split-half reliability was not suitable for assessing the reliability because there was an uneven number of items in each scale. If it were used, one item would have to be omitted from the analysis. Secondly, if an unfortunate split occurred when

the scale was divided in half, the correlation between the two halves could present a false indication of the reliability of the scale. The third method, the analysis of variance method for estimating the error variance, could be prohibitive if one did not have access to computer facilities. However, with the aid of the computer all of the responses to all of the items of a scale could be analyzed at once and estimates of the error variance and variance for the subjects obtained so that the reliability of the scales could be calculated. With these considerations in mind, the analysis of variance method for estimating the reliability of the responses to the Creekmore Scales of Eight Clothing Variables was selected because the investigator had access to a computer system and authorities had shown that the results of this method were comparable to those of the split-half reliability[1] and other methods of determining reliability.[2]

The third purpose of this study was to propose recommendations for improvement of the scales. The calculation of the reliability coefficient using Hoyt's method told if the test was reliable or unreliable but it did not tell

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[1]Kerlinger, p. 436.

[2]Helmstadter, p. 73.

what items should be altered or deleted so that the scales could be improved. Therefore, an item analysis was necessary to fulfil the second objective.

Likert suggested two methods of analyzing items of scales.[1] The first method of determining if an item contributed satisfactorily to the total scale was the correlation of the subjects' scores on an item with their total summated scores for the scale. If the correlation was high the item was considered an asset to the scale and retained; if it was low or zero it contributed nothing and should be altered or deleted. The second method which Likert suggested because he found the first method too laborious was the use of the criterion of internal consistency. In this method the reactions or responses of the group at one end of the continuum were compared with the responses of the subjects at the other end of the continuum. If the item differentiated between the two groups, it was considered to be satisfactory.

Both of the methods suggested by Likert were frequently used in the field of attitude measurement and were

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[1]Likert, pp. 48-51.

recommended for use by many authors.[1,2,3,4] Therefore, both the item-total correlation and the criterion of internal consistency were calculated in order that recommendations could be made for the improvement of the scales.

The second objective of this study was to determine the validity of the Creekmore Scales of Eight Clothing Variables. From the review of literature the consensus was that this was one of the most serious problems of attitude measurement. Some authors advocated the comparison of the responses to the attitude scales with the overt behavior of the subjects; other authors stated that behavior was not the ultimate criterion for assessing the validity of responses. Those who disputed the use of behavior as a criterion suggested that subjects' responses to a reliable and valid scale measuring the same attitudes be used as the criterion. Herein lies the problem because there were no known techniques which measured the same attitudes as the Creekmore Scales of Eight Clothing Variables.[5]

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[1]Selltiz, p. 184.

[2]Oppenheim, pp. 138-140.

[3]McNemar, p. 306.

[4]Downie and Heath, pp. 227-229.

[5]Young, p. 42.

The only available criterion which dealt with the same attitudes as the Creekmore Scales was the list of words and phrases which corresponded to seven of the eight attitudes measured in the scales[1] which the subjects ranked after they responded to the scales. Realizing that single statements were not as reliable as groups of statements when measuring attitudes[2] and at the same time desiring a criterion measure, the investigator decided that one possible method of assessing the validity of the scales was to compare the subject's rank ordering of the words and phrases with his ranking of the clothing variables according to the summated scores obtained on the scales.

The method selected for comparing the two rank orderings of seven clothing variables was the Spearman rank order correlation. If the resulting rank order correlation coefficients were significant, the scales were considered to be valid.

The methods that were selected to enable the investigator to carry out the objectives of the study were Hoyt's analysis of variance for estimating the reliability coefficients of each of the scales; item analysis consisting of

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[1]Psychological dependence was not included.

[2]Oppenheim, p. 73.

item-total correlations and discrimination indices so that statements which needed improvement or should be deleted could be identified; the Spearman rank order correlation method for attempting to assess the validity of the Creekmore Scales of Eight Clothing Variables.

Description of Methods of Analysis

Reliability was defined through error; the greater the random error component, the greater the unreliability and the smaller the random error, the greater the reliability.[1] By estimating the proportion of error variance to the total obtained variance of the individuals' scores and subtracting the result from 1.00, the index of perfect reliability, one could estimate the reliability of responses to scales such as the Creekmore Scales of Eight Clothing Variables. The formula for the reliability coefficient was:

$$r_{tt} = 1 - \frac{V_e}{V_{ind}}$$ where

V_e is the estimate of the error variance and

V_{ind} is the variance of the obtained scores of the individuals.[2]

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[1] Kerlinger, p. 434.

[2] Ibid., p. 437.

By means of one-way analysis of variance with replication, the between items variance, the between individuals variance, and the error or residual variance could be calculated. From these calculations the between individuals and the error variances were selected for the computation of the reliability coefficient.[1]

In order to compute the analysis of variance tables for each of the scales to get the variances due to individuals and error, the data for each subject were read into the CDC 3600 Computer system at Michigan State University from punched IBM cards. The one-way analysis of variance with replication routine was employed.[2] From the results of the computations by the computer system the error variance and variance due to individuals were extracted and with the aid of a desk calculator the error variance was divided by the variance due to individuals to obtain the proportion of error in the responses. The quotient was subtracted from 1.00, the index of perfect reliability, to

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[1]For a complete description of this method consult Hoyt's article and pages 432 - 439 of Kerlinger.

[2]William L. Ruble et al, "Analysis of Variance with Equal Frequency in Each Cell," STAT Series Description No. 14 (Agricultural Experiment Station, Michigan State University, September, 1967).

estimate the reliability of each scale or the degree of accuracy with which the scales measured the "true" scores of individuals. This procedure was followed for each of the eight scales and for boys and girls separately. Therefore, sixteen reliability coefficients were calculated for the Creekmore Scales of Eight Clothing Variables.

After the reliability coefficients had been calculated for each of the scales, the individual items were analyzed to ascertain which items contributed significantly to the reliability of the scales and which items did not contribute significantly. The first method was the calculation of the discriminatory power of each of the items or the ability of the items to differentiate between the groups at the two ends of the continuum. In order to calculate the discriminatory power of each item the data were read into the CDC 3600 Computer system and the Computer Institute for Social Science Research Program Analysis of Contingency Tables Act II[1] was used. The results of this program consisted of a listing of all the summated scores that the subjects received for the scale, the frequency of each of

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[1]Alan M. Lesgold, "Analysis of Contingency Tables, Act II," Technical Report No. 14 (Computer Institute for Social Science Research, Michigan State University, January 12, 1968).

the summated scores, the frequency of the choice of the five possible responses for each of the summated scores, and the total frequency of each of the five possible responses for the item. These results were obtained for each item of the scale and were repeated for each of the eight scales for boys and girls separately.

After the results were obtained from the computer, the 27% of the subjects who had low summated scores and the 27% of the subjects who had high summated scores were selected.[1] If the cut-off point for the lower 27% occurred at a point where there were more than the necessary number of subjects to complete the lower group, the subjects whose scores were lowest for the item were selected. If the cut-off point for the upper 27% occurred in a similar situation, the necessary number of subjects whose scores were highest on the item were selected.

With the aid of a desk calculator the sums of the weights for the responses for the lower group and for the upper group were computed. The discrimination index was then found by calculating the difference between the mean scores of the two groups. The formula which was used for the discrimination index was:

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[1]Kelley.

$$D = \frac{\Sigma U - \Sigma L}{n}$$ where

ΣU is the sum of the weights for the responses for the upper group

ΣL is the sum of the weights for the responses for the lower group

n is .27N and N is the total number of boys or girls.

The larger the discrimination index for an item, the more differentiating the item was and the more it fulfilled the purpose of distributing the subjects along the continuum.

The second method of analyzing the individual items was carried out to determine whether each item measured the same attitude as the total scale measured. By using the same computer program as was used for the discrimination indices, the Pearson product-moment correlation coefficient was calculated between the subjects' scores for an item and their summated scores for the scale. The formula which was used for the item-total correlations was:

$$r = \frac{N\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{(N\Sigma x^2 - (\Sigma x)^2)(N\Sigma y - (\Sigma y)^2)}}$$ [1]

The larger the correlation coefficient was, the greater was the relationship between the subjects' scores on an item and their summated scores for the scale and the greater the relationship between the content of the item and the content of the entire scale. If the correlation coefficient was zero or low, the item was considered inconsistent with what the other items of the scale were measuring and should be deleted or altered.

The item-total correlations were calculated for each of the items of each of the eight scales and were calculated separately for boys and girls.

In order to attempt to assess the validity of seven of the eight scales,[2] the second objective of this study, the subject's ranking of the seven words and phrases pertaining to the first seven attitudes measured in the scales was correlated with his rank ordering of the seven attitudes measured on the scales. The rank ordering of the seven attitudes

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[1]William L. Hays, Statistics for Psychologists (New York: Holt, Rinehart and Winston, 1965), p. 506.

[2]Psychological dependence was not included in this analysis.

on the scales was based upon his summated scores for the scales. The attitude which had the highest score was ranked highest, the attitude with the second highest score was given the second highest rank, and so on.

Each subject's summated scores for the first seven scales and his ranking of the items in the criterion measure were read into the CDC 3600 Computer system and the Computer Institute for Social Science Research program for Spearman rank order correlation coefficients was used.[1] One rank order correlation coefficient was calculated for each subject who completed the scales and the criterion measure which involved the ranking of the words and phrases. The formula that was used for the calculation of the correlation coefficients was:

$$r_s = \frac{\Sigma x^2 - \Sigma y^2 - \Sigma d^2}{\sqrt{\Sigma x^2 \Sigma y^2}}^2 \quad \text{where}$$

$$\Sigma x^2 \text{ was } \frac{N^3 - N}{12} - \frac{t^3 - t}{12} \quad \text{for } t = \text{ties in } x$$

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[1]John Morris, "Rank Correlation Coefficients," Technical Report 47 (Computer Institute for Social Science Research, Michigan State University, January 5, 1967).

[2]Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), p. 207.

Σy^2 was $\frac{N^3 - N}{12} - \frac{t^3 - t}{12}$ for t = ties in y

Σd was the sum of the differences between ranks.

After the rank order correlation coefficients had been calculated for the girls, the coefficients were rank ordered from highest to lowest. The number of coefficients that were significant at the .044 level for a one-tailed test was calculated.[1] The number of significant correlations which could have occurred by chance alone was subtracted from the total number of significant correlations. Then the percentage of significant correlations, excluding those due to chance, of the total number of calculated correlations was computed to determine the amount of agreement between the results of the scale and the criterion measure. The same procedure was followed for the boys.

Limitations

Because of the specific circumstances of this study, certain limitations were imposed upon the results obtained from the procedures which were outlined. The results of this study cannot be generalized to any other subjects than the

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[1]Allen L. Edwards, Statistical Methods for the Behavioral Sciences (New York: Holt, Rinehart and Winston, 1964), p. 513.

ones in this study because the sample was not random. Secondly, the results of the item analysis are dependable to the degree that the scale intervals are equal. The results of the item-total correlations are appropriate to the degree that the relationship between the weights for the responses to the items and the summated scores for the scale containing the items was linear. Finally, the results of the estimation of the validity of the Creekmore Scales are significant if the criterion measure was truly reliable and valid. However, single items as in the criterion measure are not as reliable for locating subjects along a continuum as groups of statements[1] and the possibility of drawing unjustified conclusions should be avoided. With these limitations in mind, the investigator analyzed the results.

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[1] Oppenheim, p. 73.

CHAPTER V

FINDINGS AND DISCUSSION

The investigation of the reliability and validity of the Creekmore Scales of Eight Clothing Variables involved four main operations, three for reliability and one for validity. Hoyt's method of estimating reliability provided a single reliability coefficient for an entire scale and item analysis consisting of discriminatory power and item-total correlations yielded indications of which items were most consistent with the total scale and which items were least consistent. The Spearman rank order correlation method was used to attempt to estimate the validity of the first seven of the Creekmore Scales.

At the beginning of the discussion of the results obtained from the analysis of the scales, all of the estimated reliability coefficients for the girls' and boys' responses to the scales will be presented in table form. Following the presentation of the reliability coefficients, the scales will be discussed individually. The eleven items which compose a scale will be listed and the over-all

reliability and the item analysis for the scale will be discussed first for the girls' responses and then for the boys' responses. After this procedure has been followed for each of the eight scales, the results of the Spearman rank order correlations will be described as they relate to the validity of the first seven scales.

The final portion of this chapter will deal with suggestions for improvements of the Creekmore Scales and will be based upon the results of the three operations which pertained to the examination of the reliability of the scales.

Reliability Coefficients

The estimation of the reliability coefficients of each of the scales used Hoyt's method. The reliability coefficients which were presented in Table 1 were based upon the responses of 269 girls and 236 boys. Four of the scales, "interest," "psychological dependence," "special attention," and "social approval," had acceptable reliability coefficients for both boys and girls. The "modesty" scale was satisfactorily reliable for the girls but the reliability coefficient for the boys' responses to the scale was low. The reliability coefficients for the other three scales, "management," "comfort," and "aesthetic," were below the desired

level. For all of the scales except "modesty" and "management" the reliability coefficients for the boys were greater than or equal to those for the girls (see Table 1).

TABLE 1.--Estimated reliability coefficients for 269 girls' and 236 boys' responses to the Creekmore Scales of Eight Clothing Variables.

Scale	Estimated Reliability Coefficients for Responses of	
	Girls	Boys
Interest	.77	.81
Psychological Dependence	.75	.78
Special Attention	.71	.77
Social Approval	.71	.71
Modesty	.71	.65
Management	.67	.65
Comfort	.57	.61
Aesthetic	.46	.58

Aesthetic Scale

(-)[1] 2. When I am shopping I choose clothes that I like even if they do not look the best on me.
3. It bothers me when my shirt tail keeps coming out.
4. I consider the fabric texture with the line of the garment when choosing my clothes.

[1]A negatively stated item.

5. I use clothing as a means of disguising physical problems and imperfections through skillful use of color, line and texture.
(-) 6. I wear clothes which have buttons or snaps missing.
7. I pay alot of attention to pleasing color combinations.
8. I keep my shoes clean and neat.
9. I carefully coordinate the accessories that I wear with each outfit.
(-) 10. I wear the clothing fads that are popular in our school even though they may not be as becoming on me.
11. I spend more time than others coordinating the colors in my clothes.
12. I try to figure out why some people's clothes look better on them than others.

The reliability coefficient for the girls' responses to the aesthetic scale, which pertained to the use of clothing to achieve a pleasing or beautiful appearance including order and neatness, was .46. This scale had the lowest reliability of the eight scales.

When the individual items were analyzed according to their discriminatory power and item-total correlation, some evidence was given for the low reliability. Items 6 and 8 failed to discriminate satisfactorily between the upper and lower groups and had low item-total correlations. The majority of the girls responded in the same manner to each of the two items. With the clustering together of responses at the more agreeable end of the continuum, the items were not suitable for distributing the subjects along

the continuum and the high scores obtained on these items did not correlate well with the total score for the subjects who had low total scores. The clustering of the responses indicated a social point of view concerning the behaviors mentioned in both items. Although the content of the two items was related to the attitude the scale was measuring, the items did not fulfil the purpose of distributing the subjects along the continuum for this particular sample. Similar remarks could be made concerning two negatively stated items, Items 2 and 10, although their discriminatory power and item-total correlations were higher than those for Items 6 and 8.

Items 7 and 9 discriminated poorly between the upper and lower groups of girls because the majority of the girls responded in the same way. Items 3 and 12 had lower item-total correlations than the more satisfactory items of the scale, Items 4, 5, and 11 (see Table 2, p. 62).

The estimated reliability coefficient for the 236 boys' responses to the "aesthetic" scale was .58. Just as for the girls' responses, this scale had the lowest reliability of the eight scales for the boys.

The results of the item analysis gave some indication of the reasons for the low reliability. The subjects' responses to Item 10 had a very low correlation with their

TABLE 2.--The results of the item analysis for the 269 girls' responses to the "aesthetic" scale.

Item No.	Frequency of Choice of Each Weight 1	2	3	4	5	Discrimination Index	Rank According to D.I.[a]	Cor.[b]	Item-total Correlation
2	4	10	50	85	120	.89	8	8	.344
3	24	4	46	74	121	1.34	4	7	.380
4	18	37	82	79	53	1.85	1	1	.560
5	30	35	73	89	42	1.60	2	3	.493
6	7	0	27	56	179	.64	10	11	.208
7	0	1	13	61	194	.74	9	5	.488
8	0	8	42	156	63	.51	11	10	.260
9	2	4	30	120	113	.96	7	4	.461
10	5	21	78	90	75	.98	6	9	.264
11	19	49	129	53	19	1.59	3	2	.560
12	30	29	115	69	26	1.23	5	6	.397

[a]Discrimination index.

[b]Item-total correlation coefficient.

total scores for the scale and the least discriminatory power of all the items of the scale. Although Item 6 had similarly low discriminatory power, the item-total correlation was higher than for that of Item 10. The lack of discrimination for Item 6 resulted from approximately 71% of the boys

receiving the weight of 5 for their responses to the item. Although Items 10 and 6 pertained to the content of the "aesthetic" scale, they were not satisfactory for distributing the subjects along a continuum which is the purpose of a scale.

Items 5, 8, and 12 also had low discriminatory power and item-total correlations. Because the responses were not clustered, some other factor must have caused the responses to be inconsistent with the total scores for the scale.

Items 3, 4, 7, 9, and 11 were satisfactory items because they discriminated between the upper and lower groups and had high item-total correlations (see Table 3, p. 64).

Modesty Scale

13. Unlined sheer dresses or blouses reveal too much of the body.
14. I select clothes that are conservative in style.
15. I feel uncomfortable when someone has forgotten to close his or her zipper.
16. The first time in the season that I go to a public beach or pool I feel exposed in my bathing suit.
17. I choose clothing with small prints, even though a larger design looks equally good on me.
18. I feel embarrassed when I see someone in too low cut a dress.
19. I select clothes which do not call attention to myself in any way.
20. I feel embarrassed when I see someone in clothes that are too tight.
21. I like dark or muted colors rather than bright ones for my clothes.

22. I hesitate to associate with those whose clothes reveal too much of their body.
23. I wonder why some people wear clothes that are immodest.

TABLE 3.--The results of the item analysis for the 236 boys' responses to the "aesthetic" scale.

Item No.	Frequency of Choice of Each Weight					Discrimination Index	Rank According to		Item-total Correlation
	1	2	3	4	5		D.I.	Cor.	
2	10	39	62	72	53	1.22	6	7	.399
3	31	36	55	59	55	1.91	2	5	.523
4	51	36	70	51	28	2.09	1	1	.595
5	95	60	52	20	9	1.03	8	8	.351
6	2	2	18	48	166	.61	10	10	.324
7	11	9	42	103	71	1.53	5	4	.526
8	10	10	68	109	39	.92	9	6	.402
9	13	23	81	83	36	1.67	4	3	.589
10	9	33	76	63	55	.58	11	11	.174
11	51	81	71	25	8	1.69	3	2	.594
12	53	61	81	31	10	1.14	7	9	.349

For the girls' responses to the "modesty" scale the reliability coefficient was .71 which was the third highest reliability coefficient for the scales. The item analysis

revealed that only one item, Item 14, had poor discriminatory power and it had the lowest item-total correlation. The majority of the girls responded "usually" for this statement. All of the other items had satisfactory discrimination indices which ranged from 1.32 to 2.30. All of the other items with the exception of Item 21 had item-total correlation coefficients of .43 or greater (see Table 4).

TABLE 4.--The results of the item analysis for the 269 girls' responses to the "modesty" scale.

Item No.	Frequency of Choice of Each Weight					Discrimination Index	Rank According to		Item-total Correlation
	1	2	3	4	5		D.I.	Cor.	
13	17	12	82	51	107	1.36	8.5	7	.456
14	1	9	60	124	75	.78	11	11	.360
15	9	14	37	69	140	1.36	8.5	4	.537
16	34	43	50	59	83	1.79	3	6	.520
17	41	45	104	51	28	1.42	7	9	.429
18	36	42	74	66	51	2.30	1	1	.688
19	43	63	78	54	31	1.45	6	8	.437
20	42	47	92	51	37	2.04	2	2	.649
21	33	37	105	49	45	1.32	10	10	.384
22	18	36	85	80	50	1.48	5	5	.521
23	16	20	100	68	65	1.62	4	3	.578

The reliability coefficient for the "modesty" scale for the boys was .65 and it was tied with the "management" scale for the fifth highest reliability coefficient for the eight scales for the boys. The results of the item analysis showed that Item 17 had a low discrimination index and item-total correlation coefficient when compared with the indices and correlation coefficients for the other items. The responses to Item 17 were not clustered about any specific response which indicated that the item lacked clarity, was ambiguous, or was not relevant. The other three items which had the lowest item-total correlation coefficients were 19, 21, and 14 and like Item 17 these items all pertained to the use of conservative or inconspicuous clothing while the remaining items related to immodesty through body exposure. This could be an indication that the boys in this sample considered the two aspects of modesty, conservatism and body exposure, separately. The remaining seven items of the scale showed satisfactory discriminatory power and item-total correlations (see Table 5, p. 67).

TABLE 5.--The results of the item analysis for the 236 boys' responses to the "modesty" scale.

Item No.	Frequency of Choice of Each Weight 1	2	3	4	5	Discrimination Index	Rank According to D.I.	Cor.	Item-total Correlation
13	68	30	89	34	15	1.73	3	5	.520
14	8	10	85	96	37	1.09	10	8	.402
15	42	37	57	52	48	1.83	2	7	.488
16	81	51	52	22	30	1.92	1	6	.496
17	52	59	86	28	11	.91	11	11	.309
18	123	59	38	11	5	1.67	4	1	.621
19	41	48	78	52	17	1.14	9	10	.335
20	109	78	34	11	4	1.42	7	3	.573
21	31	27	100	44	34	1.34	8	9	.382
22	69	67	67	23	10	1.64	5.5	4	.539
23	44	52	99	29	12	1.64	5.5	2	.590

Interest Scale

24. My friends and I try each others clothes to see how we look in them.
25. I enjoy trying on shoes of different styles and colors.
26. I study collections of accessories in the stores to see what I might combine attractively.
27. I try on some of the newest clothes each season to see how I look in the styles.
28. I read magazines and newspapers to find out what is new in clothing.

29. It's fun to try on different garments and accessories to see how they look together.
30. I experiment with new or different "hair do's" to see how I will look.
31. I like to know what is new in clothing even if none of my friends care and I probably would not want to wear it anyway.
32. I try on clothes in shops just to see how I will look in them without planning to buy.
33. When I buy a new garment I try many different accessories before I wear it.
34. I am curious about why people wear the clothes they do.

The reliability coefficient for the girls' responses to the "interest" scale was the highest of all the coefficients for the eight scales for the girls. The estimated reliability for the responses of the 269 girls for the "interest" scale concerning the willingness to give attention, to investigate, manipulate or experiment with the putting together of the parts of a costume was .77.

All of the items had discrimination indices of 1.21 or higher except Item 34, the theoretical item. Item 34 had a discrimination index of 1.19 and an item-total correlation coefficient of .41 which indicated that this item could possibly be improved (see Table 6, p. 69).

The reliability coefficient for the boys' responses to the "interest" scale was .81 which was the highest reliability coefficient obtained for all the scales. The item analysis substantiated this high reliability for all of the

discrimination indices were above 1.30 except for Item 24 which had a discrimination index of 1.06 and all of the item-total correlation coefficients were .50 and above. The low discriminatory power for Item 24 resulted from the majority, 73%, of the boys indicating that they "almost never" tried on each other's clothes to see how they looked in them (see Table 7, p. 70).

TABLE 6.--The results of the item analysis for the 269 girls' responses to the "interest" scale.

Item No.	Frequency of Choice of Each Weight					Discrimination Index	Rank According to		Item-total Correlation
	1	2	3	4	5		D.I.	Cor.	
24	72	42	79	37	39	1.93	1	9	.514
25	10	13	38	72	136	1.63	6	1	.628
26	13	29	61	88	78	1.73	2	3	.605
27	10	13	59	90	97	1.63	6	2	.620
28	11	20	66	78	94	1.63	6	7	.559
29	3	2	52	104	108	1.21	10	4	.593
30	6	15	74	75	99	1.36	9	10	.481
31	12	16	76	88	77	1.47	8	8	.533
32	56	81	81	32	19	1.66	4	6	.560
33	19	58	107	59	26	1.67	3	5	.584
34	26	41	108	66	28	1.19	11	11	.410

TABLE 7.--The results of the item analysis for the 236 boys' responses to the "interest" scale.

Item No.	Frequency of Choice of Each Weight 1	2	3	4	5	Discrimination Index	Rank According to D.I.	Cor.	Item-total Correlation
24	172	37	16	7	4	1.06	11	8	.537
25	66	49	53	47	21	1.70	7	7	.540
26	56	54	64	46	16	1.99	4.5	4	.627
27	48	52	59	56	21	2.16	2	2	.664
28	76	50	59	34	17	2.19	1	3	.641
29	58	67	67	33	11	2.11	3	1	.750
30	100	59	46	16	15	1.84	6	9	.547
31	56	59	70	40	11	1.97	4.5	5	.625
32	140	58	23	5	10	1.31	10	10	.507
33	91	78	41	23	3	1.47	9	6	.578
34	71	51	75	28	11	1.53	8	11	.502

Comfort Scale

35. The way my clothes feel on my body is important to me.
36. There are certain textures in fabrics that I like and especially try to buy, for example, soft, fuzzy, sturdy, smooth.
37. I am more sensitive to temperature changes than others and I have difficulty being comfortable in my clothes as a result.
38. I wear my pants or slacks with an easy fit even if tight ones are fashionable.

39. I get rid of garments I like because they are not comfortable.
40. I find it difficult to buy clothes suitable to the temperature.
41. I would buy a very comfortable bathing suit even if it were not the current style.
42. I avoid garments that bind the upper arm.
43. I am irritable if my clothes are uncomfortable.
44. I am extremely sensitive to the texture of the fabrics in my clothing.
45. I wonder what makes some clothes more comfortable than others.

The reliability coefficient for the "comfort" scale, which referred to the use of clothing to achieve comfort as related to temperature, physical response to certain textures, and acceptance of tightness or looseness in garments, was .57 for the girls. This reliability coefficient was the second lowest of all the reliability coefficients for the scales to which the girls responded.

The item analysis showed that four of the statements, Items 35, 36, 40 and 42, had discrimination indices below .90 and correlation coefficients at or below .38. The lack of discriminatory power for Item 35 resulted from the majority or 64% of the girls indicating that the way their clothes felt on their bodies was "almost always" important to them. Similarly, for Item 36, 41% of the girls "usually" tried to buy certain textures and 35% "almost always" liked and tried to buy certain textures. For Item 42, 37% "almost always"

and 33% "usually" avoided garments which bound the upper arm. All of these results indicated that the majority of subjects in this sample responded in the same way and that the items were not distributing subjects along the continuum as was desirable for items of a scale. The results for Item 40 indicated that there was some ambiguity or inconsistency in the statement because the responses to the item were not consistent with the responses to the other statements of the scale.

The other seven items of the "comfort" scale had discrimination indices of 1.22 or greater and correlation coefficients of .40 or greater which indicated that the subjects' responses to each of these items were consistent with their overall responses to the items of the scale (see Table 8, p. 73).

The reliability coefficient for the boys' responses to the "comfort" scale was .61 and this coefficient was the second lowest of all the reliability coefficients for the scales to which the boys responded.

The results of the item analysis showed that only two items, 37 and 40, had discrimination indices below 1.20 and item-total correlation coefficients below .40. Both of these items pertained to comfort as it related to temperature. Perhaps this aspect of comfort was not considered as

relevant to the boys as the physical response to textures and tightness or looseness of garments as related to comfort.

All the other nine items of the scale had discrimination indices of 1.22 or higher and item-total correlation coefficients of .42 or above (see Table 9, p. 74).

TABLE 8.--The results of the item analysis for the 269 girls' responses to the "comfort" scale.

Item No.	Frequency of Choice of Each Weight					Discrimination Index	Rank According to		Item-total Correlation
	1	2	3	4	5		D.I.	Cor.	
35	3	3	18	74	172	.74	11	8	.380
36	3	11	50	111	94	.75	10	11	.294
37	68	74	84	27	16	1.22	7	6	.413
38	14	45	72	72	66	1.47	4	5	.471
39	29	61	114	44	21	1.33	5	4	.500
40	56	96	89	17	11	.82	9	9	.370
41	62	74	70	49	14	1.30	6	7	.404
42	8	20	52	88	101	.89	8	10	.318
43	13	28	68	91	69	1.49	2.5	3	.522
44	42	65	97	43	22	1.68	1	1	.569
45	28	63	107	50	21	1.49	2.5	2	.537

TABLE 9.--The results of the item analysis for the 236 boys' responses to the "comfort" scale.

Item No.	Frequency of Choice of Each Weight					Discrimination Index	Rank According to		Item-total Correlation
	1	2	3	4	5		D.I.	Cor.	
35	9	9	43	85	90	1.22	9	8	.445
36	17	27	66	87	39	1.41	7	4	.491
37	74	76	61	17	8	1.14	10	10	.380
38	32	31	65	71	37	1.69	1	2	.508
39	55	68	70	29	14	1.52	4.5	6	.459
40	58	94	66	16	2	.66	11	11	.230
41	63	55	62	37	19	1.48	6	9	.423
42	27	27	56	76	50	1.52	4.5	7	.457
43	17	36	80	65	38	1.58	2	1	.551
44	56	79	60	28	13	1.56	3	3	.504
45	54	68	72	33	9	1.38	8	5	.466

Special Attention Scale

46. When new fashions appear on the market, I am one of the first to own them.
47. I have clothes that I don't wear because everyone else has them.
48. I like to be considered an outstanding dresser by my friends.
49. I try to keep my wardrobe in line with the latest styles.
50. I go to nearby cities to shop for better fashions.
51. I try to buy clothes which are very unusual.

52. I avoid wearing certain clothes because they do not make me feel distinctive.
53. I enjoy wearing different clothing even though I attract attention.
54. I try to buy clothes with the best labels.
55. I wear different clothes to impress people.
56. I am interested in why some people choose to wear such outlandish clothes.

The reliability coefficient for the girls' responses to the "special attention" scale which pertained to seeking prestige and status through the use of clothes was .71 which was the same as the coefficients for the "modesty" and "social approval" scales.

Only two of the discrimination indices for the items of the "special attention" scale were below 1.20 and only one item-total correlation was below .42 which indicated that nine of the items yielded consistent responses. The two less satisfactory items were Item 56, the theoretical statement, which had a low discrimination index and a low item-total correlation and Item 49 which had a low discrimination index. The responses to Item 56 appeared to be inconsistent with the responses to the other items of the scale and for Item 49 the majority of the girls, 62%, "usually" or "almost always" tried to keep their wardrobes in line with the latest styles (see Table 10, p. 76).

TABLE 10.--The results of the item analysis for the 269 girls' responses to the "special attention" scale.

Item No.	Frequency of Choice of Each Weight 1	2	3	4	5	Discrimination Index	Rank According to D.I.	Rank According to Cor.	Item-total Correlation
46	51	103	93	15	7	1.42	7	1	.619
47	90	87	57	24	11	1.74	1.5	3	.581
48	16	26	68	94	65	1.62	4	5	.543
49	7	18	77	108	59	1.19	10	7	.507
50	52	54	85	45	33	1.60	5	8	.490
51	78	85	71	22	13	1.74	1.5	2	.615
52	29	69	114	43	14	1.23	9	10	.428
53	53	74	67	29	12	1.40	8	9	.479
54	31	52	86	71	29	1.63	3	6	.509
55	44	54	111	42	18	1.53	6	4	.555
56	22	48	104	53	42	.96	11	11	.297

For the boys' responses to the "special attention" scale the reliability coefficient was .77 which was the third highest reliability coefficient. The item analysis showed that all of the items except Items 56 and 47 discriminated very well and only Item 56 had a low item-total correlation. The results for the analysis of the boys' responses to Item 56 were very similar to those of the girls for the same item

in that the responses to the item were inconsistent with the responses to the other items of the scale. For Item 47, 87% of the boys indicated that they "seldom" or "almost never" had clothes which they never wore because everyone else had them. All of the other nine items of the "special attention" scale had discrimination indices of 1.55 or above and item-total correlation coefficients of .51 or above (see Table 11).

TABLE 11.--The results of the item analysis for the 236 boys' responses to the "special attention" scale.

Item No.	Frequency of Choice of Each Weight					Discrimination Index	Rank According to		Item-total Correlation
	1	2	3	4	5		D.I.	Cor.	
46	73	83	51	22	7	1.83	2.5	1	.673
47	112	83	31	9	1	1.08	10	8	.521
48	34	46	85	42	29	1.75	4	3	.611
49	35	36	61	75	29	2.09	1	2	.643
50	93	51	59	19	14	1.83	2.5	4	.609
51	107	64	41	17	7	1.72	5	5	.604
52	54	59	81	27	14	1.58	8	9	.504
53	72	64	69	18	13	1.70	6	6	.571
54	41	51	75	51	18	1.55	9	10	.489
55	56	60	73	33	14	1.61	7	7	.530
56	46	60	79	42	9	1.05	11	11	.339

Management Scale

57. I plan for and prepare clothes to wear several days in advance.
58. I see that my out-of-season clothing is cleaned and stored.
59. I look over the clothing in my wardrobe before each season so that I know what I have.
(-)60. I am enticed into buying garments I like without having anything to go with them.
61. I enjoy trying to get the most for my money in clothing purchases.
62. I wear a raincoat or carry an umbrella to protect my clothes in rainy weather.
63. I have something to wear for any occasion that occurs.
64. I have long-term ideas for purchasing more expensive items of clothing such as coats or suits.
65. I carefully plan every purchase so that I know what I need when I get to a store.
66. I am more concerned about the care of my clothing than my friends are about theirs.
67. I try to find out how I can save as much time, energy and money as possible with my clothes.

The reliability coefficient for the girls' responses to the "management" scale which measured attitudes toward the thoughtful and careful use of resources including the use of time, money and energy in planning, buying and using clothing was estimated to be .67 and was the sixth highest reliability coefficient for the girls. The item analysis showed that only one item, Item 60, had a low discrimination index and item-total correlation coefficient. Item 60 was negatively stated and could have been ambiguous to the subjects because the results of the item analysis showed that

the responses to this item were inconsistent with the responses to the other items. Three other items, 61, 66, and 64, had low discrimination indices because each had a clustering of responses to the items but they had satisfactory item-total correlation coefficients. The other seven items had discrimination indices above 1.22 and item-total correlation coefficients of at least .47 (see Table 12).

TABLE 12.--The results of the item analysis for the 269 girls' responses to the "management" scale.

Item No.	Frequency of Choice of Each Weight					Discrimination Index	Rank According to		Item-total Correlation
	1	2	3	4	5		D.I.	Cor.	
57	46	47	91	57	28	1.59	3	8	.466
58	3	14	50	110	92	1.27	4.5	4	.536
59	6	14	35	74	140	1.27	4.5	3	.548
60	21	32	116	64	36	.96	11	11	.288
61	6	12	54	87	110	1.10	10	10	.439
62	47	40	59	64	59	2.01	1	2	.550
63	10	37	88	105	29	1.23	6.5	6	.491
64	14	49	113	64	29	1.16	8	9	.458
65	8	36	83	103	39	1.62	2	1	.606
66	3	29	118	97	22	1.12	9	7	.486
67	6	24	88	106	45	1.23	6.5	5	.497

For the boys' responses to the "management" scale the estimated reliability coefficient was .65 which was the same as the reliability coefficient for the "modesty" scale. The item analysis showed that one item, Item 60, was very inconsistent with the other items of the scale because it had very low discriminatory power and a very low item-total correlation coefficient. This was the same item that was inconsistent for the girls' responses. Item 62 and Item 63 had low discriminatory power because the responses were clustered together in each of these items. For Item 62, 55% of the boys "almost never" wore a rain coat or carried an umbrella to protect their clothes from the rain; for Item 63, 43% "usually" had something to wear for any occasion that occurred. The other eight items of the "management" scale had discrimination indices above 1.25 and item-total correlations at or above .43 (see Table 13, p. 81).

TABLE 13.--The results of the item analysis for the 236 boys' responses to the "management" scale.

Item No.	Frequency of Choice of Each Weight 1	2	3	4	5	Discrimination Index	Rank According to D.I.	Rank According to Cor.	Item-total Correlation
57	87	59	57	19	14	1.72	3	5	.504
58	29	42	57	73	35	2.09	2	2	.639
59	43	41	66	60	26	2.19	1	1	.650
60	7	14	91	69	55	.42	11	11	.066
61	17	25	80	69	45	1.36	7	7	.458
62	129	53	30	16	8	1.06	9.5	9	.380
63	17	33	65	102	19	1.06	9.5	10	.357
64	40	69	82	37	8	1.27	8	8	.430
65	28	39	73	65	31	1.61	5	6	.503
66	26	35	108	49	18	1.53	6	3	.569
67	16	43	91	63	23	1.67	4	4	.563

Social Approval Scale

68. I check with my friends about what they are wearing to a gathering before I decide what to wear.
69. I would rather miss something than wear clothes which are not really appropriate.
70. I feel more a part of the group if I am dressed like my friends.
71. I wear clothes that everyone is wearing even though they may not look as good on me.

72. I am uncomfortable when my clothes are different from all others at a party.
73. I try to dress like others in my group so that people will know we are friends.
74. I get new clothes for a special occasion if the clothes I have are not the type my friends will be wearing.
75. I have gone places and then wished after I got there that I had not gone because my clothes were not suitable.
(-)76. I wear what I like even though some of my friends do not approve.
77. When I buy a new article of clothing I try to buy something similar to what my friends are wearing.
78. When someone comes to school dressed unsuitably I try to figure out why he is dressed as he is.

The reliability coefficient for the 269 girls' responses to the "social approval" scale measuring attitudes toward the use of clothing to attain a feeling of belongingness or the approval of others in a particular role was .71 which was the same as the reliability coefficients for the "modesty" and "special attention" scales. Again it was a negatively stated item, Item 76, which had the lowest item-total correlation and discriminatory power. All of the other items except Item 78 had item-total correlations of .45 or greater and all of the items except Item 76 had discrimination indices of 1.05 or greater (see Table 14, p. 83).

The reliability coefficient for the boys' responses to the "social approval" scale was .71 which was the fourth highest reliability coefficient for the eight scales for the

boys. Only one item had an index of discrimination of less than 1.20 and an item-total correlation of less than .44. This item was negatively stated Item 76 which also ranked lowest when the girls' responses were analyzed. All of the other items solicited consistent responses from the 236 boys (see Table 15, p. 84).

TABLE 14.--The results of the item analysis for the 269 girls' responses to the "social approval" scale.

Item No.	Frequency of Choice of Each Weight					Discrimination Index	Rank According to		Item-total Correlation
	1	2	3	4	5		D.I.	Cor.	
68	10	24	65	90	80	1.11	8	8	.462
69	9	23	87	81	69	1.30	6	9	.451
70	6	27	62	73	101	1.95	1	1	.697
71	77	112	61	15	4	1.29	7	5	.523
72	14	28	73	79	75	1.67	3	4	.562
73	71	95	72	21	10	1.33	5	6	.480
74	32	54	112	49	22	1.70	2	2	.606
75	23	56	142	35	13	1.05	10	7	.473
76	24	67	113	50	15	.93	11	11	.336
77	29	57	110	57	16	1.55	4	3	.578
78	32	47	109	64	17	1.07	9	10	.373

TABLE 15.--The results of the item analysis for the 236 boys' responses to the "social approval" scale.

Item No.	Frequency of Choice of Each Weight 1	2	3	4	5	Discrimination Index	Rank According to D.I.	Rank According to Cor.	Item-total Correlation
68	54	63	68	39	12	1.64	3	7	.513
69	28	47	73	61	27	1.33	7	10	.439
70	11	25	60	85	55	1.50	5.5	4	.545
71	42	84	84	16	9	1.20	10	6	.513
72	29	38	71	59	39	1.66	2	9	.508
73	48	78	67	36	7	1.56	4	1	.589
74	48	70	79	26	13	1.50	5.5	5	.541
75	39	73	94	27	3	1.30	8	8	.512
76	23	50	94	44	25	.88	11	11	.321
77	12	49	88	81	6	1.29	9	3	.557
78	52	74	62	37	11	1.73	1	2	.563

Psychological Dependence Scale

79. Certain clothes make me feel more sure of myself.
80. I decide on the clothes to wear according to the mood I'm in that day.
81. Days when I feel low I wear my gayest clothes.
82. I "dress-up" to make an ordinary occasion seem more exciting.
83. I am aware of being more friendly and out going when I wear particular clothes.
84. I feel and act differently according to whether I am wearing my best school clothes or not.

85. I buy clothing to boost my morale.
86. I get bored with wearing the same kind of clothes all the time.
87. I have more self confidence when I wear my best school clothes.
88. When things are not going well I like to wear brighter colors.
89. I wonder why some clothes make me feel better than others.

The estimated reliability coefficient for the girls' responses to the "psychological dependence" scale was .75, the second highest reliability coefficient for the eight scales to which the girls responded. All of the items except Items 82 and 86 had discrimination indices of 1.25 or greater and item-total correlations of .48 or greater which indicated that the majority of the items were consistent with the total scale. Item 86 had low discriminatory power because 37% of the girls "usually" and 31% "almost always" got bored when they wore the same kind of clothes all the time; Item 82 had lower discriminatory power than the remaining nine items because 40% of the girls indicated that they "sometimes" dressed up to make an ordinary occasion seem more exciting (see Table 16, p. 86).

TABLE 16.--The results of the item analysis for the 269 girls' responses to the "psychological dependence" scale.

Item No.	Frequency of Choice of Each Weight 1	2	3	4	5	Discrimination Index	Rank According to D.I.	Rank According to Cor.	Item-total Correlation
79	3	9	42	102	113	1.25	9	8	.479
80	24	62	92	55	36	1.67	3	5	.564
81	38	73	103	39	16	1.36	7	9	.476
82	28	67	107	49	18	1.08	10	10	.403
83	12	25	84	87	61	1.78	2	2	.651
84	21	37	86	79	46	1.64	4	4	.592
85	22	47	135	48	17	1.55	5	3	.625
86	3	15	68	99	84	.95	11	11	.331
87	10	19	62	90	88	1.92	1	1	.685
88	30	59	134	34	12	1.30	8	6	.563
89	24	37	114	57	37	1.41	6	7	.491

The estimated reliability coefficient for the boys' responses to the "psychological dependence" scale was .78 which was the second highest reliability coefficient for the eight scales to which the boys responded. All of the items of this scale appeared to be very satisfactory since the lowest discrimination index was 1.27 and the lowest item-total correlation coefficient was .43 (see Table 17, p. 87).

TABLE 17.--The results of the item analysis for the 236 boys' responses to the "psychological dependence" scale.

Item No.	Frequency of Choice of Each Weight 1	2	3	4	5	Discrimination Index	Rank According to D.I.	Rank According to Cor.	Item-total Correlation
79	15	20	84	76	41	1.27	11	10	.445
80	59	57	70	37	13	1.67	5	7	.536
81	72	79	62	18	5	1.50	7	5	.560
82	50	71	78	32	5	1.47	8	9	.517
83	22	34	100	60	20	1.84	2.5	2	.676
84	18	58	95	46	19	1.55	6	6	.547
85	62	78	58	29	9	2.00	1	1	.676
86	20	28	81	61	46	1.38	9	11	.425
87	15	42	68	77	34	1.84	2.5	3	.647
88	50	102	62	14	8	1.28	10	8	.535
89	52	41	91	40	12	1.78	4	4	.581

Validity

An attempt was made to validate the first seven of the Creekmore Scales of Eight Clothing Variables. The subject's rank ordering of seven words and phrases in a criterion measure, completed after he had responded to the eight scales, was compared with the rank ordering of the

importance of the first seven variables according to the summated scores that he obtained on the scales. The Spearman rank order correlation method was used to determine the degree of association between the two rankings for each of the 199 girls and 151 boys who completed both the scales and the criterion measure. If the resulting correlation coefficients were equal to or exceeded .714[1] the relationship between the two rankings was considered significant at the .044 level for a one-tailed test. However, because so many rank order correlation coefficients were calculated, it was not unreasonable to expect that 4.4% of the total number calculated for the boys and 4.4% of the total number calculated for the girls could have been significant because of chance alone and not because of an actual relationship between the variables.

The results of the calculations of the Spearman rank order correlation coefficients for the girls showed that 34 of the 199 correlations were significant at the .044 level or above. Of the number of significant correlations nine could have occurred by chance alone. Consequently, the remaining 25 correlations or 12.5% of the total correlations for the girls could be considered significant relationships.

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[1] Edwards, Statistical Methods . . ., p. 513.

This low proportion of significant results indicated that there was little association between the two rankings for the girls in this sample.

When the same procedure was followed for the responses of the 151 boys, 20 correlation coefficients equaled or exceeded .714 but of this number seven could have occurred by chance alone. The remaining 13 correlation coefficients or 8.6% of the total number of rank correlation coefficients calculated were significant. These results also indicated very little correspondence between the two rankings.

If the criterion measure with which the scores of the first seven scales were compared had been a truly reliable and valid criterion, the results would have indicated that the first seven of the Creekmore Scales of Eight Clothing Variables were not valid. However, such a conclusion could not be justified in this case because the reliability and validity of the criterion measure were not known. What was more likely was that the criterion measure was even less reliable and valid than the scales. As noted earlier Oppenheim indicated that single statements were less reliable than groups of statements for locating individuals along a

continuum according to their attitudes.[1] A second possible explanation for the lack of agreement between the two rankings was that the words and phrases considered only portions of the variables because each of the clothing variables was operationally defined to include several aspects. For example, "comfortable" in the criterion measure corresponded to the "comfort" scale which was concerned with comfort as related to temperature, physical response to certain textures, and tightness or looseness in garments. With these considerations in mind, no conclusions could be drawn about the validity of the scores obtained from the administration of the Creekmore Scales of Eight Clothing Variables.

Recommendations for Improvements

One of the objectives of this study was to propose recommendations for the improvement of the Creekmore Scales of Eight Clothing Variables. The recommendations proposed in this section were based on the results of the analyses of the responses made by 269 girls and 236 boys. To the extent that the underlying assumptions were legitimate, the following suggestions should offer methods for improving the reliability of some of the Creekmore Scales.

For the specific sample of girls whose responses were analyzed in this study, some of the items of the

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[1]Oppenheim, p. 73.

"aesthetic" scale represented social points of view for the majority of the subjects. Therefore, although these items were related to the total content of the scale, they did not distribute the subjects along a continuum according to their attitudes which is the purpose of the scale which measures behavioral indicants of attitudes.

Rather than recommending immediate deletion of Items 2, 6, 7, 8, 9, and 10 because they represented social points of view, the "aesthetic" scale should be administered to several other samples. If the same items still fail to discriminate among the individuals, they should be replaced by more discriminating items so that the rank ordering of the subjects according to their responses to the items of the scale will be more consistent with the rank of the subjects according to their total summated scores.

Because the reliability was low for the "aesthetic" scale for the boys, some revisions should be made. Item 10 should be reworded so that it does not solicit inconsistent responses. If Item 6 continues to yield similar responses when used with other samples of boys, it should be changed or deleted so that it does not reflect a social point of view. Items 5, 8, and 12 should also be re-examined and altered so that they solicit responses which are more consistent with the remaining items of the scale.

When the "modesty" scale is administered to other samples of girls and the results analyzed, particular notice should be paid to Item 14. If it continues to yield a clustering of responses it should be altered so that it produces responses which will distribute subjects along the scale in a manner consistent with the other items of the scale.

For the "modesty" scale for the boys the relevance of Item 17 should be examined. For this particular sample of boys this item did not solicit responses which were consistent with their responses to other items of the scale. The possibility of dividing the "modesty" scale into two parts, one concerning body exposure and the other pertaining to conservatism in dress, should also be investigated because the boys' responses in this study showed a separation between these two aspects.

All of the items of the "interest" scale for girls appeared to be very satisfactory but the theoretical item, Item 34, should be re-examined to see if a more relevant aspect of interest could be used.

The only recommendation which can be made for making items more discriminating and consistent with the total "interest" scale for the boys is that responses made by boys in other samples to Item 24 be carefully examined. If the majority of boys continue to report that they almost never

try on each other's clothes, this item should be replaced by a more discriminating item.

Three of the items of the "comfort" scale, Items 35, 36, and 42, yielded clusterings of responses so that the individuals were not distributed along the continuum in a manner consistent with their responses to the other items of the scale. If similar results occur when the scale is administered to other samples of girls, these items should be altered or replaced with more satisfactory items. The terminology of Item 40 should be changed so that it is less ambiguous.

The relevancy of Items 37 and 40 for the boys should be investigated because in this study the boys' responses to these items were not consistent with their responses to the other items of the "comfort" scale.

For the "special attention" scale for the girls a more pertinent item for the theoretical aspect of the use of clothing to gain prestige and status should be formulated. If Item 49 continues to relate to a social point of view for other samples of girls it should be revised so that it becomes more discriminating.

A similar recommendation can be made for the improvement of the reliability of the "special attention" scale for boys as was made for the girls. Item 56 should be revised so

that it solicits more discriminating responses which are consistent with the other items of the scales. If Item 47 continues to yield a cluster of responses for other samples of boys, it should be replaced by a more discriminating item.

For both the boys and girls Item 60 of the "management" scale did not yield responses which were consistent with the total scale. Perhaps if this negatively stated item were reworded it would be more effective. The responses of girls in other samples to Items 61, 64, and 66 should be carefully investigated and if their responses still tend to cluster about single responses these items should be replaced by more discriminating items. Similarly, if most of the boys in other samples continue to respond in the same way to Items 62 and 63 these items should be revised.

For both the boys' and girls' replies to Item 76 the discriminatory power and item-total correlation were low which indicates that this negatively stated item shoud be revised so that it yields more consistent responses.

The only item of the "psychological dependence" scale which appeared to be inconsistent with the other items of the scale was Item 86 to which the majority of the girls responded in the same manner. If this item continues to relate to a social point of view it should be replaced by a

more differentiating item.

All of the items for the "psychological dependence" scale for boys appeared to be satisfactory so that no recommendations were necessary.

All of the recommendations which have been made in this section were based upon the analysis of the responses of the subjects in this sample and may not be applicable or appropriate when the scales are administered to other subjects. This was the reason for the constant repetition of the idea that the responses of the subjects in other samples be analyzed before the items which represented social points of view are deleted or altered.

CHAPTER VI

SUMMARY AND CONCLUSIONS

The study of the socio-psychological meanings inherent in the use of clothing has been a recent development in the field of clothing. Because the development is recent the total area of attitudes toward and behaviors related to clothing is relatively unexplored and very few techniques have been refined sufficiently for obtaining data concerning attitudes toward clothing. Thus, there exists a great need for reliable and valid methods of obtaining data pertaining to attitudes toward clothing so that these attitudes can be more thoroughly investigated.

One of the major objectives of a recent project at Michigan State University was the composition of eight scales measuring attitudes toward and behaviors related to clothing. The theoretical basis for these scales originated in Creekmore's investigation of the relationship between clothing behaviors and general values which resulted from the striving to satisfy needs. The researchers compiled items from studies by Creekmore, Brady and Sharpe and items

which they developed which pertained to the operationally defined clothing variables. It was the desire of the researchers of this project that the final "Importance of Clothing" questionnaire which was a composite of eight Likert-type summated rating scales become the basis for standardized scale for measuring attitudes toward clothing.

To assess the adequacy of the Creekmore Scales of Eight Clothing Variables, the responses of 269 girls and 236 boys in grades ten, eleven and twelve of a high school located in a mid-western industrial city of the United States were analyzed. The reliability and validity of the responses were estimated and suggestions for improvements of the scales were proposed. The methods selected for the investigation of the reliability and validity were Hoyt's analysis of variance technique for estimating reliability, item analysis consisting of discriminatory power and item-total correlations for investigating the contribution each item made to the total scale, and the Spearman rank order correlation for attempting to ascertain the validity of the scales. These procedures were followed separately for the responses of the boys and the girls of this sample.

Certain limitations were kept in mind for the investigation of the reliability and validity of the Creekmore Scales. For the investigation of reliability the intervals

were assumed to be equal although the Likert method of constructing summated rating scales does not guarantee more than ordinal measurement. Secondly, the relationship between the weights for the subjects' responses to the individual items and their total summated scores for a scale was assumed to be linear so that the Pearson product-moment correlation method could be used for investigating item-total correlations. To the degree that these assumptions were justified, the results of this study are significant. Finally, the results of this analysis applied only to the responses of the subjects of this sample because the sample was not randomly selected. With these limitations in mind the analysis of the responses to the Creekmore Scales was conducted.

The results of the procedures concerning reliability showed that several of the scales attained or approached a satisfactory degree of reliability. The most satisfactory reliability coefficients were obtained for the "interest," "psychological dependence," "special attention," and "social approval" scales while the reliability coefficients for the "management," "comfort," and "aesthetic" scales were somewhat below the acceptable level of reliability. In all of the scales but two, "modesty" and "management," the reliability coefficients for the boys' responses were higher than for the girls.

On the basis of the item analysis, revisions were suggested for improvement of some of the scales. When the items had poor discriminatory power because the majority of subjects responded in the same manner to the items indicating a social point of view, revisions should not be made immediately. Instead the scales containing these items should be administered to many samples and if the items continue to solicit similar responses from the majority of the subjects, these items should be replaced by more differentiating items so that subjects can be distributed along the continuum according to their attitudes. For the other items which had low discriminatory power and low item-total correlations but did not appear to represent social points of view, suggestions were made to reword, clarify and alter these statements so that they might solicit responses more consistent with the subject's total score for the scale.

All of the negative statements, Items 2, 6, 10, 60 and 76, had low discriminatory power and item-total correlations. Although many authorities had suggested that scales should consist of half negatively stated items and half positively stated items, in these scales the negative statements failed to produce responses which were consistent with the other items of the scales. The lack of consistency of responses to the negatively stated items could be an indication of response set or ambiguous wording of the items.

The wording of the negatively stated items should be carefully revised so that the items do not represent ambiguous or double-barreled situations and the subjects should be encouraged to answer sincerely and honestly.

The majority of the Creekmore Scales of Eight Clothing Variables provided a useful method for measuring the consistency of adolescent boys' and girls' responses to statements pertaining to clothing. With revisions of the less satisfactory items of the remaining scales, these scales can be improved and become useful for obtaining information about adolescents' reactions to statements about clothing. These scales, if properly used and interpreted, should become valuable techniques for the investigation of attitudes toward and behaviors related to clothing.

No conclusions could be drawn about the validity of the Creekmore Scales of Eight Clothing Variables. There was only slight correspondence between the ranking of the items of the criterion measure and the ranking of the first seven variables according to the subject's summated scores for the seven scales. Because the reliability and validity of the criterion measure were not known and because the words and phrases did not cover the entire aspects of each of the operationally defined clothing variables, there was no justification for stating that the scales were not valid;

nor was there any justification for saying that the scales were valid.

Recommendations

The major recommendation for further research studies which evolved from this study was that the suggestions for improvements be followed and the revised scales administered to many samples of adolescents. The results obtained from these samples should be analyzed in the same manner as they were in this study and comparisons made to determine if the improvements were satisfactory. If necessary, further revisions should be made so that the scales become very valuable techniques for measuring attitudes toward clothing.

The "modesty" scale should be investigated more thoroughly to ascertain if it can be divided into two parts, one for body exposure and the other for conservatism in dress.

A more detailed inquiry should be conducted so that an attempt can be made to validate the scales. The existing criterion measure could be revised so that the words and phrases included all of the aspects of the operationally defined variables and placed at the beginning of the questionnaire. If these revisions failed to produce satisfactory

results, some other criterion should be sought so that the validity of the Creekmore Scales of Eight Clothing Variables can be established.

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APPENDIX

IMPORTANCE OF CLOTHING

Read the following statements and rate each according to the scale given below. Place the number corresponding to your choice in front of each statement. The statements generally refer to a school situation.

Scale: 5. Almost Always - very few exceptions
4. Usually - majority of the time
3. Sometimes
2. Seldom - not very often
1. Almost Never - very few exceptions

____ 1. The way I look in my clothes is important to me.

____ 2. When I am shopping I choose clothes that I like even if they do not look the best on me.

____ 3. It bothers me when my shirt tail keeps coming out.

____ 4. I consider the fabric texture with the line of the garment when choosing my clothes.

____ 5. I use clothing as a means of disguising physical problems and imperfections through skillful use of color, line and texture.

____ 6. I wear clothes which have buttons or snaps missing.

____ 7. I pay a lot of attention to pleasing color combinations.

____ 8. I keep my shoes clean and neat.

____ 9. I carefully coordinate the accessories that I wear with each outfit.

____ 10. I wear the clothing fads that are popular in our school even though they may not be as becoming to me.

____ 11. I spend more time than others coordinating the colors in my clothes.

5. Almost always 4. Usually 3. Sometimes 2. Seldom 1. Almost never

____ 12. I try to figure out why some people's clothes look better on them than others.

____ 13. Unlined sheer dresses or blouses reveal too much of the body.

____ 14. I select clothes that are conservative in style.

____ 15. I feel uncomfortable when someone has forgotten to close his or her zipper.

____ 16. The first time in the season that I go to a public beach or pool I feel exposed in my bathing suit.

____ 17. I choose clothing with small prints, even though a larger design looks equally good on me.

____ 18. I feel embarrassed when I see someone in too low cut a dress.

____ 19. I select clothes which do not call attention to myself in any way.

____ 20. I feel embarrassed when I see someone in clothes that are too tight.

____ 21. I like dark or muted colors rather than bright ones for my clothes.

____ 22. I hesitate to associate with those whose clothes seem to reveal too much of their body.

____ 23. I wonder why some people wear clothes that are immodest.

____ 24. My friends and I try each others clothes to see how we look in them.

____ 25. I enjoy trying on shoes of different styles or colors.

____ 26. I study collections of accessories in the stores to see what I might combine attractively.

5. Almost always 4. Usually 3. Sometimes 2. Seldom 1. Almost never

____ 27. I try on some of the newest clothes each season to see how I look in the styles.

____ 28. I read magazines and newspapers to find out what is new in clothing.

____ 29. It's fun to try on different garments and accessories to see how they look together.

____ 30. I experiment with new or different "hair do's" to see how I will look.

____ 31. I like to know what is new in clothing even if none of my friends care and I probably would not want to wear it anyway.

____ 32. I try on clothes in shops just to see how I will look in them without really planning to buy.

____ 33. When I buy a new garment I try many different accessories before I wear it.

____ 34. I am curious about why people wear the clothes they do.

____ 35. The way my clothes feel to my body is important to me.

____ 36. There are certain textures in fabrics that I like and especially try to buy, for example, soft, fuzzy, sturdy, smooth.

____ 37. I am more sensitive to temperature changes than others and I have difficulty being comfortable in my clothes as a result.

____ 38. I wear my pants or slacks with an easy fit even when tight ones are fashionable.

____ 39. I get rid of garments I like because they are not comfortable.

____ 40. I find it difficult to buy clothes suitable to the temperature.

5. Almost always 4. Usually 3. Sometimes 2. Seldom 1. Almost never

____ 41. I would buy a very comfortable bathing suit even if it were not the current style.

____ 42. I avoid garments that bind the upper arm.

____ 43. I am irritable if my clothes are uncomfortable.

____ 44. I am extremely sensitive to the texture of the fabrics in my clothing.

____ 45. I wonder what makes some clothes more comfortable than others.

____ 46. When new fashions appear on the market, I am one of the first to own them.

____ 47. I have clothes that I don't wear because everyone else has them.

____ 48. I like to be considered an outstanding dresser by my friends.

____ 49. I try to keep my wardrobe in line with the latest styles.

____ 50. I go to nearby cities to shop for better fashions.

____ 51. I try to buy clothes which are very unusual.

____ 52. I avoid wearing certain clothes because they do not make me feel distinctive.

____ 53. I enjoy wearing very different clothing even though I attract attention.

____ 54. I try to buy clothes with the best labels.

____ 55. I wear different clothes to impress people.

____ 56. I am interested in why some people choose to wear such unusual clothes.

____ 57. I plan for and prepare clothes to wear several days in advance.

5. Almost always 4. Usually 3. Sometimes 2. Seldom 1. Almost never

____ 58. I see that my out-of-season clothing is cleaned and stored.

____ 59. I look over the clothing in my wardrobe before each season so that I know what I have.

____ 60. I am enticed into buying garments I like without having anything to go with them.

____ 61. I enjoy trying to get the most for my money in clothing purchases.

____ 62. I wear a raincoat or carry an umbrella to protect my clothes in rainy weather.

____ 63. I have something to wear for any occasion that occurs.

____ 64. I have a long-term idea for purchasing more expensive items of clothing such as coats or suits.

____ 65. I carefully plan every purchase so that I know what I need when I get to a store.

____ 66. I am more concerned about the care of my clothing than my friends are about theirs.

____ 67. I try to find out how I can save as much time, energy and money as possible with my clothes.

____ 68. I check with my friends about what they are wearing to a gathering before I decide what to wear.

____ 69. I would rather miss something than wear clothes which are not really appropriate.

____ 70. I feel more a part of the group if I am dressed like my friends.

____ 71. I wear clothes that everyone is wearing even though they may not look as good on me.

5. Almost always 4. Usually 3. Sometimes 2. Seldom 1. Almost never

____ 72. I am uncomfortable when my clothes are different from all others at a party.

____ 73. I try to dress like others in my group so that people will know we are friends.

____ 74. I get new clothes for a special occasion if the clothes I have are not the type my friends will be wearing.

____ 75. I have gone places and then wished after I got there that I had not gone because my clothes were not suitable.

____ 76. I wear what I like even though some of my friends do not approve.

____ 77. When I buy a new article of clothing I try to buy something similar to what my friends are wearing.

____ 78. When someone comes to school dressed unsuitably, I try to figure out why he is dressed as he is.

____ 79. Certain clothes make me feel more sure of myself.

____ 80. I decide on the clothes to wear according to the mood I'm in that day.

____ 81. Days when I feel low I wear my gayest clothes.

____ 82. I "dress-up" to make an ordinary occasion seem more exciting.

____ 83. I am aware of being more friendly and out going when I wear particular clothes.

____ 84. I feel and act differently according to whether I am wearing my best school clothes or not.

____ 85. I buy clothing to boost my morale.

____ 86. I get bored with wearing the same kind of clothes all the time.

5. Almost always 4. Usually 3. Sometimes 2. Seldom 1. Almost never

____ 87. I have more self confidence when I wear my best school clothes.

____ 88. When things are not going well I like to wear brighter colors.

____ 89. I wonder why some clothes make me feel better than others.

Rank the following items according to their importance to to you. Place a 7 in front of the most important and a 1 in front of the least. Do not use any number more than once.

I prefer that my wardrobe be:

____ comfortable

____ unusual

____ attractive

____ conservative and non-revealing

____ similar to most others

____ my own combinations of garments and accessories

____ organized and coordinated by a plan