THE CONSTRUCTION AND STANDARDIZATION OF A SCALE FOR THE MEASUREMENT OF THE SOCIO-ECONOMIC STATUS OF OKLA-HOMA FARM FAMILIES

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PREFACE

The economic and social situations involved in farm tenancy represent problems of major importance to Oklahoma. A first step toward a full understanding of these problems is the development of a yardstick for measuring the social and economic well-being of farm families. The Farm Family Socio-economic Status Scale developed by Dr. Sewell is such a yardstick. The use of this scale as a tool in studies of tenancy and similar problems should yield information which can be put to practical use.

If this scale eventually proves as valid as it now appears to be, it will find application elsewhere than in Oklahoma. The method is already being subjected to further testing, and it is now undergoing a process of standardization by a number of research workers throughout the nation. While the results of this further testing remain to be seen, there are reasons to believe that the value of this scale as a tool of scientific investigation will be adequately demonstrated. If this belief is substantiated, the scale will be useful not only in studies of tenancy, but also in rural sociology in general, in economics, in agricultural economics, in home economics, and in any other field concerned with the problems of family living.

The development of the Farm Family Socio-economic Status Scale was an integral part of the social science research program of the Oklahoma Agricultural Experiment Station. The scale was developed as a part of a major study of the social correlatives of farm tenure status in Oklahoma which is now being completed, and is expected to be a valuable tool in carrying on further study of this and related problems. Two other major projects are now in progress: a study of the types of tenancy areas in Oklahoma; and studies of population mobility and population changes. Other studies, approaching the problem of farm tenancy from the economic point of view, are contemplated.

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PART I:
INTRODUCTION

THE PROBLEM

Differences in socio-economic status among families are observed readily by all who study human social behavior. That these differences profoundly affect members of the family, especially the children, is a well accepted fact. That the individual's conception of his social role is definitely conditioned by his home background is one of the fundamental premises upon which modern social psychology, child guidance, and sociology are predicated. That a family will struggle to raise its status if it is low, or fight to maintain it when it is threatened, is a fact apparent in all societies.

Students of rural society, no less than others, have long been aware of these facts. Likewise they have recognized that differences in socio-economic status so greatly influence the social behavior of rural people that it is necessary to control this factor in studies where other aspects of behavior are being compared. In general they have been content, however, to use rough, unstandardized indexes of status. The reasons for this are many, and mention of a few may suffice to suggest others. First, many students of rural society have assumed that differences in socio-economic status are qualitative and hence not subject to measurement. Second, some have held that single factor indexes such as tenure status or effective income are sufficiently reliable and valid indicators of status. Third, those who have recognized the need for a simple, standardized instrument for the measurement of this variable have not undertaken to develop one because they either have not been sufficiently acquainted with the techniques of scale construction or have been unable to devote the time and energy that this task would require. Fourth, the concept "socio-economic status" has only recently been defined in terms that may be brought to the test of objective facts.

THE PURPOSE OF THE STUDY

The purpose of this study is to construct and standardize a simple scale that will give quantitative expression to the nature and extent of the variations existing in the socio-economic status of Oklahoma farm families.

That this is a feasible project and one which will serve a distinct need may be demonstrated by a brief review of the literature related to socio-economic status.

REVIEW OF LITERATURE

To review all of the literature related to the subject of socio-economic status in general and family socio-economic status in particular would be a task demanding energies and capacities that the present writer does not possess. For present purposes an examination of selected studies demonstrating the various methods used in the determination of status levels will

suffice. In this review the emphasis will be on the development of techniques rather than the results of the studies. Only such descriptive background as is necessary to the understanding of the methods involved will be presented.*

In general it may be said that the measures of socio-economic status have been of two types: indexes based on single factors; and indexes based on multiple factors. The indexes based on single factors are of earlier origin and are more commonly used. They will be discussed first. Those based on multiple factors are of two types, the unstandardized and the standardized. They will be considered in that order.

Single Factor Indexes of Socio-Economic Status

The most commonly employed single-factor index used by investigators in the urban field is occupational status. Usually the practice has been to refer to persons performing certain tasks as having high, middle, or low socio-economic status depending on the pay received and the skill required. ·F. W. Taussig was one of the first to propose a classification of occupations based on education, skill, property, and savings.[1] His list included the following five non-competing occupational groups: day laborers; semi-skilled workmen; skilled workmen; office managers and clerical and semi-professional workers; and well-to-do business and professional men. F. E. Barr, in 1918, developed a classification that has been widely used.[2] In its construction 100 occupations were rated as to their relative demands on intelligence and scores were assigned accordingly to the various major classes. In 1922, G. S. Counts, in connection with his study of selective factors in secondary education, constructed an occupational scale consisting of seven classifications.[3] This scale was based on Census figures and other data collected from questionnaires. In 1925, L. M. Terman regrouped the Taussig classification.[4] In 1931, F. L. Goodenough and J. E. Anderson offered their classification,[5] which was based on Census figures and distributed occupations into non-competing groups according to the relative demands made on mental ability. This classification has been widely used as a rough measure of socio-economic status. In 1933, A. M. Edwards presented a socio-economic classification of the gainfully employed.[6] This was based on census data and divides the gainfully employed population of the United States into six major socio-economic groups. More recently the Works Progress Administration has formulated a similar classification which includes fifteen occupational groupings.[7] This classification has been widely used in recent studies. In 1935, M. Smith's Scale of Occupations appeared.[8] The scale was based on the occupational preferences of a large group of college students and may be considered as this group's opinion of the status levels implied by the different occupations.

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* Since this review of literature was prepared and the bulletin submitted for publication (July, 1939), several important articles on the measurement of social status and socio-economic status have appeared. These include: L. D. Zeleny, "Measurement of Social Status," *American Journal of Sociology,* 45:576-582 (January 1940), G. A. Lundberg, "The Measurement of Socioeconomic Status," *American Sociological Review,* 5:29-39 (February 1940), and E. A. Schuler, "Social and Economic Status in a Louisiana Hills Community," *Rural Sociology,* 5:69-83 (March 1940).

[1] *Principles of Economics,* Vol. 2, pp. 131-144. (1913).

[2] *A Scale for Measuring Mental Ability in Vocations and Some of Its Applications.* (Unpublished M. A. Thesis, Stanford University, 1918). Described in L. M. Terman, et al., *Genetic Studies of Genius,* Vol. 1, pp. 66-72.

[3] *The Selective Character of American Secondary Education,* p. 156.

[4] *Genetic Studies of Genius,* Vol. 1. pp. 63-64

[5] *Experimental Child Study,* pp. 501-12.

[6] "A Social and Economic Grouping of the Gainfully Employed Workers in the United States," *Journal of the American Statistical Association,* 28:377-89 (December 1933).

[7] *Index of Occupations, Occupational Classification and Code,* Works Progress Administration Circular 2-A (September 1935).

[8] "Proposals for Making a Scale of Status for the Occupations," *Sociology and Social Research,* 20:40-49 (September-October 1935).

In the rural field, the counterpart of the occupational classification is the tenure classification. Many, if not most, students have used tenure status as the most convenient indicator of socio-economic status. However, the writer has not encountered a scale with values assigned to the various levels of tenure.

The above types of classifications may be termed very rough indicators of socio-economic status. At best they differentiate only between extreme levels. Some of them do not differentiate well among persons and families who represent widely varying levels because they do not include many factors involved in socio-economic status. Others of them were not designed to measure this variable and do so only in an incidental way. Nevertheless, as broad indicators they have their merits. Certainly one advantage is the ease with which the data necessary for classification may be obtained.

Income has long been used as an indicator of family socio-economic status. However, when used without due consideration of size, age, and sex composition of the family, it becomes an almost useless index. Many scales have been devised that may be used to overcome this limitation.[9] Perhaps the best known of the early scales was that developed by Ernst Engel, in 1895.[10] The unit he employed was called the **quet** in honor of Quetelet. This unit was based on the average consumption of an infant. For each year of growth, .10 **quets** are added up to 25 years for men and 20 years for women. Even though this was an arbitrarily determined unit it was valuable in that it served as a stimulus to the development of more scientific units.

Perhaps the most important contributions to the development of scientific units for the measurement of effective income have been made by E. Sydenstricker and his associates. In 1918, J. Goldberger, G. A. Wheeler, and E. Sydenstricker presented a study of family economic status in relation to pellagra incidence.[11] It was based on seven mill villages in South Carolina, and used as an economic index the income per **a m u** (Adult male unit). This unit was based on food requirements of males of different ages as determined by W. O. Atwater's dietary studies.[12]

Later Sydenstricker and W. I. King constructed the **fammain** scale,[13] which was also based on the Atwater dietary studies. This scale was designed to give actual relative costs of maintenance for different ages and sexes. Still later, the scale was further revised on the basis of a budgetary study made of 1,000 North Carolina families.[14] Since the **fammain** scale

[9] In addition, several other techniques may be employed to compensate for these factors. The most important of these involve the analysis of income according to family type or by stages in the life cycle of the family. Since excellent summaries of these techniques are in existence and since they are less pertinent to the purposes of this review than the scales, they will not be discussed. See D. Monroe, "Analysis of Families by Composition Type with Respect to Consumption," *Journal of the American Statistical Association*, 32:35-40 (December 1937) and C. P. Loomis, "The Study of The Life Cycle of Families," *Rural Sociology*, 1:180-199 (June 1936).

[10] "Lebenkosten Belgischer Arbeiterfamilien Fruher und Jetzt,"*Bulletin de l' Institute International de Statistique*, 9:1-124 (1895). Many students will know Engel better for his law which appeared in this same work. Zimmerman has properly interpreted it to be not only a law of consumption but also a measure of social well-being. He properly states the law in the following terms. "The proportion of the outgo used for food, other things being equal, is the best measure of the material standard of living of a population." In this form the law has an important bearing on the determination of socio-economic status. See C. C. Zimmerman, *Consumption and Standards of Living*, p. 39, also his "Ernst Engel's Law of Expenditures for Food," *Quarterly Journal of Economics*, pp. 78-102. (November 1932).

[11] "Disabling Sickness Among the Population of Seven Cotton Mill Villages of South Carolina," *Public Health Reports*, 33:2038-51, (1918).

[12] *Principles of Nutrition and Nutritive Value of Food*, p. 48.

[13] "The Measurement of Relative Economic Status of Families," *Quarterly Publication of the American Statistical Association*, 17:842-57 (1921).

[14] "A Method of Classifying Families According to Income in Studies of Disease Prevalence," *Public Health Reports*, 35:2829-46 (1920).

was based on food consumption alone and therefore had a limited application, the same students sought a scale that would express the relative expenditures for total maintenance. Their new unit was developed on the basis of a budgetary study of the total expenditures of 140 families. This unit was called the **ammain** and was defined as " . . . the gross demand for articles of consumption having a total money value equal to that demanded by the average male in the class when the total requirements for expenses and maintenance reach a maximum."[15] By use of a scale of **ammain** equivalents any family or group of families whose total income and sex and age composition is known may be classified and compared.

There are distinct limitations to the **ammain** scale. One is that expenditures for rent, fuel, light, and furniture were omitted in its calculation. A more serious limitation grows out of the fact that the scale was based on a small sample of families of distinctly low socio-economic level. Ideally it should have included all family expenditures and should have been based on a sample representative of all socio-economic levels in both the rural and urban populations. Despite these limitations this scale has been the most widely used of any yet devised.

In 1923, E. L. Kirkpatrick presented a series of **cost-consumption unit** scales for farm families.[16] These include separate scales for food, clothing, rent, maintenance of health, advancement, personal goods, and furnishings. These scales were designed for application to consumption data and provide no summary unit that may be employed to control the factors of age and sex composition when dealing with income figures alone. However, some one of the separate scales such as that for food may be used for this purpose.

C. C. Zimmerman and J. D. Black, in 1927, presented an **adult-male equivalent** for rural, village, and urban families.[17] This unit was based on L. E. Holt's food computations.[18] In this scale, the consuming power for all goods and services of an adult male 19-60 years of age is considered as unity. The scale includes twelve age and sex classifications. One of the main advantages of this scale is that it is easily applicable. It has been widely used in studies of family income and consumption.

Numerous other scales of a similar nature have been developed.[19] However, those discussed are probably sufficiently representative to indicate what work has been done along this line.

Even when family composition is taken into consideration, income is still far from perfect as an indicator of socio-economic status. Perhaps its essential limitation is that other factors entering into socio-economic status are not necessarily reflected by it. The efficiency with which income is used is an important factor in socio-economic status. Participation in group activities and community life, educational and occupational

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[15] *Ibid*, p. 2844.

[16] *The Standard of Life in a Typical Section of Diversified Farming*, pp. 40-48, and E. L. Kirkpatrick and E. G. Tough, "Comparison of Two Scales for Measuring the Cost or Value of Living," *American Journal of Sociology*, 37:424-34, (November 1931).

[17] *How Minnesota Farm Family Incomes are Spent*, p. 33.

[18] Pauline Nickell adapted this scale from Holt's *Food, Health and Growth*, p. 84.

[19] For a discussion of these see F. M. Williams, "The Statistical Schools," in F. M. Williams and C. C. Zimmerman, *Studies of Family Living in the United States and Other Countries*, pp. 49-61. Williams has recently presented an interesting series of adult maintenance units based on the demands of persons of different occupation, sex, and age groups for three major types of goods: food, clothing, and other items. As is the case with the Kirkpatrick scales there is no summary unit that may be applied to income data alone. See "Money Disbursements of Wage Earners and Clerical Workers in Eleven New Hampshire Communities," *Monthly Labor Review*, 42:554-563 (March 1936).

status, and the possessions of a family, although associated with income, cannot be said to be measured by income alone. A second objection is that it is often difficult to determine the effective income. This is especially true in studies of the farm family, because of the close interrelation between the farm business and farm family living. Effective income can be determined by careful study of well kept account books, but few farmers can or will keep them. The necessary data may also be obtained by interviews with farmers, but these data are difficult to obtain and tend to be unreliable. A third limitation on the use of income as an indicator of socio-economic status is the variability of income from year to year. This is true for both rural and urban families. However, income is even less constant for farm than for urban families because farm income is more dependent than urban income on weather conditions and other natural phenomena, political conditions, farm prices, and a host of other relatively unpredictable factors.

In addition to studies of family income, cost-of-living and standard-of-living studies have appeared in great profusion in the United States and other countries. These, though not studies of family socio-economic status, are closely related to the general subject. They are not included in this review, however, since an excellent annotated bibliography has been published covering several hundred of these studies,[20] and since most of them deal with expenditures for various types of goods and services and only in a general way have contributed to the development of methods for the determination of socio-economic status.

Unstandardized Multiple-Factor Indexes of Socio-Economic Status

The first multiple factor scheme of classification having bearing on family socio-economic status was J. R. Commons' Dwelling House Score Card.[21] This card, formulated in 1908 for use in housing investigations, was based on such housing factors as location, congestion, lighting, ventilation, structural condition, appurtenances, number of occupants, sleeping arrangements, and cleanliness. Arbitrary weights were given to each of these factors. Although the scale was arbitrarily constructed, unstandardized, long, and difficult to administer, it was valuable in that it furnished the idea for later scales both in the field of housing and in the field of socio-economic status.

In 1913, C. A. Perry published his Manner of Living Index.[22] This was based on a separate list of articles of household equipment for each of the four most important rooms in a home maintaining a minimum standard of comfort. To each article was assigned an arbitrary weight based on the use made of the article. The score of a home was determined by dividing the sum of the ratings by a preestablished standard. The index has not been used widely. Its importance lies in the fact that it was the first index emphasizing actual home conditions.

C. E. Holley, in 1916, constructed an index designed to measure home background.[23] This was based on the average education of parents, number of books in the home, and monthly rental. Each item was assigned an arbitrarily determined score. The score of any home consisted of the sum of

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[20] See Williams and Zimmerman, *op. cit.* See also L. O. Bercaw, *Rural Standards of Living: A Selected Bibliography.*

[21] "Standardization of Housing Investigations," *Journal of the American Statistical Association,* 2:319-26 (1908).

[22] "A Measure of the Manner of Living," *Quarterly Publication of the American Statistical Society,* 13:398-403 (1913).

[23] *The Relationship Between Persistence in School and Home Conditions,* p. 119.

the item scores. The scale proved its usefulness for the purposes of Holley's study. However, it was never standardized and no claim can be made for its general applicability.

J. H. Williams, in 1917 and 1918, published two scales, one for the measurement of neighborhood conditions[24] and the other for home conditions.[25] The home-conditions scale has close relation to the present subject. It was based on five separate ratings on the following five factors: necessities, neatness, size, parental conditions, and parental supervision. The total of the separate ratings gives the home score. Although the scale was outstanding in that it placed emphasis on qualitative factors in family status and was an attempt at objective measurement, statistical analysis was insufficient and the scoring was arbitrary. Nevertheless it has been rather widely used.

The Orr Good-Manners Test, which appeared in 1928, attempted to evaluate home background by rating the manners of children.[26] This was one of the scales used in the Character Education Inquiry.[27] It was made up of a series of objective questions covering table manners, respect for elders, and similar matters. Answers were scored in accordance with the opinions of qualified judges. What the test measured beyond the manners of children was a question its author failed to answer. Conceivably, it might be claimed that good manners in a child are indicative of favorable family background and, therefore, of high family status. No statistical evidence of the test's reliablity or validity was offered.

The foregoing multiple-factor indexes pertaining to family status were all designed for use on urban families. The first similar index for the rural population was E. L. Kirkpatrick's scale for measuring standard of life.[28] This scale was based on a resume of opinions and suggestions of 100 persons in the fields of home economics, rural sociology, rural education, agricultural extension, and farming. The scale was divided into three parts. Part I, Expenditures for Necessities, Comforts, and Luxuries, consisted of two ratings carrying a total of 200 possible points. The data necessary for the computation of these ratings were obtained by budget analysis. Part II, Education of Children, consisted of four possible ratings and had a maximum score of 300 points. The data necessary for the determination of this score were obtained by simply ascertaining the educational status classification of each child in the family. Part III, Social Values Manifested Through Disposition to Improve Environment, Use of Time, and Participation in Community Activities, had a maximum of 500 points, distributed as follows: 235 points based on 44 items for home surroundings and the home; 80 points possible on the basis of 41 positive and negative scores for use of time; 125 maximum points on 23 items under participation in community activities and organizations; and a maximum of 60 points for three ratings under General Outlook. The scores assigned to the various items in this part of the test were arbitrarily determined by the writer, who was somewhat guided by the suggestions and opinions of the judges. No attempt was made to establish the reliability or validity of the scale. However, certain correlations presented in another connection might have been interpreted as indicative of its general validity.

[24] *A Scale for Grading Neighborhood Conditions.*
[25] *A Guide to the Grading of Homes.*
[26] H. Hartshorne and M. A. May, *Studies in the Nature of Character,* Vol. 1, *Studies in Deceit,* pp. 198-200.
[27] Several indexes of family status were constructed for use in the Character Education Inquiry Studies. The Orr Good-Manners Test, the Huschka Home Background Score, and the Burdick Apperception Tests were all designed to measure socioeconomic status or some aspect of it. The Huschka and Burdick scales were partly standardized and are discussed under the heading "Standardized-Multiple Factor Indexes."
[28] *Op. cit.,* pp. 48-59. Kirkpatrick has also attempted to rate homes by observation. See "Can Standards of Living be Rated From Observation?" *American Journal of Sociology,* 39:360-67 (November 1933) and "Rating Marginal Homes From Observation," *Rural Sociology,* 2:51-58 (March 1937).

This scale, although interesting and suggestive, has not been widely used by other students. Probably the best reason is that it is far too complex and long to be manageable in any ordinary study. Furthermore, it is also very difficult to obtain the data necessary to rate several of the more important items, i. e., expenditures for necessities, comforts, and luxuries. The use of the opinion of judges in the construction of the scale was commendable. However, no indication was given of the way these opinions were summarized and evaluated, either in the selecting of items or in the scoring of those selected.

In 1930, C. D. Clark published a scale primarily designed for evaluating rural home equipment.[29] Since Clark believed that it would give important indications of family social adequacy and well-being, it may be considered here. Ten equipment items that were thought to be of greatest significance were selected. These were submitted to 70 competent judges who ranked them from 1 to 10 and assigned such a weighted score to each item that the total score of the ten items equalled 100. The averages of the weighted scores were used as the basis for scoring the items. The total of the scores for the ten items was taken as the scale score for each home rated. No statistical tests of validity or reliability were undertaken. However, consistent variations in scores between groups of widely different socio-economic status may be taken as evidence that it possesses some validity. Clark's own criticism of the index is that " . . . it must be conceded that the present scoring device rests on insufficient numbers and leaves out of account too many factors of importance for evaluating home equipment as affecting convenience, health, and comfort, even in the Connecticut Area."[30]

E. Mumford, J. F. Thaden, and M. C. Spurway, in 1937, presented their study of farm family living based on a score card consisting of the following six major divisions: Home Equipment, Arrangement, and Surroundings (150 points); Family Practices (170 points); Schooling, Reading and Extension Affiliations (170 points); Art and Recreational Activities (170 points); Organization and Institutional Affiliations and Attendance (170 points); and Leadership and Civic Responsibility (170 points).[31] This score card was constructed on the basis of suggestions from specialists in the different fields involved. The weights assigned to the various items were entirely arbitrary. Since the score card was not standardized, its value from either the practical or technical standpoint is not great. However, it may be considered superior to Kirkpatrick's scale in that it has a better balance between material and non-material elements and is somewhat more manageable.

Standardized Multiple-Factor Indexes of
Socio-Economic Status

In 1925, C. Chapman and V. M. Sims published the first standardized multiple-factor index of socio-economic status.[32] Their scale was based on a questionnaire that was administered to a group of urban students in a New Haven high school. The questionnaire covered many aspects of status, including such points as occupation and education of parents, the use of some language other than English in the home, the work of the mother outside of the home, the number of books, magazines, and newspapers in the home, and such possession items as automobile, telephone, phonograph and radio. The 16 items believed to be indicative of socio-economic status were reduced to the "all or none" principle of possession or non-possession. Possession

[29] "Evaluating Certain Equipment of the Modern Rural Home," *Journal of Home Economics,* 22:1005-15 (December 1930).

[30] *Ibid,* p. 1015.

[31] *The Standard of Living of Farm Families in Selected Michigan Communities.*

[32] "The Quantitative Measurement of Certain Aspects of Socio-Economic Status," *Journal of Educational Psychology,* 16:380-90 (1925).

was defined arbitrarily in the case of graduated items. On the assumption that each trait was normally distributed, its value was calculated and expressed in terms of sigma deviation from the average of the group. The bi-serial coefficients of correlation between (1) possession and non-possession of a trait and (2) total score on 100 papers were determined. Questions yielding negligible correlations were discarded as poor measures of socioeconomic status. Yule's coefficient of association was used to calculate intercorrelations between all traits. Those with low correlations were said to be meauring different aspects of the complex and were retained for the final form of the scale. In all, 11 items were retained. Split-half reliability, corrected by application of the Spearman-Brown formula, was 0.77. No tests were made of the validity of this early scale.

In 1928, J. D. Heilman, following the statistical technique used in the original study, revised the Chapman-Sims scale.[33] Two items were added: father's occupation as measured by the Barr Scale, and the number of rooms occupied by the family. The new scale gave a corrected split-half reliability coefficient of 0.87.

In the same year Sims made his revision of the original scale.[34] The population used was again the New Haven school group. However, the experimental group consisted of sixth, seventh, and eighth grade children from rich, average, and poor homes. On the basis of a statistical technique similar to the one employed in the earlier study, 23 questions were formulated into a scale which is commonly known as the Sims Score Card. Reliability was determined by the method of split-halves and by pairing the scores of 100 siblings. The respective corrected reliability coefficients were found to be 0.91 and 0.95. Validity was indicated by two tests. First, children of two occupational groups generally considered to be widely separated in socioeconomic status made average scores significantly different. Second, wide differences were found to exist in the scores of homes in two neighborhoods considered to represent distinctly different social levels.

The Sims Score Card has been widely used and has several advantages over earlier instruments. One of the most important is its simplicity. It can be filled in with reasonable accuracy by a child in a few minutes time. In addition, it is a standardized instrument with proven reliability and validity.[35] However, several general criticisms may be leveled at it. As A. M. Leahy has pointed out, it is based on too few aspects of socio-economic status.[36] The questionnaire method upon which it depends tends to yield less reliable information than actual interviews in the home. This is especially true when the memory of children is trusted in the first instance and the observations and findings of trained investigators are used in the second. Leahy has also questioned the applicability of the bi-serial coefficient of correlation to the data, since their graduated character and normal distribution were not substantiated. She also questions the application of the coefficient of association to the data, since they do not have a point nature.

F. Stuart Chapin, in 1928, provided the first comprehensive definition of socio-economic status as " . . . the position an individual or a family occupies with reference to the prevailing average standards of cultural possessions, effective income, material possessions, and participation in the group activities

[33] "A Revision of the Chapman-Sims Socio-Economic Scale," *Journal of Educational Research,* 18:117-26 (1928).

[34] *The Measurement of Socio-Economic Status.*

[35] L. M. Terman and M. A. Merrill, on the basis of their experience with the score card, have questioned the reliability coefficients presented by Sims. See *Measuring Intelligence,* p. 13.

[36] *The Measurement of Urban Home Environment,* p. 6.

of the community."[37] He constructed scales to bring this definition to the test of objective facts. Each scale measured one of the major attributes of socio-economic status as defined. Cultural equipment was measured by assigning arbitrary numerical weights to a list of articles such as books, newspapers, magazines, musical articles, and other items. The total of these weights constituted the culture score. Effective income was measured in terms of **ammains.** Material possessions were measured by articles of household equipment weighted as in the first series. An index for participation in group activities was constructed on the basis of a detailed record of membership, contributions, attendance, committee service, and offices held in community organizations. Further analysis led to the conclusion that the total score given to living room equipment might be taken as a fair index of socio-economic status, since it correlated highly with the combined score of the four indexes; and therefore a scale consisting of 53 items of living room equipment was constructed. This scale consisted of four groupings of items: Fixed Features, 14 items; Built-in Features, 5 items; Standard Furniture, 13 items; and, Furnishings and Cultural Resources, 21 items. On the basis of experience, group two (Built-in Features) was eliminated; and later, in 1931, a group of items designed to reveal the condition of the room and its contents was added.[38]

After considerable experimentation, Chapin decided the scale could be greatly simplified. A third revision was produced and called, The Social Status Scale, 1933.[39] It consisted of the 4 rating items and the 17 items of the original 53 that had demonstrated the greatest capacity for differentiating between widely separated social classes. The 17 factual items were assigned new weights in such a manner as to give approximately the same total score as was given by the 53 factual items in the earlier scale. Part-whole correlation revealed that the new weighting system was vastly superior to the old. The reliability of the scale was shown by a coefficient of 0.96 on a sample of 50 professional men's homes by the test-retest method. The validity of the scale was revealed by its ability to differentiate between homes of groups known to differ widely in status and by correlation ratios of 0.57 with occupation and 0.44 with income for 442 homes.

The Social Status Scale, 1933, is outstanding in that it provides a brief, simple, and well standardized instrument for measuring the socio-economic status of urban families. Its briefness, however, increases the possibility that abnormal items may produce an invalid status score for an individual family. Also, as others have pointed out, its emphasis on material possessions to the neglect of other aspects of status probably lowers its differentiating capacity.[40] It should also be mentioned that the original scale, from which the succeeding scales were constructed, was based upon a small sample.[41]

The M. J. McCormick Scale for Measuring Social Adequacy, which appeared in 1930, included a total of 69 items under the following captions: Quality of Neighborhood; Education, Occupation, and Civic Status; Material Status of the Home; and Cultural and Social Influence.[42] The sample on which the scale was based consisted of 249 families distributed among 14 groups selected to represent widely different levels of social adequacy. These

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[37] "A Quantitative Scale for Rating the Home and Social Environment of Middle Class Families in an Urban Community," *Journal of Educational Psychology,* 19:99-111, (1928).

[38] "Scale for Rating Living Room Equipment," *Institute of Child Welfare Circular* No. 3, University of Minnesota, (January 1930).

[39] *The Measurement of Social Status.*

[40] Leahy, *Op. cit.* p. 7.

[41] The sample consisted of 38 urban families.

[42] *A Scale for Measuring Social Adequacy.*

families were roughly classified as either sub-adequate or adequate. Of the 249 cases, 135 were termed sub-adequate and 114 adequate. All 14 of the groups were ranked according to their adequacy by 25 judges. The average ratings were used as the criterion for validating the scale items. Each of the 100 arbitrarily selected items was correlated with the criterion. Those items that correlated higher than 0.30 or lower than −0.30 were considered to have sufficient diagnostic capacity for retention. Scores were assigned to the retained items according to the all-or-none principle. Items that correlated positively were given a score of 1, those that correlated negatively were assigned the score 0. The score of a family is determined by totaling the item scores. Reliability by the method of split-halves was found to be 0.96. Validity was determined by correlating the scores directly with the criterion and was found to be 0.93.

The Scale for Measuring Social Adequacy has been criticized on several points. Economic independence was the basis for classification of groups as adequate, while dependence alone or in combination with delinquency was taken to indicate sub-adequacy. If these criteria are indicative of the adequacy of a family, is there any need for further differentiation by means of scale values? Granting that there is, can adequacy be determined in terms of the items chosen? Can it not be said that the scale measures socio-economic status, which may or may not be indicative of social adequacy? If 200 families were chosen at random from an urban population (not the files of social agencies), would this scale measure their adequacy as McCormick defines it? These are questions to which she has given no answers. As Leahy points out, if adequacy is dependent to some extent upon delinquencies, those families that are economically independent appear in a favorable light since their delinquencies are less likely to be known. It would seem that the choice of these criteria was ill-advised. Several sources of unreliability may be mentioned. The fact that the schedules were filled in after the interview increased the chance for mistakes in scoring. The questions concerning past delinquencies and health history of the family may have been answered untruthfully. If they proved embarrassing to the interviewee, they may have seriously hindered his response to other questions. Several questions based on the judgment of the interviewer constitute a further weakness of the scale.[43]

In 1936, A. M. Leahy published the Minnesota Home Status Index.[44] This scale, designed to measure the objective elements in urban home environment, was based on an experimental group of 600 urban white families having children in the age group 5-14. The families were selected from the various occupational groups of the Minneapolis population. These families were interviewed and scored with two schedules consisting of 84 items, 70 of which were alternative response, 8 graduated response, and 6 rating items. The differentiating power of individual items was determined by the criterion of internal consistency. Those items possessing the capacity to differentiate sharply between successive as well as extreme segments of the distribution of homes were considered suitable for the final index. On this basis, 60 items were retained. For various reasons 10 of these were dropped, leaving a total of 50 items. These 50 items were then arranged into six categories based on the opinions of competent judges and the clusters used by other investigators. The categories, with the number of items included, were: Children's Facilities, 11 items; Economic Status, 13 items; Cultural Status, 11 items; Sociality, 13 items; Occupational Status, 1 item; and, Educational Status, 4 items. The items were assigned weights by the sigma scoring method. Intercorrelations of the separate indexes indicated that each was contributing to the scale. Reliability was found to be 0.92 by the

[43] Leahy, *Op. cit.* pp. 7-8.

[44] *The Measurement of Urban Home Environment.*

method of split-halves corrected by the Spearman-Brown formula. Validity, as revealed by the correlation of index scores with scores on the Sims Score Card for 200 homes, was 0.94. The validity of the index was further indicated by the fact that it yielded vastly different scores when applied to widely separated economic groups.

This index, from the standpoint of construction, is superior to any of the others previously mentioned here. The sample population on which it was based, although not ideal, was more nearly so than that of any of the other scales. The selection of items covered a wide range of environmental features. The statistical technique was more adequate than those used by earlier investigators. The scoring system finally used, although shown to yield no better results than simpler ones, was adequate. Tests of reliability by other methods than split-halves would have helped to further establish the consistency of the index. Validity tests were more nearly adequate. The general criticism may be made, however, that the reliability and validity tests were based upon the original experimental population. No actual field tests of the final scale were reported.

Two other scales are included in this review of standardized scales, even though neither has been completely standardized.[45] Both are interesting from the standpoint of the approach and the techniques employed. These are the Huschka Home Background Score and the Burdick Apperception Test, both of which were used in the Character Education Inquiry investigations.[46]

The Huschka Home Background Score was based on qualitative ratings of family background, economic status, and home life.[47] These qualitative judgments, which were made by social workers, were translated into quantitative scores by the use of a graphic rating scale. The reliability and validity of the scale was estimated by comparison of scores with case histories.

The E. M. Burdick Apperception Test was designed to measure cultural factors in the home through their effect on children.[48] Several hundred objective questions were used in the original scale. They were grouped under three major headings: economic, cultural, and educational. Items were scored according to the answers given them by children of widely separated social classes. The items retained for the final scale were those that best differentiated between the classes. The scores made on each section were combined to give the test score. Validity was reported as 0.66. This was based on the correlation between the test scores and Huschka Home Background scores made by the children surveyed. The reliability of the test was determined by correlating the scores made by siblings. This proved to be quite low (0.50).

No standardized, multiple-factor scale for measuring socio-economic status has appeared in the rural field. However, in a few instances, indexes standardized on urban populations have been used in either their original or a slightly modified form. D. E. Lindtrom and W. M. Dawson, in 1936, published a study on the selectivity of 4-H Club work in which the Heilman revision of the Chapman-Sims Socio-Economic Rating Scale was used to determine the difference between the socio-economic status of the families of member and non-member children.[49] No estimate of its validity or reliability on this population was given. It should be pointed out, how-

[45] Had exact chronological order been maintained these tests should have been discussed after the Sims studies. Since it was believed that the Sims, Chapin, McCormick, and Leahy studies were so closely related that they should be discussed in succession, the chronological order was broken.

[46] Hartshorne and May, *Op. cit.*, pp. 200-12.

[47] *Ibid*, pp. 200-205.

[48] *A Group Test of Home Environment.*

[49] *Selectivity of 4-H Club Work; An Analysis of Factors Influencing Membership,* pp. 252-55.

ever, that known differences in the rural and urban culture make it inadvisable to use a scale for rural groups that has been standardized on an urban culture.[50]

In 1937, Dorothy Dickins published a study of farm family living in which she used Chapin's Social Status Scale, 1933.[51] Four changes in the items of the scale, intended to make it more applicable to rural families, were made on the basis of suggestions by its author. According to a more detailed report presented late in 1937, the revised scale differentiated satisfactorily between farm families within the group having incomes of less than $500 per year.[52] No further evidence of validity was given and no test of reliability was reported. The scale must be termed unstandardized as far as the rural revision is concerned, since there is neither evidence of the discriminating capacity of the items substituted nor of the original items when applied to farm families. The study is valuable in that it suggests the possibility of constructing and standardizing a similar scale for rural families.

George Lundberg and M. W. Lawsing, in 1937, used the Social Status Scale, 1933, on 256 families in and around a small Vermont village. They found that it yielded satisfactory results.[53]

In 1938, C. E. Lively and R. B. Almack published their Rural Farm Plane of Living Index for measuring differences in the level of living existing between counties.[54] This was based mainly on Census materials and such other data as were readily available by counties. It included six items, as follows: average value of farm dwelling; percentage of farms reporting radios; percentage of farms reporting telephones; percentage of farms reporting automobiles; percentage of farms reporting electricity; and, percentage of farms reporting running water. These factors were selected after intercorrelation analysis had shown them to possess discriminating capacity on a county basis. The index has not been used, and was not intended for use, on individual families. It does, however, provide an easily applicable method for determining relative planes of living for the rural population by counties and should be of value to research workers.[55]

SUMMARY

From this review of the studies concerning the measurement of socio-economic status in its various aspects, several facts are apparent:

The early studies were confined to single-factor indexes. Two of these indexes have been and are still commonly used. They are occupational status for the urban and tenure status for rural population groups. Later, effective income and cost-of-living units were developed.

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[50] For a similar opinion concerning the use of standardized scales see Rensis Likert, *A Technique For the Measurement of Attitudes*, p. 52.

[51] *Family Living on Poorer and Better Soil*, pp. 28-29.

[52] "Living Rooms of White and Negro Farm Families of Mississippi, Spending $500 and Less a Year for Family Living," *Journal of Home Economics*, 29:702-09 (December 1937).

[53] "Sociography of Some Community Relations," *American Sociological Review*, 2:327-28 (June 1937).

[54] *A Method of Determining Rural Social Sub-Areas with Application to Ohio*, p. 3.

[55] Carter Goodrich and associates have constructed a plane of living index for total county populations and have applied it to every county in the United States. See *Migration and Planes of Living*, pp. 13-25. Since this review was written, M. M. Blair has presented a rural farm plane of living index consisting of four of the items included in the Lively and Almack index and has applied it to the separate counties of the 13 Southern states. His study also includes non-farm and total population indexes. See *Indices of Levels of Living in the 13 Southern States by Counties 1930*.

Unstandardized multiple-factor scales and score cards were constructed. These have been used with varying success in measuring home conditions, standard of living, and other matters pertaining to family socio-economic status.

Standardized multiple-factor indexes of socio-economic status, social adequacy, and qualitative and quantitative aspects of home background were developed for use on urban families.

Statistical analysis has been increasing in the construction and standardization of status scales. In some instances the particular techniques applied have been inappropriate. However, recent studies are less open to criticism in this respect. The more recent scales have been composed of items whose differentiating capacities have been established by accepted statistical techniques. Statistical tests of reliability and validity have characterized the scales more recently developed.

Although in several instances instruments that have been standardized on the urban population have been used on rural families, no standardized scale for the measurement of farm family socio-economic status has appeared.

The results of research in the urban field indicate that the construction and standardization of a scale for the measurement of farm family socio-economic status will prove to be a feasible project and a useful contribution to sociological research.

PART II:
SOME PRELIMINARY CONSIDERATIONS
THE CONCEPT OF SOCIO-ECONOMIC STATUS

The definition of socio-economic status adopted for the purposes of this study is that proposed by F. Stuart Chapin: " . . . the position that an individual or family occupies with reference to the prevailing average standards of cultural possessions, effective income, material possessions and participation in the group activities of the community."[1] Socio-economic status is thus considered as a complex pattern, made up of interrelated parts, which functions as a unit in evoking a response. In other words, this definition hypothecates that these parts work together consistently to determine the status level of the family or individual.

The most important advantage that this definition possesses over other definitions is that it is so formulated that it may be objectively tested by actual application to existing facts. It thus is an ideal definition for use in the construction of a measuring instrument.

The Components of Socio-Economic Status

By definition there are four major components of socio-economic status. These components are: Cultural Possessions; Effective Income; Material Possessions; and Participation in the Group Activities of the Community. In the present study these components were measured by a somewhat more diverse group of material and non-material items than Chapin employed in his scales.

Cultural Possessions was broadened to include non-material cultural practices and accomplishments as well as material cultural equipment. Effective Income was interpreted as the actual money spent for living, exclusive of that spent for the farm business, in terms of **ammains.** Material Possessions was considered to include housing, home conveniences, and equipment items. Participation in Group Activities of the Community was represented by participation of the husband and the wife in organized social groups.

THE EXPERIMENTAL SCHEDULE

Having settled on the working definition, the next step was to choose a group of items from which a scale might be constructed to measure the socio-economic status of farm families. Over two hundred items believed to be reflectors of status were collected from such sources as other studies of status, housing surveys, and the opinions of students, home demonstration workers, extension workers and others acquainted with rural life. These items were carefully studied by the writer and his colleagues and all items that were deemed peculiar to a particular area, ill defined, or confusing were discarded. One hundred twenty-three items upon which there was considerable agreement were retained for further analysis.

The 123 items were then submitted to rural specialists in the fields of consumption economics, rural sociology, farm management, and home economics research. They were asked to assign each item to the component of socio-economic status which they considered the item to best represent. The consensus thus obtained, despite the fact that it was quite arbitrarily determined, was believed to represent the best available classification of the items.

The distribution of the 123 items among the components of socio-economic status is shown in Appendix A. A total of 37 items, including 26 material and 11 non-material culture traits, were subsumed under Cultural

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[1] *The Measurement of Social Status,* p. 3.

Possessions. Effective Income was assigned one item: net spendable income per **ammain.** Under Material Possessions were placed 34 items, including 23 housing and 11 household equipment and convenience items. A total of 51 items bearing on the membership, attendance, and leadership activities of the husband and wife were classified under Social Participation in Group Activities.

Of the 123 items, 63 were considered to represent non-material culture traits and 60 to represent material culture traits. In all, 24 required graduated responses and 99 required non-graduated responses. No rating questions were included in the experimental schedule.

Arrangement of the Items in the Experimental Schedule

Since the data of this study were to be gathered as a part of a larger study of the social correlatives of farm tenure status,[2] it was decided that the item arrangement should be made with a view toward facilitating the collection of the data for both studies. For this reason a schedule was constructed containing all of the items needed for the two studies. The items were arranged on the schedule according to two general principles.

First, questions to which answers might easily be obtained without arousing the suspicion of the informant were placed early in the schedule. Questions that might cause embarrassment or arouse suspicion were placed near the end of the schedule in the hope that by this time the enumerator would have established rapport and could secure the desired information with a minimum of embarrassment to the informant. Thus questions requiring only the observation of the enumerator for their answers, such as the housing items and many of the material possession items, were placed first in the schedule, while questions concerning family composition, education, relief status and social participation were placed near the end of the schedule.

Second, questions were so arranged that each subject bore an apparent relationship to the one previously discussed. This was done so that the informant might be led from one group of questions to another with each preceding question logically introducing the next.

So that these aims might be at least partially accomplished, the schedule was tested and revised until it finally took the form shown in Appendix B.

Additional Items Included in the Experimental Schedule

In addition to the socio-economic status and general information items, the schedule was composed of questions designed to secure data on housing, levels of living, sources of income, family composition, social mobility and tenure status. The primary purpose of including these questions was to obtain data for the farm tenure study. Since this information was considered to have direct bearing on farm family socio-economic status, it was believed that it would do no harm to include it in the experimental schedule. In fact, much of the information proved to be necessary in the construction and standardization of the scale.

THE SAMPLE

Having decided on the experimental schedule to be used in the study, the next problem was that of choosing the sample upon which to construct the scale. Two major problems were encountered. First, what area or areas within the state should be studied? Second, how should the families within these areas be selected for study?

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[2] The title of the project is: "A Study of Certain Social Correlatives of Farm Tenure Status in Selected Areas of Oklahoma." It is a Purnell project of the Oklahoma Agricultural Experiment Station.

The Sample Area

Two general requirements were set up for the selection of the area to be studied. First, it should be representative of the state as a whole in as many characteristics as possible. Second, it should contain within its boundaries as many levels of farm family socio-economic status as possible so that the final scale constructed would have wide usefulness in other rural sections of the United States.

Since no one county in Oklahoma was found either to possess characteristics sufficiently representative of the state as a whole or to have sufficient families in the various socio-economic levels to assure representation at each status level, it was decided that the sample area should include more than one county.[3]

Criteria for the Selection of Counties

In choosing the counties for study the following specific criteria were employed: predominant type of farming; tenure distribution of farm operators; and rural farm plane of living.

It has long been recognized that type of farming and socio-economic status are closely related. From experience and from research studies it is known that socio-economic levels are found to differ markedly between areas where a one-crop system such as cotton or tobacco prevails and areas where general farming predominates. To control this factor in the present study, it was believed that counties representing as many of the major types of farming areas of the state as posible should be chosen.

Since tenure status is usually considered to be closely associated with socio-economic status, it was believed that counties should be chosen with widely differing tenure situations. In addition, they should be as nearly representative as possible of their geographic areas and of the state.

In order to insure the ability of the scale to differentiate between all socio-economic levels, it was deemed advisable to include in the sample counties representing the high, medium, and low rural farm planes of living of the state.[4]

The Counties Chosen for Study

After taking these criteria into consideration, three counties were selected as the sample area from which to collect the data for the construction of the scale. These counties were Haskell, Cotton, and Major.

Haskell County was chosen to represent the southeastern small scale cotton and self-sufficing farming area. In physical characteristics it represents well the rough, hilly area of this section. As Figure I shows, its rural farm plane of living, as measured by the Lively and Almack Index, (28.5) is among the lowest in the state. As is shown in Figure II, the percentage of farms operated by tenants in 1935 was 78.4 Even though this is the high figure for the state, it represents the area quite accurately.

Cotton County was selected to represent the southwestern large scale cotton and wheat farming area. This county is usually considered one of the better cotton-producing counties in Oklahoma. It is, however, a county that may be shifted from cotton to wheat and well represents a group of similar counties in this section of the state. Its rural farm plane of living index is 105.9. This well represents the area (See Figure I). The percentage of farms operated by tenants in 1935 was 66.1. This likewise is characteristic of the area and is slightly higher than that of the state (See Figure II).

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[3] County units were used so that census data would be available for comparisons.

[4] The Lively and Almack Rural-Farm Plane of Living Index was used for all determinations of plane of living. See *A Method of Determining Rural Social Sub-Areas with Application to Ohio,* II Appendix C, p. 40.

Major County was selected to represent the northwestern large scale wheat and livestock area. In the eastern portion of the county is to be found some of the best wheat land in the winter wheat belt. The western part of the county is largely devoted to livestock farming. The rural farm plane of living index is 167.3. This is among the high-ranking counties in the state and closely approximates that of the area (See Figure I). The percentage of farms occupied by tenants in 1935 was 49.3. This is typical of the area and is considerably below the state average (See Figure II).
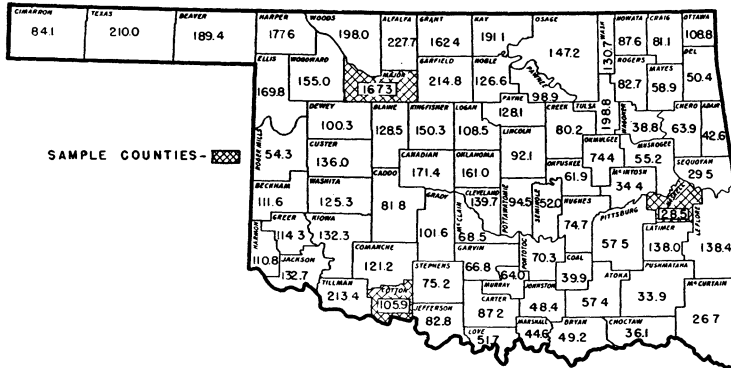
Figure 1.—Rural Farm Plane of Living Index for Oklahoma Counties. Computed from **U. S. Census, 1930,** according to the method proposed by C. E. Lively and R. B. Almack, **A Method of Determining Rural Social Sub-Areas with Application to Ohio,** p. 3.
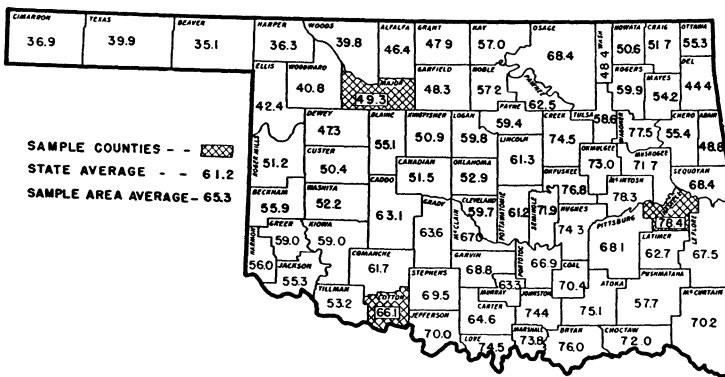
Figure 2. Percentage of Oklahoma Farms Operated by Tenants, 1935. Source: **U. S. Census of Agriculture, 1935,** Vol. 1, Statistics by Counties, County Table 1, pp. 716-22.

Conclusions Regarding the Sample Area

From the description of the three counties it may be concluded that the sample area fulfills the requirements set up. Three of the major types of farming of the state are represented by the three counties. Within the area are to be found counties representing the low, average, and high areas of the state in rural farm plane of living. That the three counties represent closely the state in this respect is shown by the fact that their mean plane of living index is 100.6. (The state is taken as 100 in computing the index.) The percentage of farm tenancy in Haskell county is the highest in the state, Cotton county is near the average, and Major is among the low counties. Each county is representative of its area. The combined average for the three counties is 65.3 in comparison to the state average of 61.2.

The Sample of Families—General Requirements

To insure an adequate representation of the differences existing in socio-economic status among Oklahoma farm families, the following requirements to be met by the sample were established: a total population large enough to eliminate sampling errors and to include all socio-economic levels in the farm population should be sampled; the families included should be un-broken; only white families should be included; and only families living in the open country should be sampled.

The first requirement, that the total population be large enough to prevent sampling errors, is a necessary one in all statistical studies.[5]

The reason for requiring that the families be unbroken is that broken families or non-families might present atypical conditions and consequently their inclusion might distort the resulting scale. This risk could hardly be justified, since the population for which the final scale will be most widely used will be composed predominantly of normal farm families.

The criterion regarding race was set up because the rural non-white population of Oklahoma is not large enough to treat separately without great sampling errors. It may be, also, that socio-economic conditions among Negro and Indian farm families differ enough from those character-istic among whites that it would be difficult to construct a scale that would be equally applicable to all racial groups.

The reason for requiring that only families living in the open country be sampled is that there are differences in the village and open country cultures, even within the same area, and these differences might easily be great enough to make impossible the construction and standardization of a single scale that would measure socio-economic status in both cultures.

The Sampling Procedure

During the period from December, 1937, to March, 1938, approximately 13.0 percent of the farm families in each of the three counties were inter-viewed by trained schedule takers, each of whom was a college graduate with training in social sciences as well as in technical agriculture. Each schedule was taken in the home from either the head of the family or the homemaker. The sampling was an attempt at random sampling. Originally the plan was to take a schedule from each family living in every eighth rural farm dwelling in every township of each county surveyed. However, this procedure broke down in the field due to the great expense in time and money involved in adhering strictly to a random sampling procedure, especially in regard to revisits to homes where a schedule was not obtained on the first visit. Al-

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[5] Leahy found a sample of 600 cases worked well in the construction and standardization of her scale. In the present study the sample finally decided on was 800 cases.

though it could not be maintained that the sample was strictly a random one, it was at least taken without any known prejudice and consisted of the proper proportion of families in each township in the sample area.[6]

A Description of the Resulting Sample

The resulting sample consisted of 800 schedules upon which the scale was constructed.[7] Despite the fact that the sample was not taken strictly at random, it closely represents the population of the areas when judged on the criterion of tenure status. This may be seen from Table 1, which compares the three counties with the sample in percentage of farm operators in the various tenure classifications. No serious discrepancy exists for any of the tenure status groups, either for the population as a whole or for the separate counties. The greatest percentage difference for the area as a whole is for the classification "other tenants." Here there is an under-representation in the sample of 1.9 percent. For the separate counties, the greatest difference is an under-representation of 5.4 percent in Major county for the same tenure group. These differences result, of necessity, in slight over-representations in other tenure groups. However, in general, the conformity between the sample and the universe on the tenure status variable is remarkably close. The differences are small enough to be explained by chance factors. They may, of course, have resulted from actual changes in tenure status in the area during the interval elapsing between the time the agricultural census was taken (1935) and the time these data were gathered (1937-1938). In any event, it may be concluded on the basis of this criterion that the sample well represents the total farm population of the three counties. Since the three counties were chosen to represent the state as a whole in respect to tenure status it may also be concluded that the total sample adequately represents the Oklahoma farm population.

Table 1. Percentage Distribution of Farm Operators By Tenure Status in The Three Counties* and in The Sample.

	Number of Operators	Percent of Operators In Area	Part Owners	Owners	Managers	Croppers	Other Tenants
Haskell County	2253	100.0	7.4	13.8	0.1	1.4	77.3
Haskell County Sample	232	10.3	6.0	14.2	0.0	3.4	76.3
Cotton County	1999	100.0	10.6	22.4	0.0	6.8	60.2
Cotton County Sample	224	11.2	9.8	20.1	0.0	6.3	63.8
Major County	2100	100.0	17.4	32.9	0.3	2.5	46.9
Major County Sample	253	12.1	20.6	37.6	0.0	0.4	41.5
Three Counties	6352	100.0	11.7	22.8	0.2	3.4	61.9
Three Counties, Sample	709**	11.2	12.4	24.4	0.0	3.2	60.0

* *U. S. Census of Agriculture,* 1935, Vol. I, Statistics by Counties, Oklahoma, County Table 1, pp. 716-22.

** A total of 91 rural families not operating farms were included in the sample but are not compared in this table since the census of 1935 gave no figures on this group.

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[6] A factor that might be interpreted as vitiating the randomness of the sample is that only the schedules for unbroken families were used in this study despite the fact that the 13 percent sample included broken and non-families.

[7] Of the 924 schedules taken in the original study, 118 were from broken or non-families or were unusable. The remaining 6 were drawn at random from the sample so that the cases would number 800.

Another test of the representativeness of the sample was made by comparing the median size of family for the rural farm population of each of the three counties and of the state (as shown by the 1930 census) with the same figure for the families in the sample. As Table 2 shows, the median size of rural farm families in each comparison is nearly the same for the sample and for the county as a whole. The largest difference is 0.29 for Cotton county. Likewise, the median for the total sample closely approaches that of the state. The figures are respectively 4.34 and 4.29. From these comparisons it was concluded that the sample is representative of the separate counties and of the state as a whole in respect to this criterion.

Table 2. Median Size of White Rural Farm Families in the Three Counties, the State, and the Sample.

| County | SAMPLE | | Total |
	Number of Families	Median Size	Median Size*
Haskell	280	4.65	4.71
Cotton	256	4.60	4.31
Major	258	3.85	3.95
Three County Total	794**	4.34	
State	794	4.34	4.29

* *Fifteenth Census of the United States,* 1930. Population Vol. VI, Families, Oklahoma, Table 20, pp. 1085-89.

** Six families were excluded because of insufficient data.

PART III:
CONSTRUCTION OF THE SCALE

THE DATA AVAILABLE FOR THE CONSTRUCTION OF THE SCALE

Data from the 800 schedules taken in the homes of Oklahoma farm families in the three counties constituting the sample area for the study were available for the construction of the scale. These data included the responses of each family to each of the 123 items chosen for the construction of the farm family socio-economic status scale. The response to these items is shown in Table 3. This table reveals that answers were available for 96.2 to 100 percent of the families on the various items.

Possession of the Items

As was expected, the percentage of the sample families possessing the individual items varied from item to item. As is shown in Table 3, certain items appeared rarely while others were common to most of the families. Several items dealing with social participation (120, 121, 122, 123) were possessed by none of the families. Other items (14, 19, 28, 44, 52, 63) were possessed by over 75 percent of the families.

ITEM VALIDATION

Since the purpose of the study was to construct and standardize a short and relatively simple scale for the measurement of farm family socio-economic status, the next problem was to choose those items from the experimental schedule that would best differentiate between the various levels of socio-economic status.

Methods of Determining the Differentiating Capacity of Scale Items

Several techniques for determining the differentiating capacity or validity of scale or test items have been developed by research students in education, psychology, and sociology.[1] In general, these may be subsumed under two methods.[2] The first is based on the correlation of the test items with an external criterion. The second involves the correlation of test items with the test as a whole or with an internal criterion. Under the first type are included all techniques involving the use of judges, correlation of items with scores made on a closely related test dealing with the same or a similar variable, and correlations of items with some directly or indirectly related factor. The second general method is especially useful where a suitable external criterion is not available. Recently much work has been done in the measurement of such factors and as a result several techniques have been developed. Among these the two most widely used are: the correlation of each item with the total of all others; and the comparison of the frequency of success, failure, occurrence, absence, etc., of each item in relation to total score in selected segments of the distribution. Both of these methods assume that total score is an adequate criterion for validation and that the items in the scale are distributed normally in the general population.

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[1] An excellent review and evaluation of these techniques is to be found in J. H. Long, Peter Sandiford, et al., *The Validation of Test Items*.

[2] Recently factor analysis has been used as a technique for selecting test items. Since it is necessary to determine the intercorrelations of all items before factor analysis may be carried out, the method becomes very time consuming when, as in the present case, the number of items and the sample is large. It was not considered for the present study for this reason. For a discussion of this method see especially the following writings of L. L. Thurstone: *The Theory of Multiple Factors; Simplified Multiple Factor Method;* and *The Vectors of Mind.*

Table 3.   **Number and Percentage of Families for Whom Answers**
Were Available, and Number and Percentage
Possessing the Items.

Item Description	Number Answering Question	Percent Answering Question	Number Possessing Item	Percent Possessing Item
1. Lawn	800	100.0	165	20.6
2. Flower garden	800	100.0	259	32.4
*3. Construction of house	800	100.0	384	48.0
*4. Central heating	799	99.9	33	4.1
5. Water piped into house	797	99.6	49	6.2
*6. Light facilities	799	99.9	203	25.4
7. Indoor toilet	800	100.0	19	2.4
*8. Sewage disposal	792	99.0	20	2.5
9. Separate dining room	800	100.0	189	23.6
10. Separate living room	800	100.0	322	40.2
11. Separate kitchen	800	100.0	227	28.4
12. Bath	797	99.6	51	6.4
*13. Rooms per person ratio	800	100.0	411	51.4
14. Screens	794	99.2	627	79.0
15. Living room floor finished	800	100.0	150	18.8
*16. Living room wall construction	799	99.9	315	39.4
*17. Living room walls decorated	800	100.0	513	64.1
18. Living room woodwork finished	800	100.0	502	62.8
19. Two or more windows in living room	796	99.5	699	87.8
*20. Living room windows decorated	800	100.0	480	60.0
21. Closet off living room	799	99.9	25	3.1
*22. Living room rug	800	100.0	241	30.1
23. Living room armchair	799	99.9	333	41.7
*24. Living room lounge	800	100.0	253	31.6
25. Living room set	799	99.9	119	14.9
26. No alarm clock in living room	798	99.8	245	30.7
27. Other clock in living room	795	99.4	175	22.0
28. Pictures on living room wall	798	99.8	599	75.1
29. Less than two calendars in L. R.	800	100.0	258	32.2
30. Sofa pillows in living room	800	100.0	109	13.6
31. Occasional table in living room	800	100.0	390	48.8
32. Library table in living room	800	100.0	165	20.6
33. Personal-social desk in L. R.	800	100.0	33	4.1
34. Footstool in living room	800	100.0	23	2.9
35. Piano bench in living room	800	100.0	38	4.8
36. Magazine rack in living room	786	98.2	82	10.4
37. Bookcase	800	100.0	55	6.9
38. Radio	800	100.0	369	46.1
39. Piano	800	100.0	115	14.4
40. Other musical instruments	800	100.0	272	34.0
41. Telephone	799	99.9	190	23.8
42. Power washing machine	797	99.6	209	26.2
*43. Refrigerator	799	99.9	317	39.7
44. Kitchen cabinet	798	99.8	691	86.6
45. Pressure cooker	787	98.4	317	40.3
46. Kitchen sink	786	98.2	110	14.0
47. Running water in kitchen	798	99.8	33	4.1
48. Linoleum on kitchen floor	800	100.0	460	57.5
*49. Kitchen range	800	100.0	107	13.4

* Figures for these graduated response items refer to the descriptions carrying credit for possession. For descriptions, see Appendix A.

Table 3.—(Continued.)

Item Description	Number Answering Question	Percent Answering Question	Number Possessing Item	Percent Possessing Item
*50. Iron	798	99.8	164	20.6
51. Sweeper	800	100.0	15	1.9
52. Sewing machine	800	100.0	666	83.2
53. Dining room set	799	99.9	146	18.3
*54. Books	770	96.2	378	49.1
55. Hired help in home	800	100.0	43	5.4
56. Insurance on furniture	798	99.8	125	15.7
57. Extension course	800	100.0	4	0.5
58. Weekly newspaper	800	100.0	555	69.4
59. Daily newspaper	797	99.6	340	42.7
*60. Magazines	798	99.8	398	49.9
61. Husband's life insured	800	100.0	175	21.9
62. Wife's life insured	800	100.0	62	7.8
63. No relief in year	800	100.0	628	78.5
64. Automobile other than truck	800	100.0	503	62.9
*65. Insurable value of dwelling	799	99.9	359	44.9
66. Other real estate	799	99.9	45	5.6
*67. Net spendable income per ammain	800	100.0	417	52.1
*68. Husband's education	787	98.4	379	48.1
*69. Wife's education	787	98.4	455	57.8
70. Vacation in past year	798	99.8	159	19.9
71. Husband plays musical instrument	794	99.2	42	5.3
72. Wife plays musical instrument	795	99.4	88	11.1
Husband:				
73. Church member	800	100.0	383	47.9
74. Attends church	798	99.8	475	59.5
75. Church officer	796	99.5	76	9.5
76. Sunday school member	799	99.9	238	29.8
77. Attends Sunday school	799	99.9	254	31.8
78. Sunday school officer	794	99.2	56	7.0
79. Other church group member	800	100.0	41	5.1
80. Attends other church group	800	100.0	42	5.2
81. Other church group officer	797	99.6	10	1.2
82. Member educational group	800	100.0	20	2.5
83. Attends educational group	799	99.9	18	2.2
84. Educational group officer	799	99.9	7	0.9
85. Cooperative member	800	100.0	74	9.3
86. Attends cooperative	794	99.2	34	4.3
87. Cooperative officer	797	99.6	3	0.4
88. Other economic group member	799	99.9	45	5.6
89. Attends other economic group	796	99.5	28	3.5
90. Other economic group officer	799	99.9	5	0.6
91. Lodge member	799	99.9	51	6.4
92. Attends lodge	799	99.9	36	4.5
93. Lodge officer	798	99.8	13	1.6
94. Patriotic group member	800	100.0	15	1.9
95. Attends patriotic group	798	99.8	8	1.0
96. Patriotic group officer	799	99.9	1	0.1
97. Recreational group member	799	99.9	25	3.1
98. Attends recreational group	798	99.8	20	2.5
99. Recreational group officer	798	99.8	6	0.8

* Figures for these graduated response items refer to the descriptions carrying credit for possession. For descriptions, see Appendix A.

Table 3.—(Continued.)

Item Description	Number Answering Question	Percent Answering Question	Number Possessing Item	Percent Possessing Item
Wife:				
100. Church member	799	99.9	501	62.7
101. Attends church	798	99.8	522	65.4
102. Church officer	798	99.8	49	6.1
103. Sunday school member	798	99.8	278	34.8
104. Attends Sunday school	799	99.9	283	35.4
105. Sunday school officer	797	99.6	65	8.2
106. Other church group member	800	100.0	68	8.5
107. Attends other church group	797	99.6	63	7.9
108. Other church group officer	798	99.8	18	2.2
109. Agri. extension group member	798	99.8	74	9.3
110. Attends agri. extension group	798	99.8	69	8.6
111. Agricultural extension group officer	800	100.0	17	2.1
112. Lodge member	800	100.0	15	1.9
113. Attends lodge	800	100.0	13	1.6
114. Lodge officer	800	100.0	4	0.5
115. Other organized group member	800	100.0	27	3.4
116. Attends other organized group	800	100.0	26	3.2
117. Other organized group officer	799	99.9	5	0.6
118. Recreational group member	800	100.0	11	1.4
119. Attends recreational group	800	100.0	11	1.4
120. Recreational group officer	800	100.0	0	--
121. Economic group member	788	98.5	0	--
122. Attends economic group	788	98.5	0	--
123. Economic group officer	788	98.5	0	--

Correlation of Each Item With the Total of All Others

A special form of the ordinary product-moment correlation called "biserial r" has been commonly employed in calculating the correlation between an item and the test score. The method assumes that all items that possess high correlations with the total score on the remaining items of the scale are measuring a common variable and thus are valid items. This method has been widely used in the construction of educational and intelligence tests and works especially well when the number of items and the sample is not large. However, since its use involves the computation of as many scores for each schedule as there are items in a scale, it becomes a difficult method to use when the number of items and/or the sample is large.

Internal Consistency or Critical Ratio Method

Several methods for computing item validity have appeared that make it possible to ascertain the discriminating power of items without the tremendous labor involved in the use of the correlation techniques.[3] Foremost among them is the criterion of internal consistency, or the critical ratio method. This method of item validation has recently come into popular use in the construction of attitude, personality, and intelligence scales. Like the methods listed above, it assumes that total score on a preliminary scale is the most adequate criterion on which items may be validated. It presumes to select items measuring a single common variable as shown by the ability of the items to differentiate between extremes of a distribution based on

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[3] For a review of these techniques see Long and Sandiford, *Op. cit.*, pp. 18-50.

total scores. Like the correlation techniques, it is based on the assumption that the items in the scale are distributed normally in the population. The use of this method involves the following steps: (1) A total score is calculated for each person taking the test. (2) Papers are placed in rank order on the basis of total score. (3) Equal segments at the extremes of the distribution are chosen. (4) Percentage differences between these segments are then calculated for each item. (5) The statistical significance of the difference is determined for each item (critical ratio). (6) Items with largest significant differences are said to have great discriminating power and are retained for the final scale.

Limitations and Advantages of the Criterion of
Internal Consistency

Certain limitations of the criterion of internal consistency method have been pointed out by C. I. Mosier,[4] and R. F. Sletto.[5] Sletto's exhaustive experiments with this method in the construction of personality scales brings out most clearly its limitations. First, when a small sample is used chance errors may play a large part in the ranking of items in discriminative value from group to group. Second, if the sample and the number of items in the preliminary scale is small, a considerable error in the discriminative value of an item may arise from including the item in the score on the preliminary scale when determining its discrimitative value. Third, statistically significant critical ratios for all items in a scale do not assure that all items are measuring a single common factor.[6]

However, these limitations need not invalidate the use of the criterion of internal consistency in test construction. The first weakness may be overcome by the use of a large sample. Sletto has shown that chance errors play a small part in the discrimitative value of items when the sample includes as many as 400 cases.[7] The second limitation may be overcome by the use of a technique devised by Sletto to compensate for the displacement increment.[8] Since the displacement increment bears an inverse relation to the number of items included in the preliminary scale, it may also be minimized by using a large number of items. The third limitation is probably inherent in all techniques other than that of factor analysis. The only way known at present to make sure that each item in a scale is measuring a single common variable is to make use of the complicated factor analysis technique.[9]

The greatest single advantage of the criterion of internal consistency method is that it may be applied with much less labor than the correlation techniques and gives results that conform closely to those obtained by these more difficult methods.[10] The fact that it has been subjected to considerable experimental analysis, so that its limitations are known and may be compensated for, constitutes another advantage that this method possesses over other methods of item analysis.

The Method Chosen for This Study

After giving consideration to the available methods of item selection it was decided that the criterion of internal consistency would be the one most conveniently applicable to the data of this study. Since it gives as good results as more laborious techniques and has proved its usefulness in a study

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[4] "A Note On Item Analysis and The Criterion of Internal Consistency," *Psychometrica,* I:275-82 (1936).

[5] *The Construction of Personality Scales By The Criterion of Internal Consistency,* pp. 81-83.

[6] Mosier comes to essentially the same conclusion, *loc. cit.*

[7] *Op. cit.,* pp. 80-81.

[8] *Ibid,* p. 81.

[9] Evidence that the indexes of the scale constructed in this study measure a single common factor is presented in Appendix F.

[10] See Long and Sandiford, *op. cit.,* pp. 62-63, 111-114.

similar to the present one[11] there was little reason to believe that it would not produce a useful scale for the measurement of farm family socio-economic status if proper compensations were made for its known limitations.[12]

The Procedure for Item Validation

Having chosen the method of internal consistency for item validation, the next step was to set up the procedure to be followed in this study. The first matter to merit consideration was the scoring of the experimental schedule. Two types of arbitrary scoring were considered. The first may be called graduated and the second uniform scoring. Graduated scoring involves the assignment of scores to items in proportion to their supposed importance in the scale. Thus if item one were considered twice as important as item two, it would be assigned a score of 2 while item two would carry a score of 1. This type of scoring is especially well suited to graduated items where different grades of the same thing are considered to possess varying importance. It further allows the test constructor to assign values to various items in accordance with his conception of their importance. The uniform method of scoring involves the arbitrary assignment of a uniform score to each item in the scale. Thus in the above example items one and two would carry the same score regardless of their importance. This method has the advantages of being simple and easy to employ. It also avoids the prejudices and mistaken notions of the test constructor. In cases where there is no way of knowing the relative importance of items it is probably the better method to use. It is also a superior method in long scales where the effect of any one item on the criterion is slight. Since the experimental schedule in this study consisted of 123 items, about whose importance as reflectors of socio-economic status little was known, it was decided that the uniform method would be the better method to employ.

In the actual scoring of the experimental schedules, each item was arbitrarily assigned a value of one for possession and zero for non-possession. In the case of items having several descriptions of a non-quantitative nature, certain descriptions were arbitrarily considered possession and others non-possession. For quantitatively described graduated items, credit for possession was assigned to that class interval (and all above it) nearest the median value for the total sample. The presence of the items on each schedule was ascertained and totaled to obtain the criterion score. The schedules were then placed in an array according to scores.

The next consideration was the selection of the proportions of the distribution to be used. Various authors have employed widely different proportions, the most common being deciles, octiles, quintiles, quartiles, thirds, and halves. Theoretically, the smaller the proportion used the more marked will be the differences between the extremes. Practically, the smaller proportions increase the danger of chance factors, and the differences may prove to be unstable from group to group. Sletto's work on this matter suggests that quartiles are a satisfactory proportion, since they provide units that are large enough to yield stable differences and yet small enough to show marked differentiation.[13]

Since the cases in this study numbered 800 and fourths would facilitate the computation of the various statistical measures to be employed, it was decided to use quartiles. This step was carried out by dividing the array into equal fourths each containing 200 schedules. The quartile composed of the 200 lowest-scoring schedules was called the first quartile, the 200 next highest the second, the 200 next highest the third, and the 200 highest the fourth.

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[11] Leahy used this method in the construction of her scale.

[12] Since the standardization sample included 800 cases and the experimental schedule consisted of 123 items, the first two limitations pointed out by Sletto were adequately compensated for in this study.

[13] *Op. cit.*, pp. 80-81.

The next step was to compute the percentage frequency of occurrence for each item in the various quartiles. This was done by determining the presence of each item in each quartile and reducing this to a percentage figure. For example, item 10 "separate living room" in the experimental schedule occurred in 5.5, 25.0, 48.0, and 82.5 percent of the schedules in quartiles 1, 2, 3, 4, respectively. The percentage frequencies for each of the items in the experimental schedule in successive quartiles for the entire distribution are shown in Table 4. It will be observed that in a large majority of the cases the percentage frequency of occurrence increases progressively for each item throughout the successive quartiles. In no case is the exact reverse of this true; although for several items a slightly lower percentage frequency is found in one of the higher than in one or more of the lower quartiles. In no case is the percentage frequency greater in the lowest than in the highest quartile. In some cases where the percentage frequency is very high or very low the difference, though greater in the successively higher quartiles, is very slight.

Next the percentage difference between the successive and the extreme quartiles was computed. This yielded four quartile percentage difference figures for each item in the experimental schedule, as follows: 1 and 2, 2 and 3, 3 and 4, and 1 and 4. For example, on item 10 the differences between the percentage of occurrence of the items between the respective quartiles were as follows: 19.5, 23.0, 34.5, and 77.0. These differences were worked out for all of the items in the scale, and are shown in Table 5.[14]

The next step was to determine the statistical significance of these differences. This was done by computing the critical ratios (the ratio of a difference to its standard error) for each difference.[15] This involved several steps. First, the standard error of each percentage was determined. For this purpose the Edgerton-Paterson Table of Standard Errors and Probable Errors of Percentages was used.[16] Second, the formula for determining the standard error of a percentage was applied.[17] This formula is:

$$\sigma \text{ difference} = \sqrt{\sigma p_1^2 + \sigma p_2^2}.$$

Third, each percentage difference was divided by its standard error to obtain the critical ratio. For example, to determine the critical ratio for the percentage difference between quartiles 1 and 4 in item 10, the following steps were necessary:

1. The standard error squared of 5.5 percent, then of 82.5 percent (the percentage of possession of the item in quartiles 1 and 4, respectively) was read from the Edgerton-Paterson table. These are .000289 and .000729.

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[14] At this point it would have been permissible to select as valid items those possessing high percentage differences between extreme quartiles, successive quartiles or some combination of the two. However, a more sound procedure requires that some estimate of the significance of these differences be determined before selecting items.

[15] In dealing with large samples it is customary to accept a critical ratio (some readers will know this ratio better as the *t-value*) of 2 as "significant" since the probability of exceeding this value due to chance factors alone is small enough, P being less than .05, that it is safe to accept the difference as a true difference. If the critical ratio is 3, it is considered "highly significant" since the probability of exceeding this value due to chance factors alone is very small, P being less than .01. If the chance of exceeding these values in a positive direction only is desired (a tenable proposition with these data) the probabilities may be halved. For further elaboration of these points and a general discussion of significance see R. A. Fisher, *Statistical Methods for Research Workers* (5th edition) pp. 112-129. An excellent discussion of significance tests is found in J. H. Smith, *Tests of Significance: What They Mean and How to Use Them.*

[16] "Table of Standard Errors and Probable Errors For Varying Numbers of Cases," *Journal of Applied Psychology*, 10:378-91. (September 1936).

[17] G. U. Yule, *An Introduction to The Theory of Statistics*, (1924) p. 269, formula (2).

Table 4. Percentage of Occurrence of Items in Successive
Quartiles of the Entire Population.

Item Description	Quar-tile 1	Quar-tile 2	Quar-tile 3	Quar-tile 4
1. Lawn	6.0	17.5	20.0	39.0
2. Flower garden	10.5	29.5	40.5	49.0
*3. Construction of house	9.5	37.5	62.0	83.0
*4. Central heating	0.0	0.0	1.0	15.5
5. Water piped into house	0.0	2.5	7.0	15.0
*6. Light facilities	2.5	10.0	25.1	64.0
7. Indoor toilet	0.0	0.0	0.0	9.5
*8. Sewage disposal	0.0	0.0	0.5	9.5
9. Separate dining room	5.0	11.5	20.5	57.5
10. Separate living room	5.5	25.0	48.0	82.5
11. Separate kitchen	7.0	16.0	28.0	62.5
12. Bath	0.0	1.0	4.5	20.0
*13. Rooms per person ratio	22.5	39.5	61.5	82.0
14. Screens	38.5	83.8	95.5	98.5
15. Living room floor finished	0.5	7.0	19.0	48.5
*16. Living room wall construction	22.5	64.5	87.0	97.0
*17. Living room walls decorated	19.0	57.5	84.5	95.5
18. Living room woodwork finished	14.5	55.0	85.0	96.5
19. Two or more windows in living room	69.4	92.0	95.5	94.5
*20. Living room windows decorated	15.5	51.5	79.5	93.5
21. Closet off living room	1.0	2.0	4.0	5.5
*22. Living room rug	8.0	18.5	31.0	63.0
23. Living room armchair	15.1	23.0	57.5	71.0
*24. Living room lounge	2.0	17.5	35.5	71.5
25. Living room set	0.5	3.0	12.5	43.5
26. No alarm clock in living room	25.0	27.0	28.3	42.5
27. Other clock in living room	10.5	17.9	23.0	36.7
28. Pictures on living room wall	52.3	76.5	79.9	91.5
29. Less than two calendars in L. R.	29.0	22.5	32.5	45.0
30. Sofa pillows in living room	2.5	7.0	11.5	33.5
31. Occasional table in living room	36.0	46.0	52.0	61.0
32. Library table in living room	6.5	20.5	21.0	34.5
33. Personal-social desk in L. R.	0.5	1.5	4.5	10.0
34. Footstool in living room	0.0	0.5	2.5	8.5
35. Piano bench in living room	0.0	0.5	3.0	15.5
36. Magazine rack in living room	1.6	1.6	11.5	26.5
37. Bookcase	0.5	3.5	8.0	15.5
38. Radio	18.5	33.5	57.5	75.0
39. Piano	1.0	3.0	12.0	41.5
40. Other musical instruments	23.5	31.0	39.0	42.5
41. Telephone	1.0	6.5	26.5	61.0
42. Power washing machine	1.0	12.0	30.8	61.0
*43. Refrigerator	3.5	31.5	42.0	76.5
44. Kitchen cabinet	62.3	91.5	94.5	98.0
45. Pressure cooker	16.0	39.7	44.6	61.0
46. Kitchen sink	0.0	5.2	17.5	32.5
47. Running water in kitchen	0.5	0.0	4.0	14.0
48. Linoleum on kitchen floor	10.5	51.0	77.0	91.5
*49. Kitchen range	2.6	3.6	11.0	36.5

* Figures for these graduated response items refer to the descriptions carrying credit for possession. For descriptions see Appendix A.

Table 4.—(Continued.)

Item Description	Quar- tile 1	Quar- tile 2	Quar- tile 3	Quar- tile 4
*50. Iron	2.0	4.0	21.5	54.8
51. Sweeper	0.0	0.0	1.0	6.5
52. Sewing machine	59.0	85.5	93.5	95.0
53. Dining room set	3.0	3.0	20.0	47.0
*54. Books	15.7	38.6	63.5	80.8
55. Hired help in home	0.5	2.0	3.5	15.5
56. Insurance on furniture	0.0	3.0	13.0	47.0
57. Extension course	0.0	0.5	0.5	1.0
58. Weekly newspaper	50.0	71.5	73.0	83.0
59. Daily newspaper	5.0	32.5	53.3	80.3
*60. Magazines	15.5	42.0	62.0	80.3
61. Husband's life insured	3.0	11.5	22.0	51.0
62. Wife's life insured	0.5	2.0	7.0	21.5
63. No relief in year	54.5	75.0	86.0	98.5
64. Automobile other than truck	24.5	53.5	79.0	94.5
*65. Insurable value of dwelling	3.5	25.6	67.0	83.5
66. Other real estate	2.0	2.5	5.5	12.5
*67. Net spendable income per **ammain**	12.5	36.0	68.0	92.0
*68. Husband's education	26.5	37.9	58.0	70.2
*69. Wife's education	31.1	49.5	69.6	80.9
70. Vacation in past year	7.5	12.1	21.5	38.7
71. Husband plays musical instrument	3.5	3.5	4.0	10.2
72. Wife plays musical instrument	3.0	5.0	12.6	23.9

Husband:

Item Description	Quar- tile 1	Quar- tile 2	Quar- tile 3	Quar- tile 4
73. Church member	23.5	41.0	53.0	74.0
74. Attends church	40.5	54.5	65.3	77.9
75. Church officer	3.0	4.5	8.1	22.7
76. Sunday school member	6.0	18.5	36.0	58.8
77. Attends Sunday school	9.0	20.0	38.0	60.3
78. Sunday school officer	0.0	3.5	6.1	18.9
79. Other church group member	0.0	1.5	4.5	14.5
80. Attends other church group	0.0	1.0	4.5	15.5
81. Other church group officer	0.0	0.5	0.5	4.0
82. Member educational group	0.5	2.0	2.0	5.5
83. Attends educational group	0.5	. 1.5	2.0	5.0
84. Educational group officer	0.0	1.0	1.5	1.0
85. Cooperative member	0.0	3.6	9.5	24.0
86. Attends cooperative	0.5	0.5	2.0	14.3
87. Cooperative officer	0.0	0.0	0.0	1.5
88. Other economic group member	0.0	1.0	4.0	17.5
89. Attends other economic group	0.0	1.0	2.0	11.2
90. Other economic group officer	0.0	0.0	0.0	2.5
91. Lodge member	1.5	1.5	6.5	16.0
92. Attends lodge	1.5	1.0	4.0	11.6
93. Lodge officer	1.0	0.0	1.5	4.0
94. Patriotic group member	0.5	1.0	1.5	4.5
95. Attends patriotic group	0.5	0.0	1.5	2.0
96. Patriotic group officer	0.0	0.0	0.0	0.5
97. Recreational group member	0.0	0.5	2.5	9.5
98. Attends recreational group	0.0	0.0	2.0	8.1
99. Recreational group officer	0.0	0.0	0.0	3.0

* Figures for these graduated response items refer to the description carrying credit for
 possession. For descriptions see Appendix A.

Table 4.—(Continued.)

Item Description	Quar-tile 1	Quar-tile 2	Quar-tile 3	Quar-tile 4
Wife:				
100. Church member	33.0	57.5	72.4	88.0
101. Attends church	43.0	58.5	74.5	85.9
102. Church officer	0.5	2.0	5.5	16.6
103. Sunday school member	6.5	19.5	44.2	69.4
104. Attends Sunday school	9.0	20.5	45.5	66.8
105. Sunday school officer	0.5	2.0	9.1	21.1
106. Other church group member	0.0	1.5	7.0	25.5
107. Attends other church group	0.0	1.0	6.5	24.4
108. Other church group officer	0.0	0.0	1.5	7.6
109. Agri. extension group member	0.0	3.6	9.5	24.0
110. Attends agri. extension group	0.5	2.5	9.0	22.7
111. Agri. extension group officer	0.0	0.5	1.5	6.5
112. Lodge member	0.0	0.0	1.5	6.0
113. Attends lodge	0.0	0.0	1.5	5.0
114. Lodge officer	0.0	0.0	0.0	2.0
115. Other organized group member	0.0	1.5	3.0	9.0
116. Attends other organized group	0.0	1.5	2.5	9.0
117. Other organized group officer	0.0	0.0	0.0	2.5
118. Recreational group member	0.0	1.0	1.5	3.0
119. Attends recreational group	0.0	1.0	1.5	3.0
120. Recreational group officer	--	--	--	--
121. Economic group member	--	--	--	--
122. Attends economic group	--	--	--	--
123. Economic group officer	--	--	--	--

2. The formula for determining the standard error of a difference between percentages was applied:

$$\sigma \text{ diff.} = \sqrt{\sigma p_1^2 + \sigma p_2^2}$$

$$= \sqrt{.000289 + .000729}$$

$$= \sqrt{.001018}$$

$$= .0319$$

3. The percentage difference between the quartiles (read from Table 5; in this case 77.0 percent or .770 in decimals) was divided by its standard error. This gave the critical ratio:

$$\text{C. R.} = \text{Difference}/\sigma \text{ Difference}$$
$$= .770/.0319$$
$$= 24.14$$

This is a very high critical ratio and indicates that the difference between these quartiles is highly significant.

Table 5. Percentage Difference in the Occurrence of Items in Successive and Extreme Quartiles of the Entire Population.

Item Description	Quartiles 1 and 2	Quartiles 2 and 3	Quartiles 3 and 4	Quartiles 1 and 4
1. Lawn	11.5	2.5	19.0	33.0
2. Flower garden	19.0	11.0	8.5	38.5
*3. Construction of house	28.0	24.5	21.0	73.5
*4. Central heating	0.0	1.0	14.5	15.5
5. Water piped into house	2.5	4.5	8.0	15.0
*6. Light facilities	7.5	15.1	38.9	61.5
7. Indoor toilet	0.0	0.0	9.5	9.5
*8. Sewage disposal	0.0	0.5	9.0	9.5
9. Separate dining room	6.5	9.0	37.0	52.5
10. Separate living room	19.5	23.0	34.5	77.0
11. Separate kitchen	9.0	12.0	34.5	55.5
12. Bath	1.0	3.5	15.5	20.0
*13. Rooms per person ratio	17.0	22.0	20.5	59.5
14. Screens	45.3	11.7	3.0	60.0
15. Living room floor finshed	6.5	12.0	29.5	48.0
*16. Living room wall construction	42.0	22.5	10.0	74.5
*17. Living room walls decorated	38.5	27.0	11.0	76.5
18. Living room woodwork finished	40.5	30.0	11.5	82.0
19. Two or more windows in living room	22.6	3.5	− 1.0	25.1
*20. Living room windows decorated	36.0	28.0	14.0	78.0
21. Closet off living room	1.0	2.0	1.5	4.5
*22. Living room rug	10.5	12.5	32.0	55.0
23. Living room armchair	7.9	34.5	13.5	55.9
*24. Living room lounge	15.5	18.0	36.0	69.5
25. Living room set	2.5	9.5	31.0	43.0
26. No alarm clock in living room	2.0	1.3	14.2	17.5
27. Other clock in living room	7.4	5.1	13.7	26.2
28. Pictures on living room wall	24.2	3.4	11.6	39.2
29. Less than two calendars in L. R.	−6.5	10.0	12.5	16.0
30. Sofa pillows in living room	4.5	4.5	22.0	31.0
31. Occasional table in living room	10.0	6.0	9.0	25.0
32. Library table in living room	14.0	0.5	13.5	28.0
33. Personal-social desk in L. R.	1.0	3.0	5.5	9.5
34. Footstool in living room	0.5	2.0	6.0	8.5
35. Piano bench in living room	0.5	2.5	12.5	15.5
36. Magazine rack in living room	0.0	9.9	15.0	24.9
37. Bookcase	3.0	4.5	7.5	15.0
38. Radio	15.0	24.0	17.5	56.5
39. Piano	2.0	9.0	29.5	40.5
40. Other musical instruments	7.5	8.0	3.5	19.0
41. Telephone	5.5	20.0	34.5	60.0
42. Power washing machine	11.0	18.8	30.2	60.0
*43. Refrigerator	28.0	10.5	34.5	73.0
44. Kitchen cabinet	29.2	3.0	3.5	35.7
45. Pressure cooker	23.7	4.9	16.4	45.0
46. Kitchen sink	5.2	12.3	15.0	32.5
47. Running water in kitchen	−0.5	4.0	10.0	13.5
48. Linoleum on kitchen floor	40.5	26.0	14.5	81.0
*49. Kitchen range	1.0	7.4	25.5	33.9

* Figures for these graduated response items refer to the descriptions carrying credit for possession. For descriptions see Appendix A.

Table 5.—(Continued).

Item Description	Quartiles 1 and 2	Quartiles 2 and 3	Quartiles 3 and 4	Quartiles 1 and 4
*50. Iron	2.0	17.5	33.3	52.8
51. Sweeper	0.0	1.0	5.5	6.5
52. Sewing machine	26.5	8.0	1.5	36.0
53. Dining room set	0.0	17.0	27.0	44.0
*54. Books	22.9	24.9	17.3	65.1
55. Hired help in home	1.5	1.5	12.0	15.0
56. Insurance on furniture	3.0	10.0	34.0	47.0
57. Extension course	0.5	0.0	0.5	1.0
58. Weekly newspaper	21.5	1.5	10.0	33.0
59. Daily newspaper	27.5	20.8	27.0	75.3
*60. Magazines	26.5	20.0	18.3	64.8
61. Husband's life insured	8.5	10.5	29.0	48.0
62. Wife's life insured	1.5	5.0	14.5	21.0
63. No relief in year	20.5	11.0	12.5	44.0
64. Automobile other than truck	29.0	25.5	15.5	70.0
*65. Insurable value of dwelling	22.1	41.4	16.5	80.0
66. Other real estate	0.5	3.0	7.0	10.5
*67. Net spendable income per **ammain**	23.5	32.0	24.0	79.5
*68. Husband's education	11.4	20.1	12.2	43.7
*69. Wife's education	18.4	20.1	11.3	49.8
70. Vacation in past year	4.6	9.4	17.2	31.2
71. Husband plays musical instrument	0.0	0.5	6.2	6.7
72. Wife plays musical instrument	2.0	7.6	11.3	20.9
Husband:				
73. Church member	17.5	12.0	21.0	50.5
74. Attends church	14.0	10.8	12.6	37.4
75. Church officer	1.5	3.6	14.6	19.7
76. Sunday school member	12.5	17.5	22.8	52.8
77. Attends Sunday school	11.0	18.0	22.3	51.3
78. Sunday school officer	3.5	2.6	12.8	18.9
79. Other church group member	1.5	3.0	10.0	14.5
80. Attends other church group	1.0	3.5	11.0	15.5
81. Other church group officer	0.5	0.0	3.5	4.0
82. Member educational group	1.5	0.0	3.5	5.0
83. Attends educational group	1.0	0.5	3.0	4.5
84. Educational group officer	1.0	0.5	—0.5	1.0
85. Cooperative member	3.6	5.9	14.5	24.0
86. Attends cooperative	0.0	1.5	12.3	13.8
87. Cooperative officer	0.0	0.0	1.5	1.5
88. Other economic group member	1.0	3.0	13.5	17.5
89. Attends other economic group	1.0	1.0	9.2	11.2
90. Other economic group officer	0.0	0.0	2.5	2.5
91. Lodge member	0.0	5.0	9.5	14.5
92. Attends lodge	—0.5	3.0	7.6	10.1
93. Lodge officer	—1.0	1.5	2.5	3.0
94. Patriotic group member	0.5	0.5	3.0	4.0
95. Attends patriotic group	—0.5	1.5	0.5	1.5
96. Patriotic group officer	0.0	0.0	0.5	0.5
97. Recreational group member	0.5	2.0	7.0	9.5
98. Attends recreational group	0.0	2.0	6.1	8.1
99. Recreational group officer	0.0	0.0	3.0	3.0

* Figures for these graduated response items refer to the description carrying credit for possession. For description see Appendix A.

Table 5.—(Continued).

Item Description	Quar-tiles 1 and 2	Quar-tiles 2 and 3	Quar-tiles 3 and 4	Quar-tiles 1 and 4
Wife:				
100. Church member	24.5	14.9	15.6	55.0
101. Attends church	15.5	16.0	11.4	42.9
102. Church officer	1.5	3.5	11.1	16.1
103. Sunday school member	13.0	24.7	25.2	62.9
104. Attends Sunday school	11.5	25.0	21.3	57.8
105. Sunday school officer	1.5	7.1	12.0	20.6
106. Other church group member	1.5	5.5	18.5	25.5
107. Attends other church group	1.0	5.5	17.9	24.4
108. Other church group officer	0.0	1.5	6.1	7.6
109. Agri. extension group member	3.6	5.9	14.5	24.0
110. Attends agri. extension group	2.0	6.5	13.7	22.2
111. Agri. extension group officer	0.5	1.0	5.0	6.5
112. Lodge member	0.0	1.5	4.5	6.0
113. Attends lodge	0.0	1.5	3.5	5.0
114. Lodge officer	0.0	0.0	2.0	2.0
115. Other organized group member	1.5	1.5	6.0	9.0
116. Attends other organized group	1.5	1.0	6.5	9.0
117. Other organized group officer	0.0	0.0	2.5	2.5
118. Recreational group member	1.0	0.5	1.5	3.0
119. Attends recreational group	1.0	0.5	1.5	3.0
120. Recreational group officer	--	--	--	--
121. Economic group member	--	--	--	--
122. Attends economic group	--	--	--	--
123. Economic group officer	--	--	--	--

This procedure was applied to each successive and extreme quartile comparison of every item in the experimental schedule. The results are to be found in Table 6. It will be noted that the critical ratios for the extreme quartiles vary from 0.17 to 27.84, with 101 of 123 items possessing ratios of 3 or greater. That some items possess greater ability than others to differentiate significantly between successive as well as extreme levels of socio-economic status is revealed by the fact that 41 items have critical ratios of 2 or greater for every comparison. Of these items, 25 possess critical ratios of 3 or greater for every comparison.

The Standard for Item Selection

The next task, obviously, was to combine those items possessing the greatest differentiating capacity or validity into a scale of manageable proportions. However, before this could be done, a standard for item retention had to be set. The practice of selecting items on the basis of their ability to differentiate between extremes in a distribution is a generally accepted one. The underlying assumption is that such a selection will yield a scale capable of differentiating between intermediate quantities of the variable being measured. This assumption, though well substantiated in physical measurement, has never been proved for social measurement. While the selection of items on this basis might have proved satisfactory for the present scale, it was decided that it would be safer to base selection on ability to differentiate between successive gradations as well as extremes of socio-economic status.

Table 6. Critical Ratios of the Percentage Differences in Occurrence of Items in Successive and Extreme Quartiles of the Entire Population.

Item Description	Quartiles 1 and 2	Quartiles 2 and 3	Quartiles 3 and 4	Quartiles 1 and 4
1. Lawn	3.60	0.64	4.32	8.68
2. Flower garden	4.90	2.32	1.72	8.46
*3. Construction of house	7.00	5.09	4.84	21.49
*4. Central heating	0.00	1.43	5.39	5.96
5. Water piped into house	2.08	2.10	2.58	6.00
*6. Light facilities	3.10	4.04	8.64	17.04
7. Indoor toilet	0.00	0.00	4.52	4.52
*8. Sewage disposal	0.00	0.71	4.07	4.52
9. Separate dining room	2.36	2.43	8.13	13.78
10. Separate living room	5.51	4.92	7.91	24.14
11. Separate kitchen	2.85	2.91	7.39	14.42
12. Bath	1.45	2.11	4.87	7.14
*13. Rooms per person ratio	3.69	4.51	4.72	14.73
14. Screens	10.58	3.90	1.67	19.21
15. Living room floor finished	3.37	3.60	6.58	13.44
*16. Living room wall construction	9.21	5.42	3.73	23.07
*17. Living room walls decorated	8.59	6.19	3.67	24.06
18. Living room woodwork finished	9.42	6.98	4.15	29.60
19. Two or more windows in living room	5.93	1.45	—0.44	6.76
*20. Living room windows decorated	8.26	6.17	4.11	24.68
21. Closet off living room	0.82	1.16	0.68	2.45
*22. Living room rug	3.11	2.89	6.75	14.14
23. Living room armchair	2.02	7.48	1.82	13.77
*24. Living room lounge	5.38	4.15	7.71	20.75
25. Living room set	1.80	3.54	7.31	12.04
26. No alarm clock in living room	0.46	0.29	3.00	3.74
27. Other clock in living room	2.13	1.26	3.02	6.47
28. Pictures on living room wall	5.25	0.83	3.24	9.73
29. Less than two calendars in L. R.	—1.48	2.24	2.60	4.53
30. Sofa pillows in living room	2.08	1.54	5.47	8.83
31. Occasional table in living room	2.05	1.21	1.84	5.20
32. Library table in living room	4.11	0.12	3.02	7.27
33. Personal-social desk in L. R.	0.82	1.67	2.13	4.30
34. Footstool in living room	0.71	1.44	2.58	4.25
35. Piano bench in living room	0.71	1.80	4.37	5.96
36. Magazine rack in living room	0.14	3.96	3.89	7.65
37. Bookcase	1.91	1.91	2.40	5.58
38. Radio	3.46	4.99	3.74	13.52
39. Piano	1.44	3.48	7.06	9.70
40. Other musical instruments	1.68	1.69	0.72	4.12
41. Telephone	2.85	5.59	7.50	17.29
42. Power washing machine	4.58	4.68	6.37	17.29
*43. Refrigerator	7.82	2.18	7.48	22.05
44. Kitchen cabinet	7.41	1.14	1.78	10.08
45. Pressure cooker	5.59	0.97	3.37	10.51
46. Kitchen sink	3.45	3.99	3.52	9.85
47. Running water in kitchen	—0.71	2.86	3.48	5.19
48. Linoleum on kitchen floor	9.81	5.64	4.08	27.27
*49. Kitchen range	0.54	2.85	6.30	9.40

* Figures for these graduated response items refer to the descriptions carrying credit for possession. For descriptions see Appendix A.

Table 6.—(Continued.)

Item Description	Quar-tiles 1 and 2	Quar-tiles 2 and 3	Quar-tiles 3 and 4	Quar-tiles 1 and 4
*50. Iron	1.16	5.44	7.32	14.50
51. Sweeper	0.00	1.43	2.85	3.61
52. Sewing machine	6.16	2.60	0.64	9.45
53. Dining room set	0.00	5.57	6.03	11.89
*54. Books	5.33	5.18	3.93	17.02
55. Hired help in home	1.23	0.87	4.07	5.58
56. Insurance on furniture	2.50	3.73	8.02	13.43
57. Extension course	0.71	0.00	0.50	1.43
58. Weekly newspaper	4.54	0.34	2.43	7.47
59. Daily newspaper	7.60	4.32	6.03	23.68
*60. Magazines	6.08	4.10	4.16	16.96
61. Husband's life insured	3.28	2.84	6.37	12.97
62. Wife's life insured	1.23	2.43	4.25	7.05
63. No relief in year	4.38	2.76	4.65	12.09
64. Automobile other than truck	6.20	5.60	4.61	19.77
*65. Insurable value of dwelling	6.50	9.14	3.87	26.32
66. Other real estate	0.32	1.44	2.38	4.04
*67. Net spendable income per **ammain**	5.65	6.75	6.30	25.98
*68. Husband's education	2.44	4.12	2.54	9.50
*69. Wife's education	3.82	4.24	2.66	11.50
70. Vacation in past year	1.54	2.54	3.85	8.02
71. Husband plays musical instrument	0.00	0.25	2.42	2.62
72. Wife plays musical instrument	1.04	2.65	2.94	6.47
Husband:				
73. Church member	3.80	2.42	4.49	11.72
74. Attends church	2.83	2.21	2.82	8.22
75. Church officer	0.78	1.49	4.14	6.10
76. Sunday school member	3.81	3.98	4.67	13.57
77. Attends Sunday school	3.20	4.09	4.57	12.73
78. Sunday school officer	2.50	1.18	3.90	6.75
79. Other church group member	1.50	1.67	3.42	5.80
80. Attends other church group	1.43	2.11	3.67	5.96
81. Other church group officer	0.71	0.00	2.23	2.86
82. Educational group member	1.23	0.00	1.78	2.72
83. Attends educational group	0.82	0.36	1.67	2.71
84. Educational group officer	1.43	0.41	−0.41	1.43
85. Cooperative member	2.58	2.34	3.96	8.00
86. Attends cooperative	0.00	1.23	4.57	5.31
87. Cooperative officer	0.00	0.00	1.50	1.50
88. Other economic group member	1.43	1.92	4.44	6.48
89. Attends other economic group	1.43	0.82	3.80	5.09
90. Other economic group officer	0.00	0.00	2.08	2.08
91. Lodge member	0.01	2.43	3.01	5.20
92. Attends lodge	−0.42	1.91	2.82	4.02
93. Lodge officer	−1.43	1.50	1.45	1.91
94. Patriotic group member	0.50	0.41	1.67	2.41
95. Attends patriotic group	−0.71	1.50	0.36	1.23
96. Patriotic group officer	0.00	0.00	0.71	0.71
97. Recreational group member	0.71	1.17	2.89	4.52
98. Attends recreational group	0.00	2.00	2.84	4.26
99. Recreational group officer	0.00	0.00	2.50	2.50

* Figures for these graduated response items refer to the description carrying credit for possession. For descriptions see Appendix A.

Table 6.— (Continued.)

Item Description	Quar-tiles 1 and 2	Quar-tiles 2 and 3	Quar-tiles 3 and 4	Quar-tiles 1 and 4
Wife:				
100. Church member	5.09	3.14	3.96	13.68
101. Attends church	3.13	3.42	2.86	9.98
102. Church officer	1.23	1.78	3.48	5.77
103. Sunday school member	3.90	5.51	5.22	16.73
104. Attends Sunday school	3.27	5.49	4.43	14.97
105. Sunday school officer	1.23	3.17	3.41	6.91
106. Other church group member	1.50	2.67	5.17	8.23
107. Attends other church group	1.43	2.85	5.11	8.13
108. Other church group officer	0.00	1.50	2.84	4.00
109. Agri. extension group member	2.58	2.34	3.96	8.00
110. Attends agri. extension group	1.44	2.79	3.80	7.21
111. Agri. extension group officer	0.71	0.82	2.43	3.61
112. Lodge member	0.00	1.50	2.28	3.53
113. Attends lodge	0.00	1.50	1.94	3.33
114. Lodge officer	0.00	0.00	2.00	2.00
115. Other organized group member	1.50	0.96	2.58	4.50
116. Attends other organized group	1.50	0.64	2.79	4.50
117. Other organized group officer	0.00	0.00	2.08	2.08
118. Recreational group member	1.43	0.41	0.96	2.50
119. Attends recreational group	1.43	0.41	0.96	2.50
120. Recreational group officer	--	--	--	--
121. Economic group member	--	--	--	--
122. Attends economic group	--	--	--	--
123. Economic group officer	--	--	--	--

Therefore, the standard set for this study was that each item retained for the scale should possess critical ratios of 2 or greater for each of the four possible comparisons.[18] Both alternate-response and graduated items were required to meet this standard.[19]

THE RESULTING SCALE

When this standard was applied to the 123 items in the experimental scale, 82 were eliminated. In addition, 5 items that met the standard were dropped for practical reasons. "Insurable value of dwelling" was dropped since it largely depends on the judgment of the enumerator and thus is subject to considerable unreliability. "No relief in 1937" was eliminated because it was believed that dependable replies to this question could not be obtained. "Husband is member of Sunday school" and the same question for the wife were dropped becauase of the wide variation in the definition of membership in Sunday school from denomination to denomination. Finally, "net spendable income per **ammain**" was eliminated because of the difficulty in determining this figure accurately without a detailed study of family budgets.

Thus 36 items possessing sharp diagnostic capacity were retained for the scale. Of these items, 15 are from the original group of 34 items chosen to represent the material possessions component of socio-economic status.

[18] This standard is somewhat higher than is usually set. Leahy selected items on the basis of critical ratios of 2 or greater for three out of five comparisons. Most workers have based item selection on extreme comparisons only.
[19] The critical ratios for the various quantities and qualities of the graduated items that met the standard for retention are shown in Appendix C.

These include mainly housing and home convenience items that may be recorded objectively on the basis of observation alone. Thirteen items are from the group of 37 selected to represent the cultural possessions component of socio-economic status in the experimental schedule. Included in this group are questions bearing on cultural possessions, achievements, and practices. Several of these questions must be asked. However, all are simple and none is likely to tax the informant. The remaining eight questions are from this group of 52 items designed to measure the participation of the husband and wife in the organized social groups of the community. These questions are all of the alternate-response type and must be asked of the informant. Of the 36 items in the scale, only 9 require graduated answers. Twelve of the 36 items represent non-material culture traits. The items and their distribution under the major components of socio-economic status are shown in the preliminary form of the scale reproduced on pages 44-45.

THE METHOD OF WEIGHTING THE ITEMS

After having selected the items, the next problem was to assign scores or weights to them. For this purpose the sigma method of scoring was used.[20] This method assigns weights to items in reverse relation to their frequency in the population. Thus it hypothecates that those valid items that occur rarely in the population are most important and should be given highest scores. Items that are more common are considered less important in differentiating the various levels and receive lower scores. Score values are assigned to absence or non-possession as well as to possession of an item. Leahy states the assumptions of sigma scoring as follow, " . . . each item is assumed to be normally distributed. In addition, when the possession of an item is regarded as desirable, there is the assumption that possession deviates on the positive side of the mean of the whole distribution with 100 percent as its termination point. On the other hand non-possession of the item deviates in a negative direction from the means of the whole distribution with the 50th percentile as its termination point. Furthermore, it posits that the most typical figure for percentage of either possession or non-possession is one-half the observed percentage frequency."[21]

Perhaps the foremost advantage that this method of scoring possesses over other scoring techniques is that it expresses scores in standard units. For this reason it is widely used and understood. Other points in its favor are that it is relatively easy to apply and produces weights that are in agreement with those obtained by the use of other well known methods.[22]

The calculation of the sigma score may be illustrated by computing the score for an item of the scale, such as item 38 "radio." This was possessed by 46.1 percent and not possessed by 53.9 percent of the sample families. The calculation of the score for possession of the item follows:

$$100 - \left\{ \frac{46.1}{2} \right\} = 76.9$$

The distance of 76.9 percent which is +0.737 sigmas is read from a table of values of the normal probability integral.[23] This may be used as the score

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[20] For a discussion of this and other methods of scoring see Leahy, *op. cit.,* pp. 41-42.

[21] *Loc. cit.*

[22] Leahy scored the items of her scale by three methods: simple scoring, sigma scoring, and difference method. She then computed the scale scores produced by each method and calculated the intercorrelations between the scores. Since the three coefficients were all 0.98 and above, she concluded that either of the three methods would yield equally satisfactory results. Recently the writer repeated the experiment on the present scale using a sample of 257 Oklahoma farm families and obtained exactly the same results.

[23] The table presented by E. L. Thorndike was used in this study. See *Mental and Social Measurements,* Table 44, p. 198. However, any standard table for areas under the normal curve may be used.

FARM FAMILY SOCIO-ECONOMIC STATUS SCALE
(Preliminary Form)

No. _____ Date_____ Scale Score _____

Interviewer _____

General Information

Name of family_____

Post office address _____ R. F. D. No._____

County_____ State_____ Tenure Status _____

Race_____ Number of persons living in the house_____

I—MATERIAL POSSESSIONS INDEX

SCORE   SCORE IF Y N

_____ 1. Construction of house:
  Brick, stucco, etc.,   Unpainted frame
  or painted frame   or other
  Score: 5   3

_____ 2. Room-person ratio:
  Number of rooms?____÷Number of persons?____= ___
  Ratio: Below 1.00   1.00-1.99   2.00-2.99   3.00 and up
  Score: 3   5   7   9

_____ 3. Separate living room? Y—N   6   3

_____ 4. Separate dining room? Y—N   6   3

_____ 5. Separate kitchen? Y—N   6   3

_____ 6. Living room floors finished? Y—N   7   4

_____ 7. Living room woodwork finished? Y—N   5   2

_____ 8. Living room wall construction:

		Wall		Building paper
	Plaster	board	Ceiling	or no inside wall
Score:	6	5	4	2

_____ 9. Living room walls decorated? Y—N   5   2

_____ 10. Lighting facilities:

	Gas, mantel,	Oil lamps,
	Electric	or pressure	other or none
Score:	8	6	3

_____ 11. Water piped into house? Y—N   8   4

_____ 12. Kitchen sink? Y—N   7   4

_____ 13. Linoleum on kitchen floor? Y—N   5   2

_____ 14. Power washer? Y—N   6   3

_____ 15. Refrigerator:
  Mechanical   Ice   Other or none
  Score: 8   6   3

_____ Index Score

II—CULTURAL POSSESSIONS INDEX

SCORE   SCORE IF Y   N

_____ 1. Living room floor covering:

	Rugs or carpets	Linoleum or bare floors
Score:	6	3

_____ 2. Shades and curtains or drapes on L. R. windows? Y—N   5   2

_____ 3. Living room lounge:

	Divan, davenport, or studio couch	Day bed or couch	Bed, cot, or none
Score:	6	5	3

_____ 4. Approximate number of books in the home? _____

Number:	0-7	8-49	50-99	100 and up
Score:	3	5	7	8

_____ 5. Number of magazines regularly taken? _____

Number:	0-1	2-3	4-5	6 and up
Score:	3	5	7	8

_____ 6. Family takes a daily newspaper? Y—N   6   3

_____ 7. Radio? Y—N   6   3

_____ 8. Automobile? (other than truck) Y—N   5   2

_____ 9. Telephone? Y—N   6   3

_____ 10. Husband's education? (grades completed) _____

Number:	0-7	8	9-11	12	13 and up
Score:	3	5	6	7	8

_____ 11. Wife's education? (grades completed) _____

Number:	0-7	8	9-11	12	13 and up
Score:	2	4	6	7	8

_____ 12. Furniture insured? Y—N   7   4

_____ 13. Husband's life insured? Y—N   6   3

_____ Index Score

III—SOCIAL PARTICIPATION INDEX

SCORE   SCORE IF Y   N

_____ 1. Husband a church member? Y—N   5   3

_____ 2. Husband attends church? (¼ of meetings) Y—N   5   2

_____ 3. Husband attends Sunday school? (¼ of meetings) Y—N 6   3

_____ 4. Husband a member of a farm cooperative? Y—N   8   4

_____ 5. Wife a church member? Y—N   5   2

_____ 6. Wife attends church (¼ of meetings)? Y—N   6   3

_____ 7. Wife attends Sunday school? (¼ of meetings)? Y—N   6   3

_____ 8. Wife a member of an extension or P.T.A. group? Y—N   8   4

_____ Index Score

Total Score Index   I_____

Total Score Index   II_____

Total Score Index III_____

Total Status Score   _____

for the possession of a radio. For non-possession the score is computed as follows: the typical value of the observed frequency is determined, in this instance 53.9÷2=26.9; then, regarding the 50th percentile as the termination point for this segment of the distribution, the sigma value of 26.9 percent is read from the table. This is −0.615 sigmas and may be regarded as the score for non-possesion of the item.

In the case of graduated items, the cumulative percentage frequency distribution of the item is determined and the end of each successive truncated section is considered as the termination point from which the typical value would be located. For example, item 60 "magazines" has the following percentage distribution and sigma values:

Number of Magazines Regularly Taken	Number of Families	Percentage Frequency	Cumulative Percentage Frequency	Sigma Values	Score Values
6 and up	26	3.3	100.0	+2.144	8
4-5	96	12.0	96.7	+1.323	7
2-3	276	34.6	84.7	+0.451	5
0-1	400	50.1	50.1	−0.675	3

As is apparent from the examples, sigma scoring produces negative as well as positive weights. However, all scores may be made positive by adding a constant to each of the original sigma weights. To increase further the magnitude of the resulting scores, all may be multiplied by a constant. In the present case, 2 was used as the constant in both operations. When this procedure is applied in the above examples, the score for possession of a radio becomes 5 and the score for non-possession becomes 2. The scores for possession of varying quantities of the graduated item, "magazines" are shown in the extreme right hand column of the example above.

Sigma scores were computed in the above manner for each of the retained items. They are shown opposite the proper item descriptions in the preliminary form of the scale reproduced on pages 44-45. The computations upon which they were based are to be found in Appendix D. The socio-economic status score for a family is simply the sum of the scores made on the items in the scale.

PART IV:
STANDARDIZATION OF THE SCALE

THE STANDARDIZATION PROCEDURE

A standardized scale is usually considered to be one that possesses satisfactory validity and reliability. In this connection, validity is interpreted to mean that a scale measures that which it professes to measure. Reliability refers to the ability of a scale to measure consistently that which it measures. A well standardized scale possesses high validity and reliability in all situations to which it may be applied legitimately. Thus the present scale may be said to be standardized if it can be established that it measures the socio-economic status of Oklahoma farm families and measures it consistently.

The Validity of the Scale

The usual method of determining the validity of a scale is to compare the scores made on it with other reputable criteria of the function being measured. Where other scales designed to measure the same variable or some closely related variable are available, the usual procedure is to correlate the scores made by the same individuals on both scales. The resulting coefficient is called a "validity coefficient." Where such scales are not available, other data believed to represent the variable may be compared with scale scores either by correlation or other statistical techniques. Close relationships or high coefficients are usually accepted as evidence of validity. In the determination of the validity of the present scale, variations of both methods were employed.

Two groups of families were used in determining the validity of the scale. The first group consisted of 257 unbroken white farm families living in Craig County, Oklahoma. These families were selected in the same manner as the families in the standardization sample. (See pp. 24-25.) Craig county was chosen as the sample area because its rural farm population closely simulates that of the state in its social and economic characteristics. The second group consisted of the 781 farm families in the construction sample for whom validation criteria were available.

In addition to scores on the farm family socio-economic status scale, scores on the following scales designed to measure socio-economic status or some closely related variable were available for the smaller sample: The Chapin Social Status Scale, 1933; The Dickins revision of the Chapin scale; The Clark Rural Home Equipment Scale; and an experimental scale consisting of 90 of the items in the experimental schedule possessing critical ratios of 3 or greater for extreme quartile comparisons. The following socio-economic data were also available in numerical form for both samples: cash income per **ammain**; net wealth per family; expenditure for living per **ammain**; and total money value of living per **ammain**.[1] The most relevant non-quantitative data related to socio-economic status available for both groups was tenure status.

The major test of the validity of the scale was made by correlating the socio-economic status scale scores with the above criteria of socio-economic status for the families in the standardization samples.[2] When this was done, the results obtained were:[3]

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[1] These data were calculated from actual income, wealth, and expenditure figures taken from the social correlatives of farm tenure status study. For a discussion of the exact meaning of these terms see Williams and Zimmerman, *Op. cit.*, pp. 3-6. For references to the scales used in the validity tests see Part I.

[2] On the basis of existing evidence, no one of these criteria could properly be termed an adequate criterion of the socio-economic status of farm families; but all were used for this purpose because they constituted the best available criteria of the variable against which the validity of the scale could be tested. In this connection it should be pointed out that where completely acceptable criteria are not available, general conformity rather than perfect agreement with the validation criteria is perhaps the best indication of validity.

[3] Unless otherwise stated, all coefficients presented in this study were computed according to the Pearson product-moment method.

For the 257 Oklahoma farm families

Status Scale and Chapin's S. S. S., 1933 _____0.80

Status Scale and Dickins' revision of S. S. S., 1933 _____0.82

Status Scale and Clark's Rural Home Equipment Scale_____0.71

Status Scale and Experimental Scale _____0.97

Status Scale and Cash income per **ammain**_____0.37

Status Scale and Net wealth per family_____0.57

Status Scale and Expenditures for living per **ammain** _____0.52

Status Scale and Total money value of living per **ammain**_____0.51

For the 781 Oklahoma farm families

Status Scale and Cash income per **ammain**_____0.63

Status Scale and Net wealth per family_____0.55

Status Scale and Expenditures for living per **ammain** _____0.63

Status Scale and Total money value of living per **ammain**_____0.67

These validity coefficients are all highly significant[4] and are indicative of the close general relationship between the socio-economic status scale scores and the various independent criteria of socio-economic status. The relationship between each of the four scales designed to measure socio-economic status and the present scale is very close. In terms of these scales the present scale may be said to possess high validity. In comparison with validity coefficients presenetd by other investigators, these coefficients are quite satisfactory. Chapin presents coefficients of 0.69 and 0.51 for his scale with the Sims Score Card and the Holley scale respectively;[5] while Leahy offers a coefficient of 0.94 for her scale with the Sims Score Card.[6] The coefficients of the present scale with the four remaining criteria are not as high as were its coefficients with the socio-economic status scales. However, these coefficients indicate a sufficiently close relationship to be accepted as additional evidence of the validity of the scale.

One further correlation test of the validity of the scale was made by computing a multiple correlation, based on the standardization sample composed of 257 familes, using the scale score as the dependent variable and the Chapin scale score, the Clark scale score, and total money value of living per **ammain** as independent variables. The resulting coefficient was 0.83. This is a highly significant coefficient, and since it is relatively high it may be interpreted as an additional indication of the high degree of validity possessed by the scale.

In addition to the correlation tests of validity, a test was made of the ability of the scale to differentiate between tenure status groups that are generally considered to occupy different socio-economic levels. In this test, the schedules for 1190 Oklahoma farm families were scored and classified as to tenure status. The mean scale scores were then determined for each tenure group; and the differences between mean scores, the standard error of these differences, and the critical ratios were calculated. The results are shown in Table 7. It is apparent from the table that on the basis of the magnitude of the mean scale scores the families of owners rank first, tenants second, and laborers third. This is in keeping with known characteristics of these groups. Furthermore, the critical ratios indicate that the differences betwen the various tenure groups are all highly significant. There-

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[4] When the term "highly significant" is used it means that the correlation coefficient exceeds the one percent level of significance. All coefficients in this study were tested using Fisher's test for correlation coefficients as given by Snedecor. See *Statistical Methods*, (revised edition) Table 7.2, p. 133.

[5] Cited in Leahy, *Op. cit.*, p. 58.

[6] *Ibid*, p. 57.

fore, it may be concluded that the scale possesses the capacity to differ-
entiate between groups that are generally known to differ in socio-economic
status; and this may be accepted as further evidence of the validity of the
scale.

**Table 7. Mean Socio-Economic Status Scale Scores, Differences Between
Mean Scores, and Critical Ratios for Various Tenure Status
Groups Among 1190 Oklahoma Farm Families**

Tenure Status Group	Num- ber	Mean Score	Tenure Status Group	Num- ber	Mean Score	Differ- ence Between Means	Standard Error of the Differ- ence Between Means	Critical Ratio
Owners	438	158.7	Tenants	608	141.0	17.7	1.38	12.83
Owners	438	158.7	Laborers	144	125.0	33.7	1.62	20.80
Tenants	608	141.0	Laborers	144	125.0	16.0	1.47	10.88

Since each of the validity tests indicates that a close general relation-
ship exists between socio-economic status as measured by the scale and
several other criteria of the same variable, it may be concluded that the
scale measures the socio-economic status of Oklahoma farm families in a
satisfactory manner and is therefore a valid scale.

The Reliability of the Scale

The next step in the standardization of the scale involved the determi-
nation of its reliability. Several techniques have been developed for this
purpose. These all involve the correlation of two scores made on the same
or equivalent forms of a test by the same individuals. The resulting coef-
ficients are termed "reliability coefficients." While no absolute standards
may be set, a safe practice in psychological, educational, and sociological
measurement is to accept as reliable a test whose reliability coefficients
closely approach or exceed 0.90.

A very common way of determining the reliability of a scale is to ad-
minister the scale and repeat it, or an equivalent form of it, on the same
group after a period of time has elapsed. The scores on each test for each
individual in the group are then correlated to determine the reliability of
the scale. This is known as the "test-retest method." Another technique
is to correlate one-half of the items in the scale with the other half. The
resulting coefficient is called the "split-half reliability coefficient." It is
usually corrected for attenuation by the Spearman-Brown formula.[7] A third
technique, known as "simultaneous scoring," involves the correlation of
scores assigned to the same subjects by two investigators administering the
test simultaneously.

In the present study all three techniques were used. First, the scale
was divided into halves composed of the even numbered and the odd num-
bered items. The scores on these halves were correlated for the two stan-
dardization groups consisting of 257 and 781 families. The resulting reli-
ability coefficients were 0.83 and 0.86, respectively. When corrected by the
Spearman-Brown formula, they became 0.91 and 0.92.[8] These coefficients
are all highly significant and may be considered satisfactory, since they
equal or surpass the usual standard and compare favorably with those com-

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[7] For this formula see H. Sorenson, *Statistics for Students of Psychology and Education,*
    p. 342.

[8] The validity of this formula for use in this connection has been questioned by several
    workers. However, it was applied to the split-half correlations in this study to
    make them comparable with those reported by other writers.

puted by this method for similar scales. Chapman and Sims reported corrected coefficients of 0.77; Sims, 0.91; Heilman, 0.87; Chapin, 0.90; Burdick, 0.50; McCormick, 0.96; and Leahy, 0.92.

The second test of the reliability of the scale was made by correlating the scores assigned simultaneously by two investigators to 60 farm families in Payne, Noble and Pawnee Counties, Oklahoma. The resulting coefficient was 0.99. This coefficient is, of course, highly significant and indicates that the scale possesses a very high degree of reliability.

A third test of reliability was made by correlating the scores made on 40 retests with the original scores made by these families. The interval elapsing between the two ratings was from four to six weeks. The resulting coefficient was 0.90. Although this is a highly significant coefficient and gives further proof of the reliability of the scale, it is somewhat lower than the test-retest coefficient (0.98) reported by Chapin for his Social Status Scale, 1933.[9]

Since the reliability coefficients for the present scale computed by all three methods satisfy the usual standard and compare favorably with those reported for similar scales, it may be concluded that the scale measures the socio-economic status of Oklahoma farm families with a high degree of consistency and is therefore a reliable measuring instrument.

THE PURPOSE OF THE STUDY ACCOMPLISHED

The original purpose of the study was to construct and standardize a simple scale that would give quantitative expression to the nature and extent of the variations existing in the socio-economic status of Oklahoma farm families. Since the scale constructed has demonstrated clearly its ability to produce a valid and reliable measurement of the socio-economic status of Oklahoma farm families, the conclusion is warranted that the objective of the study has been achieved. Therefore, this report may be closed after presenting a final form of the scale, discussing the possible uses for which the scale may be recommended, and suggesting several problems demanding further research that have become apparent as the study progressed.

THE FINAL FORM OF THE SCALE

In order to facilitate use of the scale, the separation of the items according to indexes was abandoned and the items were rearranged in a form that field experience had shown to be more economical in time and effort. Therefore, in the final form of the scale no indication is to be found of the index represented by any item. This may be determined, however, by referring to the preliminary form of the scale reproduced on pages 44-45. The guiding principle followed in the rearrangement of the items was that related questions should appear successively, so that each question might facilitate the process of obtaining the answers to later questions. The final form of the scale, to be known as the Farm Family Socio-Economic Status Scale, is reproduced on pages 51-52. The complete instructions for its use, including both explanations of the items and directions for scoring, are to be found in Appendix H.

USES FOR WHICH THE FARM FAMILY SOCIO-ECONOMIC STATUS SCALE IS RECOMMENDED

The scale will be useful in situations where a quantitative description of farm family socio-economic status is necessary. This description should

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[9] This may in part be explained by the fact that Chapin held the interviewer factor constant by having the retest administered by the same person who made the original rating. while in the present case the families were rated by different interviewers.

THE FARM FAMILY SOCIO-ECONOMIC STATUS SCALE

No._____ Date_____ Scale score_____

Interviewer _____

General Information

Name of family_____

Post office address_____ R. F. D. No._____

County_____ State_____

Tenure status _____ Race_____

SCORE	SCALE ITEMS	SCORE IF

| SCORE | SCALE ITEMS | SCORE IF Y N |

SCORE   SCALE ITEMS   SCORE IF
                                          Y   N

_____ 1. Construction of house:

      Brick, stucco, etc.,   Unpainted frame
      or painted frame   or other
      Score: 5   3

_____ 2. Room-person ratio:

      Number of rooms?_____ ÷ Number of
         persons?_____ = _____
      Ratio: Below 1.00   1.00-1.99   2.00-2.99   3.00 and up
      Score: 3   5   . 7   9

_____ 3. Separate dining room? Y—N   6   3

_____ 4. Separate kitchen? Y—N   6   3

_____ 5. Separate living room? Y—N   6   3

_____ *6. Living room floors finished? Y—N   7   4

_____ *7. Living room woodwork finished? Y—N   5   2

_____ *8. Living room wall construction:

                Wall   Building paper
        Plaster   board   Ceiling   or no inside wall
      Score: 6   5   4   2

_____ *9. Living room walls decorated? Y—N   5   2

_____ *10. Living room floor covering:

                             Linoleum or
         Rugs or carpets   bare floors
      Score: 6   3

_____ *11. Shades and curtains or drapes on living room
        windows? Y—N   5   2

_____ *12. Living room lounge:

         Divan, davenport,   Day bed or   Bed, cot,
        or studio couch   couch   or none
      Score: 6   5   3

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* Questions 6 to 12 pertain to the living room only.

SCORE	SCALE ITEMS	SCORE IF

		Y	N

_____ 13. Lighting facilities:

	Electric	Gas, mantle, or pressure	Oil lamps, others or none
Score:	8	6	3

		Y	N
_____ 14. Water piped into house? Y—N		8	4
_____ 15. Kitchen sink? Y—N		7	4
_____ 16. Linoleum on kitchen floor? Y—N		5	2
_____ 17. Power washer? Y—N		6	3

_____ 18. Refrigerator:

	Mechanical	Ice	Other or none
Score:	8	6	3

		Y	N
_____ 19. Radio? Y—N		6	3
_____ 20. Telephone? Y—N		6	3
_____ 21. Automobile? (other than truck) Y—N		5	2
_____ 22. Furniture insured? Y—N		7	4
_____ 23. Family takes a daily newspaper? Y—N		6	3

_____ 24. Number of magazines regularly taken? _____

Number:	0-1	2-3	4-5	6 and up
Score:	3	5	7	8

_____ 25. Approximate number of books in the home? _____

Number:	0-7	8-49	50-99	100 and up
Score:	3	5	7	8

_____ 26. Wife's education? (grades completed) _____

Number:	0-7	4	9-11	12	13 and up
Score:	2	8	6	7	8

_____ 27. Husband's education? (grades completed) _____

Number:	0-7	8	9-11	12	13 and up
Score:	3	5	6	7	8

		Y	N
_____ 28. Husband's life insured? Y—N		6	3
_____ 29. Husband a church member? Y—N		5	3
_____ 30. Husband attends church? (¼ of meetings) Y—N		5	2
_____ 31. Husband attends Sunday school? (¼ of meetings) Y—N		6	3
_____ 32. Husband a member of a farm cooperative? Y—N		8	4
_____ 33. Wife a church member? Y—N		5	2
_____ 34. Wife attends church? (¼ of meetings) Y—N		5	2
_____ 35. Wife attends Sunday school? (¼ of meetings) Y—N		6	3
_____ 36. Wife a member of an extension or P. T. A. group? Y—N		8	4

_____ SCALE SCORE.

prove more exact and more easily obtainable than any other reliable estimate gained by the use of techniques now available. The scale may not be thought of as a substitute for budget studies where these data are employed to determine the nature of consumption habits. However, it may be used in all situations where budget study is usually employed for the purpose of ascertaining the socio-economic status or plane of living of farm families.[10]

In researches where the relationships between socio-economic status and social, economic, psychological, biological, or educational phenomena are being studied, the scale may be used to obtain a quantitative evaluation of the farm family socio-economic status variable. This will make possible the use of correlation and other statistical techniques for the expression of these relationships.

Experimental studies in rural sociology await the development of sociometric scales that may be employed to measure and control important variables. The present scale provides one such instrument that may be used in experimental situations involving farm family socio-economic status either directly or indirectly.

In the field of rural social engineering, the planner is confronted with many situations in which an objective estimate of the socio-economic status of the farm families with which he must deal should prove helpful. In rural rehabilitation programs, especially in resettlement work, and in community planning, an easily available and objective description of the socio-economic status of the families involved, such as the present scale provides, will furnish a basis upon which to plan practical programs.

Rural social work, like social work in other fields, is coming to depend more and more on standardized scales and indexes that provide objective numerical descriptions of home conditions. This is especially true in problems of child placement and juvenile delinquency work. In this connection the present scale should prove useful.

There are many situations in which agricultural extension and home demonstration workers could more efficiently expend their efforts on certain socio-economic status groups if some valid and reliable means were available for selecting the families representing these groups. The present scale may provide an adequate basis for this selection.

There are doubtless many other uses for which the Farm Family Socio-Economic Status Scale may be recommended. However, those mentioned should suffice to suggest the general uses that may be made of it.

PROBLEMS DEMANDING FURTHER STUDY

The construction and standardization of the Farm Family Socio-Economic Status Scale by no means solves permanently the problem of the measurement of farm family socio-economic status. Probably the first major need is for evidence concerning the validity and reliability of the scale in other rural areas. Certainly the scale will be much more useful if it can be demonstrated that its validity and reliability hold in many and diverse rural situations. Tests are already being made in several areas.

Although field experience has shown that the present scale is easily applicable, its usefulness will be considerably enhanced if its length may be reduced without sacrifice in its validity and reliability. At the present time the writer is making an exhaustive study of this problem. Preliminary results indicate that the social participation items may be dropped without any sacrifice in so far as the present Oklahoma sample is concerned. How-

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[10] Even though the scale was designed for use on the rural farm population of Oklahoma, there is good reason to believe that it will prove useful in other areas. The basis of this statement is that the construction sample included families representing all possible levels of farm family socio-economic status.

ever, a definite conclusion on this point must be withheld pending further evidence both for Oklahoma and other areas.[11]

A further problem of practical and technical importance is to determine whether the items of the scale measure a single common factor. Preliminary analysis indicates that they do;[12] but more detailed analyses, both of the separate items and of the indexes based on samples from this and other areas, must be made before an adequate answer may be given to this question.

Another problem of considerable importance will be to develop a more adequate system of weights for the scale items. Recently, techniques have been developed for weighting items according to the extent to which they measure a common factor. It will, perhaps, be worth while to attempt to utilize these at some time in the future. It may also be necessary to devise new sets of weights for other culture areas.

Since the scale was based on unbroken families, question may be raised concerning its applicability to broken and non-family groups. Data on this question are now being gathered in this and several other states. The evidence now at hand seems to indicate that the scale produces satisfactory results when applied to such groups in Oklahoma;[13] but much more evidence will be necessary before a satisfactory conclusion may be reached regarding this question.

Another problem for further study is to determine the value of the scale for application to rural Negro, Indian, and other racial groups. The usefulness of the scale will be considerably enhanced if it can be established that it works equally well on all racial and nationality groups.

Since the scale was constructed and standardized on families living in the open country, no claim can be made for its usefulness in rating village families. A problem for further research will be to test its value as an instrument for the measurement of the socio-economic status of rural non-farm families.

A scale, such as the present one, based entirely on culture traits of one type or another must of necessity be revised from time to time to compensate for changes in the rural culture. Item analysis may show that certain items are less affected by cultural change than others. It is possible that a group of items relatively unaffected by change may be discovered and combined into a stable scale for the measurement of farm family socio-economic status.

It is hoped that other research workers will give consideration to these and other problems that grow out of their experience with the Farm Family Socio-Economic Status Scale.

[11] For a comparison of the validity and reliability coefficients of the scale with and without the social participation items, see Appendix E.

[12] The evidence regarding the separate indexes is shown in Appendix F.

[13] The validity and reliability coefficients based on 152 Oklahoma broken and non-family groups are shown in Appendix G.

PART V:
SUMMARY AND CONCLUSIONS

The purpose of the study was to construct and standardize a simple scale that would give quantitative expression to the nature and extent of the variations existing in the socio-economic status of Oklahoma farm families.

A review of the existing literature on the subject revealed that no similar scale had ever been constructed and standardized for use on rural-farm families. However, from the literature in this and related fields, it was apparent that the construction and standardization of a farm family socio-economic status scale would prove to be a feasible project. The general methodological basis for the study was suggested by the research results of workers in the urban field.

Chapin's definition of socio-economic status as " . . . the position that an individual or family occupies with reference to the prevailing standards of cultural possessions, effective income, material possessions, and participation in the group activities of the community" was accepted as the working definition for this study since it is so stated that it may be brought to the test of existing facts.

Over two hundred material and non-material culture traits representing the major components of socio-economic status as defined were gathered from various sources. After careful consideration of each item, 123 were selected for further analysis. These were grouped by specialists in rural life under the components of status they were considered to best represent. A total of 37 items representing cultural possessions, practices, and achievements were classified as Cultural Possessions. One item, net spendable income per ammain, was assigned to the component, Effective Income. Under Material Possessions, 34 items bearing on housing and home conveniences were subsumed. A group of 51 items concerning the participation activities of the husband and wife was placed under Social Participation in Group Activities.

These items were formulated along with other closely related items into an experimental schedule to be used in obtaining the data for the construction of the scale.

The sample area for the study was selected to represent the state, and in so far as possible, other rural areas. Three counties were included in the sample area. These counties, Haskell, Cotton, and Major, were shown to represent: (1) three of the major types-of-farming areas of the state; (2) the low, medium, and high areas of the state in percentage of farm tenancy; (3) the low, medium, and high areas of the stae in rural farm plane of living; and (4) three widely separated geographic areas. Within the sample area, all variations of farm family socio-economic status are to be found.

From the sample area, a total of 800 schedules was taken in as nearly a random manner as possible from unbroken white families residing in the open-country areas. The schedules were gathered by a crew of trained field workers. The sample was shown to represent the rural farm population of the separate counties, the sample area, and the state in regard to tenure status of farm operator and median size of family.

The data from these schedules were edited and tabulated and were found to be adequate for the construction of a scale. Several methods of item analysis were considered before an attempt was made to construct the scale. After studying the advantages and limitations of each, the method of internal consistency was chosen as the best suited to the data of the present study. The most important reasons for the selection of this method were: (1) the fact that it may be used where no suitable external criterion of the

[55]

variable exists; (2) the relative ease with which it may be applied; and (3) the fact that it yields results that are as satisfactory as those produced by more laborious methods.

The procedure for item analysis was worked out especially for this study. It included the following steps: (1) Each experimental schedule was scored by summing the total number of items possessed. (2) On the basis of this preliminary score, the 800 schedules were divided into fourths. The first quartile contained the 200 lowest-scoring schedules; the second, the next highest 200; the third, the next highest 200; and the fourth, the 200 highest. (3) The percentage frequency of occurrence of each item in each quartile was computed. (4) The percentage difference in the occurrence of each item between the successive and the extreme quartiles was computed. (5) The significance of these differences was determined by computing the ratio of each difference to its standard error. This ratio is known as the critical ratio. (6) The critical ratios for each item were examined and every item possessing a critical ratio of two or greater for each of the quartile comparisons was designated a valid item.

A total of 41 items met the standard set for retention. Of these, 5 were dropped for various reasons. The remaining 36 items were combined into a preliminary farm family socio-economic status scale. Of the retained items, 15 represented the Material Possessions component of socio-economic status; 13, the Cultural Possessions component; and 8, the Social Participation component.

Sigma scoring was adopted for scoring the scale items. The scores for the retained items were calculated and assigned to the proper descriptions.

The validity of the scale was determined by several tests. First, validity coefficients were calculated for the scale with the following independent criteria of socio-economic status: the Chapin Social Status Scale, 1933; the Dickins revision of the Chapin scale; the Clark Rural Home Equipment Scale; an experimental scale developed in the present study; cash income per **ammain**; net wealth per family; expenditures for living per **ammain**; and total money value of living per **ammain**. The coefficients with the four scales based on a sample of 257 Oklahoma farm families ranged from 0.71 to 0.97. The coefficients with the remaining criteria ranged from 0.37 to 0.57 for the 257 families. With the same criteria, the coefficients based on a sample consisting of 781 Oklahoma farm families ranged from 0.55 to 0.67. The close general agreement between the scale scores and these independent criteria of socio-economic status was interpreted as evidence of the validity of the scale.

Second, a multiple correlation, based on the 257 families, was calculated for the scale with the Chapin scale, the Clark scale, and total money value of living per **ammain**. The resulting high coefficient, 0.83, was accepted as an additional indication of the validity of the scale.

Third, using a group of 1,190 Oklahoma farm families, a practical test of validity was made by computing the mean socio-economic status scale scores, the differences between mean scores, and the significance of these differences in terms of critical ratios for the following farm tenure status groups: owners, tenants, and laborers. That the scale differentiated sharply between these groups, which are generally considered to occupy different socio-economic levels, was revealed by the highly significant differences in their mean scores.

Since the scale met in a satisfactory manner every test posited, it was concluded that it measures the socio-economic status of Oklahoma farm families and therefore may be considered a valid measuring instrument.

To determine the reliability of the scale, three techniques were used. First, the corrected split-half coefficients were determined for the two

standardization samples consisting of 257 and 781 families. These were 0.90 and 0.92, respectively. Second, the coefficient resulting from correlating the scores assigned to 60 Oklahoma farm families by two interviewers working independently was calculated. This proved to be 0.99. Third, the coefficient resulting from correlating the scores made by a group of 40 families with scores made by the same families after an interval of several weeks had passed was calculated. This was 0.90. Since all of these coefficients exceeded the usual standard for reliability coefficients and equalled or exceeded those reported by others working with similar scales, it was concluded that the scale measures the socio-economic status of Oklahoma farm families in a consistent manner. It therefore may be considered a reliable scale.

The items of the scale were rearranged to facilitate its application and the resulting form was named the Farm Family Socio-Economic Status Scale. It was recommended for use in all practical situations where an easily available objective and quantitative description of the socio-economic status of farm families is needed.

Several problems for further study were suggested. The more important ones mentioned involve the following: the standardization of the scale in other areas; the reduction of the length of the scale; the factor analysis of the scale; the standardization of the scale on broken farm families, Negro and other racial groups, and village families; and the revision of the scale from time to time to meet changes in the rural culture. Brief reference was made to the results now available from preliminary studies of several of these problems.

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APPENDIX A. DISTRIBUTION OF ITEMS IN THE
EXPERIMENTAL SCHEDULE

I. Cultural Possessions (36 Items)

A. Cultural Possessions (25 Items)

In Living Room:

*1. Floor covering
a. **large rugs**
b. **small rugs**
c. linoleum
d. carpet
e. none

2. Two or more arm chairs

*3. Lounge
a. **davenport** or **divan**
b. **studio couch**
c. **couch**
d. **day bed**
e. bed or cot
f. bench
g. none

4. Upholstered living room suite

5. No alarm clock in the room

6. Clock (other than an alarm)

7. Pictures (other than calendars) on the wall

8. Less than 2 calendars on the wall

9. Occasional table

*10. Window decoration
a. **shades, curtains, drapes**
b. **shades, curtains**
c. shades
d. none

11. Library table

12. Personal-social desk

13. Magazine rack

14. Footstool

15. Sofa pillows

16. Piano bench

Anywhere in the House

17. Radio

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* Credit given only for those descriptions in bold type.

18. Piano

19. Other musical instrument

20. Book case

*21. Books
a. 0-7	d. 50- 74	g. 150-199
b. 8-24	e. 75- 99	h. 200-299
c. 25-49	f. 100-149	i. 300 and up

*22. Magazines
a. 0-1	c. 4-5	e. 8 and up
b. 2-3	d. 6-7	

23. Weekly newspaper

24. Daily newspaper

25. Family owns automobile other than truck

B. Cultural Practices (11 Items)
    26. Hired help in the house
    27. Insurance on furniture
    28. Life insurance (on husband)
    29. Life insurance (on wife)
    30. Member of family takes extension course
  *31. Husband's education
a. none	d. 4-5	g. 10-11	j. college grad.
b. 1 grade or less	e. 6-7	h. 12	
c. 2-3	f. 8-9	i. some college	

  *32. Wife's education
a. none	d. 4-5	g. 10-11	j. college grad.
b. 1 grade or less	e. 6-7	h. 12	
c. 2-3	f. 8-9	i. some college	

    33. Family had a vacation away from the farm in the past year
    34. Husband plays musical instrument
    35. Wife plays musical instrument
    36. Family has received no direct relief in past year

II. **Effective Income Per Ammain** (1 Item)
  A. Measured by the Sydenstricker-King Scale
*1. a. less than $ 50	d. 150-199	g. 500-749
b. $ 50-99	e. 200-299	h. 750-999
c. 100-149	f. 300-499	i. 1000 and up

III. **Material Possessions** (35 Items)

  A. Housing (24 Items)

    1. Lawn (in summer)

    2. Flower garden (in summer)

  *3. Construction material of house
    a. **brick, stucco, tile, cement**
    b. **frame** (painted)
    c. frame (unpainted)
    d. logs, etc.

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* Credit given only for those descriptions in bold type.

*4. Heating facilities
   a. **furnace**
   b. **circulator**
   c. stove
   d. range
   e. fireplace
   f. none

*5. Drinking water
   a. **piped in house**
   b. pump
   c. bucket
   d. none

*6. Artificial lights
   a. **electric**
   b. **gas**
   c. **acetylene, carbide, pressure**
   d. kerosene

*7. Toilet facilities
   a. **indoor**
   b. outdoor
   c. none

*8. Sewage disposal system
   a. **cesspool or septic tank**
   b. drain
   c. none

9. Separate living room

10. Separate dining room

11. Separate kitchen

12. Bath room

*13. Room per person ratio
   a. 0.00-0.49   e. **2.00-2.49**
   b. 0.50-0.99   f. **2.50-2.99**
   c. 1.00-1.49   g. **3.00 and up**
   d. **1.50-1.99**

14. Screens on doors and windows (in summer)

15. Living room floor finished

*16. Living room inside wall construction
   a. **plaster**   d. building paper
   b. **wall board**   e. none
   c. ceiling

*17. Living room inside wall decorated
   a. **decorative plaster**
   b. **wall paper**
   c. **painted**
   d. building paper, newspaper, other, or none

18. Living room woodwork finished

19. Two or more windows in living room

---

* Credit given only for those descriptions in bold type.

20. Clothes closet off the living room

21. Running water in the kitchen

22. Kitchen sink

*23. Insurable value of dwelling
    a. 0-$49   **f. 400-499**
    b. 50- 99   **g. 500-749**
    c. 100-199   **h. 750-1499**
    d. 200-299   **i. 1500 and up**
    e. 300-399

24. Family owns other real estate

B. Household Equipment and Conveniences (11 Items)

25. Telephone

*26. Washer
    a. **power**
    b. hand
    c. tubs
    d. none

*27. Refrigerator
    a. **mechanical**
    b. **ice**
    c. other or none

28. Pressure cooker

29. Linoleum on kitchen floor

*30. Kitchen range
    a. **electric or gas**
    b. **oil or gasoline**
    c. coal or wood
    d. other cook stove

*31. Iron
    a. **electric**
    b. **fuel**
    c. flat iron

32. Sweeper
    a. **electric**
    b. **mechanical**
    c. hand, or other

33. Sewing machine

34. Dining room suite

35. Kitchen cabinet

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* Credit given only for those descriptions in bold type.

IV. **Participation in Group Activities** (51 Items)

A. Husband (27 Items)

B. Wife (24 Items)

Member of
1. Church
2. Sunday school
3. Other church groups
4. Educational groups
5. Farm cooperative
6. Other economic groups
7. Lodge
8. Patriotic or civic groups
9. Recreational groups

Member of
28. Church
29. Sunday school
30. Other church groups
31. Agricultural extension groups
32. Lodge
33. Other organized social groups
34. Recreational groups
35. Economic groups

Attends
10. Church
11. Sunday school
12. Other church groups
13. Educational groups
14. Farm cooperative
15. Other economic groups
16. Lodge
17. Patriotic or civic groups
18. Recreational groups

Attends
36. Church
37. Sunday school
38. Other church groups
39. Agricultural extension groups
40. Lodge
41. Other organized social groups
42. Recreational groups
43. Economic groups

Has held office in
19. Church
20. Sunday school
21. Other church groups
22. Educational groups
23. Farm cooperative
24. Other economic groups
25. Lodge
26. Patriotic or civic groups
27. Recreational groups

Has held office in
44. Church
45. Sunday school
46. Other church groups
47. Agricultural extension groups
48. Lodge
49. Other organized social groups
50. Recreational groups
51. Economic groups

APPENDIX B. The Experimental Schedule*

Social Correlatives of Farm Tenure Status 1937-1938.

A. HEAD OF HOUSEHOLD

1. Location of farm: Section _____ Township _____ Range _____

Residence	(a) Place of Birth	(b) Present Address
2. State	_____	_____
3. County	_____	_____
4. P. O. Address	_____	_____
5. ( ) 1. Farm ( ) 2. Rural Non-Farm ( ) 3. Urban		Route No.

B. Tenure Status	a. Total Acres Operated	b. Acres Owned	c. Acres Rented	
1. Owner				**C. RACE**
a. Mortgage free	_____	_____	_____	( ) 1. White ( ) 2. Negro
b. Mortgaged	_____	_____	_____	( ) 3. Other _____
2. Renter			**d. Relationship to Lld.**	**D. LANDLORD**
				1. Name _____
a. Cash	_____	_____		2. Address _____
b. Share	_____	_____		3. Occupation _____
3. Cropper	_____	_____		4. Sex M F
4. Laborer				**E. CONDITION—FARM GOOD FAIR POOR**
a. Share	_____	_____		1. Land ( ) ( ) ( )
b. Wage	xxxxxxxxx	_____		2. House and grounds ( ) ( ) ( )
5. Squatter	_____	_____		3. Other Improvements ( ) ( ) ( )

* The mimeographed schedule used in the field is here transcribed intotype as nearly exactly as possible, the only changes being minor variations in spacing and arrangement.

A. HOUSE AND GROUNDS

1. Lawn (summer) Y N
2. Flower garden (summer) Y N
3. Age of dwelling_____
4. Construction material of house_____
5. If frame, is it painted? Y N When_____
6. Main source of heat in winter (circle)
   a. Furnace; b. Circulator; c. Stove; d. Range; e. Other_____
7. Source of drinking water (circle)
   a. Well; b. Spring; c. Other_____
8. Water (circle) a. Piped in house; b. Pump;
   c. Bucket; d. Other_____
9. Source of light (circle) a. Electric; b. Mantle lamps (   )
   c. Kerosene (   ) d. Other_____

C. LIVING ROOM FURNITURE

Is/are there:
1. Large rug Y N
2. Small rugs Y N
3. Other floor covering Y N Type _____
4. Arm chairs Y N (   ) a. Upholstered. (   )
5. Straight chairs   Y N   (   )
6. Lounge (circle) a. Davenport; b. Day Bed; c. Studio Couch;
   d. Couch; e. Bed; f. Cot; g. None; h. Other_____
7. Living room suite Y N
8. Alarm clock   Y N
9. Other clock   Y N
10. Pictures on wall Y N (   )
11. Calendar (number)   (   )

12. Wall mirror	Y	N	17. Foot stool	Y	N
13. Fancy pillows	Y	N	18. Piano bench	Y	N
14. Small tables	Y	N	19. Cabinet ( )	Y	N
15. Library table	Y	N	20. Mag. rack	Y	N
16. Writing desk	Y	N	21. Book case	Y	N

22. For what other purpose than a living room is it used?_____

B. LIVING ROOM CONSTRUCTION

1. Type of floors (circle) a. Hardwood; b. Soft-
   wood; c. Other _____
2. Are floors finished? Y N
3. Wall Construction (circle) a. Plastered; b. Ceiled;
   c. Other _____
4. Walls (circle) a. Painted; b. Papered; c. Un-
   decorated; d. Fancy Plastered; e. Other_____
5. Woodwork (circle) a. Painted; b. Stained; c. Var-
   nished; d. Unfinished
6. Number of Windows (   )
7. Are there: (circle) a. Window shades; b. Curtains;
   c. Drapes
8. Fireplace Y N
9. Closet off the room Y N
10. Toilet facilities (circle) a. Indoor;
    b. Outdoor; c. Other_____
11. Type of sewage disposal_____
12. Rooms in House:

a. Separate dining room	Y	N
b. Separate living room	Y	N
c. Separate kitchen	Y	N
d. Bed rooms (number)	(	)
e. Bath rooms (number)	(	)
f. Total rooms (number)	(	)
g. Total rooms in use	(	)

13. Screens (summer)   Y   N

D. RATINGS (Answer after leaving house)

1. Living room (circle best description)
   a. Orderliness of room and furnishings
      1. Articles strewn about in disorder
      2. Articles in place and in usable order
   b. Condition of furniture
      1. Broken, scratched, frayed, or torn
      2. Patched up
      3. In good repair
   c. General impression of good taste
      1. Bizarre, clashing, or offensive
      2. Drab, monotonous, or inoffensive
      3. Attractive in a positive way
   d. Cleanliness of room and furnishings
      1. Spotted and stained
      2. Dusty
      3. Spotless and dustless

E. OTHER FURNITURE AND CONVENIENCES

Does Family Own

1. Radio   Y   N
2. Phonograph   Y   N
3. Piano   Y   N
4. Organ   Y   N
5. Other musical instruments _____
6. Telephone   Y   N   Service available   Y   N
7. Washing machine (circle) a. Power; b. Hand;
   c. Other _____
8. Ice box   Y   N (circle) a. Mechanical; b. Ice;
   c. Other _____
9. Kitchen cabinet   Y   N   Type_____
10. Pressure cooker   Y   N
11. Kitchen sink   Y   N
12. Running water in kitchen   Y   N
13. Linoleum on kitchen floor   Y   N
14. Kitchen range   Y   N: a. Other_____
    b. Type of fuel _____
15. Iron   Y   N (circle) a. Electric; b. Fuel;
    c. Other _____
16. Sweeper   Y   N   (circle) a. Electric; b. Mechanical;
    c. Other _____
17. Sewing machine   Y   N
18. Dining room suite   Y   N
19. Number of books in home   (   )

(APPENDIX B, Cont.)   II. COST OR VALUE OF LIVING   70

Oklahoma Agricultural Experiment Station

A. HOUSEHOLD OPERATIONS   **COST**
1. Repairs on house $_____
2. Bedding
3. Furniture, rugs, curtains, etc.
4. Kitchen utensils
5. Canning equipment
6. Wash tubs, brooms, soap, etc.
7. Radio, batteries
8. Musical instruments
9. Electrical equipment
10. Electric cost
11. Wood, coal, kerosene, etc.
  a. Wood cut on farm _____
12. Hired help in home Y N
13. Insurance on house Y N
14. Insurance on furniture Y N
15. Telephone
16. Ice
17.   Total

B. CLOTHING COST

	Man	Wife	Boys	Girls
1. Overalls, pants	$_____	$_____	$_____	$_____
2. Dresses, blouses	_____	_____	_____	_____
3. Shirts, sweaters	_____	_____	_____	_____
4. Suits, coats	_____	_____	_____	_____
5. Shoes, boots	_____	_____	_____	_____
6. Under-clothing	_____	_____	_____	_____
7. Hosiery	_____	_____	_____	_____
8. Night clothes	_____	_____	_____	_____
9. Ties, kerchiefs	_____	_____	_____	_____
10. Hats, caps	_____	_____	_____	_____
11. Total	_____	_____	_____	_____

C. FOOD   **VALUE**   **COST**
1. Food produced on farm
  a. Fruits and Vegetables $_____
  b. Pork, beef
  c. Poultry and products
  d. Dairy products
  e. Total
2. Groceries purchased
3.   Total

D. ADVANCEMENT   **COST**
1. School books $_____
2. Tuition
3. Extension courses Y N
4. Music lessons
5. Travel, vacation
6. Board and lodging children
  in school
7. Books for home
8. Church dues and charity
9. Clubs and organizations
10. Movies and amusement
11. Lodges (excluding insurance)
12. Newspaper—weekly Y N
13. Newspaper—daily Y N
14. Magazines (list) Y N
  a. _____
  b. _____
  c. _____
  d. _____
  e. _____
     Total

E. INCIDENTALS	COST	H. AUTOMOBILE EXPENSE	COST
1. Tobacco	$_____	1. Car a. Make_____	
2. Candy, soda fountain, alcoholic beverages	_____	b. Year_____ c. Model_____	$_____
3. Toilet articles, Barber, etc.	_____	2. Gasoline	_____
4. Gifts	_____	3. Oil and grease	_____
5. Photography	_____	4. Tires, tubes, and repairs	_____
6. Other spending money	_____	5. Painting and body repair	_____
7. Total	_____	6. License	_____
		7. Insurance	_____
F. INVESTMENTS	COST	8. Payments on purchase price	_____
1. Life insurance, Husband Y N	$_____	9. Accessories	_____
2. Life insurance, Wife Y N	_____	10. Other expense	_____
3. Stocks, bonds, etc.	_____	11. Total	_____
4. Mortgage payments	_____		
5. Other property expenses	_____	I. HEALTH	COST
6. Other investments	_____	1. Doctor	$_____
7. Total	_____	2. Hospital and nurse	_____
		3. Medicine	_____
G. RELIEF COMMODITIES RECEIVED	VALUE	4. Oculist, glasses	_____
1. Groceries	$_____	5. Dentist	_____
2. Clothing	_____	6. Births	_____
3. Bedding	_____	7. Deaths, burials	_____
4. Fuel	_____	8. Health insurance	_____
5. Medicine	_____		
6. Total	_____	9. Total	_____

III.. SOURCES OF INCOME IN 1937   IV.   ASSETS

	AMT. REC'D.		VALUE
		(Circle if not owned)	
Sales: 1. Principal crop ( )	$ _____	1. Land	$ _____
a. Other crops	_____	2. Dwelling (insurable value)	_____
2. Livestock	_____	3. Other buildings (insurable value)	_____
3. Milk, cream, butter	_____	**Livestock** **Number**	
4. Chickens and eggs	_____	4. Horses, mules a. _____	_____
5. Agricultural conservation payments	_____	5. Beef cattle b. _____	_____
6. Other farm income	_____	6. Dairy cattle c. _____	_____
7. Farm wages, off own farm	_____	7. Hogs and pigs d. _____	_____
8. State or county road work	_____	8. Sheep, goats e. _____	_____
9. Works Progress Administration	_____	9. Chickens f. _____	_____
10. Civilian Conservation Corps	_____	10. Other poultry g. _____	_____
11. Emergency Conservation Work	_____	11. Crops and supplies on hand	_____
12. Agricultural committeeman	_____	12. Farm machinery and tools	_____
13. Direct relief (cash) Y N	_____	13. Truck, tractor	_____
14. Rehabilitation grant	_____	14. Automobile	_____
15. Oil leases	_____	15. Household goods	_____
16. Rents rec'd—Other property	_____	16. Cash and savings	_____
17. Gifts, inheritance	_____	17. Shares, bonds, etc.	_____
18. Other income (specify) _____	_____	18. Cash surr. value of life ins.	_____
19. Sub-Total	_____	19. Other real estate Y N	_____
20. Money borrowed in 1937	_____	20. Accounts receivable	_____
21. Total income	_____	21. All other assets	_____
22. Did you have a garden this year? Y N	_____	22. Total	_____

V. LIABILITIES

1. Mortgage on own land	$ _____	8. Delinquent taxes	$ _____
2. Farm Credit Administration	_____	9. Store accounts	_____
3. Production Credit	_____	10. Doctor bill	_____
4. Rehabilitation	_____	11. Other (specify) _____	_____
5. Bank	_____	12. Total liabilities	_____
6. Landlord	_____	13. Net wealth (code)	_____
7. Individual	_____		

VI. HISTORY OF MIGRATION AND TENURE

a.	b. Status Beginning Age 15	c. MOVES (write in the year)													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Tenure/Occupation																
2. Age at beginning of status																
3. Acres in Farm a. Owned																
b. Rented																
4. Land acquired a. Age																
b. Acres																
c. Purchase price																
d. Land debt																
5. Land sold a. Age																
b. Acres																
c. Price																
6. Land lost thru foreclosure, bankruptcy, etc.																
7. Value of personal property																
8. Debt on personal property																
9. Gratuitous Wealth rec'v'd. a. Age																
b. Amt.																
10. Extraordinary expense a. Age																
b. Amt.																

(VI. History of Migration and Tenure. Cont.)

11. Miles moved														
12. Changed school														
13. Changed trade center														
14. County (Name)														
15. State (Name)														

VII. HOUSEHOLD/FAMILY COMPOSITION AND CHARACTERISTICS

Line No.	MEMBERS OF HOUSEHOLD			Age in Year 1937	Living at Home	Year of Death	Age Left Home	Grade Completed	Grade if in School	Age at Marriage	MATE'S FATHER'S	
	Name	Relation to Head	Sex								Present Tenure or Occupation	Tenure / Occupation When Marriage Took Place
	a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.
		Head of Hsehold.										
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
9.												
10.												

OCCUPATION AND RESIDENCE STATUS OF CHILDREN

a. Line No. of Family	RESIDENCE			e. Miles from Home	f. Present Occupation	g. Number Children
	b. Address	c. State	d. Census Class			

VIII. FORMALLY ORGANIZED SOCIAL PARTICIPATION

Type of Organization	Name of Organization	Member	Attend-ance	Has Been Comm. Member	Has Held Office	Name of Organization	Member	Attend-ance	Has Has Held Office	Been Comm. Member
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.
OPERATOR				**HOMEMAKER**						
1. Church	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
2. Sunday school	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
3. Church group	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
4. P. T. A.	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
5. Agr. ext. grp.	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
6. Farm coop.	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
7. Other econ. grp.	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
8. Lodge	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
9. Recreational grp.	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
10. Patriotic grp.	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
11. Other	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
12. Other	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
13. Other	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N

l.	m.	n.	o.	p.	q.	r.	s.	t.	u.	v.
SON (Nearest 16 in age group 12-20)				DAUGHTER (Nearest 16 in age group 12-20)						
1. Church	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
2. Sunday school	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
3. Church group	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
4. 4-H or F. F. A.	xxxxxxxx	Y N	_____	Y N	Y N	xxxxxxxx	Y N	_____	Y N	Y N
5. H. S. class	_____	Y N	_____	Y N	Y N	_____	Y N		Y N	Y N
6. Debate club	xxxxxxxx	Y N	_____	Y N	Y N	xxxxxxxx	Y N	_____	Y N	Y N
7. Y. M. or Y.W.C.A.	xxxxxxxx	Y N	_____	Y N	Y N	xxxxxxxx	Y N	_____	Y N	Y N
8. B. or G. Scouts	xxxxxxxx	Y N	_____	Y N	Y N	xxxxxxxx	Y N	_____	Y N	Y N
9. Music club	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
10. Drama club	xxxxxxxx	Y N	_____	Y N	Y N	xxxxxxxx	Y N	_____	Y N	Y N
11. Social club	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
12. Athletic team	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N
13. Other	_____	Y N	_____	Y N	Y N	_____	Y N	_____	Y N	Y N

IX. INFORMAL SOCIAL ACTIVITY

a. Activity	b. Most freq. Attendant	c. Times past mo.	d. Activity	e. Most freq. Attendant	f. Times past mo.
1. Movies	F M S D	_____	6. Pleasure motor trips	F M S D	_____
2. Com'ty entertainment	F M S D	_____	7. Card parties	F M S D	_____
3. Dances	F M S D	_____	8. Visits friends	F M S D	_____
4. Revivals	F M S D	_____	9. Visits relatives	F M S D	_____
5. Athletic events	F M S D	_____	10. Hunting or fishing	F M S D	_____

g. Tenure or occupational Status of three (3) families in this community with which this family is most intimate.
    1._____   2._____   3._____.
h. Did family take a vacation away from farm last year? Y   N Number of days _____.
i. Members of the family play musical instruments? Father Y   N; Mother Y   N; Sons Y   N; Daughters Y   N.
j. Members of family take music lessons? Sons Y   N; Daughters Y   N.

Item Description	Percentage of Occurrence of Items in Successive Quartiles of the Entire Population				Percentage Difference in the Occurrence of Items in Successive and Extreme Qartiles of the Entire Population				Critical Ratios of the Percentage Differences in Occurrence of Items in Successive and Extreme Quartiles in the Entire Population			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartiles 1 & 2	Quartiles 2 & 3	Quartiles 3 & 4	Quartiles 1 & 4	Quartiles 1 & 2	Quartiles 2 & 3	Quartiles 3 & 4	Quartiles 1 & 4
Rooms per person ratio												
1.00–1.99	20.0	31.0	44.5	49.0	11.0	13.5	4.5	29.0	2.66	2.81	0.91	6.47
2.00–2.99	2.5	8.5	15.0	25.0	6.0	6.5	10.0	22.5	2.58	2.03	2.51	6.78
3.00 and up	0.0	0.0	2.0	8.0	0.0	2.0	6.0	8.0	0.00	2.00	4.26	8.00
Living room wall construction												
Ceiling	17.0	33.4	34.5	28.5	16.4	1.1·	−6.0	11.5	3.72	0.32	−1.28	2.74
Wall board	2.0	8.6	12.0	8.5	6.6	3.4	−3.5	6.5	2.92	1.13	−1.15	2.90
Plaster	3.5	22.5	40.5	60.0	19.0	18.0	19.5	56.5	5.74	3.91	3.94	15.00
Lighting facilities												
Gas, mantel, pressure	2.5	9.5	18.1	40.5	7.0	8.6	22.4	38.0	3.10	2.59	5.07	10.56
Electric	0.0	0.5	7.0	23.6	0.5	6.5	16.6	23.6	0.71	3.37	4.75	7.87
Refrigerator												
Ice	3.5	31.0	40.0	61.5	27.5	9.0	21.5	58.0	7.68	1.87	4.41	15.76
Mechanical	0.0	0.5	2.0	15.0	0.5	1.5	13.0	15.0	0.71	1.23	4.83	6.00
Living room lounge												
Day bed or couch	1.0	7.5	12.5	14.0	6.5	5.0	1.5	13.0	3.22	1.63	0.43	5.00
Divan or studio couch	1.0	10.0	23.0	57.5	9.0	13.0	34.5	56.5	4.07	3.55	7.48	15.83
Books												
8–49	15.7	38.1	55.0	53.5	22.4	16.9	−1.5	37.8	5.22	3.48	−0.31	8.66
50–99	0.0	0.5	6.4	16.1	0.5	5.9	9.7	16.1	0.73	3.17	3.12	6.17
100 and up	0.0	0.0	2.1	11.2	0.0	2.1	9.1	11.2	0.00	2.12	3.76	5.11

(APPENDIX C, Cont.)

Item Description	Percentage of Occurrence of Items in Successive Quartiles of the Entire Population				Percentage Difference in the Occurrence of Items in Successive and Extreme Quartiles of the Entire Population				Critical Ratios of the Percentage Differences in Occurrence of Items in Successive and Extreme Quartiles in the Entire Population			
	Quartile 1	Quartile 2	Quartile 3	Quartile 4	Quartiles 1 & 2	Quartiles 2 & 3	Quartiles 3 & 4	Quartiles 1 & 4	Quartiles 1 & 2	Quartiles 2 & 3	Quartiles 3 & 4	Quartiles 1 & 4
Magazines												
2-3	14.0	34.5	45.5	44.4	20.5	11.0	−1.1	30.4	4.86	4.30	2.14	7.08
4-5	1.5	7.0	13.5	26.3	5.5	6.5	12.8	24.8	2.67	2.11	3.21	7.60
6 and up	0.0	0.5	3.0	11.1	0.5	2.5	8.1	11.1	0.71	1.80	3.23	5.05
Husband's education												
8	21.9	27.8	31.8	35.3	5.9	4.0	3.5	13.4	1.35	0.87	0.75	3.00
9-11	3.6	7.6	16.9	15.7	4.0	9.3	−1.2	12.1	1.70	2.83	−0.34	4.10
12	1.0	1.5	6.2	9.6	0.5	4.7	3.4	8.6	0.04	2.34	0.91	4.05
13 and up	0.0	1.0	3.1	9.6	1.0	2.1	6.5	9.6	1.44	0.29	2.69	4.57
Wife's education												
8	24.5	32.3	35.6	34.6	7.8	3.3	−1.0	10.1	1.76	0.73	−0.02	2.25
9-11	6.1	14.2	22.7	20.6	8.1	8.5	−2.1	14.5	2.66	2.18	−0.50	4.31
12	0.5	2.0	7.7	12.6	1.5	5.7	4.9	12.1	1.24	2.66	1.58	4.82
13 and up	0.0	1.0	3.6	13.1	1.0	2.6	9.5	13.1	1.44	1.66	3.40	5.45

I—ALTERNATE RESPONSE ITEMS Item Description	Percent Possessing Item	POSSESSION OF ITEM		NON-POSSESSION OF ITEM		SCALE SCORE (Sigma Value +2.00×2.00)	
		100-(Percent Possessing Item÷2)	Sigma Value For Possession	(100-Percent Possessing Item)÷2	Sigma Value For Non-Possession	For Possession	For Non-Possession
Construction of house	48.0	76.0	0.71	26.0	−0.64	5	3
Separate living room	40.2	79.9	0.84	29.9	−0.53	6	3
Separate dining room	23.6	88.2	1.18	38.2	−0.30	6	3
Separate kitchen	28.4	85.8	1.07	35.8	−0.36	6	3
Living room floor finished	18.8	90.6	1.32	40.6	−0.24	7	4
Living room woodwork finished	62.8	68.6	0.49	18.6	−0.89	5	2
Living room walls decorated	64.1	67.9	0.47	17.9	−0.92	5	2
Water piped into house	6.2	96.9	1.87	46.9	−0.08	8	4
Kitchen sink	14.0	93.0	1.48	43.0	−0.17	7	4
Linoleum in kitchen	57.5	71.2	0.56	21.2	−0.80	5	2
Power washer	26.2	86.9	1.12	36.9	−0.34	6	3
Living room rug	30.1	84.9	1.03	34.9	−0.39	6	3
Living room windows decorated	60.0	70.0	0.52	20.0	−0.84	5	2
Daily newspaper	42.7	78.7	0.80	28.7	−0.56	6	3
Radio	46.1	76.9	0.74	26.9	−0.62	6	3
Automobile	62.9	68.6	0.48	18.6	−0.89	5	2
Telephone	23.8	88.1	1.18	38.1	−0.30	6	3
Life insurance—husband	21.9	89.1	1.23	39.1	−0.27	6	3
Insurance on furniture	15.7	92.2	1.42	42.2	−0.20	7	4
Husband—church member	47.9	76.1	0.71	26.1	−0.64	5	3
Husband—attends church	59.5	70.2	0.53	20.2	−0.83	5	2
Husband—attends Sunday school	31.8	84.1	1.00	34.1	−0.41	6	3
Husband—member cooperative	9.3	95.4	1.69	45.4	−0.12	8	4
Wife—church member	62.6	68.7	0.49	18.7	−0.89	5	2
Wife—attends church	65.2	67.4	0.45	17.4	−0.94	5	2
Wife—attends Sunday school	35.4	82.3	0.93	32.3	−0.46	6	3
Wife—member agricultural ext. grp.	9.3	95.4	1.69	45.4	−0.12	8	4

II—GRADUATED RESPONSE ITEMS Item Description	Number Possessing Item Described	Percent Possessing Item Described	Cumulative Percent- age Frequency	Cumulative Percentage Frequency— (Percentage Frequency÷2)	Sigma Value	Score Value
Rooms per person ratio						
3.00 and up	20	2.5	100.0	98.8	2.26	9
2.00-2.99	102	12.8	97.5	91.1	1.35	7
1.00-1.99	289	36.1	84.7	66.7	0.43	5
0.00-0.99	389	48.6	48.6	24.3	—0.70	3
Living room wall construction						
Plaster	253	31.7	100.0	84.2	1.00	6
Wall board	62	7.7	68.3	64.5	0.37	5
Ceiling	226	28.3	60.6	46.5	—0.09	4
Other or none	258	32.3	32.3	16.2	—0.99	2
Lighting facilities						
Electric	62	7.8	100.0	96.1	1.76	8
Gas, mantel, or pressure	141	17.6	92.2	83.4	0.97	6
Oil lamps, etc., or none	596	74.6	74.6	37.3	—0.32	3
Refrigerator						
Mechanical	35	4.4	100.0	97.8	2.01	8
Ice	282	35.3	95.6	77.9	0.77	6
None	482	60.3	60.3	30.2	—0.52	3

U.-GRADUATED RESPONSE ITEMS Item Description	Possessing Number Item Described	Percent Possessing Item Described	Cumulative Percentage Frequency	Cumulative Percentage Frequency— (Percentage Frequency÷2)	Sigma Value	Score Value
Living room lounge						
Divan, davenport, or studio couch	183	22.9	100.0	88.5	1.20	6
Couch or day bed	70	8.7	77.1	72.8	0.61	5
Bed, cot, other, or none	547	68.4	68.4	34.2	—0.41	3
Books						
100 and up	25	3.2	100.0	97.4	1.94	8
50-99	43	5.6	96.8	94.0	1.55	7
8-49	310	40.3	91.2	71.0	0.55	5
0-7	392	50.9	50.9	25.5	—0.66	3
Magazines						
6 and up	26	3.3	100.0	98.4	2.14	8
4-5	96	12.0	96.7	90.7	1.32	7
2-3	276	34.6	84.7	67.4	0.45	5
0-1	400	50.1	50.1	25.1	—0.67	3
Husband's education						
13 and up	27	3.4	100.0	98.3	2.12	8
12	36	4.6	96.6	94.3	1.58	7
9-11	86	10.9	92.0	86.6	1.11	6
8	230	29.2	81.1	66.5	0.43	5
0-7	408	51.9	51.9	25.9	—0.65	3
Wife's education						
13 and up	35	4.4	100.0	97.8	2.01	8
12	45	5.7	95.6	92.8	1.46	7
9-11	125	15.9	89.9	82.0	0.92	6
8	250	31.8	74.0	58.1	0.21	4
0-7	332	42.2	42.2	21.1	—0.80	2

APPENDIX E.   A COMPARISON OF THE VALIDITY AND RELIABILITY OF
THE ORIGINAL FORM OF THE FARM FAMILY SOCIO-ECONOMIC
STATUS SCALE WITH A FORM THAT HAS BEEN RE-
DUCED BY THE OMISSION OF THE SOCIAL
PARTICIPATION ITEMS

Problem

To determine whether the Farm Family Socio-Economic Status Scale
may be reduced by dropping the social participation items without serious
impairment of its validity and reliabality.

Procedure

The social participation items were dropped from the scale and the
validity and reliability coefficients were recomputed for this reduced form
and compared with those for the original form.

Results

A—Validity Coefficients*

Validation Criteria	Original Form	Reduced Form
For 257 Oklahoma farm families		
Chapin S. S. S., 1933	0.80	0.81
Dickins Revision of S. S. S., 1933	0.82	0.84
Clark Rural Home Equipment Scale	0.71	0.76
Experimental Scale	0.97	0.92
Reduced form	0.95	____
Cash income per **ammain**	0.37	0.40
Net wealth per family	0.57	0.59
Expenditures for living per **ammain**	0.52	0.54
Total money value of living per **ammain**	0.51	0.52
Multiple Correlation (Chapin scale, Clark scale, Total money value of living per **ammain**)	0.83	0.88
For 781 Oklahoma farm families		
Cash income per **ammain**	0.63	0.65
Net wealth per family	0.55	0.57
Expenditures for living per **ammain**	0.62	0.64
Total money value of living per **ammain**	0.67	0.68
Reduced form	0.97	____

B—Reliability Coefficients*

Reliability Test	Number of Families in Sample	Original Form	Reduced Form
Split-halves (raw)	257	0.83	0.80
Split-halves (corrected)	257	0.91	0.89
Split-halves (raw)	781	0.86	0.86
Split-halves (corrected)	781	0.92	0.92
Simultaneous scoring	60	0.99	0.99
Test-retest	40	0.90	0.91

* All coefficients are highly significant in terms of the Fisher test for correlation co-
efficients.

Conclusion

Since the validity and reliability coefficients for the reduced form are on the whole equal or superior to those for the original form it may be concluded tentatively that no sacrifice in reliability or validity would result from omitting the social participation items.**

** This conclusion, like all others in the study, is for the present samples only.

APPENDIX F.   A FACTOR ANALYSIS OF THE INDEXES IN THE FARM
FAMILY SOCIO-ECONOMIC STATUS SCALE

Problem

To determine whether the indexes of the Farm Family Socio-Economic
Status Scale measure a single common factor.

Procedure

The intercorrelations between the indexes of the scale were determined
and subjected to the Spearman Tetrad Difference Test.*   This test hypothe-
cates that if a common factor runs through all of four sets of variables the
difference between certain pairs of the products of the r's is zero or falls
within the proper limits of the statistical error of the measurement.   The
general formula for the tetrad difference is:

$$T_{abcd} = r_{ab} \, r_{cd} - r_{ac} \, r_{bd} = 0$$

Data were available for 1038 Oklahoma farm families.   In the following
discussion the indexes of the scale will be designated thus:

1. Material Possession Index
2. Cultural Possession Index
3. Effective Income Index**
4. Social Participation Index

Results

The six intercorrelation coefficients resulting from correlating the in-
dexes were as follows:†

$r_{12} = 0.790$	$r_{23} = 0.597$
$r_{13} = 0.555$	$r_{24} = 0.366$
$r_{14} = 0.318$	$r_{34} = 0.245$

The three tetrads arising are given below; three others could have been
formed but would differ only in sign.

Tetrads	Equations	Values	Standard Errors
t_{1234}	(.790) (.245) − (.555) (.366)	−.010	±.019
t_{1243}	(.790) (.245) − (.318) (.597)	+.004	±.019
t_{1342}	(.555) (.366) − (.318) (.597)	+.013	±.012

Conclusion

When the tetrad values are judged on the basis of their standard errors
it may be hypothecated that a common factor runs through the indexes of
the scale.

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* C. Spearman, *The Abilities of Man,* Appendix, pp. i-xxiii.   Recently, more advanced
  techniques of factor analysis have been developed.   See especially L. L. Thurstone,
  The Vectors of Mind.   However, the Spearman technique   is adequate for the pres-
  ent problem.

** It will be recalled that this index was dropped from the scale.   It is used here only to
   make the factor analysis possible.

† All coefficients are highly significant in terms of the Fisher test for correlation co-
   efficients.

APPENDIX G. The Validity and Reliability of the Farm Family Socio-Economic Status Scale for Application to Broken and Non-Family Farm Groups

Problem

To determine the validity and reliability of the Farm Family Socio-Economic Status Scale for application to broken and non-family farm groups.

Procedure

The scale was applied to 152 Oklahoma broken and non-family farm groups included in the sample for the Social Correlatives of Farm Tenure Status Study. The scale scores were then correlated with several of the validation criteria used in determining the validity of the scale for use on unbroken farm families. To determine the reliability of the scale, the total score on the odd numbered items was correlated with the total score on the even items.

Results*

Scale Score and Cash income per **ammain**	0.45
Scale Score and Net wealth per family	0.59
Scale Score and Expenditures for living per **ammain**	0.38
Scale Score and total money value of living per **ammain**	0.46
Total of odd items and total of even items (raw)	0.85
Total of odd items and total of even items (corrected)	0.92

Conclusion

Since these coefficients compare favorably with those of the scale with the same criteria for unbroken families (see p. 82), it may be concluded tentatively that the scale is applicable to broken and non-family farm groups.**

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* All coefficients are highly significant in terms of the Fisher test for correlation coefficients.

** This conclusion is for the present sample only.

APPENDIX H.   INSTRUCTIONS FOR USE OF THE FARM FAMILY SOCIO-ECONOMIC STATUS SCALE

General Directions to Enumerator

The answers to the questions listed in the scale provide a quantitative description of farm family socio-economic status. These questions were adopted after analysis of a large number of items designed to measure socio-economic status. They were chosen according to a statistical technique for item selection. Therefore, do not let your opinion concerning the merit of any question influence your enumeration of it. It is essential that every question be answered as carefully as possible. Many of the questions can be answered by observation; where they cannot be, you must ask. If possible, take the schedule in the living room of the family being rated, and try to see the kitchen.

After having ascertained the answer to a question, check or circle the correct description. "Y" is the abbreviation for "Yes." "N" is the abbreviation for "No." Some questions have a choice of several answers. In such cases you must check the reply that is the most accurate description. **Check only one answer to each question.**

Specific Instructions and Definitions of Items Used in the Scale

1. **Construction of house.** If paint is badly checked, in poor repair, or indistinct, rate as unpainted frame.

2. **Room-person ratio.** Number of rooms refers to the number of rooms in the house used for living purposes. Persons means the total number of persons living in the house, regardless of their relationship, age, or sex.

3. **Separate dining room.** This means that the room is used only as a dining room. If it is used as a combination dining room and kitchen or any other combination, do not give credit for separate dining room.

4. **Separate kitchen.** If used as dining room, living, or bed room as well as a kitchen, do not give credit for separate kitchen.

5. **Separate living room.** For the purposes of this scale, every house has a **living room.** If there is only one room in the house, it must be considered as the living room. If the interviewer is not sure which room this is, he may ask the interviewee what room the family considers as its living room. As a further explanation it may be said that the living room is the one in which the family entertains visitors and guests or uses for its chief gathering place during leisure hours. If the room is used as a bedroom, dining room, or kitchen, or any combination of these, it may not be considered as a separate living room.

*6. **Living room floors finished.** This means floors that have been varnished, stained, or painted. If badly checked, in poor repair, or indistinct, rate as unfinished.

*7. **Living room woodwork finished.** Same as 6.

*8. **Living room wall construction.** This refers to the inside wall. Plaster board, wall board, masonite, etc., are to be considered wall board. Ceiling refers to beaded ceiling, shiplap, weatherboard, etc. Newspapers, tarpaper, etc., tacked over the frame are to be considered as building paper.

*9. **Living room walls decorated.** Wall paper, fancy plaster, painted walls, etc., constitute decorated walls. This has no reference to pictures or other adornments on the walls.

*10. **Living room floor covering.** Consider large or small cloth rugs and carpets as rugs. Do not give credit for congoleum, linoleum, etc.

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* These questions refer to the living room *only*.

*11. **Shades and curtains or drapes on living room windows.** Give credit only when there are both blinds and curtains or drapes. Any one alone should be considered "N."

*12. **Living room lounge.** If there is a bed or cot in the room, give credit for this only, regardless of the presence of any of the other items.

13. **Lighting facilities.** Under mantel lights include aladdin, coleman, acetylene, pressure lamps, etc. Others self-explanatory.

14. **Water piped into house.** Self-explanatory.

15. **Kitchen sink.** Check this carefully, since many farm homes have kitchen sinks even though they do not have water piped into house.

16. **Linoleum on kitchen floor.** Give credit for congoleum or linoleum . rugs that cover the major portion of the floor space. Do not give credit for small pieces on an otherwise bare floor.

17. **Power washer.** Give credit for electric, gasoline, or water power washer. If family sends washing out, give credit. Do not give credit for any type of hand-operated washer.

18. **Refrigerator.** Mechanical refers to all refrigerators operated by electricity, gas, gasoline, etc. Ice refers to ice boxes and ice chests. Do not give credit for summer cellar, etc.

19. **Radio.** Self-explanatory.

20. **Telephone.** Self-explanatory.

21. **Automobile.** Give credit for all pleasure motor cars regardless of year, model, or make. Do not give credit for pickup, truck, or tractor.

22. **Insurance on furniture.** Give credit where household goods are covered by either a blanket or a separate policy.

23. **Daily newspaper.** Do not give credit for weekly or semi-weekly papers.

24. **Magazines.** Include all publications, other than newspapers, regularly bought or subscribed to, regardless of their subject matter.

25. **Books.** Estimate the number of bound books in the living rooms. If none can be seen, you may ask.

26. **Wife's education. Give credit for the highest grade completed. Count high school graduation and one or more year of college or two years of technical training (business college, draftsman training, etc.) as 13 and up. In other cases give credit for technical training on the basis of one grade for each two years.

27. **Husband's education. Same as for wife.

28. **Husband's life insured. Credit is to be given for any regular life insurance policy regardless of its amount or type. Burial policies, etc., are not to be counted as life insurance.

29. **Husband a church member. Membership depends only on whether or not a person belongs to the organization. Do not confuse membership with participation, attendance, etc. One may be a member even though he no longer attends, contributes, or otherwise participates.

30. **Husband attends church. One-fourth or more of the regular meetings must be attended for credit to be given on this question. Be sure to learn how often the group meets before answering this and similar questions.

31. **Husband attends Sunday school. Same as above.

32. **Husband member of a farm cooperative. Include in this question (membership on basis of 29 above) all farm cooperatives regardless of type.

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* These questions refer to the living room *only.*
** If a broken or irregular family, count Male household head as Husband or Female head as Wife.

**33. Wife a church member. Same as for husband.

**34. Wife attends church. Same as for husband.

**35. Wife attends Sunday school. Same as for husband.

**36. Wife member of extension or P. T. A. group. Include here Home Demonstration and all other extension or P. T. A. clubs. (Membership on basis of 29 above).

Scoring Instructions

When all of the questions have been answered and the proper description circled, place the score in the space to the left of each question. The appropriate score is printed immediately below the proper description or answer. There must be **one** and **only one** score for each item. The socio-economic status score is the sum of the scores on the separate questions.

Scoring omissions. If omissions occur, the following interpolation procedure should be followed: (1) Compute the total score for the questions answered in the scale. (2) Divide this score by the number of questions answered in the scale. (3) Use the quotient thus derived as the score for each omitted question in the scale.

** If a broken or irregular family, count Male household head as Husband or Female head as Wife.