THE ORGANIZATION OF COMMUNITY STATUS STRUCTURES: AN ANALYSIS OF STRATA CONSISTENCY-INCONSISTENCY AMONG COMMUNITIES IN THE CONTINENTAL UNITED STATES

Thesis for the Degree of Ph. D.
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RICHARD BERNELL STURGIS
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This is to certify that the

thesis entitled

THE ORGANIZATION OF COMMUNITY STATUS STRUCTURES: AN ANALYSIS OF STRATA CONSISTENCY-INCONSISTENCY AMONG COMMUNITIES IN THE CONTINENTAL UNITED STATES

presented by

RICHARD BERNELL STURGIS

has been accepted towards fulfillment
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J. Allan Beegle
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ABSTRACT

THE ORGANIZATION OF COMMUNITY STATUS STRUCTURES: AN ANALYSIS OF STRATA CONSISTENCY-INCONSISTENCY AMONG COMMUNITIES IN THE CONTINENTAL UNITED STATES

By

Richard B. Sturgis

The problem of the research was couched within a human ecology and (community) stratification orientation. The units of observation in the analysis were communities. One objective was to demonstrate the existence and varying forms of strata consistency and inconsistency within communities. The second and major objective was to explain the varying degree and types of consistency-inconsistency (the dependent variable).

The dependent variable was determined by comparing the relative positions of communities on income, educational, and occupational dimensions. The degree as well as type of consistency-inconsistency was established for each community. An example of a "type" would be an income-high community, i.e., the occupation and education scores for the community were similar while the income score was high. This is one of 10 types that were developed.

In order to account for the variations in the dependent variable a theoretical scheme was developed around the argument that there is a division of labor between communities. Under the canopy of the division of labor were brought together a number of traditional ecological perspectives and variables, i.e., size of community, distance from

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nearest SMSA (metropolitan dominance), and industrial specialization (functional specialization). These served as three of the five major independent variables. The remaining two were the percentage of non-whites in communities and the percentage of labor forces that were female.

A random sample of 539 communities (urban places by Census designation) were drawn from the 1960 Census. The communities ranged in size from 10,000 to 100,000. Twenty-four hypotheses were tested and seven of them were statistically significant; however, the results from 12 hypotheses did suggest support for the general rationale. Whenever it was possible the results were tabulated by region as well as for the nation.

The conclusions in relation to the data analysis are presented here in very short summary form. In brief, there is some justification for stating the following conclusions: (1) Communities do exhibit various patterns of strata consistency-inconsistency. While this conclusion was a necessary basis for the research, it had not been demonstrated previously. (2) There is good evidence that distance from nearest SMSA is related to some patterns of consistency-inconsistency. The evidence of a relationship is weaker and less clear between community size and strata arrangements. (3) There is good evidence that functional specialization is related to some forms of consistency-inconsistency. (4) Finally, there is also good evidence that the percentage nonwhite in communities is related to strata arrangements. The evidence also speaks rather strongly for the existence of relationships between the percentage of the labor force that is female and forms of consistency-inconsistency.

THE ORGANIZATION OF COMMUNITY STATUS STRUCTURES: AN ANALYSIS OF STRATA CONSISTENCY-INCONSISTENCY AMONG COMMUNITIES IN THE CONTINENTAL UNITED STATES

By

Richard Bernell Sturgis

A THESIS

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ACKNOWLEDGMENTS

To properly acknowledge those persons who have contributed to something like the culmination of a Ph.D. thesis is, perhaps, in principle possible, but in fact extremely difficult to impossible. To begin "way back when" and start with one's fourth grade teacher, at best, becomes ludicrous. Nevertheless, let me take this occasion to express thanks publicly to a few of the more notables.

To the parents who initiated my life, gave me sustenance, tolerated me, and, very importantly, financed most of my undergraduate college education.

To Professor Evan T. Peterson who interested me in sociology, not merely by his scholarly teaching, but by taking a personal interest in me.

To Professor William Form who, rather unknowingly, interested me in a "structural orientation" to sociology.

To Professors Emile Durkheim, Robert Park, Roderick McKenzie, Amos Hawley, Otis Dudley Duncan, Leo Schnore, Jack Gibbs, and Walter Martin for their provocative and insightful writings.

To my committee members, Professors William Form, James McKee, William Faunce, and especially Professor J. Allan Beegle, who has demonstrated great patience and lent assistance during the few years of labor pains that have transpired in giving birth to the thesis.

To Mrs. I

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To Mrs. Linda Stoeckel, Mrs. Phyllis Betz, good friends, and my wife, Margaret, who volunteered many, many hours of tedious coding.

And, finally, to my family, the most ardent loves in my life. They have been perhaps the major reason for the rather long gestation period of this thesis. However, living with them has provided my major joy, and made "the long wait" not only tolerable but rather pleasant.

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CHAPTER I

INTRODUCTION

The problem to be explored in this thesis is a problem in human ecology and social stratification. Many aspects of what follows will draw upon traditional notions of social stratification, as it is viewed within sociology. On the other hand, there are two major aspects of this study which are less traditional and require some comment.

The first divergence is a concentration of attention on the concept of status consistency-inconsistency, and the second is that the analysis of this thesis will be conducted within a human ecology-social morphology framework. The second point will receive attention later in this chapter.

The concept or notion of units sharing relatively different rank positions within different ranked orders has undergone various namings, e.g., "stratum consistency," "status consistency," "status congruency," and perhaps the most popular--"status crystallization" or "class crystallization." The term "strata consistency-inconsistency" will be used throughout this paper. We feel there are a number of very good reasons for using this terminology.

1. Although writers have consistently referred to the notion of consistency or congruency, what their research and essays have concentrated on is the lack of consistency or congruency. The usual attempt to indicate status inconsistency has been to refer to low degrees of consistency. While the procedure is legitimate it tends to hide in terminology what much of the real interest has been--a concern with inconsistency. Our use of the phrase consistency-inconsistency is a

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straightforward attempt to indicate what it is we are interested in examining.

2. The recent interest in status consistency-inconsistency was largely initiated by Lenski in a 1954 article titled "Status Crystallization: A non-vertical dimension of social status."[1] Since the publication of this article the rash of essays and research which have followed have often used the term "crystallization." The use of crystallization rather than consistency was unfortunate. The intuitive meaning conveyed when the term "consistency" is used comes much nearer what writers have tried to convey than does "crystallization." If we accept the standard English usage of crystallize, "to assume or cause to assume a fixed and definite form,"[2] a major problem is evident. A unit's status could be highly crystallized, fixed and definite, in a highly uncrystallized form, i.e., the unit may hold definite and fixed but greatly differing rank positions in different status orders.

We have noticed in teaching, the difficulty students have in trying to grasp the concept of "status consistency-inconsistency," when the term "crystallization" is used. There is no rule which requires concepts in sociology to conform to standard usage, as sociological jargon well indicates; nevertheless, there are no reasons in the present case to cause confusion by not subscribing to common usage.

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[1]G. E. Lenski, "Status Crystallization: A non-vertical dimension of social status," American Sociological Review, 19 (August, 1954), 405-13.

[2]Webster's New Collegiate Dictionary, 2nd ed. (Springfield, Mass.: G. and C. Merriam Company, 1953), p. 201.

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It appears that some of the most recent writers on the subject are in agreement with this point. Of note is one of Lenski's recent works. He now uses the term "inconsistency" instead of crystallization."[3]

3. Our use of the term "status" (stratum and strata) is based on practical reasons. It is not, however, in keeping with the classical distinction between class, status, and party made by Weber.[4] Nor is the usage of the term "class," when talking about consistency-inconsistency in the stratification order, in keeping with his distinction. It would be more to our own liking, and in keeping with Weber's useful distinction, to talk of "stratification consistency-inconsistency." However, it has become conventional in American stratification literature to use status not merely in the prestigeful sense but in a more generic way. Both in and out of sociology, the term "status" has become a catch-all term referring to a unit's position in a particular ranked order, its overall position in a number of orders, and even to refer to the ranked orders themselves, e.g., economic status, occupational status, and educational status. Because the term "status" has been used in the above ways, and because it is more often associated with the notion of stratification consistency-inconsistency than any other term, we have chosen to retain its usage in this thesis. Our only deviation in using "status" is to alter the phraseology to "strata" or "stratum." Since status inconsistency has been used most frequently by social psychologists, our

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[3]G. E. Lenski, "Status Inconsistency and the Vote: A Four Nation Test," American Sociological Review, 32 (April, 1967), 298-301.

[4]Max Weber, "Class, Status, and Party," Max Weber: Essays in Sociology, Hans Gerth and C. Wright Mills, editors (Oxford: Oxford University Press, 1946), pp. 180-195.

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[5] Ibid.

alteration of the term will help clarify our own usage of the concept. We are not interested in the psychological states of our units, but in structural characteristics. The use of "strata" distinguishes our orientation from the social psychologists and also more explicitly represents our structural orientation.

Whether it is correct to consider a concern with consistency-inconsistency as traditional or nontraditional is subject to debate. If one considers Weber's classic thesis[5] as an essay basic to the notion of strata consistency-inconsistency, then our concern can be argued as traditional. It could well be the case that our hindsight has again proven the better sight. That is, Weber and other more traditional writers in stratification are viewed as having discussed issues central to strata consistency-inconsistency, now that the concept has gained recent attention, i.e., we have reinterpreted their writing. Regardless of the position taken, what is fairly recent (nontraditional) is the amount of attention that sociologists and social psychologists are giving the notion of status consistency-inconsistency (mostly by social psychologists).

We feel that the recognition of the existence of various ranked orders within American Society is basic to understanding stratification in America or any urban-industrial society. The notion of a unidimensional stratification order simply does not fit, empirically or theoretically. Given that there are various ranked orders, questions follow: Does a position in one order indicate that the unit in question will occupy a relatively similar position in all other orders or in any of the other orders. On the other hand, if a unit becomes mobile in one ranked

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[5] Ibid.

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order does it become mobile in the other ranked orders? What is the relationship between the various ranked orders? These and related questions point the direction to what we feel is one of the more important areas in the study of social stratification--the consistency or inconsistency of a unit's position in the various ranks within the stratification order.

Our work in this thesis has some similarities but differs in major and important ways from other literature concerned with status consistency-inconsistency. Nevertheless, one similarity shared with much previous research is in the ranked orders that we use. We are concerned with the three ranked orders resulting from ranking income, education, and occupation. Explication and operationalization of these ranks will follow at a later point in the thesis.

In this thesis there are three major variations from most previous research on status consistency-inconsistency. The first variation is that consistency-inconsistency is the dependent variable. We are concerned with the factors which appear to influence the state of consistency or inconsistency of strata. Practically none of the available literature sources have consistency-inconsistency represented as a dependent variable.[6]

Some of the criticism of consistency-inconsistency has centered on the usage of the concept as an independent variable. There are

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[6]John Stoeckel, "The Impact of Metropolitan Dominance Upon the Status Structure and Status Consistency of Rural-Farm and Urban Populations" (unpublished Ph.D. dissertation, Michigan State University, 1966). While not specifically stated, some suggestion of status consistency-inconsistency as a dependent variable is made in Ronald Freedman, Amos Hawley, W. S. Landecker, and H. M. Miner, Principles of Sociology (New York: Henry Holt and Company, 1952), Chapters VII and XIII.

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[8]Ibid

questions concerning its "causal" properties as an independent variable. This issue has led Blalock to question the theoretical justification of using degree of consistency as an independent variable.[7] Blalock further suggests that the specification and analysis of patterns of consistency-inconsistency is a necessary step in clearing the conceptual haze.[8] In the analysis of strata consistency-inconsistency as a dependent variable, one of our major concerns is with the varying patterns which result from other impinging factors. While this thesis is concerned with the concept as a dependent variable only, it is possible that such an approach will provide insight for delineating properties of strata consistency-inconsistency as an independent variable.

The second major variation we take in this thesis has just been mentioned. It is a concern with the patterns of consistency-inconsistency. The most frequent treatment of the concept in question has been to observe a unit's placement in three or four different ranked orders. The next step has been to determine the similarity (or lack of same) of a unit's relative position in each ranked order and finally to calculate a single score representing the degree of similarity. Our concern will not only be with a score demonstrating a unit's comparable position in different ranked orders but to determine and demonstrate the patterns of similarity the units obtain. For instance, let us use the three ranked orders of levels of income, levels of occupations, and levels of education. It

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[7]Hubert M. Blalock, Jr., "The Identification Problem and Theory Building: The Case of Status Inconsistency," American Sociological Review, 31 (February, 1966), 52-61; and Hubert M. Blalock, Jr., "Status Inconsistency and Interaction: Some Alternative Models," American Journal of Sociology," 73 (September, 1967), 305-315.

[8]Ibid.

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would be possible for a unit to have consistent strata in a number of different and patterned ways. The number of ways would be determined by the number of levels used in each ranking order. If we used three levels--high, medium, and low--in each ranked order, a unit could have highly consistent strata in three ways, i.e., consistently high, consistently medium, or consistently low. The logical number of patterns which could result from our example of three ranked orders and three levels within orders is 27. The number is rather cumbersome to empirically examine and becomes close to impossible if the number of ranked orders and levels within orders is increased. While we contend that the demonstration and examination of patterns is necessary, it is also our contention that a long proliferation of patterns is neither heuristically or theoretically justifiable. A later portion of this thesis outlines the patterns which will receive attention.

It is important to observe that if strata consistency is viewed as a single score, we nourish an old problem. One of the reasons for using the concept of "status consistency" has been that it helped to illuminate issues partially hidden under the notion of a unidimensional stratification system. We contend it is an important step to partial out of a unidimensional notion the various stratification orders of which such a system is composed. In short, what results is a more refined picture of social stratification. However, we shorten our step towards refining if we take the information about a unit's relative positions in various ranked orders and squeeze this information into a single score. The enlightenment produced by forsaking notions of a unidimensional stratification system is shaded by using only a single indicator of a unit's positions in the various orders. Our solution is to consider the patterns

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of consistency-inconsistency as well as the degree of consistency-inconsistency.

To this point we have mentioned two attempts we are making at variations from usual investigations of status consistency-inconsistency. An understanding of these two variations: (1) the analysis of consistency-inconsistency as a dependent variable, and (2) a focus on the resulting patterns,[9] allows us to move to an area of discussion which produces the third and perhaps most unique variation in this study.

Communities have often served as units of analysis but the units of observation have most generally been persons, groups, or institutions within the communities.[10] The present study uses communities as the units of observation not as the units of analysis. Our concern is with the strata consistency-inconsistency of communities rather than persons. The data we use will represent properties of aggregates or populations. A recent letter from a critic stated flatly that "status consistency-inconsistency" was an individual measure. This appears rather naive to us as it can be used for anything for which an appropriate rationale couched in scientific rigor can make of it, as long as it appears to offer some further understanding. That is, as we understand, how a discipline

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[9]The reader should note that specifying and examining patterns of status consistency-inconsistency is not new but is uncommon. Lenski, "Status Crystallization: A non-vertical dimension of social status," pp. 405-13, paid some attention to the differing effects of a unit being high in one rank and low in another as opposed to some other arrangement. However, Lenski neither claimed nor attempted to specify and examine various patterns. The work of most note in this regard is Ralph Spielman, "A Study of Stratification in the United States" (unpublished Ph.D. dissertation, University of Michigan, 1953).

[10]This useful distinction was first called to our attention by Robert Hodges, "Occupational Composition and Status Crystallization: An

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communities

grows. The particular aggregates and populations we are interested in are those which compose the social units we refer to as "communities."[11] Our dependent variable will be the degree and patterns of strata consistency-inconsistency which exists in communities. More explicitly, we will be asking if the distributions of income levels, occupational levels, and educational levels of communities are consistent or inconsistent and what patterns of consistency-inconsistency are demonstrated? It is the structure or form of the community with which we are concerned.[12]

The variables we will be using as independent variables are all viewed as fitting within the broader concept of the division of labor. Specifically, we will concern ourselves with the (1) complexity of the division of labor as represented by the size of the communities, the intercommunity division of labor as represented in (2) metropolitan dominance and (3) functional specialization. Lastly, (4) we will concern ourselves with two dimensions of the ascribed division of labor in the United States and their influence upon our dependent variable. The two dimensions are the nonwhite population and female labor force of communities.

Aggregate Approach" (unpublished M.A. thesis, Department of Sociology, University of Chicago, 1961), p. 16.

[11]We have accepted as an operational definition of communities the U.S. Bureau of Census' unit, "places." An explication of the meaning of "place" and our justification for using these units as communities will follow in a later chapter.

[12]We are indebted for our first insight into the possibility of using communities as units of observation as well as analysis in this type of problem to Otis Dudley Duncan and Leo Schnore. They suggested in an article, "Cultural, Behavioral and Ecological Perspectives in the Study of Social Organization," American Journal of Sociology, 65 (September, 1959), 132-46, that it would be possible to characterize "whole aggregates-communities and even societies-as more or less crystallized."

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A number of writers have discussed the notion of consistency-inconsistency as an aggregate phenomenon[13] and a few people have researched the idea.[14] Most of those who have researched the consistency-inconsistency of aggregates have been concerned with selected samples of the general population of the United States.[15] Stoeckel's work is the only deviation and is concerned with aggregate data from counties.[16]

The previous aggregate studies have been very instructive in formulating the present study. Nevertheless, it is our opinion that the community, still unexamined in terms of strata consistency-inconsistency, represents a statistically analyzable and sociologically relevant unit for scrutiny. While thus far concern with status consistency-inconsistency has centered on individuals and on the general population, an area of central concern to sociology, the community, has gone without analysis.[17]

Although the present study will not attempt to examine concomitant variations and relationships that may result from communities with varying

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[13] Ibid.; Amos H. Hawley, Human Ecology (New York: Ronald Press, 1950), p. 231.

[14] Hodges, loc. cit.; Spielman, loc. cit.; Stoeckel, loc. cit.

[15] Spielman, loc. cit.; Hodges, loc. cit.

[16] Stoeckel, loc. cit.

[17] Since the initiation of this thesis, some work has been done using the division of labor as an orienting concept and human ecology as the analytical framework. See: Frank A. Clemente, "The Division of Labor in American Communities: An Ecological Analysis" (unpublished M.A. thesis, Department of Sociology, University of Tennessee, 1969); Frank A. Clemente and Richard B. Sturgis, "Industrial Diversification of American Communities," Urban Studies (forthcoming); Frank A. Clemente and Richard B. Sturgis, "The Division of Labor in American Communities" (unpublished paper, July, 1970).

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strata arrangements, such concerns appear highly relevant for sociology. A first step is to proceed with the task as has been outlined, to demonstrate degrees and patterns of strata consistency-inconsistency and indicate some of the variables which participate in determining the patterns. Such a task requires a human ecology-social morphology framework.

Some authors have suggested that the findings of ecologists who studied communities could provide "the base" for further sociological analysis. Duncan[18] has since argued that the demonstration and analysis of structural arrangements of communities provides a useful end in and of itself. In fact, Duncan, along with Schnore, has argued that such analyses are not simply stepping stones for other more insightful analyses but are central to traditional sociological analysis.[19] We fully agree with the thesis of Duncan and Schnore. It is our intention to examine variations and patterns of status structures in communities as a justifiable examination in its own right.

The conceptual use of an ecological framework will be familiar to most sociologists. However, it is possible social morphology is less familiar or clear. We need to interject here that what we refer to as human ecology has been pointed out by others as but one view of human ecology. Theodorsen refers to the approach we are using as the neo-orthodox view.[20] One of the best articulators of this approach has been

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[18]Otis Dudley Duncan, "Human Ecology and Population Studies," The Study of Population, Phillip M. Hauser and Otis Dudley Duncan, editors (Chicago: University of Chicago Press, 1959), pp. 678-716.

[19]Duncan and Schnore, loc. cit.

[20]George A. Theodorsen, Studies in Human Ecology (New York: Row, Peterson and Company, 1961), pp. 129-34; George A. Theodorsen, "Human Ecology and Human Geography," Readings in Contemporary American

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Otis Dudley Duncan,[21] who delineates the field of study of human ecology as a concern with the interdependence and reciprocal influence of population aggregates, technology, environment, and social organization. Not always, but often, social organization is the dependent variable while the other three variables serve as independent variables. Duncan has referred to the interdependence of these variables as forming the "eco-complex."

Concerning social morphology, a brief but useful explanation of morphology and related developments, their similarities and differences with morphology, can be found in the translator's preface to Halbwachs' Population and Society.[22] A second important work which links the similarities of Durkheim's social morphology to human ecology is provided by Schnore.[23] Due to availability and excellence of the above sources, only a few brief, relevant comments concerning social morphology will be presented.

Sociology, Joseph S. Roucek, editor (Patterson, New Jersey: Littlefield, Adams and Company, 1961), pp. 339-57.

[21]Duncan, loc. cit. In the aforementioned work Duncan indicates his hesitancy to use the term "ecosystem" so as to "avoid prejudgment of issues suggested by the term 'system' . . . with equilibrium maintaining properties," ibid., p. 684. It is interesting to note that one year later Duncan mentions the usefulness of the term "ecosystem" as a "heuristic designation for the ecological complex," Duncan and Schnore, loc. cit. In one of Duncan's more recent works, he finds the term "ecosystem" acceptable enough to include in the title of the article, "Social Organization and the Ecosystem," Handbook of Modern Sociology, Robert Farris, editor (Chicago: Rand McNally, 1964), pp. 36-82. The term "ecocomplex" will be retained in this thesis when reference is made to the aforementioned interdependent variables.

[22]Maurice Halbwachs, Population and Society, trans. Otis Dudley Duncan and Harold W. Pfautz (Glencoe: The Free Press, 1960), pp. 7-30.

[23]Leo F. Schnore, "Social Morphology and Human Ecology," American Journal of Sociology, 63 (May, 1958), 620-34. The article is also found in Leo F. Schnore, The Urban Scene (New York: Free Press, 1965), pp. 1-28.

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Social morphology and human ecology can be seen as having separate but parallel developments. They are parallel in time of initial development and identification with sociology[24] and in areas of interest. Social morphology had its early development in France, championed to a great extent by Durkheim,[25] while human ecology was nurtured in the United States.

The following statement is from Durkheim's writings. It demonstrates the similarity in orientation of morphology and ecology.

> Social life rests on a substratum whose size as well as its form is determinate. This substratum is constituted by the mass of individuals who make up a society, the way in which they are distributed on the soil, and the nature and configuration of all sorts of material things that affect collective relationships. The social substratum differs according to whether the population is large or small or more or less dense, whether it is concentrated in cities or dispersed over the countryside, how cities and houses are constructed, whether the area occupied by the society is more or less extensive, and according to the kind of boundaries that delimit it. On the other hand, the nature of the substratum directly or indirectly affects all social phenomena in the same way that all psychological phenomena are immediately or ultimately related to the state of the brain. Here, then, is a whole group of problems which obviously are of interest to sociology and which--inasmuch as they refer to one and the same object--must be placed under the jurisdiction of a single science. It is this science that we propose to call social morphology.
>
> The literature discussing these questions at the present time appears in various disciplines. Geography studies the territorial forms of states; history traces out the evolution of urban and rural groups; demography deals with everything involving the distribution of population; etc. We believe there is interest in drawing these fragmentary sciences out of their isolation, bringing them into contact with one another, and uniting them under a common rubric; in this way, they will gain a feeling of their unity.
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[24] Social morphology had a slightly earlier beginning, being elaborated by Durkheim in the latter part of the nineteenth century, while human ecology is usually identified as evolving during the second decade of the twentieth century.

[25] Durkheim's discussions of social morphology appear in various editions of L' Année sociologique (old series).

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> Social morphology, moreover, is not merely a simple observational science which describes . . . forms without accounting for them; it can and must be an explanatory science. It must investigate the conditions responsible for variations in the political areas of peoples, the nature and significance of their frontiers, and the uneven density of population; it must inquire how urban groups arise, what the laws of their evolution are, how they are recruited, what their role is, etc. Consequently, it does not merely consider the social substratum in the form it takes at a given time in order to make a descriptive analysis; it observes the substratum in process of becoming to see how it is formed. It is not purely static science; rather, it quite naturally covers the movements from which result the conditions that it investigates. Moreover, like all other branches of sociology, it finds indispensable auxiliaries in history and ethnography.[26]

Schnore has provided an excellent argument demonstrating the linkage between social morphology, as discussed by Durkheim, and human ecology.[27] Beshers has since referred to the identification of human ecology with social morphology as the "most significant development in the field of human ecology."[28] He accurately points out that one of the weaknesses of human ecology has been an "inadequate conceptualization of causal relationships."[29] Some of Durkheim and Halbwachs' work in social morphology attempt causal explanations. While the present thesis is not an attempt at "causal analysis" in the most rigid sense, social morphology coupled with human ecology does suggest direction in the relationships we will be examining.

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[26]Emile Durkheim, "Morphologie sociale," L'Année sociologique, 11 (1897-98), 520-21. Quote is also found in Halbwachs, op. cit., pp. 9-10.

[27]Schnore, The Urban Scene, pp. 1-28.

[28]J. M. Beshers, Urban Social Structure (New York: Free Press, 1962), p. 26.

[29]Ibid.

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If one accepts human ecology (at least in part) as a concern with the variables of the ecocomplex at the community level[30] (Duncan and Schnore[31] suggest the inclusion of the societal level as well), the differences in orientation between ecology and morphology disappear. Schnore has pointed out that Durkheim's discussion of social morphology neglected the ecocomplex variable of environment. Schnore concluded that "once environment is brought into the picture, modern ecology can be regarded as working with essentially the same array of independent variables--most broadly, population, technology, and the environment.[32]

Schnore's conclusion is accepted in this paper. No further attempt will be made, except for clarification, to distinguish between the frameworks of social morphology and human ecology.

In review, this study concentrates on a problem concerned with social stratification. The specific issue of the analysis is with strata consistency-inconsistency. There are three aspects of our concern with consistency-inconsistency which vary from most previous studies: (1) the degree of consistency-inconsistency is the dependent variable (to be explained) not an independent variable; (2) we are concerned not only with the degree of consistency-inconsistency but also the patterns of consistency-inconsistency; (3) the third variation is perhaps the greatest; the units within which we are to observe and analyze strata consistency-inconsistency are communities. That is, the ranked orders of income, occupation, and education will be analyzed to determine their

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[30]Hawley, op. cit., p. 180.

[31]Duncan and Schnore, loc. cit.

[32]Schnore, The Urban Scene, p. 16.

degree and patterns of consistency-inconsistency among communities.

The explanatory orientation for the analysis draws largely from human ecology and social morphology. These particular frames of reference are suited for dealing with aggregate data of the nature involved in the present study.

CHAPTER II

THEORY--PART I

Introduction

William Dobriner made the following statement in regard to analyzing communities:

> Generally speaking, there are four analytical perspectives from which community organization can be sociologically defined: (1) the demographic, (2) the ecological, (3) the patterns of formal and informal social organization, and (4) the normative and ideological ethos which largely defines the specific character of the demographic, ecological, and organizational facets of the community.[1]

Using Dobriner's classification as a reference point, we are concerned, directly or indirectly, with parts of the first three perspectives. We will attempt to develop some conceptual webbing between the three perspectives by providing a general, encompassing conceptual scheme.[2] In fact, one of the three perspectives offers a frame of reference which can be inclusive of at least part of the other two. The

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[1]William Dobriner (ed.), The Suburban Community (New York: G. P. Putnam's Sons, 1958), pp. xiv-xv.

[2]In regard to the fourth perspective Dobriner lists, we do not have space to elaborate, but must point out that from our perspective he confuses the verb usage in the sentence. We would have it read "the normative and ideological ethos which largely is defined by the specific character of the demographic, ecological, and organizational facets of the community." For general support of our perspective see: Alvin W. Gouldner and Richard Anderson, Notes on Technology and the Moral Order (Indianapolis: The Bobbs-Merrill Company, Inc., 1962); Julian Steward, Theory of Culture Change (Urbana: University of Illinois Press, 1955); T. B. Bottomore (ed.), Karl Marx: Selected Writings in Sociology and Social Philosophy (New York: McGraw-Hill Book Company, 1956); Emile Durkheim, The Division of Labor in Society (New York: The Free Press, 1964), Book Two; Bronislaw Malinowski, A Scientific Theory of Culture (Chapel Hill: The University of North Carolina Press, 1944).

orientation which offers the most in allowing us to develop an integrated conceptual scheme is human ecology. We are not suggesting that there is only one major conceptual framework in human ecology, but that the general sociological orientation which provides the best fit for our problem is found within the writings generally labeled "human ecology."

Theory in ecology, like most other substantive areas in sociology, is referred to as "just developing," "beginning to mature," and "in need of sharpening." As with most areas in sociology, the statements are semi-accurate appraisals of the situation. The position is depicted in the introductory remarks Duncan felt it necessary to make at the beginning of a presentation about human ecology to a group of scholars "outside" the area of human ecology.

> . . . These propositions are more or less plausible in terms of generalized notions about the nature of the human community. However, they could not be said to represent careful deduction from a body of rigorously organized theory. Nor can it be claimed that the verification of these propositions is satisfactory as yet, in the absence of extensive comparative studies. But at least they will illustrate some of the approaches and methods of contemporary human ecology.[3]

One may be caused to wonder why ecology which flourished so strongly in the first part of this century, under such dynamic personalities, and at outstanding institutions of higher learning has not yet developed past the "just developing stage." One very important reason for the state of theory in ecology is the strong descriptive orientation that imbued much of the early work in human ecology, at least in the United States. This descriptive orientation resulted, as Hawley has noted, from "a subordination of interest in functional relations to a concern with the spatial

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[3]Otis Dudley Duncan, "Population Distribution and Community Structure," Cold Harbor Springs Symposia on Quantitative Biology, 22 (1957), 357-71.

patterns in which such relations are expressed."[4] An example of Hawley's indictment is offered from a definition of human ecology by McKenzie. "Human ecology deals with the spatial aspects of the symbiotic relations of human beings and human institutions."[5] While "spatial" aspects are one of the indicators that exhibit the action of an ecological complex in human society, they are not, in and of themselves, the main or only concern of ecologists.[6]

We find ourselves in agreement with the following position expressed by Gibbs and Martin, and the orientation of this paper will attempt to conform to this position.

> This explicit rejection of spatial analysis as the major concern of human ecology is essential to the revitalization and further development of a once promising discipline. The conception of human ecology as the study of sustenance organization appears to be more consistent with the nature of ecology in other fields and to be potentially more fruitful than spatial ecology for the development of useful theory and meaningful empirical propositions.[7]

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[4]Amos Hawley, Human Ecology (New York: The Ronald Press Company, 1950), p. 69.

[5]Roderick D. McKenzie, "Human Ecology," Encyclopedia of the Social Sciences, Edwin R. A. Seligman, editor, 5 (1931), 314. It needs noting that Hawley has recently pointed out that McKenzie in his later notes, in reference to spatial patterns, indicated that they "should be subordinate and incidental to the analysis of sustenance relations." See Amos Hawley (ed.), Roderick D. McKenzie On Human Ecology (Chicago: University of Chicago Press, 1968), pp. xiii-xiv.

[6]To study only the spatial patterns is to ignore Durkheim's third rule for the observation of social facts. "When, then, the sociologist undertakes the investigation of some order of social facts, he must endeavor to consider them from an aspect that is independent of their individual manifestations." Emile Durkheim, The Rules of Sociological Method (New York: The Free Press, 1964), p. 45.

[7]Jack Gibbs and Walter Martin, "Urbanization and Natural Resources: A Study in Organizational Ecology," American Sociological Review, 23 (June, 1958), 267.

The idea that collective sustenance activity and the related forms of social organization is of central interest to human ecology is not entirely new. Park's[8] notions of an economic base to society founded upon symbiotic relationships is consistent with a stress on sustenance as were many of McKenzie's[9] interests. What is new is the emphasis being given, in various forms, to sustenance activities as a central concern of ecology.

One major orientation in present day ecology which we have previously mentioned may appear to be divergent from an emphasis on sustenance. It is the ecocomplex--population, organization, environment, and technology (POET).[10] The POET scheme provides an orientation which suggests what variables ecology takes into account. If the writings

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[8]Robert Ezra Park, "Human Ecology," The American Journal of Sociology, 42 (July, 1936), 1-15.

[9]Roderick D. McKenzie, "The Scope of Human Ecology," Publications of the American Sociological Society, 20 (July, 1926), 141-54; and Roderick D. McKenzie, "Demography, Human Geography, and Human Ecology," The Fields and Methods of Sociology, L. L. Bernard, editor (New York: Ray Lang and Richard Smith, 1934), Chap. 4. The preceding references are both reprinted as chapters two and three in Hawley, Roderick D. McKenzie On Human Ecology.

[10]Leo F. Schnore, "Social Morphology and Human Ecology," American Journal of Sociology, 63 (May, 1958), 620-34; Otis Dudley Duncan, "Human Ecology and Population Studies," The Study of Population, Phillip M. Hauser and Otis Dudley Duncan, editors (Chicago: The University of Chicago Press, 1959), pp. 678-716; Otis Dudley Duncan and Leo F. Schnore, "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organization," American Journal of Sociology, 65 (September, 1959), 132-46; Otis Dudley Duncan, "From Social System to Ecosystem," Sociological Inquiry, 31 (Spring, 1961), 140-49; Otis Dudley Duncan, "Social Organization and the Ecosystem," Handbook of Modern Sociology, Robert E. L. Faris, editor (Chicago: Rand McNally and Company, 1964), pp. 36-82.

which include a discussion of the POET scheme are examined in any detail, sustenance activities end up being the cloth upon which specific interdependencies among the variables are embroidered.[11] In one way or another, the social organization of man which is directly related to collective sustenance processes remains central.

Based on the preceding discussion we are going to introduce and explicate[12] three very broad concepts--division of labor, competition, and dominance (as one form of collective power). These three concepts will provide, at a very general level, an overall scheme by which we can order the more specific concepts we will introduce. These specific concepts that are central to our theoretical framework and that will be ordered within the framework suggested by the broader concepts are: size of community, metropolitan dominance, functional specialization, and two ascribed bases of the division of labor, which are represented in

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[11] See especially Duncan and Schnore, "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organization," pp. 132-46; and Duncan, Handbook of Modern Sociology, pp. 36-82.

[12] Our use of the term "explication" is in keeping with the general explanation of the notion given by Hempel. See Carl G. Hempel, Fundamentals of Concept Formation in Empirical Science (Tenth Impression; Chicago: The University of Chicago Press, 1969). For a specific statement which characterizes his treatment, the following quote is from page 12: "An explication of a given set of terms, then combines essential aspects of meaning analysis and of empirical analysis. Taking its departure from the customary meanings of the terms, explication aims at reducing the limitations, ambiguities, and inconsistencies of their ordinary usage by propounding a reinterpretation intended to enhance the clarity and precision of their meanings as well as their ability to function in hypotheses and theories with explanatory and predictive force. Thus understood, an explication cannot be qualified simply as true or false; but it may be adjudged more or less adequate according to the extent to which it attains its objectives." For another discussion of explication, see Richard G. Dumont and William J. Wilson, "Aspects of Concept Formation, Explication, and Theory Construction in Sociology," American Sociological Review, 32 (December, 1967), 985-95.

communities as females in the labor force and percentage nonwhite. It is our intent to develop the general concepts first and demonstrate that the more specific concepts can be better understood within the notion of a competitive, economically based division of labor.

Division of Labor

For those who are interested in what is somewhat hazily called "macro" sociology there are few other concepts of greater theoretical utility than "division of labor." There is no other form of social organization which provides as encompassing and as essential of an element to societal existence than what is loosely termed "the division of labor." For sociologists who are in one way or another concerned with social organization there appears to be no concept which offers a greater range of generality and abstraction. We are aware, as with most concepts of any longevity in sociology, there is a lack of agreement and precision in the various usages of the concept. Most important, there has been little empirical research done with the division of labor as a major analytical variable, one of our main complaints in this thesis. However, it is in response to this particular complaint that we will be giving much of our attention.

We are not suggesting that there is great explanatory power emanating from the usage of division of labor as a concept. It does provide, however, a major orienting and perspective setting frame of reference. Much of the lament in sociology over the lack of integrated and developed theory is due to the fact that there has been no framework within which to integrate on a very broad scope. Much debate (useful in and of itself) has centered around strictly analytical frames of

reference, e.g., functionalism, conflict, and now systems. Division of labor denotes a concept which is translatable into comparative, empirical analysis. It can be logically construed into a broad substantive orientation, which will permit the integration of various less general theoretical schemes.

We present these notions with very short discussion and little detail. Given the limited space available, within the present context, we want to make clear that we do not view the division of labor as the only concept to possess such integrative potential, but we do want the reader to be aware that we assume the concept has the capacity (presently rather dormant) to perform such a function. It is on this assumption that we will use the division of labor as our most general concept, providing overall integration of our more specific concepts and their theoretical relationships. It is to some analytical dimensions of the concept, important for this thesis, that we now give our attention.

As we have emphasized, there is probably no single concept in sociology that is used more frequently in an array of substantive subfields than the division of labor. It is the type of concept which has possessed the amount of generality to allow its use in talking of primitive societies to explaining aspects of modern, technologically based, bureaucratized nations. Nevertheless, the concept's empirical anchorages have been minimal.

> The concept of division of labor has had a somewhat strange career in the history of sociology. On the one hand, the concept has achieved wide acceptance, particularly since Durkheim's classic treatment. On the other hand, it is rarely employed in the generation of testable hypotheses. This is even true for the field of human ecology where, like competition, the concept is often invoked in pure theory but remains in the background as far

as research is concerned.[13]

Labovitz has suggested that: "The paucity of empirical treatment of the division of labor stems, at least in part, from (1) inadequate conceptual analysis and (2) a lack of rigorous specification of its dimensions."[14]

There has been a general orientation to regard the division of labor as synonymous with occupational differentiation. Gibbs and Martin have recently attempted to explicate the concept of division of labor and develop testable hypotheses. In the process they have stressed the importance of including more than the idea of occupational differentiation.

> There are two general ideas associated with the concept. First, there is the suggestion of occupational differentiation. However, more is involved than individuals "doing different things." In addition to differentiation there is functional interdependence.
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> A second idea associated with the concept is often confused with the first. In the process of differentiation a person's occupational status may be determined, more or less, by biological characteristics, ethnic-caste status, or territorial location. These distinctions may be called the bases of the division of labor, but they are not to be confused with the degree of the division of labor. Occupations in a society may be closely correlated with non occupational distinctions, but, at the same time, the number of different occupations may be small. This means a low degree of division of labor.[15] [Emphases ours.]

There are two central notions in the preceding comments, to which we have given emphasis, that are important for the further development of

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[13]Jack P. Gibbs and Walter T. Martin, "Urbanization, Technology, and the Division of Labor: International Patterns," American Sociological Review, 27 (October, 1962), 669.

[14]Sanford Labovitz, "Technology and the Division of Labor" (unpublished Ph.D. dissertation, Department of Sociology, University of Texas, 1963), p. 2.

[15]Gibbs and Martin, "Urbanization, Technology, and the Division of Labor: International Patterns," p. 669.

our theoretical framework. The notion that division of labor involves functional interdependence and that analysis of the bases, as well as the degree, contributes toward understanding the total picture of a division of labor.

First, the implication of stressing functional interdependence. No community in the continental United States, today, is completely isolated from other communities. While the interdependence between communities may be more visible in a suburban and metropolitan relationship, the interdependence between communities is no less real for more rural communities.[16] Some authors have discussed and explored the influence of communities on one another, especially those interested in metropolitan dominance, and more recently and popularly those who emphasize intraregional interdependencies.[17] The more recent emphasis includes the interests of geographers, economists, and various

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[16]For a book which takes as its central theme the dependence of a small more rural community on the more urban communities see Arthur J. Vidich and Joseph Bensman, Small Town in Mass Society (Princeton: Princeton University Press, 1958). See also, Donald J. Bogue, The Structure of the Metropolitan Community--A Study of Dominance and Subdominance (Ann Arbor: Horace H. Rackham School of Graduate Studies, University of Michigan, 1950); Otis Dudley Duncan and Albert J. Reiss, Jr., Social Characteristics of Urban and Rural Communities, 1950 (New York: John Wiley and Sons, Inc., 1956); C. J. Galpin, The Social Anatomy of an Agricultural Community, Research Bulletin 34 (Madison: University of Wisconsin Agricultural Experiment Station, May, 1915).

[17]Otis Dudley Duncan and Others, Metropolis and Region (Baltimore: The Johns Hopkins University Press, 1960); Donald J. Bogue, "An Outline of the Complete System of Economic Areas," American Journal of Sociology, 60 (September, 1954), 136-39. The Census Bureau's adoption and use of the concept "economic area" as designating a useful statistical area is a good example of acceptance of intraregional interdependencies. U.S. Bureau of the Census, U.S. Census of Population: 1960. Selected Area Reports. State Economic Areas. Final Report PC(3)-1A (Washington, D.C.: U.S. Government Printing Office, 1963).

urban analysts. Their general recognition of functional interdependencies can be found within the discussions centering around a number of the more frequently used concepts, e.g., "basic-nonbasic economic base,"[18] "central place theory,"[19] and "system of cities."[20] The concepts are not necessarily used exclusive of one another, but each does represent a central organizing concept for a number of authors. The importance for our analysis is that each of the concepts stresses functional interdependencies among communities. If, as we stated earlier, functional interdependency among units is one aspect of the division of labor, then quite clearly we have a division of labor among communities. Given their political, economic, and organization import, communities represent important units in a societal division of labor.

Recently Gibbs and Martin[21] analyzed and discussed sociologically

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[18]John W. Alexander, "The Basic-Nonbasic Concept of Urban Economic Functions," Economic Geography, 30 (July, 1954), 246-61; Charles M. Teibout, "The Urban Economic Base Reconsidered," Land Economics, 32 (February, 1956), 95-99; Walter Isard, Location and Space-Economy (New York: John Wiley and Sons, 1956).

[19]Edward Ullman, "A Theory of Location for Cities," American Journal of Sociology, 46 (May, 1941), 835-64; John E. Brush and Howard E. Bracey, "Rural Service Centers in Southwestern Wisconsin and Southern England," Geographical Review, 45 (October, 1955), 559-69; Brian J. L. Berry and William L. Garrison, "The Functional Bases of the Central-Place Hierarchy," Economic Geography, 34 (April, 1958), 145-54; August Losch, The Economics of Location, trans. William H. Woglom with the assistance of Wolfgang F. Stopler (New Haven: Yale University Press, 1954); Walter Christaller, Central Places in Southern Germany, trans. Carlisle W. Baskin (Englewood Cliffs: Prentice-Hall, 1966).

[20]Eric E. Lampard, "The History of Cities in the Economically Advanced Areas," Economic Development and Cultural Change, 3 (1954-55), 123-29.

[21]Gibbs and Martin, "Urbanization, Technology, and the Division of Labor: International Patterns," p. 669.

relevant dimensions of an international division of labor, but, to our knowledge, the advancement of a conceptual framework and an analysis of the division of labor among communities on a societal basis has gone unexplored.[22] Those who have come closest within sociology to the approach we are suggesting are the ecologists in studying metropolitan dominance and in analyzing geographical regions.[23] The point of relevance is that the division of labor has been used as an ancillary concept, to help in developing such concepts as metropolitan dominance and to some extent functional specialization of communities. Our contention is that the concept of division of labor is the more general concept, the one which can provide a conceptual webbing to encompass such notions as metropolitan dominance and functional specialization. It is not a question of semantics, only, but a question of theoretical development. The issue now becomes what are the major factors shaping the functional interdependencies (division of labor) among communities? The possibilities we will explore (as independent variables) in this analysis are size of community, metropolitan dominance, and functional specialization. It is our intent in

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[22]Since the initiation of the present study, there has been an analysis of industrial diversification among communities within the continental United States. The analysis was conducted within the ordering conceptual framework of the division of labor. See Frank A. Clemente, "The Division of Labor in American Communities: An Ecological Analysis" (unpublished M.A. thesis, Department of Sociology, University of Tennessee, 1969); Frank A. Clemente and Richard B. Sturgis, "Population Size and Industrial Diversification," Urban Studies (forthcoming); and Frank A. Clemente and Richard B. Sturgis, "The Division of Labor in American Communities: An Ecological Analysis" (unpublished paper, July, 1970).

[23]Some authors have explicitly used the term "division of labor" in their analyses. Examples from three of the major writers in this area can be found in Bogue, The Structure of the Metropolitan Community, p. 3; Rupert Vance and Sara Sutker, The Urban South (Chapel Hill: The University of North Carolina Press, 1954), p. 114; Roderick D. McKenzie,

what follows to develop a conceptual framework which depicts community size, metropolitan dominance, and functional specialization as major organizational influencers in the functional interdependencies (division of labor) among communities.

The second important "notion" outlined by Gibbs and Martin in our earlier quote was that the bases as well as the degree were important in the total picture of the division of labor. The concepts of size, metropolitan dominance, and functional specialization represent bases of the division of labor. In the present analysis they serve as the bases for influencing certain morphological characteristics of communities, our dependent variable (the status consistency-inconsistency of communities).

One additional dimension needs to be added to our bases of a societal division of labor among communities. The previously mentioned three concepts are all identifiable as traditional ecological concepts and variables. There is another dimension which is a characteristic of the occupational force involved in the division of labor; it can be viewed in terms of a community characteristic; and is also an important basis of the division of labor, which in turn influences our dependent variable. We refer to the nonwhite population and female labor force.

Each of the concepts we have introduced as independent variables will be developed in turn. They have been introduced here to support our contention of the utility of the division of labor as a major orienting and integrating concept, within which can be logically tied together a number of different subconcepts. In terms of communities, the concepts we have introduced point to the functional

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The Metropolitan Community (New York: McGraw-Hill, 1933), p. 113.

interdependencies among communities and to the bases upon which some of these functional interdependencies are founded.

Before we discuss each of the subconcepts, it will be necessary to introduce two other concepts, which along with the division of labor serve as a major theoretical orientation. The concepts are competition and dominance (as a form of collective power). To introduce the discussions it is only necessary to point out the obvious; the division of labor in any industrial, urban society, and certainly in the United States, is fundamentally economic. Further, in the United States there has been a basic ideology supporting a competitive economic system.

Competition

The concept of competition has often been used by ecologists, but seldom clearly explicated. For Park, Burgess, and McKenzie the notions of competition and dominance, centering around the economic dimensions of communities and society, were of central concern. We are taking an important divergence from these "classical" ecologists, at least from part of their writings. Park argued, conceptually, that underlying all social order was an unplanned biotic order or level. The next level, based upon the biotic, but forming the basis of the political and moral social orders, was the economic.[24] What we want to clearly set forth is the notion that the biotic dimension is inextricably bound up with the economic dimensions of man's collective existence.[25] Within the framework

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[24]Robert Park, "Human Ecology," American Journal of Sociology 42 (July, 1936), 1-15, reprinted in George A. Theodorsen (ed.), Studies in Human Ecology (Evanston: Row, Peterson and Company, 1961), pp. 22-29.

[25]One of the basic criticisms from the early critics of ecology

of the division of labor, economic ties become one of the more important fibers woven into the web of life. In the social organization (division of labor) which results from and continues as a collective adaptation of man in providing, maintaining, and distributing sustenance, economic ties are basic. It has been unfortunate for the further growth and development of human ecology that economic analyses almost always get translated into ideas of rational and planned patterns of activities.[26] This is especially true when the idea of competition enters into the analysis. Nevertheless, there is much that enters into a societal division of labor, involving economic ties among communities, the relationships involved and their outcomes being influenced by competition in the economic order, which are nonrational and unplanned.[27] It is some of these unplanned factors, at the community level, which operate as our independent variables, i.e., community size, metropolitan dominance, and functional specialization.

It is important to make two points at this particular juncture. First, the early human ecologists in the United States argued the

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was that they saw an "unreal" separation of the biotic and other levels of man's existence. Our stress on the inseparability of these levels will allay some of the criticism. See, for instance, Milla A. Allihan, Social Ecology (New York: Columbia Press, 1938).

[26]Rutledge Vining, in discussing Christaller's notions of urban spatial location, points out the impossibilities, in any practical sense, of invoking notions of rationality in understanding the interdependencies among communities. For Vining's insightful analysis see "A Description of Certain Spatial Aspects of an Economic System," Economic Development and Cultural Change, 3 (1954-55), 160-69; see also, Duncan, "From Social System to Ecosystem," p. 142.

[27]In the present analysis we are referring to the societal division of labor on a community basis, but there is no reason to limit our statement to that level. The statement holds for the division of labor in general.

importance of competition for space.[28] Closely allied with the spatial dimension was economic competition. In fact, the competition for space (land) was in terms of its potential economic benefits. In the attack on the descriptive, spatial, and analogy reification aspects of human ecology, the critics indiscriminately attempted to discard all of human ecology. Gibbs and Martin have suggested that there was "a tendency on the part of sociologists, in their reaction to economic and geographic determinism, to throw the baby out with the bath."[29]

Since some form of economic system[30] is the grease that lubricates the most simple to the most complex division of labor, to ignore its importance is to conceptualize an immobile division of labor. What we want to stress here is that some form of exchange (economic system) arises to handle the sustenance producing, maintaining, and distributing activities both within populations and between populations. These activities we

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[28]Robert E. Park, Ernest W. Burgess, and Roderick D. McKenzie (eds.), The City (Chicago: University of Chicago Press, 1925).

[29]Jack P. Gibbs and Walter T. Martin, "Urbanization and Natural Resources: A Study in Organizational Ecology," American Sociological Review, 23 (June, 1958), 266-67.

[30]Bronislaw Malinowski, Crime and Custom in Savage Society (London: Routledge and Kegan Paul, Ltd., 1926), pp. 39-45; Claude Levi-Strauss, "The Principle of Reciprocity," Sociological Theory: A Book of Readings, Lewis A. Coser and Bernard Rosenberg, editors (Third Edition; Toronto: The Macmillan Company, 1969), pp. 77-86; Raymond Firth, Primitive Polynesian Economy (Hamden, Conn.: Archon Books, 1965).

In the preceding references we have referred to "economic system" in very general terms. What we want to stress is that some form of exchange (economic system) arises to handle the sustenance gaining, maintaining, and exchanging activities.

refer to as processes of the division of labor. In the society under analysis in the present research, the monetary dimensions of the economic system are obvious.

A second point is that we do not want to present the appearance of accepting a completely unplanned, competitive economic order, imposing its effects helter skelter on community structure. For our analysis, competition is one concept which fits logically into our theoretical framework, but not to the extent that we can forget historical developments, cultural variations, planned industrial locations, and other factors that play influential parts in structuring communities.[31]

That any knowledgeable sociologist should not forget such factors is most heartily accepted by us. On the other hand, that we can neglect them as unimportant for our particular analysis is also accepted by us, and is the position from which we are developing the theoretical framework of this thesis.

If the view of a competitively oriented division of labor can be accepted, we can present some of the implications of such a system at the community level. Our attempt to discuss and logically move from concern with division of labor to competition and to systems of community stratification, as we have just indicated, does not give attention to the rational aspects of man's collective existence. Let us emphasize the

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[31]See, for instance, William Form, "The Place of Social Structure in the Determination of Land Use," Social Forces, 32 (May, 1954), 317-24; Leonard Cottrell, "Death by Dieselization," American Sociological Review, 16 (June, 1951), 358-65; Walter Firey, "Sentiment and Symbolism as Ecological Variables," American Sociological Review, 10 (April, 1945), 140-48; Evon Z. Vogt and Thomas F. O'Dea, "A Comparative Study of the Role of Values in Social Action in Two Southwestern Communities," American Sociological Review, 18 (December, 1953), 645-54.

idea that out of the processes by which men attempt to collectively sustain themselves, unplanned as well as planned competition ensues. Within a competitive network, positions of dominance and power may be obtained inadvertently as well as rationally. While Weber had in mind relationships among individuals and organizations, his following comments concerning competition are instructive.

> It may in various ways, be an unanticipated consequence of a course of social action and its relevant conditions that certain types of social relationships . . . will be adversely affected in their opportunities to maintain themselves or to arise.[32] [Emphasis ours.]

And at another point he made a comment which is more directly conceivable at the community level:

> Even on the utopian assumption that all competition were completely eliminated, conditions would still lead to a latent process of selection, biological or social, which would favor the types best adapted to the conditions, whether their relevant qualities were mainly determined by heredity or by environment.[33] [Emphasis ours.]

Given the division of labor among communities, and given the economic dimensions of the division of labor, the question can now be asked: are there factors of an unplanned or "latent" nature which place communities in dominant or advantageous positions within the competitive, economic division of labor? We intend to explore some of these possibilities and their outcomes, specifically as they relate to the general status consistency-inconsistency of communities.

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[32]Max Weber, The Theory of Social and Economic Organization, trans. A. M. Henderson and Talcott Parsons, Talcott Parsons, editor (Glencoe: The Free Press, 1947), p. 135.

[33]Ibid., p. 134.

Dominance

The concept of dominance along with competition was pivotal to the classical ecologists and has remained important in the study of metropolitan dominance. Duncan and Schnore[34] have recently suggested the similarity between the concepts of dominance and power. Nevertheless, almost all discussions of power in sociology have been at the interpersonal, intracommunity, or organization level. Duncan and Schnore point to the need for developing the concept in general and suggest its possible usage within an ecological framework.

One treatment of the concept which can be adapted for analysis of power among collectivities (populations), of the nature involved in this thesis, is the classic discussion of the concept by Robert Bierstedt.[35] He suggests that "power would seem to stem from three sources (1) numbers of people, (2) social organization, and (3) resources."[36] Given our particular problem and Bierstedt's analysis the linkage is apparent.

(1) "Numbers of people" is directly translated into size of population. Within the present framework, economic dominance (power) within the division of labor is maintained, generally speaking, by larger communities. In fact, Duncan and Reiss in their 1950 census monograph arrived at the following conclusion: "Of all the differences among communities of different size revealed in this study, perhaps the most striking is the pronounced direct relationship between size of place and income."[37]

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[34]Duncan and Schnore, "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organization," p. 139.

[35]Robert Bierstedt, "An Analysis of Power," American Sociological Review, 15 (December, 1950), 730-38.

[36]Ibid., p. 737.

[37]Duncan and Reiss, op. cit., p. 103.

(2) An advantageous social organization which gives the competitive edge (power) to a community is closely bound to size. It is generally argued that the change in organization which develops with size is one of the main reasons size makes a difference. It is this very argument that Bogue used in stating the thesis of metropolitan dominance.

> The metropolis is usually the largest and most complex (the farthest removed from the "average" city) of all of the cities in the territory. Because it is able to assembly cheaply a varied array of raw materials and products from all parts of the world; because a large number of specialized components and skills are required to sustain human beings at their present level of living; because up to a certain point machine production increases in efficiency with an increased scale of operations; and because certain mutual benefits appear to accrue to business enterprises from their location in proximity to each other, the large city is able to produce and distribute more varied goods and services than is a smaller city. The more specialized the goods, and the more the goods are amenable to mass production, the greater these industrial and commercial advantages of large cities seem to become.[38]

Gras also argued for the dominance (power) of metropolitan centers in terms of organizational superiority.

> We may think of metropolitan economy as an organization of people having a large city as nucleus. Or we may put it this way, metropolitan economy is the organization of producers and consumers mutually dependent for goods and services, wherein their wants are supplied by a system of exchange concentrated in a large city which is the focus of local trade and the center through which normal economic relations with the outside are established and maintained.[39]

While the comments of Bogue and Gras include both the dimensions of size and location, the contributions of size toward superior organization, which in turn gives competitive economic advantage, is readily apparent.

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[38]Bogue, The Structure of the Metropolitan Community, pp. 5-6.

[39]N. S. B. Gras, An Introduction to Economic History (New York: Harper and Brothers, 1922), p. 184.

(3) The third factor in Bierstedt's analysis is resources. Although, in our present analysis we do not expand upon this point to a great extent, its possibilities are easily seen. What resources are most important for economic advantage will vary with time and are related to many other factors; nevertheless, the question is one that can be explored empirically. We can suggest the obvious advantageous resources such as a deep sea port (a natural resource)[40] or a large manufacturing base (man-made or technological resource).[41]

Factors one and two, size and organization, are taken into account when we discuss the influence of size and metropolitan dominance. Factor three, resources, is at least partially taken into account when we discuss functional specialization. All three factors, of course, are interrelated in rather complex ways, but they are useful concepts for understanding the dimension of power or dominance among communities. In fact, they become central concepts in trying to understand the dynamics of the division of labor in a free market society.

Relation to Ecocomplex

Thus far we have introduced three broad concepts--division of labor, competition, and dominance--as central concepts, which will provide meaning for our more specific concepts and for the derivation of our hypotheses. Since the ecocomplex is a frequently used conceptual

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[40]Leo F. Schnore and David W. Varley, "Some Concomitants of Metropolitan Size," American Sociological Review, 20 (August, 1955), 408-14.

[41]Lampard, op. cit., pp. 92-102; Edgar M. Hoover, The Location of Economic Activity (New York: McGraw-Hill Book Company, Inc., 1948).

scheme and mnemonic device (POET) for suggesting what human ecology is about, a few statements indicating its relevance for the present study are in order.

Duncan and Schnore,[42] who have been the leading proponents of the ecocomplex, have suggested in general and provocative terms, ways of conceptually utilizing the POET scheme. The point we want to make is that up to the present time POET functions as a frame of reference, a point of orientation for a number of macro oriented sociologists. The thing that POET is not, and that to our knowledge its proponents have not claimed for it, is a theory.[43] In Merton's[44] categorization it fits what he calls "general sociological orientation" (at the macro level). Stoeckel[45] used the POET scheme in setting the stage for developing his theoretical framework, but there is no theoretical development of the POET scheme

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[42]See, especially, Duncan and Schnore, "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organization," Duncan, "From Social System to Ecosystem;" and Duncan, "Social Organization and the Ecosystem."

[43]The statement of the POET scheme probably comes closest to a statement of theory in the Handbook, but it still remains a broad integrative conceptual scheme.

[44]Robert K. Merton, Social Theory and Social Structure (Revised and Enlarged Edition; Glencoe: The Free Press, 1961), pp. 87-89. A short statement from Merton's discussion will indicate the relevance of his categorization: "Much of what is described in textbooks as sociological theory consists of general orientations toward substantive materials. Such orientations involve broad postulates which indicate types of variables which are somehow to be taken into account rather than specifying determinate relationships between particular variables. Indispensable though these orientations are, they provide only the broadest framework for empirical inquiry."

[45]John Stoeckel, "The Impact of Metropolitan Dominance Upon the Status Structure and Status Consistency of Rural-Farm and Urban Populations" (unpublished Ph.D. dissertation, Michigan State University, Department of Sociology, 1966), pp. 7-10.

itself, i.e., there are no interlocking propositions which link the concepts of the ecocomplex. What we do not want to do is depricate the development and utility of the ecocomplex. It has, after all, been extremely important in guiding our own thinking. What we do want to demonstrate is that our preceding discussions provide a good conceptual fit, and, consequently, theory developing potential for the POET scheme. We will demonstrate the fit by looking, briefly, at each component of the ecocomplex.

(1) As Duncan and Schnore[46] have pointed out, organization, although not necessarily, most frequently is viewed as a dependent variable. The morphology (organizational structure) of communities in terms of status consistency-inconsistency is our dependent variable.

(2) Population is treated by us in terms of size, quite in keeping with the ecocomplex. Important additional factors have been introduced in terms of viewing communities as interdependent within a societal division of labor and size possessing certain competitive economic advantages. What we have done is provide some of the "why" (at least in one case) for population influencing organization. It is one thing to suggest that population influences organization; it is quite another to suggest and explore the dynamics involved. Nevertheless, it is these dynamics that relate concepts in the form of propositions and generate theory.

(3) The third concept of the ecocomplex is environment.[47] The

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[46] Duncan and Schnore, "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organization," p. 136.

[47] Duncan has a useful discussion of regional analysis as one attempt to deal with the concept of environment. See Hauser and Duncan (eds.), The Study of Population, pp. 701-06.

concept of environment is a weak concept in ecology and in sociology generally. It is one of those terms which has frequently served as a residual category into which are dumped various and sundry leftovers. For example, such statements as "X is influenced by variables A and B and 'general environmental forces,'" have not been uncommon. Without engaging in a lengthy critique and explication of environment let us note that region and distance have frequently been used as indicators of environment when community comparisons have been made. While we will have occasion to use region as a control variable in our analysis, we are in keeping with Duncan's[48] observation that environment is most simply interpreted as space (distance). Distance between communities always in terms of metropolitan dominance, fits, then, into the ecocomplex as "E" (environment).

(4) There is one remaining concept in the ecocomplex, technology. For our analysis technology is most clearly conceived in terms of the industrial bases of communities, more specifically, as functional specialization. Unfortunately technology as a concept suffers from the same problem as environment; it is frequently used but only, if ever, vaguely defined.[49] Even when it has been used as a variable within the ecocomplex scheme it has generally remained ill defined.

What we want to make clear is that our analysis includes the four concepts of the ecocomplex and translates them into variables for analysis. This aside is important given the frequent usage of and

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[48] Ibid., p. 685.

[49] For recent treatment of and bibliography on technology, see Harvard University Program on Technology and Society, Fourth Annual Report, 1967-1968 (Cambridge: Harvard University Program on Technology and Society, 1968).

reference to POET. What we also hope to have made clear is that the general concepts of dominance and competition within a competitive, economically based division of labor extends the notion of POET. We move from a perspective which says "look here are the important concepts" to one which says "look here is one way of understanding how the concepts become interrelated." We have attempted to develop a broad conceptual framework which provides what Gibbs and Martin[50] have called the "connecting mechanisms."

The general discussion and development of our theoretical framework up to now, provides the basis for the section which follows. While the statements in the following section may appear able to stand by themselves, their meaning is entirely dependent on the context of what has preceded them in this thesis.

Propositional Statements of Theory

The remainder of this chapter includes a restatement, in succinct propositional form, of our basic theory. We are not suggesting that such a presentation makes the statements of relationship we are interested in any more "real" or "true" than a rambling discussion form of presentation. The advantages of stating a theory in a propositional format are: (1) clarity, (2) simplicity, and (3) vulnerability to justified criticsm.[51]

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[50]Jack P. Gibbs and Walter T. Martin, "Toward a Theoretical System of Human Ecology," Pacific Sociological Review, 2 (Spring, 1959), 3.

[51]A discussion which gives general support for what we are suggesting, the mechanisms involved in presenting propositions, and some of the ensuing problems and benefits can be found in Hans Zetterberg's On Theory and Verification in Sociology (Third Enlarged Edition; New York: The Bedminster Press, 1965), Chapters 4 and 5.

Similar goals can be pointed to for all three of the previous points, but basically it comes down to stating the conceptual framework without a lot of verbal trimmings. The garnishment of many theories makes them more tasty, and may be the only thing that makes some of them conceptually palatable.

It is our contention that scientific theory can develop only to the extent that we clearly know what the theory is saying. While oversimplification of complex relationships is always a threat, there must be an attempt to state the relationships in their clearest and most simple form.[52] An outcome of stating theories in the form we have indicated is that other analysts can more readily evaluate, both logically and empirically, the proposed system of explanation.

Our propositions, which have resulted from earlier discussions in this chapter, are very general in scope. They are what Zetterberg[53] calls "theoretical propositions." Due to their "high informative value," these propositions differ from "ordinary propositions." It will become apparent in what follows, that lower level propositions (ordinary propositions and hypotheses), can be fitted within the more general, theoretical propositions. The weaving of empirically testable propositions within the more general propositional network can be done both deductively and inductively.

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[52]Simplicity and parsimony have been suggested as criteria for evaluating theory. Those theories which can (1) simply stated, (2) encompass a greater range of phenomena, are valued above those theories which do not meet these criteria as well. See Melvin H. Marx, "The General Nature of Theory Construction," in Theories in Contemporary Psychology, Melvin H. Marx, editor (New York: The Macmillan Company, 1963), pp. 19-21.

[53]Zetterberg, op. cit., p. 80.

The first proposition is very basic and one that will be readily accepted. We believe its simplicity is more apparent than real, but it serves us, only as an initial step in developing our theory.

Proposition I:

If man is to exist, he must engage in sustenance activities.

The obvious empirical support which abounds for this proposition would allow its acceptance as fact by most observers. What is important and has ramification for sociology is a parallel proposition and a third proposition closely related to it.

Proposition II:

If man is to live collectively (as a population), he must engage in collective sustenance activities.

Proposition III:

If man engages in collective sustenance activities, a division of labor will occur.

It will be useful to clarify a number of issues at this point:

(1) It is with propositions II and III and their logical union--if man is to live collectively (as a population), a division of labor will occur--that Durkheim was concerned in The Division of Labor.[54] What he did was to explore the effects on the division of labor resulting from changes in some dimensions of the population, e.g., size, physical and social density.[55] Again, let us restate that the propositions we are setting forth are broad in scope. As we develop (deduce and induce)

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[54]Emile Durkheim, The Division of Labor in Society (New York: The Free Press, 1964).

[55]Ibid., Book Two; Schnore, loc. cit.

more specified propositions, capable of refined empirical analysis, within the framework of these more macro propositions, scientific theory can evolve. Durkheim's work was a move in that direction. If we stop with very general and encompassing propositions we border between sociology and social philosophy or history, but not scientific (empirically anchored) theory. On the other hand, if we stop with the specific, ordinary propositions, we end up with, at best, empirical generalizations.[56]

(2) The emphasis on the division of labor as a phenomenon of a population makes it important for sociology in general. If the emphasis is on the population as a whole it becomes of specific interest to human ecology. That the interests of human ecology are basically population interests has been clearly articulated by a number of ecologists.[57] Further, Schnore[58] has ably demonstrated the centrality of "the division of labor" within human ecology, and the connection is also apparent in the previous development of our theory. The bond may become clearer if we give re-emphasis to two points: (a) "the primary focus of ecological attention is logically the organization of functional relationships,"[59] and (b) that the particular functional relationships are those centering around sustenance activities. We have, then, a population (in our case

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[56]Merton, op. cit., pp. 95-96.

[57]Park, op. cit., pp. 14-15; Duncan, "Human Ecology and Population Studies," pp. 678-716; Hawley, Human Ecology, Chapters 10, 11, and 12; Hawley, Roderick D. McKenzie on Human Ecology, Chapter 3; Schnore, loc. cit.

[58]Schnore, loc. cit.

[59]Hawley, Human Ecology, p. 179.

a large population with smaller sub populations rather than persons) engaged in sustenance activities, which involve functional interdependencies. The functionally interdependent patterns evolving in these activities are an important form of social organization--the division of labor. The preceding account has been aptly caught in the phrase "social organization is an adaptation of a population to its environment."

This leaves us a final point to make before we proceed to the next propositional statement:

(3) It is necessary to provide a definitional statement for the division of labor.

Definition:

The division of labor is an organization for producing, maintaining, and distributing collective sustenance.

Proposition IV:

If an organization for producing, maintaining, and distributing collective sustenance occurs, there will develop unplanned positions within the system which effect controls on the producing, maintaining and distributing of collective sustenance (i.e., dominating positions).

Proposition V:

If unplanned positions within the system which effect controls on the producing, maintaining, and distributing of collective sustenance (i.e., dominating positions) develop, those positions will accrue a disproportionate amount of economically related benefits in relation to the other positions in the system.

It is with propositions IV and V that this thesis is concerned. We will develop our hypotheses within the broader scope of the theoretical propositions. Along with a reminder that our units of observation

are communities in a division of labor, it is important that we draw attention to one notion before turning to the following chapter and the more specific proposition--our hypotheses.

In a large population and especially a large, mobile, technologically developed nation, some form of monetary exchange is essential. Producing, maintaining, and distributing sustenance becomes inextricably linked with the gaining, maintaining and distributing of money. While there is not a literal translation from sustenance to money, legally speaking, money is translated into forms of sustenance. We mention this aspect of sustenance activities to emphasize, again, the importance of the economic dimension in the division of labor.

CHAPTER III

THEORY--PART II: HYPOTHESES

Introduction

This chapter attempts to provide some logical conclusions to statements and issues in the preceding chapter. Hypotheses evolving from the relationships between the independent variables and the dependent variables will be presented. More specifically and in order of their presentation, we will discuss (1) some general expectations about the overall distribution of inconsistency, (2) community size and metropolitan dominance, (3) functional specialization, and (4) the nonwhite population and female labor force. Before we proceed, however, it will be useful to make some comments on the basic premise of this whole study.

We are working under the assumption that among communities can be found both the characteristics of strata consistency and of strata inconsistency. While such characteristics have been demonstrated for individuals,[1] families,[2] counties,[3] and the general distribution of income

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[1]G. E. Lenski, "Status Crystallization: A non-vertical dimension of social status," American Sociological Review, 19 (August, 1954), 405-13. Almost all of the work reported on status consistency-inconsistency has used individuals as the units of observation. We use Lenski's article as a reference because it serves as a groundbreaking classic in the particular area, and it is typical in its use of individuals as units of observation.

[2]Ralph Spielman, "A Study of Stratification in the United States" (unpublished Ph.D. dissertation, University of Michigan, 1953).

[3]John Stoeckel, "The Impact of Metropolitan Dominance Upon the Status Structure and Status Consistency of Rural-Farm and Urban Populations" (unpublished Ph.D. dissertation, Michigan State University, 1966).

and education in relation to occupation for the United States,[4] there is no direct evidence to demonstrate the consistency or inconsistency of communities. Nevertheless, it is quite logical, in keeping with other findings which used different units of observation, to suppose that some communities are consistent across stratum dimensions while others are not.

Studies using differing units of observation have produced varying results. Spielman[5] found that 33 per cent of his national sample demonstrated status consistency. The census of 1960 showed 29 per cent of its sample to demonstrate status consistency while the remainder exhibited some degree of inconsistency.

Since stratum scores of communities are summaries of many diverse individual scores, we can look for some of the extreme diversity of statuses among individuals to be concealed within the overall community stratum scores. We can expect to find less diversity of scores, and, consequently, more strata consistency among communities than has been found among individuals or families. Some observers may be led to conclude that no inconsistency will be found at the community level. The argument being, as suggested above, that at such a macro level all inconsistencies will disappear. However, it is the basic premise of the

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[4]Robert Hodges, "Occupational Composition and Status Crystallization: An Aggregate Approach" (unpublished M.A. thesis, Department of Sociology, University of Chicago, 1961).

[5]Spielman, op. cit., p. 36.

[6]The information was tabulated from data presented in the U.S. Census of Population and Housing: 1960, 1/1,000 and 1/10,000 Description and Technical Documentation (Washington, D.C.: U.S. Government Printing Office, 1960).

present investigation that there are factors at a macro level, which are associated with the stratum arrangements of communities, and which produce varying degrees of consistency-inconsistency among those arrangements. This premise still remains to be demonstrated through analysis of the data.

Overall Distribution

Although they are not part of our more specific hypotheses, certain characteristics of the overall distribution can be hypothesized. Given the general propositions we have already introduced, and in regard to inconsistency, there is justification for expecting each of the three hierarchies income, occupation, and education to occur with differing degrees of frequency.[7]

Let us re-emphasize two aspects of our general orientation. First, within the division of labor certain competitive advantages and disadvantages are associated with different aspects and dimensions of communities. Second, the kind of advantages we are concerned with in this analysis are directly or indirectly economic.

Hypothesis 1--Distribution

Income will occur most frequently as the inconsistent dimension in strata inconsistency.

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[7]We will explain our usage of "strata consistency-inconsistency" in operational terms in the next chapter. However, our present reference to greater or lesser "occurrence" with strata inconsistency requires clarification. We want to make clear that when strata inconsistency characterizes a community there is always one stratum dimension--income, education, or occupation--which is most deviant (inconsistent). Conceptually, this is easy to understand. Since we are concerned with three strata dimensions whenever there is inconsistency one dimension, due to numerical determination, will be "most" deviant.

Since income is obviously bound up in the economic aspects of the division of labor, we expect the income stratum to be most sensitive to those factors which contribute to economic advantages or disadvantages in communities. Consequently, since it is most sensitive, it will, in relation to occupational or educational strata, occur more frequently as the inconsistent stratum in strata inconsistency.

Hypothesis 2--Distribution

Education will occur least frequently as the inconsistent dimension in strata inconsistency.

The major factor leading to this hypothesis is that education is the most controlled, through organization and legislation, of any of the three strata dimensions. State laws as well as some federal guidelines contribute toward greater homogeneity among communities on this particular strata dimension, basically through attempting to raise the lower end of the distribution. This does not mean that communities and even regions do not present a hierarchy of educational status. On the other hand, because of the attempts to regulate the educational obtainment of populations, we expect nonplanned, economic factors to have less effect on the educational stratum than on occupation and income strata.

One remaining aspect about the functionally interdependent division of labor among communities needs to be mentioned. While the point is not directly included in the explanation of the previous two hypotheses, it will be influential in the outcomes predicted by those hypotheses.

Every community develops its own division of labor. While communities do vary in this regard, a minimal division of labor is necessary. Within each community the division of labor presents a range of occupational positions. This range of distribution of the occupational

stratum positions within each community hinders communities from obtaining overall extreme rankings on the occupational stratum. While it was pointed out that there has been a conscious attempt to influence educational obtainment of community populations, there are, on the other hand, some "natural" influences restricting the range of the occupational stratum in communities. "Natural" is used here to refer to the organizational adaptation of a population to meet its sustenance needs in terms of a division of labor. We expect occupation to occur more frequently than education but less than income as the inconsistent stratum. As we indicated, this would support the predicted outcomes of the previous two hypotheses.

Size and Distance

We find it difficult to talk of size of community and distance from metropolitan centers apart from one another. A simple example will demonstrate the point. Let us suppose we are interested in certain characteristics of communities X and Y. Both of them have a population of 20,000. Both of them share another point in common, they each contain a college with 12,000 students. However, community X is on the outskirts of a metropolitan center of one and a half million inhabitants. Community Y, on the other hand, is the largest community within a 75 mile radius. Obviously, one would expect quite different things, say for example, in regard to the impact of the local college in the two communities.

On the other hand, if X and Y were two communities both 70 miles from a relatively large metropolitan center, but X was 10,000 in size and Y 35,000, one would also expect some major differences.

In the statement and explanation of the hypotheses to be

presented here, we will frequently look at the simultaneous effects of a community's size and its distance from a metropolitan center. On some occasions the two dimensions will be treated singly for a particular hypothesis.

Before we present any hypotheses, it is necessary to make clear certain characteristics of the notion of consistency-inconsistency and to refer to some general attributes of communities. A unit, in this case a community, may have consistent strata in a number of ways. For instance, the community may have consistently high, medium, or low strata. That is, in terms of the number of levels used, say three, the community might be high in all three, towards the middle in all three, or low in all three. A community, then, can receive as high of a rating for being consistent but low in strata as it can for being consistent but high.

We have indicated in the previous chapter, both theoretically and with reference to empirical findings, that average income is higher in larger communities. Hathaway, Beegle, and Bryant,[8] in their census monograph, present findings which give some support to a decreasing average income with distance from metropolitan centers. Stoeckel[9] has also presented similar evidence. Nevertheless, the findings associating decreasing size and increasing distance with decreasing income do not say anything about the degree or type of consistency-inconsistency.

The phrase low, medium, or high ranked consistency refers to one of three general types of consistency. Using the term "rank" gets away

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[8]Dale E. Hathaway, J. Allan Beegle, and W. Keith Bryant, People of Rural America, a 1960 Census Monograph (Washington, D.C.: U.S. Government Printing Office, 1968), pp. 192-98.

[9]Stoeckel, op. cit., pp. 48-51.

from the awkward phrase, low (medium or high) strata strata consistency.

Hypothesis 3--Size and Distance

Among strata consistent communities, with increased distance from metropolitan centers, there is an increase in the frequency of low ranked consistent communities.

The hypothesis, at first glance, may appear somewhat cumbersome and involved, but a little reflection will indicate that it follows from our general propositions.

Given the dominance of larger population centers, communities most closely associated, spatially, to the large communities will reap a greater amount of the status benefits than will more distant communities. Exclusive suburbs functionally linked to metropolitan centers afford the most obvious example. Our argument, however, is not purporting any one-to-one relationship of increased distance and decrease in status. The theoretical framework from which we are operating suggests that there are other variables we will have to take into account presently. On the other hand, that same framework does indicate the importance of distance.[10] While varying types of consistency may occur for a number of reasons, we expect low ranked consistency to become more prevalent as distance increases.

We are concentrating only on low ranked consistency in the hypothesis. There is some value to be gained in a brief discussion concerning our focusing on only one type of consistency in the hypothesis.

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[10]Some empirical evidence is also available which discourages any distance-only explanation. See ibid.; and Hathaway, Beegle, and Bryant, loc. cit.

Stoeckel[11] predicted linear relationships, in his analyses of counties, with regard to distance and status characteristics. It is our contention that the ideas involved in metropolitan dominance do not suggest such association. Bogue,[12] in his classic treatment of the subject, talks of subdominant communities. Many analyses using the notion of metropolitan dominance suggest some type of hierarchy of dominance.[13] The 1960 census monograph, People of Rural America, shows some supporting evidence in this regard. When commenting on some of the data showing the earnings of operatives in relation to distance of counties where operatives are located, from metropolitan centers, the authors state:

> the medium earnings of operatives in SMSA's were usually higher than earnings of operatives outside SMSA's and that the differentials tended to rise with distance from the SMSA--at least up to a point. [Emphasis ours.][14]

While "subdominance" has been used to refer to varying sized and distant communities and spatial units, we suggest a general principle can be invoked from our theoretical framework.

Wherever a community has, because of resources, location, or size (which is central to the present argument), come to dominate in the functional division of labor, relative status advantages accrue. The more

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[11]Stoeckel, op. cit., pp. 16-17.

[12]Donald J. Bogue, The Structure of the Metropolitan Community--A Study of Dominance and Subdominance (Ann Arbor: Horace H. Rackham School of Graduate Studies, University of Michigan, 1950), p. 23.

[13]For example, see Otis Dudley Duncan and Others, Metropolis and Region (Baltimore: The Johns Hopkins University Press, 1960); and Bogue, loc. cit.

[14]Hathaway, Beegle, and Bryant, op. cit., p. 193.

distant a community is from a metropolitan center the less direct the influence from the center. On the other hand, the distant community, while not on the same scope as the metropolitan center, has its own hinterland. Its own hinterland which, in terms of organization and economic resources, it dominates.[15]

Given the complexities created by the influence of subdominance, strict linear hypotheses are difficult to justify theoretically or demonstrate empirically. What we have done is to look only at one type of arrangement. By looking at more refined dimensions of strata arrangements, which can be supported by our theoretical framework, we hope to be able to find empirical results which more closely fit our theory. Given the differing types of consistency that can occur it is impossible, from our vantage point, to derive hypotheses fitting all types. However, with the awareness of varying kinds of consistency, it is possible to suggest hypotheses which fit a particular type.

Hypothesis 4--Size and Distance

Among strata consistent communities, at varied distances from metropolitan centers, with increase in size there is a decrease in the frequency of low ranked communities.

The preceding hypothesis follows from the rationale that larger communities will accrue more status advantages. The result would be either higher ranked consistency or some form of inconsistency with one

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[15]We are concerned here with distance, but communities may, for varying reasons such as control of important resources, location, etc., become functionally dominant over a hinterland (including neighboring communities). Such communities will be expected to deviate from a linear decreasing of status characteristics, with distance from the metropolitan center.

or two strata dimensions exhibiting the advantage of size.

Implicit in the previous logic is the notion that even though medium ranked consistency may be common in many distant communities high ranked consistency is very unlikely. Given the theory from which we are operating the smallest, most distant communities will virtually never have high ranked consistency.

One point of clarification needs insertion before we present other hypotheses. As we will explain in detail in the next chapter, the smallest communities in our analysis do not go below 10,000 in population. The possibility of our smallest communities becoming subdominants is a real possibility. If we were to include smaller communities, our discussion would have to take into account the implausibility of, say, a community 1,000 in population accruing relative status benefits because of its own dominance.

Our next hypotheses, related to the size-distance factors, are concerned with communities closest to the metropolitan centers.

Hypothesis 5--Size and Distance

Strata consistency will occur more frequently in small suburbs than in other communities.

Suburbs, because of their very close and involved interdependence with metropolitan centers, will show more dramatic effects than more distant communities. One of these effects is the homogeneity in terms of strata dimensions which is permitted in small suburbs. Because the metropolitan center fulfills many of the consuming and employment needs of the suburban population, there is no necessary development in the suburb of an extensively diversified, community supporting, division of labor.

Some major issues with the orientation we are operating from can be raised here, and a brief discussion is necessary. We are contending that the societal division of labor, with its requisites and outcomes, is a very useful framework for our analysis. We have also said that the ecological orientation is concerned with the unplanned consequences of the competitive struggle within the division of labor. Some of the critics of human ecology get most concerned about its lack of attention to culture and man's own ability to rationally plan communities. These concerns may be expressed by some critics in regard to suburbs and their development, e.g., the planning by city or county planning commissions, the development and plans by realtors and land development groups, and the residential tastes of middle class Americans (or whomever). These suggestions and many more can be offered as factors contributing to the morphology of suburbs.

Our framework does not deny the importance or influence of such factors. What we would stress is that the very possibility of the existence, of a small community functionally interdependent with the large metropolitan center, was planned by no one. A burgeoning population, national immigration, movement from farm to city, technological development including travel and communication sources are some of the factors which provided the bases for suburban development. While realtors and developers, for example, may develop and sell a certain type of suburban development, they are dependent upon the size and type of metropolitan center with its particular industrial and occupational composition. Many questions and issues can be raised about what influences what the most and which comes first. The only point, but the point we want to make, is that there are very legitimate, unplanned

factors which come about through community functional interdependence, and which, in turn, influence community morphology.

Our previous hypothesis would not be expected to hold for larger suburbs. When suburbs get larger they, of necessity, develop a more complex and diversified division of labor to meet their own needs. We would expect such diversification to be reflected by less frequently consistent strata hierarchies.

Given the dominating influence of the metropolitan centers, the possibility for smaller suburbs to enjoy the status benefits accruing to dominant centers is present. Hence, the following hypothesis:

Hypothesis 6--Size and Distance

High ranked strata consistency will be most prevalent among small suburbs.

The next set of hypotheses, 7 and 8, are still concerned with size and distance, but now our interest turns to patterns of inconsistency.

Hypothesis 7--Size and Distance

An inconsistent strata arrangement with the occupational stratum high will occur more frequently among suburbs than among other communities.

Hypothesis 8--Size and Distance

An inconsistent strata arrangement with income high will occur more frequently among suburbs than among other communities.

The preceding two hypotheses are both generated from the same precipitating factors. Given the income advantage that is associated with size, and given the general finding of an increasing proportion of white collar occupations with community size,[16] metropolitan centers would be

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[16]Otis Dudley Duncan and Albert J. Reiss, Social Characteristics

expected to rank high on these two dimensions. With the interdependencies among communities, especially between metropolitan centers and their suburbs, we have suggested that status advantages of the metropolitan centers contribute to advantages for some of the suburbs. Many suburbs become residential centers which feed off of the industrial and occupational characteristics of metropolitan centers. The benefits, income and occupation-wise, will be experienced by many suburbs in such a way that we expect suburbs to be disproportionately over-represented among communities which have income and occupation high inconsistency.

As we indicated earlier in this chapter, education is less free than are the other two dimensions to fluctuate. More positively stated, it is the one stratum that is under the most regulated control. Thus, while we can posit economic and occupational advantages for some suburbs, it does not follow that the same thing holds on the educational dimension.[17]

Functional Specialization

The next set of hypotheses are related to whether or not a community is functionally specialized, and in some cases we will be concerned with the particular type of specialization. Given the multiplicity of specialization and the varying degree to which different

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of Urban and Rural Communities, 1950 (New York: John Wiley and Sons, Inc., 1956), p. 37; Halliman H. Winsborough, "Variation in Industrial and Occupational Composition with City Size" (unpublished M.A. thesis, University of Chicago, 1959), pp. 90-94.

[17] For some evidence on this point see: Hathaway, Beegle, and Bryant, op. cit., p. 142. They found no relationship between distance and education level for counties.

specializations can or do influence community structure, the web of relationships is very complex, at best. We will concern ourselves with some of the more general relationships and major specializations.

Hypothesis 9--Specialization

With the exception of the smallest communities, communities with no major specialization will have consistent strata more frequently than specialized communities.

Specialization among communities is possible only because of functional interdependence with other communities and the accessibility or control of some natural resource. Depending on what type of functional relationships a community has or the importance of its particular resources, positions of dominance or subordinance arise within the division of labor. These positions will have associated with them relatively advantageous or disadvantageous status characteristics. On the other hand, if communities are not specialized, one source contributing to differential advantages or disadvantages is absent. This, along with the fact that a form of specialization may have differing effects on the separate dimensions, results in the preceding hypothesis. Most simply, the rationale is that in diversified (nonspecialized) communities the strata hierarchies will tend toward parallel development (in terms of vertical positions).

The case of small communities will be taken up in a later hypothesis.

Hypothesis 10--Specialization

In communities with no major specialization, the multiple affects of decreasing community size and increasing distance will produce an increasing degree of strata consistency.

Here we have combined the effects of three independent variables and suggest their multiple influences result in a higher degree of consistency.

Hypothesis 11--Specialization

Specialized small communities with the exception of those specialized in manufacturing and education will be consistent in strata.

Here again we have combined variables. In smaller communities the effects of specialization are more pervasive; consequently, if a community is both small and specialized, the specialization will shape the community toward consistency. In smaller communities the specialization will have enough influence to actually shape all three of the strata with which we are concerned. Whether it is high, medium, or low ranked consistency depends on the specialization, distance from metropolitan center, and other factors. Regardless, the influence is toward consistency.

Hypothesis 12--Specialization

Communities specializing in manufacturing will be inconsistent with the income stratum high.

Manufacturing is by far the largest single industrial category. Its influence on community structure has been well demonstrated.[18] Depending on the type of relationships one is interested in, differing types of manufacturing may be more important than others, e.g., durable-nondurable. For our present problem we will consider manufacturing as a whole.

Since manufacturing is a huge employer it includes differing occupations of varying position in an occupational stratum hierarchy.

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[18]Duncan and Reiss, op. cit., pp. 253-273.

To suggest that specialization in manufacturing produces any particular patterns may, at first glance, appear unlikely. There are, however, a number of factors associated with manufacturing that should be kept in mind.

First, manufacturing's size (as an employing, industrial category) makes any influence it might have important directly or indirectly for all communities. Another facet of manufacturing is its crucial position in the overall functional division of labor. Especially in a large, highly technological society, those industrial activities that transform and combine goods, both raw and otherwise, directly or indirectly, into objects of consumption, are crucial. Manufacturing processes are, of course, the industrial activities performing these functions. A third characteristic of large scale manufacturing is very important for our analysis. Unlike most industrial activities which produce raw goods, and might be argued as being most crucial in the division of labor, manufacturing brings about large concentrations of workers. It will be recalled that one of the factors forming the basis for power is organization. Given, then, manufacturing's propensity for organization, i.e., numbers in proximity, and its importance in the division of labor, we expect communities specialized in manufacturing to exhibit characteristic traits. One trait we expect is that income status will accrue disproportionately to educational and occupational status. The tendency will exhibit itself in the form of income high, inconsistent status.

There is some empirical evidence to support our expectation for income high inconsistent status among manufacturing communities. Duncan

and Reiss[19] compared communities specialized in manufacturing to communities lowest in manufacturing. They found that high manufacturing communities tended to be lower in education and higher in income.[20] In regard to higher status (white collar) occupations, they concluded:

> that manufacturing centers have low proportions of white-collar workers, not only because the manufacturing industries themselves employ relatively small numbers in white-collar jobs, but also because the concentration in manufacturing exerts an indirect or selective influence on the remainder of the community's occupational structure.[21]

What we are doing in this thesis is making general comparisons of communities specialized in manufacturing. Duncan and Reiss give comparisons only for high and low manufacturing communities. Also, and equally important, we have presented a logical set of general propositions and accompanying hypotheses to account for their earlier findings. The Duncan and Reiss findings and our hypotheses are to be expected, given the part manufacturing plays in the overall division of labor, and given the characteristics of manufacturing which have facilitated labor organizations in the manufacturing industries. These factors combine to give communities high in manufacturing a competitive, dominating (power) advantage within the division of labor, which is exhibited in high income status in relation to educational and occupational status.

Hypothesis 13--Specialization

Communities specialized in education will be inconsistent with education high or income low strata arrangements.

Hypothesis 14--Specialization

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[19] Ibid.

[20] Ibid., p. 270.

[21] Ibid., p. 268.

The smaller the community specialized in education the greater the degree of inconsistency.

The rationale for the above hypotheses is centered around three points: (1) the number of high stratum occupational positions associated with education; (2) the very nature of the specialization, education, will tend to give the community high ranking on education; (3) we expect that a disproportionate amount of status, occupationally and educationally, is associated with educational specialization in comparison with income.

Education due to its close linkage with occupation will tend to be similar stratum wise. In fact, an early hypothesis indicates our expectancy for inconsistency to be most prevalent in relation to income. That expectation is partially due to a closer connection between education and occupation. Since communities specializing in education will, by the nature of the specialization, be high in education, occupational ranking will also be high.

While educational processes may be seen as essential in the overall division of labor, they are not directly involved in the allocation and distribution of sustenance. In such a position, those communities specialized in education are not in as dominant a position as their educational position might seemingly indicate. We are suggesting, then, that the result is less income in relation to occupation and education. While we look for the general influence of educational specialization, it is expected to be more pronounced in small communities, where the simultaneous influences of other dimensions of the division of labor and strata placements are not so pronounced.

Females and Nonwhite

> Despite the great range of individual diversity a few simple distinctions are widely used in the distribution of functions. Sex and age differences for example, serve universally as bases of functional differentiation in human aggregates. Everywhere, from the most simply to the most complexly organized groups, the sex dichotomy is mirrored in the distribution of functions and privileges. . . . Racial heterogeneity, wherever it occurs, forms a third generally recognized basis for the division of labor. Different racial groups tend to differ in the functions they perform and are usually set apart, too, by various prescriptions and other marks of distinction.[22] [Emphasis ours.]

The present study does not concern itself with age differences. However, the hypotheses to be presented are directly related to the other two bases for the division of labor--sex and race. Our procedure in presenting the remaining hypotheses differs from the previous format. The large body of literature which presents empirical demonstration of female and nonwhite subordinance within the division of labor and the resulting status characteristics, precludes the use of our general format. It is not necessary and would be ludicrous to predict the situation of females and nonwhites from our propositions when the outcomes have already been demonstrated many, many times. It does remain, however, as a future exercise to logically demonstrate how the major propositions we are operating under can provide a partial explanation for the subordinant position of females and nonwhites. What remains to be done in the present analysis is answer the question: Given the generally subordinant status of the female and nonwhite populations within the division of labor, what effects can we expect on the dependent variable where we have a relatively

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[22]Amos Hawley, Human Ecology (New York: Ronald Press, 1950), pp. 183-84.

high number of females in the labor force or a relatively high number of nonwhites in a community?

While there are some similarities between the positions of the female and nonwhite populations in the division of labor, there are also important differences. We will look at the effects of females in the labor force first and then nonwhites.

Hypothesis 15--Females

Except for the highest income communities, the greater the proportion of females in the labor force, the greater the frequency of strata inconsistency.

Hypothesis 16--Females

Except for the highest income communities, the greater the proportion of females in the labor force the more likely that the inconsistency will be income high inconsistency.

Hypothesis 17--Females

Except for the highest income communities, the greater the proportion of females in the labor force the greater the degree of strata inconsistency.

All three of the preceding hypotheses are couched within the same rationale. While females are in a general position of subordinance with regard to occupation and income, the overall effect of their employment on community strata is to raise the income dimension. Analyses of occupational status continue to be based on the occupations of males. While there is good argument that this approach does not reflect the total picture,[23] it is a realistic approach in terms of how status gets

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[23]Ernest A. T. Barth and Walter Watson, "Social Stratification and

assigned and then transferred intergenerationally, i.e., by family units, most usually with male heads. Analyses of the occupational stratum of communities have used a summary indication based on the distribution of male occupations. Again, it does not give the total picture, but it does realistically reflect that aspect of occupational status to which people most frequently pay attention and react.

The result is that the female's occupation frequently gets glossed over or ignored, but her contribution income-wise is very real. Female employment contributes to family income, where both male and female are present and employed, and to overall income in the community. While her income may be less than male income, it is income. With greater numbers of females employed there are, proportionately speaking, more persons bringing in money. It is obvious, then, why greater female employment is expected to result in greater inconsistency and why this would more frequently be income high inconsistency. It leaves for explanation, however, the qualifying phrase in the hypotheses, "excluding the highest income communities."

From working with census tract data[24] and from national data on family income,[25] we have found evidence that female employment contributes very little toward income in the upper income brackets. We expect the same pattern to hold at the community level. The explanation for this occurrence is rather simple. For whatever other reasons they might have,

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the Family in Mass Society," Social Forces, 45 (March, 1967), 392-402; L. H. Day, "Status Implications of the Employment of Married Women in the United States," American Journal of Economics, 20 (July, 1961), 391-97.

[24]In class exercise assigned to students, we have consistently observed that the highest average income tracts in a community are always among the lowest in percentage of females employed.

[25]See Appendix A, Figure 2, which demonstrates the point.

a good proportion of females work to supplement family income. Supplementing income is most crucial where there is little of it and least essential where there is a lot of it. Income supplementing, by female employment, is most often practiced, then, by lower and middle income families. There is no need for supplementing income in the highest income brackets. If we were to include the highest income communities, e.g., some of the high income suburbs, they would cloak the relationship which we expect to hold for the remaining communities.

Hypothesis 18--Nonwhites

The greater the proportion of nonwhites in communities the greater the frequency of strata consistency.

Hypothesis 19--Nonwhite

The greater the proportion of nonwhites in communities the more likely that strata consistency will be low.

Hypothesis 20--Nonwhites

The greater the proportion of nonwhites in communities the greater the degree of strata consistency.

Perhaps the expected effects on the dependent variable are more obvious for these hypotheses than for any others. A little reflection on the female position will make the nonwhite position even more stark.

Females, for the most part, make up only one part of the earning and consuming unit, the family. What they lack in equal position on the income and occupational dimensions they, speaking of the family unit, get compensated for through the male's prestige positions. Secondly, in regard to education females rank equal with or superior to males.[26]

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[26]The median school years completed for all females in 1960 was

While their higher ranking educationally highlights the status inconsistency for females in general, it does make the point that they have relatively high status on that dimension.

If one is nonwhite, however, there are no compensations.[27] In the family unit the other members are also nonwhite and have no compensating prestige positions to offer. Not only are there a lack of advantages income and occupationally, but educational status is also low. Due to the discriminatory practices from the dominant whites, the nonwhites have been kept in subordinant positions within the division of labor. This subordinant position has accrued to the nonwhite population the associated low positions on the three strata dimensions. Consequently, wherever communities have a large proportion of nonwhites the predicted hypotheses are expected to hold.

The following chapter will present the methodological procedures to be used in this thesis. Included in the presentation will be the previous hypotheses stated in operational form.[28]

10.9 compared to 10.3 for males. In all age categories females are at least equal and usually higher than males in median school years completed. For national data see: U.S. Bureau of the Census, U.S. Census of Population: 1960. Subject Reports. Educational Attainment (Washington, D.C.: U.S. Government Printing Office, 1963), Table 1, pp. 1-3.

[27]We are not concerned here with whether the status positions of nonwhites are changing or how much if they are. We are looking only at their subordinant positions as they now exist and exploring the consequences for strata consistency-inconsistency.

[28]We find ourselves in agreement with recent authors who have pointed to the difficulty of connecting the conceptual and the empirical realms. Not only is it difficult, but often a neglected concern by many researchers. We will state the hypotheses in an operational form to demonstrate how we have attempted the connection. The strengths and weaknesses of the linkages are more apparent when such transformation statements of the hypotheses are made. Some hypotheses, depending on

their conceptual statement, are almost in operational form, while the operational form of others is not so obvious.

The following references are to some discussions which argue for the importance (and the past neglect) of linking the conceptual and empirical realms.

Hubert M. Blalock, Jr., and Ann B. Blalock, Methodology in Social Research (New York: McGraw-Hill Book Company, 1968), Chapter 1; Gideon Sjoberg and Roger Nett, A Methodology for Social Research (New York: Harper and Row, Publishers, 1968), pp. 33-38. For a slightly older but classic discussion of the general problem see Chapter VII, "Epistemic Correlations and Operational Definitions," in F. S. C. Northrup's The Logic of the Sciences and the Humanities (New York: The Macmillan Company, 1947).

CHAPTER IV

METHODS AND METHODOLOGICAL CONSIDERATIONS

Introduction

Moving from the conceptual to the empirical realm within an ecological framework can be problematic. Hawley has commented that the "breadth of conception is one of the great virtues of human ecology and also the source of its major difficulties."[1] Part of this "source" is the general methodological problems encountered in a macro approach. Translating what might be a titillating conceptual analysis, partially because of its breadth, into a meaningful empirical counterpart is not always a graceful exercise.

Blau has made the following comments and broad procedural suggestions in regard to analyzing problems like the one under investigation.

> Both the study of the determinants and the study of the consequences of social organization are objectives of sociology, but the former is less easily done in empirical research and requires appropriate modifications of the prevalent research methods. To investigate the characteristics of social structure as the dependent variables to be accounted for by various antecedents, including other aspects of the social structure, necessitates (1) that different organized collectivities be examined rather than individual differences within one, however the boundaries of organized collectives are defined; (2) that organized collectivities be treated as units of comparative analysis; (3) that the empirical data, though usually referring to observed conduct of individuals, be converted into measures of social structure, such as division of labor, status hierarchy, or homogeneity of beliefs; and, ideally, (4) that a large sample of collectivities be studied, because the organization of collectivities differs in so many respects that

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[1] Amos H. Hawley (ed.), Roderick D. McKenzie on Human Ecology (Chicago: The University of Chicago Press, 1968), p. xiv.

> only multivariate analysis of many cases can hope to distinguish causal connections from correlated biases.[2]

In the sections that follow and in some detail we will present our attempt to comply with the procedures suggested by Blau, i.e., (1) the organized collectivities are communities; (2) communities are the units of comparison; (3) indicators of the division of labor and status dimensions in the form of strata consistency-inconsistency are the basic data; and (4) while how large is large may be debatable, the sample contains 539 communities.

We will describe the sample first, then operational procedures, comment on major control variables, present a diagrammatic representation of our presentation up to that point, and comment on statistical analyses.

Sample

The sample is a disproportionate, stratified random sample of communities from 10,000 to 100,000 in population in the continental United States. The sample is stratified by size categories of 10,000 through 24,999, 25,000 through 49,999, and 50,000 through 99,999. It was necessary to select differing proportions from each of the size categories. The total number of communities in each of the categories under discussion is size 1 (10-24,999) = 225, size 2 (25-49,999) = 214, and size 3 (50-99,999) = 100, which results in a total of 539 communities.[3] The decreasing number of communities with increasing size is apparent in the previous figures. There is a basic reason for this. The actual number

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[2]Peter Blau, "Objectives of Sociology," A Design for Sociology: Scope, Objectives and Methods, Robert Bierstedt, editor (Philadelphia: The Academy of Political and Social Sciences, 1969), pp. 51-52.

[3]See Appendix B for a listing of the communities in the sample.

of communities in the nation decreases as size increases. If there had been no limitations on expense and all the communities in the nation had been used, there would still be an inverse association between size and numbers of communities. Given the necessity of a large number of cases for comparative analysis, especially with control variables employed, it was necessary to draw different proportions from each size category. The procedure resulted in a 10 per cent sample from size 1, a 50 per cent sample from size 2, and a 50 per cent sample from size 3. The differing proportions were taken into account and proper weights employed, when it was necessary to develop and compare scales or measures representing national characteristics of communities.

Our purposive limitation of the size range of communities requires some comment. The community variable that has received the most attention in research through the years is size.[4] While there is a lot remaining to be explored about the effects of community size on other characteristics of communities, it is also true that we probably know more about the effects of size than we do about any other community variable. Based upon the expectation that size would have some effect on status consistency-inconsistency, but not wanting the influence of size to overwhelm the effects of other variables, we limited the size range.

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[4]See, for example, William F. Ogburn, Social Characteristics of Cities (Chicago: International City Managers' Association, 1937); Fenton Keyes, "The Correlation of Social Phenomena with Community Size" (unpublished Ph.D. dissertation, Yale University, 1942); Otis Dudley Duncan and Albert J. Reiss, Jr., Social Characteristics of Urban and Rural Communities, 1950 (New York: John Wiley and Sons, Inc., 1956); Howard B. Kaplan, "An Empirical Typology for Urban Description" (unpublished Ph.D. dissertation, New York University, 1958); Jeffrey K. Hadden, "A Systematic Study of the City as a Unit of Analysis" (unpublished Ph.D. dissertation, The University of Wisconsin, 1963); and Jeffrey Hadden and Edgar F. Borgotta, American Cities (Chicago: Rand McNally and Company, 1965).

The lower size limit was determined on practical grounds, but with some theoretical justification. The census data do not provide the same amount of information for communities under 10,000 as they do for larger communities. For some of the information needed in this study we could not get comparable information for communities less than 10,000 in size. On the theoretical side, the question can be asked of how small a community can be and still maintain an internal division of labor comparable to larger communities? A population of 10,000 is large enough to reflect an industrial and occupational diversity with enough variation for comparison with larger communities. It may be that 10,000 is getting close to the point where the internal division of labor is appreciably different. While we cannot answer this in the present research, we do feel confident that 10,000 represents a relatively small community which still possesses adequate comparative characteristics.

The upper size limit of 100,000, while somewhat more arbitrary, is defensible. On methodological grounds, the number of communities of larger size decreases so rapidly that comparative analysis becomes more difficult. It becomes a very real problem when controls, e.g., on region, are used. A second reason for excluding communities of a larger size is the increasing organizational complexity associated with larger size. This factor in itself needs further exploration and is reason for--not against--further exploration of larger communities. Nevertheless, in the present analysis the possible ramifications of increased complexity are purposefully excluded by limiting the size of communities in the sample. Hopefully this exclusion will permit a clearer view of relationships between the other specified variables of the study.

In regard to the sample one further point needs clarification. It is, in actuality, a discussion of the operational procedures used for defining "community." The discussion is presented here to help describe the sample. We will present the section "operational procedures" which treats each of the other major variables, after the present discussion. In the present analysis we use the U.S. Census classification "urban place" as equivalent to "community." The concept of community has long been a central one to human ecologists. It has been possible to symbolically use the term in varied, theoretically suggestive ways. Nevertheless, when it has come to an empirical analysis a unit has been used which varies from the conceptual one. There have been attempts to develop an empirical unit which provided a high degree of isomorphism with the conceptual unit.[5] Even where isomorphism can be demonstrated the results are not practically applicable to future analysis. Data are still basically collected and presented in terms of political units. We suggest that the problem be recognized, but that it not be considered as stymieing. What most analysts have done is use one of the classifications provided by the Census. The Census designation of urban place in 1960 corresponded to the political definition with some emphasis also given to other considerations.

> The term "place" as used in reports of the decennial censuses refers to a concentration of population regardless of the existence of legally prescribed limits, powers, or functions. Most of the places listed are incorporated as cities, towns, villages, or boroughs, however. In addition, the larger unincorporated places outside the urbanized areas were delineated and those with a population of 1,000 or more are presented in the same manner as incorporated places of equal size. Each unincorporated place possesses

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[5]Allan Gunnar Feldt, "The Local Ecological Community: An Investigation of Relative Independence in an Urban Society" (unpublished Ph.D. dissertation, University of Michigan, 1962).

> a definite nucleus of residences and has its boundaries drawn so as to include, if feasible, all the surrounding closely settled area. Unincorporated places are shown within urbanized areas if they have 10,000 inhabitants or more and if there was an expression of local interest in their recognition. The towns in New England and townships in New Jersey and Pennsylvania recognized as urban are also counted as places, as is Arlington County, Va.[6]

Beverly Duncan in one reported research used economic areas as spatial units in her analysis. While her concern (as is much of ours) was with economic related factors, she does make the statement "we do not suggest that this system of areas has any particular merit, as compared with alternate systems."[7] What areas are used must depend upon the conceptual problem at hand and then the data limitations. Duncan suggests that the situation has been stated well by Vining, we agree.

> The spatial structure of human economy should be regarded conceptually as virtually a continuum. As in other studies of phenomena having volume or spatial extension, empirical observations must be made upon the contents of finite and arbitrary spatial units, these empirical observations being viewed as providing an approximate conception of what would be viewed were the spatial limits made smaller while the contents were being made more dense.[8]

While we concur with Duncan, that Vining's position has to be taken for empirical analyses, we do suggest there is merit in the particular units (urban places) we are using. It is true that communication and transportation have made community distinctions less apparent and in all

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[6]The definition of "urban place" used by the Census can be found in many of its publications. See, for instance, U.S. Bureau of the Census, U.S. Census of Population: 1960. Number of Inhabitants, United States Summary. Final Report PC (1)-A (Washington, D.C.: U.S. Government Printing Office, 1961), p. xxii.

[7]Beverly Duncan, "Population Distribution and Manufacturing Activity: The Nonmetropolitan United States 1950," Papers and Proceedings: The Regional Science Association, 5 (1959), 96.

[8]Rutledge Vining, "Delimitation of Economic Areas: Statistical

probability less real. On the other hand, it is the very interdependencies made possible by communication and transportation that we are investigating in our analysis. In general, the decision to use urban places results from two basic considerations. One, the relatively high quality and mammoth amount of data provided by the Census, and it is a unit designation which reflects some important characteristics of our conceptual notions of community. A second reason is that many analysts have followed a similar approach and the present study should provide some accumulative and comparative results.

Operational Procedures

Dependent Variable: Strata Consistency-inconsistency

The operationalization of strata consistency-inconsistency has been accomplished through two separate but complementing procedures. One method is tailored after Lenski's[9] original procedures and the second borrows from the U.S. Census's[10] method. However, before a discussion of the mechanics involved can be reviewed, it will be necessary to present the operational processes followed in determining an educational, income, and occupational ranking for each community. It is these separate indicators that are combined to form the more general variable, strata consistency-inconsistency.

Conceptions in the Study of the Spatial Structure of an Economic System," Journal of the American Statistical Association, 48 (March, 1953), 44.

[9]G. E. Lenski, "Status Crystallization: A non-vertical dimension of social status," American Sociological Review, 19 (August, 1954), 405-13.

[10]U.S. Bureau of the Census, Methodology and Scores of Socio-economic Status, Working Paper No. 15 (Washington, D.C.: U.S. Government Printing Office, 1963).

The first two dimensions, education and income, were determined rather straightforwardly and require only brief comment. For education the U.S. Census figures under "median years of school completed"[11] for each community were used. For income the figures under "median family income"[12] were used.

Family income was used for a number of reasons. The family represents the best single indicator of total income received in a community. Due to their proportion (family income units) in every community and their comparability from community to community, family income units present the most logical choice among median income measures. Also, family income reflects the contribution of both spouses, and that is important in the present research.

Our measure of the occupational stratum is less direct. We used Duncan's[13] occupational ranking scale on each community. The U.S. Census's collapsed 14 category occupational distribution for males was used in each community. The proportion employed in each occupational category was multiplied by the appropriate scale score and the totals summed. The summation became the occupational score of the community.[14]

The occupational categories used and the assigned scores were as follows:

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[11]U.S. Bureau of the Census, U.S. Census of Population: 1960. General Social and Economic Characteristics, Final Report PC (1) (Washington, D.C.: U.S. Government Printing Office, 1961), Table 73.

[12]Ibid., Table 76.

[13]Otis Dudley Duncan, Occupational and Social Status, Albert J. Reiss, et al. (Glencoe: The Free Press of Glencoe, Inc., 1961), Chapters VI, VII, and Appendix B.

[14]See Appendix C, Table 35, for the centile distribution of

Major Occupation Group	Socioeconomic Index
Professional, technical, and kindred workers	75
Managers, officials, and proprietors, exc. farm	57
Sales workers	49
Clerical and kindred workers	45
Craftsmen, foremen, and kindred workers	31
Occupation not reported	19
Operatives and kindred workers	18
Service workers, exc. private household	17
Farmers and farm managers	14
Farm laborers and foremen	9
Private-household workers	8
Laborers, except farm and mine	7[15]

Duncan's scale is particularly applicable to the problem under analysis: (1) he derived his measure from census data and so the application of his occupational categories to ours is direct and easy. (2) Duncan[16] has provided an analysis of the variation of the scale by region and under various demographic controls which concludes in supporting the utility of the measure on a comparative intranational basis. (3) The scale was devised from aggregate measures; consequently, it fits the problem under discussion, both in concept and in its empirical derivation.[17] (4) The very procedure of ranking occupations used by Duncan is

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occupational status scores and coding procedures.

[15]Otis Dudley Duncan, op. cit., p. 155. [16]Ibid., pp. 162-238.

[17]This argument and others have also been made by Stoeckel. See John Stoeckel, "The Impact of Metropolitan Dominance Upon the Status

advantageous to one of the tasks of this thesis. Occupational ranking was determined by the amount of education and income associated with each occupational category. The very process used to rank occupations insures a high correlation with income and educational levels. Since by rank definition there is an association between the three variables, the variation which occurs between them, and which we are interested in explaining, can be more readily attributed to other sources than scale construction. In short, it presents a conservative bias toward strata consistency and against inconsistency. (5) One remaining advantage is worthy of note. Duncan has shown that his scale correlates highly with the NORC scale. He has provided a table for transforming occupational rankings by his scale to NORC prestige scores.[18]

After the separate status scores had been determined a distribution for each of them was formed and decile levels determined. Every community received a score from zero to nine on each status dimension, depending into which decile it fell. These three standardized (centile) scores provided the data for determining the type and degree of consistency-inconsistency.

An illustration to clarify the previous discussion may be useful. If community X had a median score of school years completed from 9.9 through 10.3, it would have been assigned an educational rank score of 2. If it had received an occupational score from 32.27 through 33.97, it would have received an occupational ranking of 2. On the income

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Structure and Status Consistency of Rural-Farm and Urban Populations" (unpublished Ph.D. dissertation, Michigan State University, 1966), pp. 27-28.

[18]Otis Dudley Duncan, op. cit., Appendix B.

dimension, a score of 2 would have been assigned if the median family income for the community was from $5,104 through $5,441.[19] In the example community X would obviously be consistent in overall strata, i.e., it was in the same centile strata on each dimension.

In the following paragraphs the actual operational procedure followed to determine degree and type of consistency-inconsistency is outlined.

Degree--as was indicated earlier, Lenski's computation of status crystallization is used as one of our measures.[20] The major difference between the procedure used here and the original approach of Lenski is that our units of observation are communities and not individuals. A second difference of some importance is the procedure used to develop common (standard) scales for each of the separate status dimensions. As Lenski has indicated, "without common scales, a measure of status crystallization would be impossible."[21] The procedure used in the present research was to use centile scores. For Lenski:

> Frequency distributions were established for each hierarchy. Using these distributions as a basis, scores were assigned for each of the various positions (or intervals) in each hierarchy on the basis of the midpoint of the percentile ranged for that position (or interval).[22]

The basic difference in the derivation of the strata scores is that Lenski's scores result from the accumulated percentage of cases in each predetermined category, e.g., income--$1,000-$1,900; $2,000-$2,900,

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[19]For the centile distribution and codings procedures for education and income see Appendix C, Tables 36 and 37, respectively.

[20]Lenski, loc. cit.

[21]Ibid., p. 407.

[22]Ibid.

etc. The scores used in our research result from the accumulated percentage of actual cases, e.g., income--the lowest 10 per cent, the second 10 per cent, etc. Since the outlined procedures were consistently used and since statistical analyses are relative to the scoring procedures used, there appears to be no inherent advantage in the Lenski approach. What advantages there are in one approach appear to be counter balanced by possible advantages in the other. Nevertheless, we do mention one advantage of the centile procedure. Intuitively, a centile score comparison between dimensions, e.g., a 3 in income and a 5 in occupation, is more readily perceived than with the Lenski approach.

The computation of the consistency-inconsistency score is the same as was developed by Lenski. The difference we have pointed out concerns only the scores used in the computation not the computation itself.

> This was accomplished by taking the square root of the sum of the squared deviations from the mean of the three hierarchy centile scores of the community and subtracting the resulting figure from one hundred. The more highly consistent . . . a community's status, the more nearly its consistency-inconsistency score approached one hundred; the less consistent . . . its status, the more nearly its consistency-inconsistency score approached zero.
>
> . . . . . .
>
> The use of squared deviations from the mean rather than simple deviations was employed to emphasize the effect of larger deviations and to minimize the effect of smaller deviations. This was considered desirable since the techniques employed in quantifying positions (or intervals) in the several hierarchies were sufficiently crude so that no great importance could be attached to small deviations.
>
> The technique of subtracting the resulting figure from one hundred was employed so that communities whose status was highly consistent would have numerically higher consistent scores than those whose status was inconsistent. This was done solely to avoid semantic difficulties.[23] [Italics refer to our change of

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[23] Ibid., pp. 407-08. For the distribution of status

terms so that the quotation fits the present problem.]

Reference to Appendix C, Table 38, will indicate that the scores obtained from using this procedure ranged from 100 to 35. The Lenski procedure tells us about the degree of consistency-inconsistency. We now turn our attention to a complementary aspect of the concept.

Type--the importance of this dimension of consistency-inconsistency has been indicated. For further example, two communities may be 100 per cent consistent in strata but one consistently high and the other consistently low. To lump both communities into the same category cloaks as much as it reveals. The procedure used for typing consistency-inconsistency follows, in general, the procedure developed and used by the U.S. Bureau of the Census.[24] After determining the centile scores for every community on each of the three separate dimensions, consistency-inconsistency types were determined in the following ways:

1. If the range between the highest and the lowest centile scores was two centiles or less, the community was considered to be consistent and a code of 1, 2, 3, or 4 was assigned.[25]

   a. A code of 1 was assigned if two or all three of the centile scores for the community were in the 1 through 9 or 10th percentiles.

   b. A code of 2 was assigned if two or all three of the centile scores for the community were in the 20th, 30th, or 40th percentiles.

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consistency-inconsistency scores obtained in the present analysis see Appendix C, Table 38.

[24] Methodology and Scores of Socio-economic Status, pp. 2-3.

[25] A comparison between the Census and Lenski procedures is discussed later in this chapter.

c. A code of 3 was assigned if two or all three of the centile scores for the community were in the 50th, 60th, or 70th percentiles.

d. A code of 4 was assigned if two or all three of the centile scores for the community were in the 80th or 90th percentiles.

2. If the range between the highest and the lowest centile scores was three centiles or more, the community was considered to be inconsistent and a code of 5, 6, 7, 8, 9, or 10 was assigned.

a. If the range between the highest and the medium centile was greater than the range between the medium and the lowest centile:

- a code of 5 was assigned if the income centile was highest
- a code of 7 was assigned if the educational centile was highest
- a code of 9 was assigned if the occupational centile was highest.

b. If the range between the medium and the lowest centile was greater than the range between the highest and the medium centile:

- a code of 6 was assigned if the income centile was lowest
- a code of 8 was assigned if the educational centile was lowest
- a code of 10 was assigned if the occupational centile was lowest.

The resulting consistency-inconsistency types may be described as follows:

Strata Consistency-Inconsistency Type	
1	All three components consistent with overall very low rankings.
2	All three components consistent with overall low rankings
3	All three components consistent with overall high rankings
4	All three components consistent with overall very high rankings
5	Occupation and education most consistent; income high
6	Occupation and education most consistent; income low
7	Occupation and income most consistent; education high
8	Occupation and income most consistent; education low
9	Education and income most consistent; occupation high
10	Education and income most consistent; occupation low

The only situation not defined by the preceding rules is one particular case of inconsistency. It occurs when two of the centile scores, one high and one low, are equidistant from the medium centile. This occurs in the sample when the two extreme centiles deviate two

centiles from the medium (15 cases). With the few cases in question, we arbitrarily considered the lower centile as the most extreme and scored the community accordingly.

We chose a score of 80 from the Lenski procedure as the dividing point between consistency and inconsistency. Besides an intuitive appeal, i.e., on scales with 100 as maximum 80 or above is generally considered "fairly high" in everyday parlance, there are methodological justifications as well. (1) It takes a range of 3 centiles or more between centile scores, using the Census method, for a community to score below 80. The Lenski procedure, when we use 80 as the dividing point, and the adaptation of the Census procedure are complementary. Since we are using two separate operational procedures to get different dimensions of our problem, an important criterion is that they do not conflict. If two separate operational definitions produce two conflicting measurements, the procedure is always open to the criticism that two different concepts are actually being measured. This criticism is not justifiable in the present analysis. (2) A second justification for the dividing point comes from empirical sources. If the distribution of consistency-inconsistency scores are treated as continuous data, the mean is 82. The actual scores closest to the mean are 84 and 78. We come as close as possible to dividing the distribution in half at the actual mean by using 80 as the dividing point. The actual distribution that occurs is 58 per cent of the communities are consistent and 42 per cent are inconsistent in strata.[26]

An example of five hypothetical communities with varying centile

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[26]See Appendix C, Table 39.

scores will demonstrate the general principles that have just been discussed in detail.

Communities	Centile Scores			Lenski Score	Range Between Highest and Lowest Centiles
	I	E	O		
	8	8	7	Consistent	
V				92	1
W	8	7	6	86	2
				Inconsistent	
X	8	7	5	78	3
Y	8	7	4	71	4
Z	8	7	3	63	5

Independent Variables

Size. The designation for community size is the total population of an urban place as given in the 1960 Census.

Distance. The measure of distance and the rules for defining its usage are basically those developed in the Hathaway, Beegle, and Bryant census monograph.[27] The indication of distance refers to distance from an SMSA.[28] For the previously mentioned authors the distance value is determined by concentric circles of 50-mile wide bands "having their common center in the geographical center of the largest central city

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[27] Dale E. Hathaway, J. Allan Beegle, and W. Keith Bryant, People of Rural America, A 1960 Census Monograph (Washington, D.C.: U.S. Government Printing Office, 1968), pp. 17-18.

[28] SMSA refers to Standard Metropolitan Statistical Area. For a detailed definition see "Area Classifications," in Introduction of the 1960 Census of Population, General Social and Economic Characteristics, Series PC (1), p. vii.

The general meaning can be understood from a short statement by Hathaway, et al., op. cit., p. 17: "A standard metropolitan statistical area is a county or counties having at least one city with a population

of each SMSA."[29] The center circle is scored as zero, the next 50-mile band is scored as 1, the next 2, and so on, with increasing numbers for each successive band. A community receives a distance score depending on which band it falls within.[30]

There are two variations from the Monograph procedures that need clarification at this point. The procedures developed for the Monograph used counties as the units of observation. The authors used the procedures just outlined, but they were interested in developing indicators for counties. Since the distance measure used in the present research was drawn from their data, an interpolation was necessary. The county of each of the communities in the sample was identified and the county's distance score assigned to the community. This procedure means that a community is always assigned the distance indicated by its county's closest boundary to the nearest SMSA. It is possible that some communities would have received a higher distance score, i.e., they could be located in a distant end of the county. However, the bands are 50 miles wide, which suggests the probable inclusion of a number of counties in each band and reduces the occurrence of the problem. To the extent our procedure does produce some error, the error is consistent. The consistency is of a fashion that will not alter interpretation in the present analysis.

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over 50,000, or two cities having contiguous boundaries with a combined population of over 50,000, or a county which is metropolitan in character adjacent to a county with such a city."

[29]Hathaway, et al., loc. cit.

[30]For specific rules for a SMSA which overlaps two bands, see ibid.

The second variation involves a slight alteration in determining distance. Our argument has been that metropolitan centers (SMSAs) dominate surrounding communities. We are not concerned with effects on SMSAs themselves, but with their affects on outlying communities. In the Monograph procedure central cities are scored as zero along with all other communities in the first 50-mile band. It was necessary for us to exclude central cities when trying to assess the effect of dominance. One further distinction is made between communities that are within the first 50-mile band. We had available the data from one type of "suburb" designation (see following section). These are communities within the first 50-mile band but generally closer to central cities than other communities also within the first band. Since such a large number of sample communities are within the first band, we refined it. Our designation for communities closest to central cities is "suburbs." The next distance designation will be "distance 2" communities. These are those communities within the first 50-mile band, but outside of SMSAs. From that point on our procedure for designating distance is identical to the Monograph's, i.e., "distance 3" communities are within the next 50-mile band, and so forth. Since we have based our basic procedure so heavily on the Monograph, the following presentation will show the similaries and differences in procedures.

Monograph Designation	Actual Miles	Our Designation
Distance 0	Within first 50-mile band	-
Central Cities	" " " "	-
Suburbs	" " " "	Suburbs
All other communities within 50-mile band	" " " "	Distance 2
Distance 1	51 to 100 miles	Distance 3
Distance 2	101 to 150 miles	Distance 4
Distance 3	151 to 200 miles	Distance 5
Distance 4	201 to 250 miles	Distance 6

Suburb. Our classification of suburbs is taken from the 1963 Municipal Year Book.[31] We have used their definitions and have designated each community as either a central city, a suburb, or an independent community. The definitional rules are:

> Central city: the largest cities of the Standard Metropolitan Statistical Areas (SMSA); usually have a population of 50,000 or more.
> Suburb: all other urban places over 10,000 located within an SMSA.
> Independent city: all urban places over 10,000 population that are located outside SMSAs.[32]

Functional Specialization. In defining the specialization of communities we have followed the basic procedures suggested by Duncan and Reiss.[33] For determining manufacturing specialization, we used the percentage of the employed resident population[34] in manufacturing as the

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[31] Victor Jones, Richard L. Sorstall, and Andrew Colliver, "Economic and Social Characteristics of Urban Places," The Municipal Year Book: 1963 (Chicago: The International City Managers Association, 1963), pp. 85-157.

[32] Ibid., p. 111. [33] Duncan and Reiss, loc. cit.

[34] The distinction of "resident population" in determing

determinant. The percentage employed in manufacturing was determined for each community.[35] A distribution of all the percentages was determined, and communities located in the upper quintile (20 per cent) of the distribution are categorized as specialized in manufacturing.

Specialization in education was determined on the basis of the percentage of the 20-28 year old population enrolled in school.[36]

> The implication is that the social structure and the economic base of the community are conditioned to some extent by a college, university, or professional educational institution. These effects generally are thought to include such things as the size and composition of the student body and faculty, its general "excellence," and its contributions to the reputation of the community as an "educational center."[37]

Duncan and Reiss used the ages of 20-24 years as their determining age range. Given the increasing enrollment in graduate training the extension of the age range reflects a more "realistic" specialization in higher education. As with manufacturing, those communities in the upper quintile on this dimension are categorized as specialized in education.[38]

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manufacturing specialization, separates this approach from the alternative of using per capita value added by manufacturing (dollars). The first approach uses the characteristics of the population regardless of place of employment. The second procedure places emphasis on manufacturing located in the community. The problem now under analysis indicates the greater utility of the first approach. For a discussion of the two approaches see ibid., pp. 219-23.

[35] U.S. Census of Population: 1960, General Social and Economic Characteristics, Table 74.

[36] Ibid., Table 73. [37] Duncan and Reiss, op. cit., pp. 274-345.

[38] The procedure followed in this classification allows a community to be specialized in more than one functional area. For a discussion of this procedure see ibid., pp. 215-19. For the most recent classification using the alternative approach of allowing only one form of specialization per community, see Jones, Forstall, and Colliver, loc. cit.

There are numerous specializations, based on percentage employed in each industry, that could be analyzed. We continue to concern ourselves, in this research, with manufacturing and education. However, we will utilize other forms of specialization in the analysis and they need to be mentioned. Duncan and Reiss[39] demonstrated that communities specialized in retailing or wholesaling present distinctive characteristics. While we do not give specific conceptual attention to these specialties, we do control their influence in the analysis and in the statement of the operational hypotheses. The procedure used to determine communities specialized in these functions is identical to the procedure used to determine manufacturing specialization, i.e., the communities in the top quintile of the respective distributions.

Female and Nonwhite. These two variables represent straightforward usages of the Census data. The proportion of the labor force that is female and proportion of nonwhites in the population were used for each community.[40]

The remaining operational procedures to be discussed are the statements of the hypotheses of this thesis, stated in their operational and testable form. The list of operational statements is lengthy and not always easy to follow without referring back to the arguments which generated them. Nevertheless, their inclusion at this point is in

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[39]Duncan and Reiss, op. cit., pp. 274-345.

[40]The data for nonwhites and percentage of labor force female were taken from Tables 77 and 75, respectively, U.S. Census of Population: 1960, General Social and Economic Characteristics.

keeping with the flow of this thesis, i.e., from the general symbolic realm to more precise statements, and finally to testable operational statements. Each hypothesis will be presented again in the next chapter along with the data and discussion that relate to its statistical testing. We draw attention to this point in that the operational hypotheses may be easier to evaluate in the context of their presentation in the next chapter rather than in the immediately following presentation.

Operational Statement of Hypotheses

Given the preceding operational definitions, the following operational forms of the hypotheses can be stated.

Hypothesis 1 - Distribution

Income inconsistency will occur with greater frequency than occupation or education inconsistency.

Hypothesis 2 - Distribution

Education inconsistency will occur with less frequency than occupation or income inconsistency.

Hypothesis 3_a - Size and Distance (Consistent Communities Only)

There will be a positive correlation between distance from the nearest SMSA and the frequency of low ranked consistent communities.

The following hypothesis is a more powerful operational statement, i.e., it takes into account more information than the preceding hypothesis.

Hypothesis 3_b - Size and Distance (Consistent Communities Only)

There will be a negative correlation between distance from the nearest SMSA and the consistency rank of communities.

Hypothesis 4_a - Size and Distance (Consistent Communities Only)

Controlling for distance, there will be a negative correlation between the size of communities and the frequency of low ranked consistency.

The following hypothesis is a more powerful operational statement of the preceding hypothesis.

Hypothesis 4_b - Size and Distance (Consistent Communities Only)

Controlling on distance, there will be a positive correlation between the size of communities and consistency rank.

Hypothesis 5_a - Size and Distance

Among suburbs 10,000 to 19,000 in size, there will be a greater frequency of strata consistent communities than among communities of any other size.

Hypothesis 5_b - Size and Distance

Among suburbs 10,000 to 19,000 in size, there will be a greater frequency of strata consistent communities than among communities of any other distance from nearest SMSA.

Hypothesis 6_a - Size and Distance

Among suburbs 10,000 to 19,000 in size, there will be a greater frequency of high ranked consistency than among communities of any other size.

Hypothesis 6_b - Size and Distance

Among suburbs 10,000 to 19,000 in size, there will be a greater frequency of high ranked consistency than among communities of any other size.

Hypothesis 7 - Size and Distance (Inconsistent Communities Only)

Suburbs will have a greater frequency of occupation high

inconsistency than communities of any other distance from from nearest SMSA.

Hypothesis 8 - Size and Distance (Inconsistent Communities Only)

Suburbs will have a greater frequency of income high inconsistency than communities of any other distance from nearest SMSA.

Hypothesis 9 - Specialization

Excluding communities from 10,000 to 19,000 in size, nonspecialized communities will have a greater frequency of consistent communities than will specialized communities.

Hypothesis 10 - Specialization

Looking only at nonspecialized communities, there is a multiple correlation between the independent variables, decreasing community size and increasing distance from the nearest SMSA, and the dependent variable increasing degree of consistency.

Hypothesis 11 - Specialization

Excluding communities specialized in manufacturing and education, specialized communities 10,000 to 19,000 in size will have a greater frequency of consistency than nonspecialized communities.

Hypothesis 12 - Specialization

Communities specialized in manufacturing will have a greater frequency of income high inconsistency than all other communities.

Hypothesis 13 - Specialization

Communities specialized in education will have a greater frequency of education high and income low inconsistency than all other communities.

Hypothesis 14 - Specialization

Looking only at communities specialized in education, there will

be a positive correlation between the size of the community and the degree of consistency.

Hypothesis 15 - Females

Excluding communities in the upper quintile of the income distribution, there will be an inverse correlation between the proportion of the labor force that is female and the frequency of consistency.

Hypothesis 16 - Females (Inconsistent Communities Only)

Excluding communities in the upper quintile of the income distribution, there will be a positive correlation between the proportion of the labor force that is female and the frequency of income high inconsistency.

Hypothesis 17 - Females

Excluding communities in the upper quintile of the income distribution, there will be an inverse correlation between the proportion of the labor force that is female and the degree of consistency.

Hypothesis 18 - Nonwhite

There will be a positive correlation between the proportion nonwhite in communities and the frequency of consistency.

Hypothesis 19 - Nonwhite (Consistent Communities Only)

There will be a negative correlation between the proportion nonwhite in communities and the rank of consistency.

Hypothesis 20 - Nonwhite

There will be a positive correlation between the proportion nonwhite in communities and the degree of consistency.

Control Variables

For the most part the controls to be taken into account have been specified in the statement of the hypotheses. Nevertheless, region, an important and pervading factor, must be given attention. The variable of region is frequently used as a control in studies similar to the present one. Duncan, Cuzzort, and Duncan[41] have indicated that region is most frequently a control on our ignorance. That is, region includes so many complex dimensions in different relationships with each other it is often unclear what, specifically, is being controlled. To function as an explanatory variable it would be necessary to specify the phenomena that vary by region and that were also of importance to the particular problem. The apparent point is that if a researcher were aware that regions varied, say in regard to industrial composition, it would be necessary to control for industrial composition and not region. Duncan and Reiss state the problem appropriately:

> Perhaps region may be thought of as a "contextual" rather than an "analytical" variable. The four nominal regions differ widely as a result of many causes--geographic, historical, cultural, and economic. Therefore, in "controlling" region it is by no means clear just what factors are being controlled, since regional differences may reflect differences in climate, ethnic background, crops produced, traditional customs, and a host of other factors.[42]

In the present study region will consistently be used as a "contextual" control variable. Although the hypotheses are stated and will be tested for the nation in general, the tables will also depict tests of

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[41]Otis Dudley Duncan, Ray P. Cuzzort, and Beverly Duncan, Statistical Geography (Glencoe: The Free Press, 1961), p. 146.

[42]Duncan and Reiss, op. cit., p. 30.

the hypotheses by region. The procedure may contribute to the development of more specific information about regional differences and to limiting conditions of the hypotheses. When the number of cases in a particular analysis become too small to break down by region, only national data will be presented.

Diagrammatic Presentation

Figure 1 presents a summary statement of the present and preceding chapter. On the left of the diagram are the major constructs of our conceptual framework. The use of upper case letters with the first three is to indicate their level of generality in the scheme. The broken lines indicate relationships between constructs that are, at present, based mostly on unverified conceptual arguments. The single, solid lines indicate connections between constructs for which there is empirical support; although, the amount of support varies substantially. The double lines indicate the tie between the constructs and their operationalized statements. The use of the letter "v," along with the same number used to identify the construct, stresses the methodological translation from one language to another; the translation is from a strictly verbal system of symbols to a quantitative system of symbols.

Statistical Analyses

The statistics used in testing for significant differences and measures of association between appropriate variables are all standard measures. The test or tests used will be indicated with the presentation of the results of each hypothesis. The .05 level will be used for making decisions about statistical significance.

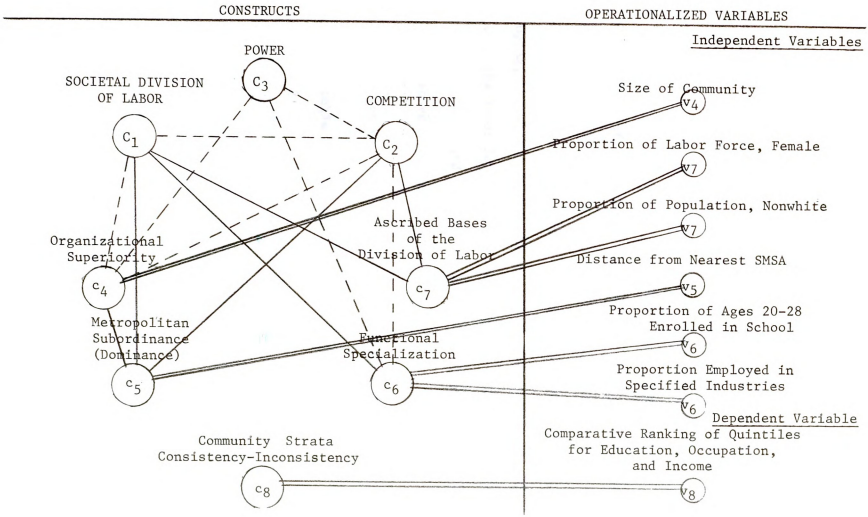

Figure 1. Diagrammatic Presentation of the Conceptual Scheme

CHAPTER V

DATA ANALYSIS AND TESTING OF HYPOTHESES

Introduction

The hypotheses and data to be presented in this chapter will be grouped according to the subject matter with which the hypotheses are concerned. The procedure is the same as has been followed in the previous two chapters. Hypotheses 1 and 2 are both concerned with the general distribution of consistency-inconsistency types; hypotheses 3_a through 8 are all concerned with size and distance as independent variables; hypotheses 9 through 14 deal with functional specialization; the final grouping, hypotheses 15 through 20, are concerned with the effects of females in the labor force and the percentage of nonwhites in communities. The presentation and discussion of the hypotheses in this chapter will follow the above subgrouping procedure.

Distribution of Strata Consistency-Inconsistency Types

The first table and discussion in this chapter relate to hypotheses 1 and 2:

Hypothesis 1

Income inconsistency will occur with greater frequency than occupation or education inconsistency.

Hypothesis 2

Education inconsistency will occur with less frequency than occupation or income inconsistency.

The data indicate that inconsistency due to income occurs with

statistical significance more frequently than any other form of inconsistency (Table 1). The frequency of inconsistency due to income is rather impressive. It accounts for over half of the inconsistency among communities and up to 63 per cent in some regions, except in the West.

Table 1. Distribution of Strata Inconsistency by Type of Inconsistency for the Nation and by Region

	Nation	West	North Central	South	Northeast
Income	56.3% (129)	32.5% (13)	58.3% (42)	63.3% (38)	63.2% (36)
Occupation	30.1 (69)	52.5 (21)	31.9 (23)	30.0 (18)	12.3 (7)
Education	13.5 (31)	15.0 (6)	9.7 (7)	6.7 (4)	24.6 (14)
Total %	99.9	100.0	99.9	100.0	100.1
(Total N)	(229)	(40)	(72)	(60)	(57)
Hypothesis 1	$\chi^2 = 18.18$ P< .001	$\chi^2 = 1.46$ P< .30	$\chi^2 = 5.54$ P< .02	$\chi^2 = 7.14$ P< .01	$\chi^2 = 9.68$ P< .01
Hypothesis 2	$\chi^2 = 14.44$ P< .001	$\chi^2 = 8.32$ P< .01	$\chi^2 = 19.26$ P< .001	$\chi^2 = 8.90$ P< .01	$\chi^2 = 2.32$ P< .20

The West exhibits the only deviation from the pattern. Here, the most frequent occurring inconsistency is due to occupation. The chi square goodness of fit test indicates a statistically significant difference between the proportion of inconsistency due to income and the next most frequent form of inconsistency. As the bottom of Table 1 demonstrates, this holds for the nation and all regions, except the West. It is of interest to note that of the 21 cases of inconsistency due to occupation,

in the West, 20 are due to occupation low inconsistency,[1] i.e., income and education are similar, with occupation low. The data, however, do not give evidence of any apparent factors which contribute to the great proportion of occupation low communities in the West.

Hypothesis 2 is also supported by the data (see Table 1). For the nation and three regions the form of inconsistency which occurs the least is education inconsistency. The only aberrant case to the singular pattern is the Northeast region. Here, although it does not reach statistical significance, occupational inconsistency is lowest.

There are two explanations which appear plausible, in light of hindsight, for the failure of the Northeast distribution to fit the hypothesis. The first has to do with the high concentration of manufacturing communities in the Northeast. It is possible that they present a homogenizing effect in terms of community occupational distributions. The second possible factor has to do with the highly urbanized nature of the Northeast. An important aspect of this is the relatively high density of communities in the Northeast. It is less likely, in the Northeast, that communities due to functional specialization or natural resource assets will develop extreme occupational distributions. Because communities are so close together there is less limitation on travel to work. On the other hand, if communities are somewhat isolated from one another (at least in terms of journey to work), any unique characteristics of the community in terms of industrial composition will more likely be reflected in the occupational distribution of the

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[1] See Appendix C, Table 39, for a distribution of all consistency-inconsistency types for the nation and by region.

resident population. What we are suggesting is that distance between communities is important. In the present case, the importance of distance may be demonstrated by its relative absence in the Northeast.

Size and Distance

Hypothesis 3 (Consistent Communities Only)

There will be a positive correlation between distance from the nearest SMSA and the frequency of low ranked consistent communities.

Table 2 presents the data which provide assessment of the hypothesis. The hypothesis, as stated, receives no substantial support from the data. Nevertheless, a distribution does occur which gives general support to the importance of distance. In the distance column, "suburbs" and "distance 2" include communities within a 50-mile radius from the center of the nearest SMSA. There is an obvious difference between these communities and those more distant. This basic difference occurs whether we look at only the extremely low ranked consistent communities or also include the low ranked consistent communities, i.e., the lowest as compared to including both low types of status consistency.

Given these results and others soon to be presented, an observation of possible importance needs to be mentioned. It appears that a number of the hypotheses may be stated in a more detailed or specific manner than the level of analysis can accommodate. It may well be that the macro units of analysis and the many complex factors which enter into a determination of community morphology, preclude the occurrence of distributions predicted by some of the hypotheses. In the present case the data suggest fairly large differences between communities within and

Table 2. Ranked Association Between Distance from SMSAs and the Percentage of Strata Consistent Communities that are Ranked Low

Distance from SMSA	Percentage of Very Low Ranked, Strata Consistent Communities*	Percentage of Very Low and Low Ranked, Strata Consistent Communities**
Suburbs	9.1% (14)	18.1% (28)
Distance 2	6.7 (2)	20.0 (6)
Distance 3	33.3 (13)	79.5 (31)
Distance 4	31.2 (10)	75.0 (24)
Distance 5-6	23.5 (4)	52.9 (9)

*G = .09 N.S.

**G = .40 N.S.

close to SMSAs as compared to communities at greater distances. However, we cannot conclude, in this case, that there is an ordered arrangement of differences with continuing distance. Gamma was used as a measure of association and, as can be seen from the bottom of Table 2, the strength of the association is small and statistically insignificant.

Hypothesis 3_b (Consistent Communities Only)

There will be a negative correlation between distance from the nearest SMSA and the consistency rank of communities.

The predicted relationship of hypothesis 3_b quite clearly is supported for the nation and for each of the four regions.

While the proportional reduction of error (coefficient of determination or r^2) is not very impressive, it ranges from .09 (Northeast) to .40 (South), the basic hypothesis is supported. The presence of the lower correlation in the Northeast is consistent with the explanation of hypothesis 1. Whenever distance is an important variable, the highly urbanized condition of the Northeast does not permit as great a variation in related variables as occurs in other regions.

Although the correlations are not particularly small for the type of macro data being examined, two points need mentioning. First, as with the previous hypothesis, one possible reason for not finding a greater degree of association may lie with the macro data being used. Secondly, unlike the previous hypothesis (3_a), the data here produce statistically significant degrees of association. The difference is due to including in the analysis the whole range of status consistent communities, i.e., very low ranked through very high ranked. By taking more data into account, the predicted association manifests itself.

Table 3. Correlations Between Consistency Rank and Distance from SMSAs, for the Nation and by Region

	Correlation (r)	Coefficient of Determination (r^2)	(N)
Nation	-.44*	.190	(310)
West	-.36**	.130	(55)
North Central	-.51*	.260	(84)
South	-.63*	.400	(73)
Northeast	-.30**	.090	(98)

*P< .001

**P< .01

Hypothesis 4_a (Consistent Communities Only)

Controlling for distance, there will be a negative correlation between the size of communities and the frequency of low ranked consistency.

Table 4 presents the percentages of extremely low ranked consistent communities by size of community and by distance from SMSA. Below the table are the gammas indicating the rank association between size of community and proportion of extremely low ranked strata consistent communities, for each indicated distance.

A number of specific observations require comment in regard to the data, but as a general statement it is a rather clear case of the data not supporting the stated hypothesis.

A major problem in rigorously assessing the present hypothesis can easily be seen by looking at the table. The size variation is not very great at farther distances from SMSAs. More simply put, there are not any large communities at extended distances from SMSAs. This is due, in part, to the fact that communities over 50,000 are likely to be considered SMSAs; it is also due to the inverse size, distance relationship that occurs with communities. While the association is not particularly striking, there is an inverse correlation (r) between size and distance of -.24 for the nation.

When attention is given to particulars of Table 4, we again find ourselves in the position of not being able to accept the hypothesis, but, on the other hand, finding some support for the general relationship suggested in the hypothesis. Although the results from analyzing the data for suburbs support the hypothesis, there is no clear rank ordering between the variables (which was predicted by the hypothesis).

Table 4. Percentage of Consistent Communities that are Ranked Extremely Low by Size and by Distance from SMSAs

Distance	Size in Thousands 10–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90–99	Average % by Distance	Total Consistent Communities (N)
Suburbs	12.5	6.8	10.0	14.3	0.0	22.2	0.0	0.0	0.0	9.1	(154)
Distance 2 (within 50 mi.)	0.0	11.1	14.3	0.0	0.0	0.0	0.0	*	/	6.7	(30)
Distance 3 (50–99 mi.)	47.0	12.5	33.3	20.0	/	/	/	/	/	33.3	(39)
Distance 4 (100–149 mi.)	42.8	16.7	25.0	25.0	/	/	/	/	/	31.2	(32)
Distances 5–6 (150–249 mi.)	14.3	20.0	33.3	50.0	/	/	/	/	/	23.5	(17)
Average % by size	23.6	9.7	16.3	18.5	0.0	20.0	0.0	0.0	0.0		
Total consistent communities (N)	(89)	(72)	(49)	(27)	(12)	(10)	(7)	(3)	(3)		(272)

*There are no status consistent communities at this size and distance.

/There are no communities at this size and distance.

Suburbs G = –.55 P< .05 Distance 2 G = –.26 N.S. Distance 3 G = –.46 N.S.

Distance 4 G = –.47 N.S. Distance 5–6 G = 1.00 P< .01

Although there are some strata consistent communities above 70,000 in size, none of them are consistent at the extremely low rank. While the absence of extremely low ranked consistency for communities over 70,000 is far from the predicted rank ordering, it does argue rather dramatically that size has some impact on status ranking. Even here, however, some caution is necessary in trying to separate the effects of size and distance. From data not in the present analysis, we have observed that central cities, even when large in size, sometimes fit into the extremely low ranked position. We make these comments to indicate that in the last analysis a "real" separation of size and distance factors is extremely difficult.

Except for distances 5 and 6 (the bottom row) the direction of association between the variables gives general support to the underlying arguments of the hypothesis. The gammas at the bottom of the table indicate that the associations are in the predicted direction, except for distances 5 and 6. There are only four size categories at distances 5 and 6; however, in terms of ranking the per cent of extremely low strata communities, the rank association is exactly opposite of the predicted one. What factors operate at the more extended distances from SMSAs to bring about increasing proportions of extremely low consistency with increasing size, is not apparent. Whether the association is partially an artifact of the small sample of communities at those distances (17) or due to intrinsic factors is not ascertainable with the present data.

Hypothesis 4_b (Consistent Communities Only)

Controlling on distance, there will be a positive correlation between the size of communities and consistency rank.

The data describing the findings in regard to the hypothesis indicate no support for acceptance (Table 5). While the associations between the variables for the nation and at four distances are in the predicted direction, the degrees of association are negligible. When the control on distance (as specified in the hypothesis) is applied, distance 3 gives the only semblance of the predicted association. The strongest association occurs at the greatest distance, 5 and 6, but is in the opposite direction from that expected.

Table 5. Correlations Between Size of Community and Rank of Strata Consistency for the Nation and by Distance from Nearest SMSA

	Correlation (r)	Coefficient of Determination (r^2)	(N)
Nation	.14*	.019	(272)
Suburbs	.02*	.000	(154)
Distance 2 (within 50 miles)	.05*	.002	(30)
Distance 3 (50-99 miles)	.15*	.022	(39)
Distance 4 (100-149 miles)	.04*	.002	(32)
Distance 5-6 (150-249 miles)	-.19*	.036	(17)

*N.S.

At this juncture the data speak too clearly for us to suggest anything but failure to support the hypothesis. There are no indications in the general data analysis of other "cloaking" variables, i.e., variables related to size and consistency in ways which would disguise any

"real" effects size might have on consistency. We are left to conclude, at least tentatively, that size simply does not produce the hypothesized effects. In some of the previous discussions we have suggested that there was evidence to give partial support to the underlying rationale of the hypothesis, even when the specific hypothesis was not supported. In the present case the data offer no support whatsoever.

Hypothesis 5_a

Among suburbs 10,000 to 19,000 in size, there will be a greater frequency of strata consistent communities than among communities of any other size.

Hypothesis 5_b

Among suburbs 10,000 to 19,000 in size, there will be a greater frequency of strata consistent communities than among communities of any other distance from nearest SMSA.

A glance at Table 6 will indicate that neither hypothesis is supported by the data. In fact, 62 per cent of the cells have a greater percentage of status consistent communities than do small suburbs. There are no apparent size-distance patterns among the cells.

We find ourselves again at the point of concluding that the hypotheses suggest greater specification than is warranted by the level of analysis being used. Another problem makes its possible effects evident at this point. Our categorization of suburbs is rather broad, i.e., it includes more communities in the categorization than would be suggested intuitively. Since suburbs are the center of focus in the present and following hypotheses, a reminder of the categorization is necessary. However, the data in Table 6 do not give any indication that a more refined categorization (at least one strictly in terms of nearness to

Table 6. Percentage of Communities that are Strata Consistent by Size and Distance from SMSAs

Distance	Size in Thousands									Average % by Distance	Total Communities (N)
	10-19	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99		
Suburbs	56.6	73.3	52.4	58.3	58.8	81.8	85.7	60.0	75.0	62.6	(246)
Distance 2 (within 50 mi.)	57.1	69.2	70.0	40.0	100.0	100.0	100.0	0.0	/	63.8	(47)
Distance 3 (50-99 mi.)	54.8	66.7	81.8	62.5	/	/	/	/	/	62.9	(62)
Distance 4 (100-149 mi.)	38.9	42.8	61.5	40.0	/	/	/	/	/	43.8	(73)
Distances 5-6 (150-249 mi.)	33.3	35.7	42.8	66.7	/	/	/	/	/	37.8	(45)
Average % by size	50.0	63.7	59.0	54.0	63.2	83.3	87.5	50.0	75.0		
Total communities (N)	(178)	(113)	(83)	(50)	(19)	(12)	(8)	(6)	(4)		(473)

/There are no communities at this size and distance.

SMSAs) would alter the present arrangement enough to accept the hypotheses.

There are two general patterns worth noting. If we look only at the marginals for distance and size a tendency toward rank ordering can be observed. There is a tendency toward a positive association between per cent consistent and size, G = .31. On the other hand, a negative association occurs between distance and per cent consistent, G = -.60. Neither association attains statistical significance at the .05 level, but are indicative of general associations.

Since the largest communities are also closest to SMSAs, it looks likely that what appears as an effect of distance is really one of size. However, when we ignore the influence of communities over 49,000 in size little change occurs. When suburbs and distance 2 communities are checked for per cent of consistent communities, only through to 49,000, the percentages are 60.9 and 61.9, respectively. The data in Table 6 leave us to conclude that both distance and size affect the proportion of consistency. The larger sizes are more likely to be consistent, and communities nearer SMSAs are more likely to be consistent. The finding in regard to size argues against the underlying rationale for hypotheses 5_a and 5_b, while the results associated with distance support it.

Hypothesis 6_a

Among suburbs 10,000 to 19,000 in size, there will be a greater frequency of high ranked consistency than among communities of any other size.

Hypothesis 6_b

Among suburbs 10,000 to 19,000 in size, there will be a greater

frequency of high ranked consistency than among communities of any other size.

Table 7 demonstrates that there is no support for the stated hypotheses. There are numerous instances where communities at greater distances, as well as communities of greater size than small suburbs, exhibit higher proportions of extremely high ranked strata consistent communities.

As was suggested with Table 6, we direct the reader's attention to the marginals. There is no observable pattern to suggest that size has any ordered effect in regard to the present hypotheses. However, distance does seem to be associated with some general difference. Suburbs along with other communities within a 50-mile radius of the nearest SMSA (distance 2 communities), demonstrate a much higher frequency of high ranked communities. Suburbs, the lowest of the two, still has more than four times the relative frequency than does the next highest category. If we compare the difference between communities within a 50-mile radius and all other communities, there is a statistically significant difference. Table 8 shows such a comparison.

The rather glaring finding is that of 88 strata consistent communities which are beyond the 50-mile radius, only three achieve the extremely high ranking. Here, as with some previous hypotheses, we find some support for the effect of distance even though we must reject the specific hypothesis being tested.

The present observations are interdependent with the findings discussed in hypothesis 3_a. At that time we were concerned with the distribution of extremely low consistency. The data associated with 3_a along with the present analysis strongly support a connection we have

Table 7. Percentage of Strata Consistent Communities that are Ranked Extremely High by Size and by Distance from SMSAs

Distance	Size in Thousands									Average % by Distance	Total Consistent Communities (N)
	10–19	20–29	30–39	40–49	50–59	60–69	70–79	80–89	90–99		
Suburbs	41.9	52.3	45.4	21.4	70.0	33.3	50.0	33.3	0.0	40.4	(154)
Distance 2 (within 50 mi.)	62.5	55.6	42.8	100.0	100.0	100.0	100.0	*	/	62.1	(30)
Distance 3 (50–99 mi.)	5.9	12.5	0.0	0.0	/	/	/	/	/	9.3	(39)
Distance 4 (100–149 mi.)	0.0	0.0	0.0	0.0	/	/	/	/	/	0.0	(32)
Distances 5–6 (150–249 mi.)	0.0	20.0	0.0	0.0	/	/	/	/	/	6.2	(17)
Average % by size	27.0	41.7	26.5	18.5	66.7	40.0	57.1	33.3	0.0		
Total consistent communities (N)	(89)	(72)	(49)	(27)	(12)	(10)	(7)	(3)	(3)		(272)

*There are no status consistent communities at this size and distance.

/There are no communities at this size and distance.

Table 8. Percentage of Strata Consistent Communities that are Ranked Extremely High for Communities Within a 50-mile Radius of SMSAs and All Other Communities

	Communities Within a 50-mile Radius	All Other Communities	(N)
Very high ranked strata consistency	46.7% (86)	3.4% (3)	(89)
All other types of strata consistency	53.3 (98)	96.6 (85)	(183)
Total per cent	100.0	100.0	
(N)	(184)	(88)	(272)

$\chi^2 = 47.7 \quad P < .001$

stated before, i.e., we cannot specify hypotheses so precisely as to apply (for example) to small suburbs compared to all other size and distance communities. On the other hand, it would be an error to assume there is no evidence to suggest influences produced by some of the independent variables we have been examining. Hypothesis 3_b, where all consistent communities rather than those in one rank were examined, was supported by the data. We have also noted where the marginal percentages have suggested some general effects, of distance especially. We will summarize the evidence and attempt some assessment of it after hypothesis 8, which concludes the presentation of the size-distance hypotheses.

There is one way of breaking down the general classification of suburbs which is worth discussing at this point. So far our concern with suburbs has been basically in terms of distance from SMSAs. We have also looked at smaller suburbs compared to larger suburbs and to communities in general. There was a time when it was thought that suburban characteristics were very homogeneous. This belief is still popular for much of the American public.

Schnore[2] has pointed out the rather long history behind simple functional distinctions of suburbs. One of the most useful classifications is that which divides suburbs into industrial, employing types of suburbs compared to residential suburbs. Given some evidence by Schnore[3] that this classification is related to differing community strata characteristics, we decided to apply the functional distinction to the suburbs in the sample. Jones, Forstall, and Colliver[4] have developed an employing-residential index (E/R ratio) which provides a useful classification. The procedures followed by the authors to determine the E/R ratio are as follows:

> This is the ratio of aggregate employment to the corresponding categories of the resident labor force according to the 1960 Census of Population (manufacturing, wholesale and retail trade, and business, repair, entertainment and recreation, and other personal services except for private households). When these two figures are equal, the E/R ratio is 100. The ratio is a rough measure of net commuting to the economic activities involved. Cities with an E/R ratio of 116 or more (at least 16 per cent more jobs in manufacturing, trade, or selected services than resident workers in those activities) are designated Employing(E); those with an E/R ratio of 85 to 115 are designated Balanced(B); and those with a ratio of 84 or less are designated Dormitory(D).[5]

Some of the problems and considerations that need to be taken into account when using the E/R ratio are discussed by its authors in the Municipal Year Book.[6]

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[2]Leo F. Schnore, The Urban Scene (New York: The Free Press, 1965), p. 170.

[3]Ibid., pp. 169-83.

[4]Victor Jones, Richard L. Forstall, and Andrew Colliver, "Economic and Social Characteristics of Urban Places," The Municipal Year Book: 1963 (Chicago: The International City Managers Association, 1963), pp. 92-94.

[5]Ibid., p. 92.

[6]Ibid., pp. 92-94.

We will follow the labeling procedure used by Schnore[7] and call the categories "employing," "intermediate," and "residential."

The hypotheses we just examined predicted a relatively high proportion of extremely high ranked consistent communities for small suburbs. Table 9 presents the percentage of extremely high ranked consistency for the various categories of small suburbs. In order to highlight the distinction between residential and employing communities, we have grouped employing and intermediate suburbs together.

Table 9. Strata Characteristics of Small Suburbs

Strata Characteristic	Type of Suburb: Employing and Intermediate	Type of Suburb: Residential
Per cent of extremely high ranked strata consistent communities	33.3% (3)	52.2% (12)
Per cent of high and extremely high ranked strata consistent communities	33.3* (4)	87.0 (20)
Per cent of strata consistent communities	48.0* (12)	60.5 (23)

*χ^2 = P< .05

The data in Table 9 make it clear that residential suburbs have higher strata characteristics. When we compare the percentage of extremely high ranked consistency for small suburbs in general to small residential suburbs, the percentage moves from 41.9 to 52.2. While the higher percentage is still not the highest for any size or distance

[7]Schnore, op. cit., p. 170.

(see Table 7, page 113), it does demonstrate the importance of other functional distinctions that we had not considered. If our ability to explain community morphology is to become more precise, such considerations will have to be integrated into our conceptual schemes.

The second row in Table 9 compares suburbs in terms of combined high and extremely high consistency. The comparison amplifies the differences in strata characteristics between suburbs. While the percentage of high ranking consistent communities is 33.3 for employing suburbs, it is 54.2 for all communities in the sample and 87.0 for residential suburbs. It is clear, when looking at consistency, residential suburbs have a lion's share of the high ranking consistent communities.

Row three of Table 9 demonstrates that residential suburbs have a relatively higher share of consistent communities. In Table 6, page 110, there was a 56.6 per cent rate of consistency among small suburbs. Residential suburbs have a 60.5 rate of consistency. The increase is not very dramatic, but the difference between employing and residential suburbs is statistically significant. These findings further argue for the necessity of differentiating between functional types of suburbs.

Hypothesis 7 (Inconsistent Communities Only)

Suburbs will have a greater frequency of occupation high inconsistency than communities of any other distance from nearest SMSA.

It is obvious from the data presented in Table 10 that the hypothesis is not supported. Three other distances have a greater frequency of occupation high inconsistency. In fact, if there is any tendency exhibited in the table it is in reverse of what was hypothesized, i.e., distances farther from SMSAs have a greater frequency of occupation high inconsistency.

Table 10. Percentage of Strata Inconsistent Communities that are Occupation High for Each Distance from SMSAs

Distance	Per Cent	(N)
Suburbs	3.2	(92)
Distance 2 (within 50 miles)	0.0	(17)
Distance 3 (50-99 miles)	26.1	(23)
Distance 4 (100-149 miles)	22.0	(41)
Distances 5-6 (150-249 miles)	10.7	(28)
Total (N)		(201)

If all of the communities within a 50-mile radius are compared to all other communities for frequency of occupation high inconsistency, the data are distributed as shown in Table 11. The data arrangement in the table is not statistically significant, but it does suggest that more distant communities have a greater frequency of occupation high inconsistency.

Reflecting upon the present hypothesis and the rationale behind it, leads us to believe the reasoning was faulty. The occupational structure of a community is tied so closely to the industrial base there is no reason to expect a direct relationship between distance and occupational structure. Unless it can be demonstrated that there is a connection between distance and industrial bases, there is no reason to expect the hypothesized relationship. In fact, just such a connection may be a factor contributing to the less frequent occurrence of occupation high inconsistency at the closer distances. Communities specialized in

manufacturing occur predominantly within the first 50 miles, and there is not one case of occupation high inconsistency with specialization in manufacturing. On that basis alone 25 per cent of the suburban communities are not occupation high inconsistent, i.e., one fourth of suburbs are specialized in manufacturing. When comparing communities within the first 50 miles to all others, the influence of manufacturing is likely to be demonstrated.

Table 11. Comparison of Communities Within a 50-Mile Radius of SMSAs to All Other Communities by Frequency of Occupation High Strata Inconsistency

	Communities Within 50-Mile Radius	All Other Distances	(N)
Occupation high inconsistency	2.8% (3)	19.6% (18)	(21)
All other types of inconsistency	97.2 (106)	80.4 (74)	(180)
Total %	100.0	100.0	
(N)	(109)	(92)	(201)

χ^2 = N.S.

Hypothesis 8 (Inconsistent Communities Only)

Suburbs will have a greater frequency of income high inconsistency than communities of any other distance from nearest SMSA.

Suburbs do have a greater proportion of income high inconsistency than any other distance. However, as Table 12 indicates, the difference between suburbs and distance 2 is so small as to make no real (or statistical) difference. Nevertheless, the data again indicate a consistently recurring pattern, i.e., the major difference between communities within a 50-mile radius of SMSAs (suburbs plus distance 2) and all other

communities. We have also indicated a gamma at the bottom of Table 12 which gives evidence of a statistically significant inverse relationship between distance and proportion of income high inconsistency. (However, the reader should keep in mind the lack of any real difference between "suburbs" and "distance 2".) We have to reject hypothesis 8, i.e., we cannot discredit the statistical null hypothesis. On the other hand, the general importance distance seems to play does merit attention.

Table 12. Percentage of Strata Inconsistent Communities that are Income High, With and Without Specialization in Manufacturing, for Each Distance from SMSAs

Distance	Income High Inconsistency with Manufacturing*	(N)	Income High Inconsistency Without Manufacturing**	(N)
Suburbs	41.3%	(38)	15.7%	(8)
Distance 2 (within 50 miles)	41.2	(7)	11.1	(1)
Distance 3 (50-99 miles)	13.0	(3)	0.0	(0)
Distance 4 (100-149 miles)	2.4	(1)	0.0	(0)
Distances 5-6 (150-249 miles)	3.6	(1)	3.7	(1)
(N)		(50)		(10)

*G = -.91 P< .01

**G = -.60 N.S.

When trying to account for the factors which produce income high status inconsistency, specialization in manufacturing plays a major role. As previously indicated, one fourth of the suburban communities are also specialized in manufacturing. It is necessary to see if distance

produces any effects when communities specialized in manufacturing are removed. The column on the right in Table 12 shows the results. The impact that specialization in manufacturing has on income inconsistency is made conspicuous by its absence. While the importance of manufacturing is the most obvious factor, let us draw attention to the fact that the previous relationship with distance is still maintained.

We are left to conclude that the characteristic of being close to SMSAs, aside from the association with manufacturing, provides some influence on income inconsistency. When hypothesis 12 is presented we will further explore the separate and combined contributions of distance and manufacturing specialization to income high inconsistency.

Two further specifications of the present data are interesting. Table 13 shows the frequency of income high inconsistency by functional categorization of suburbs. We did not combine "Employing" and "Diversified" this time. By presenting them separately it is possible to see the differing effects of removing manufacturing specialization. Again, the thing most obvious is the difference manufacturing specialization makes. Nevertheless, the removal of manufacturing specialization affects types of suburbs differently. For employing suburbs, the removal of manufacturing specialized communities decreases the frequency of income high inconsistency by approximately 40 per cent. For diversified and residential suburbs the decrease is more dramatic. In both cases there is more than a 75 per cent decrease in the frequency of income high inconsistent communities. Unfortunately, there are so few cases involved, our analysis must remain somewhat tenuous. However, there are some intriguing implications suggested by the data.

In constructing the E/R ratio, which determines suburban type,

the census of manufacturing was used as well as the census of population. The census of manufacturing is based on the industrial activity located within the community. The census of population is based on the resident population regardless of where people are employed geographically.

Table 13. Percentage of Strata Inconsistent Communities that are Income High for Employing, Diversified, and Residential Suburbs

	Employing	Diversified	Residential	All Suburbs
Includes manufacturing specialization	50.0% (11)	45.1% (10)	34.9% (15)	41.4% (36)
Excludes manufacturing specialization	30.8 (4)	11.1 (1)	7.7 (2)	14.0 (7)

As the authors of the E/R ratio indicate, employing suburbs may "bring" persons in to work, whereas residential suburbs probably "send" people out to work. However, one can assume even in residential communities that some of the population not only stay within the community but that other people come in to work from outside residences. The E/R ratio is only an approximation of the "push" or "pull" effects of the presence or absence of local employing centers.

To allow us one possible observation of the data, it is necessary to clarify another point. Our determination of specialization in manufacturing is based on the resident population. It has become apparent that populations heavily employed in manufacturing have higher median incomes than would be expected by the education and occupation levels, i.e., they are income high inconsistent communities. We have seen that when communities specialized in manufacturing are removed from a grouping of communities, e.g., suburbs, that much of the income high inconsistency

is also removed. But why the difference between suburb types in the proportion of income high inconsistency removed?

Given the preceding discussion we suggest at least part of the difference lies in the presence or absence of industrial activities within a community. Those communities which have local industrial activities, e.g., employing suburbs, reap disproportionate income benefits from those industrial activities. Communities with local employing centers may well experience the benefits of "spin off" and associated economic activities. If this is the case it would explain why communities high in employment in manufacturing can be removed from the analysis and employing suburbs still have a disproportionately greater frequency of income high inconsistent communities.

The remaining specification is concerned with regional breakdowns. The cell frequencies are particularly small if a breakdown by suburb type and region is made. We can present our major observation, however, by looking at a regional separation without being concerned over functional categorization. Regardless of functional category, suburbs in the West and South are never inconsistent with income high. Table 14 shows the comparison.

It appears that aside from what influence may be attributed to a suburb's being an employing community, there are still "contextual" factors associated with different regions. All regions have employing suburbs; 19 per cent of the suburbs in the West are employing communities, 19 per cent in the North Central, 22 per cent in the South, and 17 per cent in the North East. Both the functional classification of suburbs and region seem to be necessary factors to take into consideration when attempting to specify all of the characteristics associated

with income high inconsistency.

Table 14. Per Cent of Income High Inconsistent Suburbs for the Nation and by Region

	Income High Inconsistency	All Other Inconsistency	(N)
Nation	40.9% (36)	59.1% (52)	(88)
West	0.0 (0)	100.0 (18)	(18)
North Central	57.1 (16)	42.9 (12)	(28)
South	0.0 (0)	100.0 (10)	(10)
Northeast	62.5 (20)	37.5 (12)	(32)

Summary of Size-Distance Hypotheses

Of the 10 hypotheses associated with size and distance there is clear statistical significance for accepting only one hypothesis, 3_b (association between distance and consistency rank). The data also show quite clearly that four other hypotheses, three concerning community size (hypotheses 4_b, 5_a, and 6_a) and one related to distance (hypothesis 7) are unquestionably rejected. That leaves five hypotheses which, even though they are not statistically acceptable, demonstrate support for the general rationales upon which the hypotheses are based.

While we must preface what follows as being rather tentative, four conclusions are suggested:

1. Distance may be related to frequency of consistency (hypothesis 5_b).

2. Distance is related to rank of strata consistency (hypotheses 3_a, 3_b, and 6_b).

3. Size may be related to rank of consistency when controlling on distance, but the pattern is not consistent here (hypothesis 4_a).

4. Distance may be related to frequency of income high inconsistency, but it is also necessary to take into account differing types of communities as well as manufacturing specialization (hypothesis 8).

Functional Specialization

Hypothesis 9

Excluding communities from 10,000 to 19,000 in size, nonspecialized communities will have a greater frequency of consistent communities than will specialized communities.

Table 15 indicates that nonspecialized communities do have a greater frequency of consistent communities, but the difference is not statistically significant at the .05 level. We are again in the position of rejecting the statistical hypothesis, but pointing out that the data suggest support for the reasoning behind the hypothesis. What we discovered is that there is considerable variation among specialties in regard to consistency. Table 16 shows the four specialties we have concentrated on and the respective proportions of strata consistent communities within each specialization. Specialization in wholesaling exhibits the highest proportion of status consistent communities. In fact, if we extract specialization in wholesaling and compare nonspecialized communities with the remaining specializations, the difference is statistically significant at the .02 level of probability. While this

Table 15. Per Cent of Strata Consistent Communities by Specialized and Nonspecialized Communities

	Specialized	Nonspecialized	(N)
Strata consistent	56.2% (109)	65.6% (82)	(191)
Strata inconsistent	43.8 (85)	34.4 (43)	(128)
Total %	100.0	100.0	
(N)	(194)	(125)	(319)

$\chi^2 = 3.19 \quad P < .10$

Table 16. Per Cent of Strata Consistent Communities by Type of Specialization

	Manufacturing	Wholesaling	Retailing	Education	(N)
Strata consistant	45.1% (32)	85.0% (34)	51.0% (19)	56.0% (24)	(109)
Strata inconsistent	54.9 (39)	15.0 (60)	49.0 (17)	44.0 (23)	(85)
Total %	100.0	100.0	100.0	100.0	
(N)	(71)	(40)	(36)	(47)	(194)

comparison does not change the decision to reject the tested hypothesis, it does specify which specialization keeps us from statistically accepting the hypothesis.

Hypothesis 10

Looking only at nonspecialized communities, there is a multiple correlation between the independent variables, decreasing community size and increasing distance from the nearest SMSA, and the dependent variable increasing degree of consistency.

Table 17 presents the results of the data analysis. For the nation and each region, the partial correlations of size and distance with degree of consistency are given, along with the multiple R and the coefficient of multiple determination (R^2). A glance at the coefficient of multiple determination column will indicate that very little of the variance in the dependent variable is accounted for by size and distance. The West is the only case with a high enough multiple R (.40) to account for much of the variance. An F test indicates that none of the correlations in the table meet the .05 level of significance.

Table 17. Multiple and Partial Correlations Between Size and Distance and the Dependent Variable, Degree of Strata Consistency, for the Nation and by Region--Nonspecialized Communities

	Partials	R	Coefficient of Determination (R^2)	(N)
Nation		.15*	.023	(161)
Size	.15			
Distance	.04			
West		.40*	.161	(34)
Size	.40			
Distance	.12			
North Central		.26*	.067	(35)
Size	.02			
Distance	.23			
South		.12*	.014	(41)
Size	.07			
Distance	-.10			
Northeast		.08*	.007	(51)
Size	.02			
Distance	-.07			

*N.S.

If attention is given to the partial correlations some interesting differences occur between regions, although there is no overall pattern. It appears that size and distance explain almost no variance in degree of consistency for the South and Northeast. We have previously noted the failure of distance and size to demonstrate relationships with other dependent variables in the Northeast. The explanation has been suggested that the highly urbanized nature of the Northeast overrides the separate influences of size and distance. In the present case, however, that rationale would not fit both the Northeast and the South. Whatever the common factors or differing factors, as the case may be, that are operating to produce similar results in the two regions, they are not suggested by the data.

It is clear that distance contributes the most to explaining the variance in degree of consistency for the North Central region, while it is even more clearly size in the West. We suggest, tentatively, that where distance between communities is a more common factor (in the West) size becomes more important as a differentiating variable; where larger sized communities are more common (in the North Central region) distance becomes more important as a differentiating variable. This statement, however, says nothing about the South and Northeast. In the present analysis we are left without any argument, statistically or nonstatistically, in support of the hypothesis.

Hypothesis 11

Excluding communities specialized in manufacturing and education, specialized communities 10,000 to 19,000 in size will have a greater frequency of consistency than nonspecialized communities.

The data demonstrate there is no support for the present hypothesis (Table 18). In fact, the distribution of the data indicate that specialized communities have a more frequent occurrence of consistency than do nonspecialized communities. This is opposite from the hypothesized distribution.

Although manufacturing and education specialization were not included in the testing of the hypothesis, they are presented in the table. It seems, contrary to our expectations, in excluding these two specializations we removed the least consistent specialties. In fact, the overall comparison between nonspecialized and specialized communities does not change very much from our previous comparison (see Table 15, page 126). The previous frequency of consistency for nonspecialized communities was 65.6 per cent compared to 62.0 per cent now. The previous frequency of consistency for specialized communities was 56.2 per cent. If we had not removed manufacturing and education the present percentage for specialized communities would be 49.0 per cent instead of 75.0 per cent. As we implied when discussing hypothesis 9, the separate specializations require individual analysis. There is good evidence to suggest that just being "specialized" doesn't make much difference; it is the specific specializations that need further exploration.

Hypothesis 12

Communities specialized in manufacturing will have a greater frequency of income high inconsistency than all other communities.

We have referred to the effects of specialization in manufacturing on income high inconsistency already (see especially Table 12, page 120) and little comment is necessary. Table 19 presents the results of the comparison.

Table 18. Per Cent of Strata Consistent Communities for Nonspecialized and Each Type of Specialized Community

	Type of Specialization				
	Manufacturing	Education	Wholesaling	Retailing	Nonspecialized*
Strata consistent	27.0% (10)	46.2% (6)	83.3% (15)	66.7% (10)	62.0% (31)
Strata inconsistent	73.0 (27)	53.8 (7)	16.7 (3)	33.3 (5)	38.0 (19)
Total %	100.0	100.0	100.0	100.0	100.0
(N)	(37)	(13)	(18)	(15)	(50)

*Chi square refers only to difference between nonspecialized and wholesaling, retailing.

$\chi^2 = .45$ N.S.

Table 19. Percentage of Strata Inconsistent Communities that are Income High for Communities Specialized in Manufacturing and All Other Communities

	Communities Specialized in Manufacturing	All Other Communities	(N)
Income high inconsistent communities	66.7% (44)	7.4% (12)	(56)
All other types of inconsistency	33.3 (22)	92.6 (151)	(173)
Total %	100.0	100.0	
(N)	(66)	(163)	(229)

$\chi^2 = 89.4$ $P < .001$

In order to highlight the importance that specialization in manufacturing seems to have for income high inconsistency, we have included Table 20. Here the comparison is between communities specialized in manufacturing (communities in the highest two centiles), communities with moderate manufacturing (second through seventh centiles), and communities low in manufacturing (first two centiles). The empty cell for low manufacturing and income high inconsistency speaks graphically for the importance manufacturing plays in the relationship. The impact of manufacturing is evidenced in another related way. If attention is given to the per cent of income low inconsistency for specialized, moderate and low manufacturing communities, the percentages are 0.0 per cent, 39.1 per cent, and 66.7 per cent, respectively.

Table 20. Percentage of Strata Inconsistent Communities that are Income High for Communities with High (Specialized), Moderate and Low Levels of Manufacturing

	Types of Manufacturing			
	Specialized	Moderate	Low	(N)
Income high inconsistent communities	66.7% (44)	39.1% (12)	0.0% (0)	(56)
All other types of inconsistency	33.3 (22)	90.9 (121)	100.0 (30)	(173)
Total %	100.0	100.0	100.0	
(N)	(66)	(133)	(30)	(229)

$\chi^2 = 86.8 \quad P < .001$

Something we have not done is look at the combined effects of specialization and distance in relation to income high inconsistency. One approach is to look at those communities which have income high

inconsistency and see what percentage of them can be accounted for by combining characteristics. Table 21 presents the data from using this procedure. The table exhibits the importance that the combination of community characteristics plays in accounting for income high inconsistency. If a community is not specialized in manufacturing or is not within the first 50-mile distance radius (central cities, suburbs, and distance 2 communities) there is a 1.8 per cent chance that it will be inconsistent with income high.

Table 21. Community Characteristics Linked with Income High Inconsistency

Characteristic(s) of Communities	Per Cent of Income High Inconsistency Accounted For	(N)
One characteristic		
Manufacturing specialization	80.4 %	(45)
Suburbs	67.8	(38)
Central cities and distance 2 communities	23.2	(13)
Two characteristics		
Manufacturing and suburbs	94.6	(53)
Manufacturing, central cities and distance 2 communities	83.9	(47)
Suburbs and central cities and distance 2 communities	91.1	(51)
Three characteristics		
Manufacturing, suburbs, central cities and distance 2 communities	98.2	(55)

Hypothesis 13

Communities specialized in education will have a greater frequency of education high and income low inconsistency than all other communities.

Table 22 presents the data which test the hypothesis. It can be

seen from the table that there is a difference between communities specialized in education and all other communities. The difference, as indicated by chi square, is beyond the .001 level of probability.

One thing not shown in the table is that the difference is due mainly to income low and not education high inconsistency. One of the problems is that there are only 12 cases of education high inconsistency in the sample. There are too few cases to make any real comparisons. We find ourselves in the rather different and somewhat pleasant situation of stating that the hypothesis is supported statistically, but we have some reluctance for outright acceptance (too few cases of education low inconsistency), on other grounds.

Table 22. Percentage of Strata Inconsistent Communities that are Low in Education High for Communities Specialized in Education and All Other Communities

	Communities Specialized in Education	All Other Communities	(N)
Income low and education high inconsistency	31.7% (33)	12.0% (52)	(85)
All other types of inconsistency	68.3 (71)	88.0 (383)	(454)
Total %	100.0	100.0	
(N)	(104)	(435)	(539)

$\chi^2 = 22.9 \quad P < .01$

Hypothesis 14

Looking only at communities specialized in education, there will be a positive correlation between the size of the community and the degree of consistency.

The hypothesis is statistically acceptable, i.e., the correlation is in the predicted direction and is significant at the .05 level. However, the degree of association is not high and is somewhat erratic among regions. We have included in the first column of Table 23 a second set of correlations between size and degree of consistency. This set presents the correlations without controlling on specialization in education. The change is consistent between columns. The correlations always increase in a positive direction. The South maintains the pattern, although a negative correlation still remains in the second column. Given the statistically significant correlation for the nation and one region plus the consistent change in the degree of association, the evidence is supportive of the hypothesis. However, the amount of influence associated with educational specialization, as suggested by the data, is not very strong.

Table 23. Correlation Between Size of Community and Degree of Strata Consistency for Communities Specialized in Education, for the Nation and by Region

	All Communities (r)	Communities Specialized in Education (r)	Coefficient of Determination (r^2)	(N)
Nation	.08	.17*	.028	(107)
West	.15	.26	.067	(16)
North Central	.13	.34*	.113	(37)
South	-.15	-.02	.000	(28)
Northeast	.09	.17	.028	(26)

*P < .05

Summary of Specialization Hypotheses

Three of the six hypotheses received statistical support (hypotheses 12, 13, and 14), although associations were not always strong. Two hypotheses received very little support from the data (hypotheses 10 and 11), and one hypothesis (9), while not statistically significant, received some support from the data.

In summary we can state the following:

1. While specialization per se seems to have some relationship to strata consistency-inconsistency, each specialization has a different effect and the findings are somewhat erratic (hypotheses 9 and 10).

2. Specialization in manufacturing is related to income high inconsistency (hypothesis 12).

3. Specialization in education is related to income low inconsistency (hypothesis 13).

4. Degree of consistency is associated with size when looking only at communities specialized in education, but the degree of association is not strong.

Females and Nonwhites

Hypothesis 15

Excluding communities in the upper quintile of the income distribution, there will be an inverse correlation between the proportion of the labor force that is female and the frequency of consistency.

As Table 24 indicates, there is no association between the percentage of the labor force that is female and frequency of consistency.

There are varied, but patterned ways that percentage of labor force female seems to be associated with types of inconsistency. Apparently the relationship with inconsistency negates any directional association with overall consistency. Some of the patterns of inconsistency will be presented in our discussion of the following hypothesis (see Table 25). The same thing will be observed when we discuss the percentage of non-whites in communities (especially hypothesis 19).

Table 24. Percentage of Communities that are Strata Consistent by Quintile Rankings of Percentage of Labor Force Female

Quintile	Percentage of Strata Consistent Communities	(N)
Q_1	49.3	(37)
Q_2	46.0	(35)
Q_3	55.8	(58)
Q_4	46.4	(45)
Q_5	47.6	(40)

G = 0.0 N.S.

Hypothesis 16 (Inconsistent Communities Only)

Excluding communities in the upper quintile of the income distribution, there will be a positive correlation between the proportion of the labor force that is female and the frequency of income high inconsistency.

Column one in Table 25 demonstrates an association between percentage of income high inconsistency and quintile rankings[8] of

[8]To insure enough cases in each category for comparative analysis, we have presented the distribution in terms of quintiles. Each higher

percentage of the labor force that is female. However, the association is in the exact opposite direction from that predicted. We had anticipated that with more females in the labor force the median family income would increase disproportionately to other strata dimensions. The data in Table 25 argue directly against the expectation. It should be kept in mind that communities in the top 20 per cent, in terms of median income, have been removed from the data analysis. It was reasoned that by removing these high income communities we would be discarding from analysis those communities where females have no need to work, and, as Figure 2, Appendix A suggests, do not work. Still, in the remaining communities the present data indicate that where more females work communities rank less well economically.

Table 25. Percentage of Strata Inconsistent Communities that are Income High and Income Low by Quintile Rankings of Percentage of Labor Force Female

Quintile	Total Inconsistent	
	Income High*	Income Low**
Q_1	39.5% (15)	7.9% (3)
Q_2	34.1 (14)	9.8 (4)
Q_3	34.8 (16)	34.8 (16)
Q_4	11.5 (6)	40.4 (21)
Q_5	9.1 (4)	59.1 (26)

*G = -.73 N.S.

**G = 1.00 P< .01

quintile represents the next highest 20 per cent of cases in the distribution.

We have previously suggested that both the nonwhite and female populations occupy poor competitive positions within the division of labor. In regard to females, the present data speak strongly in support of this rationale.

In column 2 of Table 25 the per cent of inconsistent with income low communities for each quintile is given. The association for this column with the quintile rankings is in the direction we had originally predicted for income high inconsistency.

In order to make some detailed conclusions it would be necessary to have more specific information about the industrial bases of the various quintile groupings. Although we do not have such detailed information, we feel some conclusions are tentatively suggested by the data. In proceeding, however, it needs to be remembered that the income basis for determining consistency-inconsistency and the resulting types was median family income. A common sense interpretation would lead to the conclusion that with more females in the labor force there are more families with both spouses working. The ensuing conclusion would be that with both spouses working median family income would be higher, but that is not the case. Given the procedures followed in the present analysis, it might still be expected that the higher income advantages would show up among the consistent status communities. That is, perhaps the communities with proportionately more females in the labor force will tend toward the high and extremely high classification of the consistent communities. Table 26 answers the question. It can be seen that the data form the reverse pattern, i.e., communities with proportionately more females in the labor force tend to be low and extremely low in consistency. Regardless of how the data are observed they

indicate that on a comparative basis, the more females (proportionately) you have in the labor force the more likely the community is to be less well off economically (median family income).

Table 26. Percentage of High and Low Ranked Consistency by Quintile Rankings of Percentage of Labor Force Female

Consistency Rank	Quintile Ranking Q_1	Q_2	Q_3	Q_4	Q_5	Total Per Cent	(N)
Extremely low and low (rank) 1 and 2	6.6% (8)	14.9% (18)	26.4% (32)	24.8% (30)	27.3% (33)	100.0	(121)
High and extremely high (rank) 3 and 4	30.8 (29)	18.1 (17)	27.7 (26)	16.0 (15)	7.4 (7)	100.0	(94)
(N)	(37)	(35)	(58)	(45)	(40)		(215)

Data not included in the present analysis indicate the general pattern holds for all regions.[9] The pattern is not due, for example, just to the low income characteristics of the South or the high income characteristics of the Northeast.

Regardless of what factors produce high proportions of females in the labor force of communities, their employment may well be a factor in placing the male labor force in a poor competitive position. Whenever females can be employed cheaply there is no need to hire males for more money. The fact that as proportionately more females are employed, it does not comparatively raise median family income supports this

[9]When the analysis is further broken down by regions many empty cells appear in the associated contingency tables. It is apparent, however, that the general pattern presented by the nation is reproduced in each region.

contention. If female employment had no effect on male employment whatsoever, then an increasing percentage of females in the labor force should raise median family income. As it is, more females employed in the labor force does not seem to compensate for apparently low wages among the males, i.e., their combined totals do not get median family incomes raised or even held constant on a comparative basis. In fact they get lowered! While the preceding argument must remain tentative at present, the available data appear to support the position.

Hypothesis 17

Excluding communities in the upper quintile of the income distribution, there will be an inverse correlation between the proportion of the labor force that is female and the degree of consistency.

It is apparent from Table 27 that there is no support for the hypothesis. The correlation for the nation is barely in the predicted direction. There is no encouragement provided by the data for continuing to expect a general association between percentage of females in the labor force and degree of consistency. However, two alternatives for further analysis are possible. The slight association that occurs in the predicted direction for the South suggests that separate, more refined regional analysis might be fruitful. The second factor to consider is the complex type of relationships involved with female employment in the labor force. We have shown elsewhere (see Appendix A) that both communities low in income as well as communities high in income have a relatively smaller percentage of the labor force that are female. In the present analysis we excluded only the upper end of the income distribution.

Table 27. Correlation Between Percentage of the Labor Force that is Female and Degree of Status Consistency for the Nation and by Region, Excluding High Income Communities

	Correlation (r)	Coefficient of Determination (r^2)	(N)
Nation	-.03	.001	(436)
West	.10	.010	(72)
North Central	.05	.002	(119)
South	-.17*	.028	(126)
Northeast	-.01	.000	(119)

*P< .05

Table 28 shows the correlations, again by nation and region, but including all communities. The correlations all increase in the predicted direction when high income communities are included in the analysis. While these findings do not fit the specified hypothesis, they do indicate slight association, and suggest some support for the rationale underlying the hypothesis.

Hypothesis 18

There will be a positive correlation between the proportion nonwhite in communities and the frequency of consistency.

It is clear from Table 29 that an increasing nonwhite population is not associated with an increasing per cent of consistency. If anything there is a tendency for the association to be inverse (a gamma of -.77). It appears that the association between percentage of nonwhites and certain forms of inconsistency was not adequately considered. Table 30 presents an example. In column one the relationship is between

Table 28. Correlation Between Percentage of the Labor Force that is Female and Degree of Strata Consistency for the Nation and by Region, for all Communities

	Correlation (r)	Coefficient of Determination (r^2)	(N)
Nation	-.14	.020	(539)
West	.07	.000	(95)
North Central	-.14	.020	(156)
South	-.21*	.040	(133)
Northeast	-.13	.020	(155)

*P< .05

Table 29. Percentage of Communities that are Strata Consistent by Quintile Rankings of Percentage Nonwhite

Percentage Nonwhite by Quintiles	Percentage Consistent	(N)
Q_1	59.0%	(72)
Q_2	70.4	(62)
Q_3	57.4	(58)
Q_4	54.2	(64)
Q_5	49.1	(54)
(N)		(310)

G = -.77 N.S.

combined income inconsistency and the percentage of nonwhites. First, it should be noted that some form of income inconsistency accounts for almost 25 per cent of the communities at every quintile. What is of

particular interest are columns 2 and 3. There, the percentage of high and low inconsistency among all types of inconsistency is given for each quintile. When the percentage of nonwhites goes up the percentage of income low communities also increases and it is just the opposite for income high inconsistency. The fact that one form of inconsistency is switched for another, and that their combination helps maintain inconsistency, regardless of nonwhite quintile, demonstrates why strata consistency does not increase. In fact, as the association in Table 29 demonstrated, an increasing percentage of nonwhites is associated with increasing inconsistency. We will come back to the tendency toward inconsistency with increases in the nonwhite population when we discuss hypothesis 20.

Table 30. Percentage of Strata Inconsistent Communities that have Income Inconsistency, Both High and Low, by Quintile Ranking of Percentage Nonwhite

Percentage Nonwhite by Quintile	Percentage Income Inconsistent	Strata Inconsistent	
		Income Low	Income High
Q_1	23.8% (50)	12.0% (6)	46.0% (23)
Q_2	11.4 (26)	23.1 (6)	15.4 (4)
Q_3	27.7 (43)	34.9 (15)	30.2 (13)
Q_4	22.9 (54)	33.3 (18)	16.7 (9)
Q_5	31.8 (50)	56.0 (28)	14.0 (7)

Hypothesis 19 (Consistent Communities Only)

There will be a negative correlation between the proportion

nonwhite in communities and the rank of consistency.

Table 31 gives the results of testing the hypothesis. It is apparent from the data that the hypothesis is supported statistically. Although the variance explained (r^2) in the dependent variable ranges from 6.8 per cent to 23.4 per cent, the associations are all in the predicted direction. It is suggested in the data that communities with high percentages of blacks in communities are less likely to experience overall low strata characteristics in the West and Northeast. However, the correlations for those two regions still reflect definite inverse associations between status characteristics and the size of nonwhite populations.

Table 31. Correlation Between Per Cent Nonwhite and Consistency Rank for Nation and by Region

	Correlation (r)	Coefficient of Determination (r^2)	(N)
Nation	-.46**	.211	(310)
West	-.28*	.081	(55)
North Central	-.42**	.178	(84)
South	-.48**	.234	(73)
Northeast	-.26**	.068	(98)

*P< .05

**P< .01

Hypothesis 20

There will be a positive correlation between the proportion nonwhite in communities and the degree of consistency.

Table 32 shows the data and demonstrates no support for the hypothesis. If there is any direction of association at all in the data it is the reverse of the hypothesis. This particular hypothesis presents another case where the thinking behind the hypothesis appears faulty. As we argued earlier, nonwhites do not have an equal competitive position. Still, there are other equally logical outcomes from an increasing percentage of nonwhites in a community, i.e., as logical as the one indicated by the hypothesis. More in keeping with hypothesis 16 (see Table 25, page 137) the presence of nonwhites may be expected to contribute to inconsistency as much as to consistency.

The original argument was that nonwhites end up low on all three strata dimensions; consequently, we suggested that their presence would contribute to overall consistency. The type of consistency expected was low ranked consistency. The association between consistency rank and percentage nonwhite was demonstrated in hypothesis 19 (see Table 31). What we failed to take into proper perspective, however, was the rest of the community population, i.e., whites.

Table 32. Correlation Between Percentage Nonwhite and Degree of Strata Consistency for the Nation and by Region

	Correlation (r)	Coefficient of Determination (r^2)	(N)
Nation	-.09*	.010	(539)
West	-.09*	.010	(95)
North Central	-.10*	.010	(156)
South	-.09*	.010	(133)
Northeast	.02*	.000	(155)

*N.S.

An example of how the nonwhite-white involvement might exist will make the point clear. It is very possible, say in a Northeast community, for the white population to enjoy the more prestigious occupations and for the community to have a relatively moderate occupational level. In such a case, the presence of nonwhites might contribute to inconsistency, e.g., income low. In fact, the data indicate that in communities with a high percentage of nonwhites, after low ranked consistency the most frequent type is income low inconsistency. We are suggesting that an expectation for an increasing degree of inconsistency with an increasing percentage of nonwhites is as likely as an increasing degree of consistency. One further problem in trying to assess associations with percentage nonwhites needs some comment.

The highest percentage of nonwhites in the sample is 51 per cent. If nonwhites were to produce the effect of increasing the degree of consistency, at 51 per cent, there are still enough whites to confound the situation. A second point in this regard is that 252 communities, or 47.1 per cent of the communities in the sample, have less than 3 per cent nonwhites. In terms of correlation analysis such a highly skewed distribution is difficult to assess.

Summary of Female and Nonwhite Hypotheses

Out of the six hypotheses tested one is clearly accepted (hypothesis 19). Of the remaining five hypotheses, some of them provide suggestive data even though they are not statistically significant.

In summary, we can state the following:

1. There is no apparent association between the percentage of the labor force that is female or the percentage nonwhite in communities and

the frequency of status consistency (hypotheses 15 and 18). In fact, there may be an inverse association for percentage nonwhite (hypothesis 18).

2. There is some evidence to suggest that relationships hold between percentage of labor force female, the percentage nonwhite in communities and the frequency of income high and low inconsistency (hypotheses 16 and 18).

3. There may be some relationship between percentage of the labor force female and degree of consistency, but it is a weak association (hypothesis 17). There is no association for percentage nonwhite and degree of consistency (hypothesis 20).

4. There is an association between percentage nonwhite in communities and consistency rank (hypothesis 19).

Two remaining tasks need attention in completing this analysis, the combining of variables which have been demonstrated to be significant and a summary table of the findings.

Combined Variables

In the preceding data analysis there were two separate hypotheses that included the same dependent variable; both were statistically significant. Hypothesis 3_b was concerned with the association between distance and consistency rank, and hypothesis 19 with per cent nonwhite and consistency rank. The zero order correlations for all communities (the nation) were -.44 and -.46, respectively. Table 33 depicts an attempt to see if a multiple R using distance and percentage nonwhite together will increase the variance accounted for in the dependent variable. In the first two columns are the correlation results derived

Table 33. Correlations Between Distance from Nearest SMSA, Per Cent Nonwhite and the Dependent Variable Consistency Rank for the Nation and by Each Region

	Previous Zero Order Correlations		Multiple R Correlations			
	Distance (Hypothesis 3_b)	% Nonwhite (Hypothesis 19)	Partials	R*	R^2	(N)
Nation	-.44	-.46	Distance -.26 % Nonwht. -.38	.45	.201	(310)
West	-.36	-.28	Distance -.29 % Nonwht. -.35	.44	.196	(55)
North Central	-.51	-.42	Distance -.35 % Nonwht. -.42	.52	.273	(84)
South	-.63	-.48	Distance -.43 % Nonwht. -.36	.56	.315	(73)
Northeast	-.30	-.26	Distance -.05 % Nonwht. -.15	.16	.024	(98)

*F tests for statistical significance:

Nation	F = 11.48 P< .001
West	F = 6.32 P< .01
North Central	F = 15.23 P< .001
South	F = 16.09 P< .001
Northeast	F = 1.19 N.S.

earlier. Under "Multiple R Correlations" are the combined and partialed effects of distance and percentage nonwhite.

For the nation, no more variance can be explained by taking the combined effects of the two variables than if either variable (distance or percentage nonwhite) were used singly. The West is the only case where there is much improvement. The variance explained by using the best single variable (distance) is 13.0 per cent, and when combining both distance and size it is 19.6 per cent. Combining the two variables does not increase the variance accounted for in the North Central region, and the combination actually decreases the variance explained in the South and Northeast. Due to the problem of interpreting partials in any precise manner we are left with some general conclusions.

1. The two independent variables appear to be related to each other, or to other variables, in such a way that they do not account for different aspects of the dependent variable. Consequently, when the effects of both independent variables are looked at jointly they do not account for more variance than one of them can independently.

2. The partials suggest that, except in the South, percentage nonwhite has a stronger relationship with consistency rank when the effect of distance is "held constant" than does distance when percentage nonwhite is "held constant."

3. The actual decrease in two regions suggests (at least in those regions) the possible importance of a third variable. There may be one or more variables to which distance and percentage nonwhite are related. If the association were strictly between distance and percentage nonwhite there would be no reason for a decrease in the multiple R. If the two independent variables "cancel" the effects of

one another the question remains, what are the conditions that hold when they cancel one another? The suggestion is that those "conditions" may well be another (or more than one) variable which is not apparent in the present data.

Summary of Findings

The remaining table of this chapter (Table 34) shows the overall findings of the data analysis, specifically in regard to testing the hypotheses. In the far left column the hypotheses are listed by subject area and number. The next column indicates if they were accepted statistically or rejected. Since we frequently found ourselves suggesting that the data supported the rationale behind a hypothesis even though the hypothesis was statistically rejected, this final column allows us to indicate that information.

Table 34. Summary of Findings from Testing the Hypotheses

Hypothesis	Statistically Accepted	Support for the Rationale Producing the Hypothesis
Distribution of Consistency-Inconsistency Types		
Hypothesis 1	Yes	Yes
Hypothesis 2	Yes	Yes
Size-Distance		
Hypothesis 3_a	No	Yes
Hypothesis 3_b	Yes	Yes
Hypothesis 4_a	No	Uncertain
Hypothesis 4_b	No	No
Hypothesis 5_a	No	No
Hypothesis 5_b	No	Yes
Hypothesis 6_a	No	Yes
Hypothesis 6_b	No	No
Hypothesis 7	No	No
Hypothesis 8	No	Yes
Functional Specialization		
Hypothesis 9	No	Yes
Hypothesis 10	No	No
Hypothesis 11	No	No
Hypothesis 12	Yes	Yes
Hypothesis 13	Yes	Uncertain
Hypothesis 14	Yes	Yes
Female and Nonwhite		
Hypothesis 15	No	No
Hypothesis 16	No	No
Hypothesis 17	No	Yes
Hypothesis 18	No	No
Hypothesis 19	Yes	Yes
Hypothesis 20	No	No

CHAPTER VI

ISSUES AND SUMMARIES

Introduction

There are five subsections within this chapter. They don't logically fall neatly into any one or two categories, e.g., limitations, suggestions, summary, etc. We have used the title "Issues and Summaries" as that best describes the varying aspects of the five subsections.

The first subsection discusses some of the problems our sample ended up giving us. The second discussion draws the reader's attention to some general problems associated with the use of Census data. Third, two of the major variables of the study, distance and degree of strata consistency-inconsistency, are discussed. "Distance" is discussed in terms of some of its limitations and some suggestions are presented, and the use of degree of consistency-inconsistency as a variable is evaluated. The fourth subsection summarizes the data findings and proposes two possible contributions of the thesis. The final section summarizes some of the more interesting findings and from them makes suggestions for further research.

The Sample

One problem that frequently manifested itself in the data analysis was too few cases. Although a sample of 539 communities seemed adequate when the research was begun, the limitations were soon made apparent. The number of communities was distributed too unevenly in regard to the central variables of the study. There are inverse relationships between

the number of communities and increasing size and distance. When controls were applied with large communities or at greater distances cell frequencies became too few for adequate analysis. We frequently found ourselves forced to give percentages based on embarrassingly small numbers. The basic correction suggested is the inclusion of all United States communities in the analysis. It is the only way we will be able to get conclusive results on more distant and on large communities. Duncan and Reiss,[1] for instance, included all communities in their analysis and the benefits are apparent in their monograph. While the amount of data involved is large it is not overwhelming. With modern computer facilities and adequate finances a much more intensive and exhaustive analysis could be conducted. While all of the variables to be considered may still need to be decided, such a study would be very beneficial at this point in sociology. There is good reason to believe that a comparative analysis can do much for helping sociologists understand community structure just as the classical case study or "community study" approach did initially. Both types of information are important.

Another consideration that would be accounted for by using all communities is the inclusion of the very small (2,500 to 9,999) and the larger (100,000 and over) communities. It may be that some of the factors considered in the present analysis would not reflect similar trends in the smaller and larger communities. Nevertheless, such questions remain to be answered empirically.

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[1]Otis Dudley Duncan and Albert J. Reiss, Jr., Social Characteristics of Urban and Rural Communities, 1950 (New York: John Wiley and Sons, Inc., 1956).

The Use of Census Data

An issue which deserves some attention is how well the variables used in the study reflected the meanings in the conceptual presentation. The question is always a problem, and as Blalock[2] has argued, an important one. In the last analysis a "leap of faith" is required in bridging the gap between conceptual language and data language.[3] In some ways the type of data involved in this research lessens the problem. Many of the variables, e.g., income, size of population, and percentage nonwhite were all straightforward interpretations. However, such translations appear so obvious it is easy to forget some of the inherent problems. The basic data have been defined, gathered, and compiled by others. We are left with both the advantages and limitations of the data. The breadth, volume, and quality of the data on the one hand, but units of observation and definitions that did not precisely fit our research problem on the other. We have previously referred to some of the variables which demonstrate the problem, e.g., "community" and "suburb." We find ourselves not entirely unlike the drunk, described by Abraham Kaplan, who was found one night looking for a lost article under a street light; he was looking there not because that was where he lost it, but because that's where the light was! As we have indicated, there are advantages as well as disadvantages in using Census data. The issue is raised

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[2]Hubert M. Blalock, Jr., and Ann B. Blalock, Methodology in Social Research (New York: McGraw-Hill Book Company, 1968), pp. 5-27; Hubert M. Blalock, Jr., Causal Inferences in Nonexperimental Research (Chapel Hill: The University of North Carolina Press, 1961), pp. 3-26.

[3]Blalock, Causal Inferences in Nonexperimental Research, p. 6.

simply to remind the reader who assesses this research that the problem presents qualifying conditions in drawing conclusions.

Two Major Variables: Distance and Degree of Consistency-Inconsistency

"Distance," while not from the Census data, requires some concluding comments. We have argued elsewhere that some indication of distance from SMSA is a proper step in allowing assessment of interdependencies between communities. The Hathaway, Beegle, and Bryant[4] measure of distance used in this thesis represents a monumental undertaking, and to our knowledge is the only recent attempt to develop such indexes for the whole United States. Ideally, we would like to have "travel time" or some "friction of space" indication, other than just linear miles, as an index. The difficulties inherent in providing such an index make it prohibitive. For example, such things as topography, road sizes and conditions, the presence or absence of transportation systems, and even climate might well be included.

There is another concept and an associated index, which might be developed, and appears to have some potential. Since our units of observation are communities, and since we are concerned with interdependencies between communities, some type of "density of communities" index would be helpful. We are not referring to the density of populations within communities, but the density of communities within space.

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[4]Dale E. Hathaway, J. Allan Beegle, and W. Keith Bryant, People of Rural America, A 1960 Census Monograph (Washington, D.C.: U.S. Government Printing Office, 1968), pp. 17-18. The preceding reference explains the procedures used by the authors in developing and using their distance measures. The actual distance scores for each of our communities, as we explained earlier, were graciously provided by Dr. Allan Beegle.

The linear measure we have used allows us to know something of the possible connections between communities and their nearest SMSA. We cannot say anything, however, about interdependencies between communities other than with SMSAs. Nor does our measure permit us to distinguish between communities in the following example. Let us suppose there are two communities about 40,000 in population. Community A is in the Northeast and is 50 miles away from the nearest SMSA, which happens to be 500,000 in size. Community B is in the South and is also 50 miles away from an SMSA of the same size as A. However, community A is surrounded by other communities. Cities in fact which extend, border to border, all the way to neighboring SMSAs. Community B, on the other hand, has no bordering neighbor communities. However, three smaller communities are located within a radius of 25 miles. With our present measurement procedures, both communities A and B receive the same index score, determined solely by their distance from the nearest SMSA. A density measure which took into account both the frequency and size of neighboring communities would complement the present linear measure. The effort involved in constructing such indexes would be enormous, but the appropriate information is available from the Census and atlases.

At this point in the study it seems worthwhile to give some attention to the value of analyzing the degree of consistency-inconsistency. Our comments fall into two general areas. First, like many of the findings in stratification studies, real differences are clear only at the extremes. Communities which are highly consistent or highly inconsistent present the clearest picture. There are so many ways in which communities can be inconsistent that those between the extremes are hard to interpret. Even in the case of complete consistency or extreme

inconsistency the types of consistency-inconsistency are probably more useful. As we indicated at the beginning of this study, and we find ourselves even more convinced now, patterns (types) of consistency-inconsistency as compared to degree are probably more instructive. Once degree of consistency-inconsistency is demonstrated, the question usually becomes "what is the particular organization of the strata hierarchies?" This question leads to the second comment.

If there is to be any broader usage of community consistency-inconsistency its potential lies mostly with types rather than degree. For instance, if consistency-inconsistency were to be used as an independent variable, types are of more value than merely degree. Again, there are so many forms of consistency-inconsistency that the situation would not be at all clear when just degree was used.

In the social psychological literature there has been concern with the psychological effects of consistency and especially degree of inconsistency. With population aggregates the concern is not with mental states, but with the arrangement of strata structures. Communities do not "reflect on" or "become distraught" over their statuses; consequently, the pattern or type of arrangement tells us much more than degree of consistency-inconsistency. The analysis of patterns of status arrangements is useful with individuals as well as with populations, but with populations it is essential.

Summary Statements

The particular limiting and extenuating factors associated with the following statements have been presented in the data analysis chapter. The conclusions in relation to the data analysis are presented

here in short summary form. In brief, we feel there is justification for stating the following conclusions: (1) Communities do exhibit various patterns of strata consistency-inconsistency. While this conclusion was a necessary basis for the research, it had not been demonstrated previously. (2) There is good evidence that distance from nearest SMSA is related to some patterns of consistency-inconsistency. The evidence is weaker and less clear for the relationship with community size and strata arrangements. (3) There is good evidence that functional specialization is related to some forms of consistency-inconsistency. (4) Finally, there is also good evidence that the percentage nonwhite in communities is related to strata arrangements. The evidence also speaks rather strongly for the existence of relationships between the percentage of the labor force that is female and forms of consistency-inconsistency.

In providing the concluding analysis, given the awareness of the study's findings and limitations, we feel there are two broad contributions that might be argued for the study.

The first is concerned with the level and scope of the research. The study exhibits an attempt to operationalize some macro level concepts. While the research is not unique in the attempt, it does further demonstrate the possibility of examining comparative data of broad scope at a macro level. This approach, we feel, is particularly useful at the community level where sociologists have frequently been limited to a single case study. While a traditional "community study" would provide information not obtainable in the present analysis, it is unfortunate

that sociologists have basically been limited to only the "traditional" approach.[5]

The second possible contribution lies in what Hempel would call "systematic import." "Loosely speaking, the systematic import of a set of theoretical terms is determined by the scope, the degree of factual confirmation, and the formal simplicity of the general principles in which they function."[6]

It is not that any particular finding was so spectacular, but that some evidence was produced that provides empirical support for a broad integrative scheme. The potential import lies in the possibility of integrating a number of heretofore unconnected areas. We earlier argued that the concept of a "division of labor" between communities along with the notions of "competition" and "dominance" provided integrative capacities. Within an ecological orientation we have attempted to weave community size, metropolitan dominance (subordinance), functional specialization, and certain population characteristics of communities and their labor forces into a systematic scheme. Although no major claims of validation can be made, there is empirical evidence which, we have argued, offers qualified support and also suggests some further specification in the conceptual scheme.

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[5]For example, Stein's basic argument in Eclipse of Community is that there needs to be comparative analysis between communities, although he limits his own attempt to a comparison between a few "classical" community case studies. Maurice Stein, Eclipse of Community (New York: Harper and Row, 1960).

[6]Carl G. Hempel, "Fundamentals of Concept Formation in Empirical Science," International Encyclopedia of Unified Science, Vol. II, No. 7 (Chicago: University of Chicago Press, 1952), p. 46.

Within the results of the data analysis are both the expected and the unexpected findings that are suggestive of further analysis. It is to some of these findings that we give our attention in making the concluding remarks.

Some Suggestions for Further Analysis

There are four areas we particularly want to briefly present as subjects for possible further analysis: (1) functional specialization, (2) percentage of the labor force female, (3) suburb types, and (4) the notion of "system of cities."

1. The data indicated that functional specialization of communities is related to other structural characteristics of communities. The type of specialization, according to the findings, is associated with differing structural characteristics. What is needed now is further analysis to explore the varying types of specialization and try to get some assessment of their differing influences.

Manufacturing, which appears to be of major importance, includes very diverse industries. A more refined analysis of various kinds of manufacturing, given its apparent importance, would also be useful.

Hadden and Borgatta[7] have given a scathing critique of the notion of functional specialization. While their criticism included a number of things, they did say that what was needed was not another classification but a demonstration that specialization was related to anything of sociological interest. We feel that at least that much has been demonstrated,

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[7]Jeffrey K. Hadden and Edgar F. Borgatta, American Cities (Chicago: Rand McNally and Company, 1965), pp. 8-29.

and, contrary to their argument, find functional specialization a provocative area for further investigation.

2. There is not a lot for us to say about the findings in relation to proportion of the labor force female, other than some of them were surprising and interesting. Before anything resembling conclusiveness can be stated about relationships with the variable, further analysis is necessary.

It is of interest to note that more attention has been given in recent years to the effect of females in stratification, particularly in regard to family income. However, to our knowledge little or no attention has been paid to the community effects of greater and lesser proportions of females in the labor force.

3. The distinction of suburbs by amount of employment within the community also produced some interesting findings. Suburb distinctions of the nature we employed have been discussed in the literature previously. However, we are not aware of the distinction being used in a broad comparative study like the present one. As crude as the index might be, it does suggest to us a way of assessing some of the impact of greater or lesser amounts of industrial bases within communities. The index is available for all communities and need not be restricted to suburbs.

4. One of the ideas associated with the conception of interdependency among communities (division of labor) is a frequently used notion of "system of cities." Hawley[8] has made a relevant distinction in this regard (although he did not use the phrase "system of cities")

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[8]Amos Hawley, Human Ecology (New York: Ronald Press, 1950), pp. 223-32.

between dependent and independent communities. In his analysis dependent communities are those with greater interdependencies. In our analysis some evidence is presented which suggests systemness (or interdependencies) within a 50-mile radius of SMSAs. These communities frequently distinguished themselves rather markedly from farther distant communities. We offer the evidence not as a hard and fast conclusion but as a suggestion for further analysis. Can an area of influence (systemness) be distinguished? Does size, economic base, or overall urbanity tend to have greater or lesser influence on these interdependencies? To the extent these questions can be answered and demonstrated empirically and made sound conceptually, there are implications for those who wrestle with applied urban organizational problems, e.g., the riddles associated with developing intergovernmental organizations. To the extent interdependencies can be further demonstrated, should this kind of information have an influence on urban political and planning decisions? There is already a developing body of literature paying attention to these questions,[9] but to our knowledge there is little empirical or integrated

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[9]The following references are to a few recent treatments of the subject. All of the references are concerned, in one way or another, with the problem of coping with and administering interurban economic and political ties. John C. Bollens and Henry J. Schmandt, The Metropolis (New York: Harper and Row, 1965); James L. Sundquist and David W. Davis, Making Federalism Work (Washington, D.C.: The Brookings Institution, 1969), pp. 79-129; Advisory Commission on Intergovernmental Relations, Metropolitan America: Challenge to Federalism (Washington, D.C.: Advisory Commission on Intergovernmental Relations, 1967); Robert W. Wood, "A Division of Powers in Metropolitan Areas," Area and Power, Arthur Maass, editor (Glencoe: Free Press, 1959), pp. 53-69.

conceptual argument involved.[10] Basically the concern over the issue comes from administrators trying to make sensible decisions in coping with community interdependencies. Rather serendipitously our findings are suggestive of further empirical and conceptual explorations that may be of some benefit to those who have to make decisions relating to aggregate man.

[10]By "conceptual" we have reference to the usage of the phrase in sociology which implicitly or explicitly refers to the interlinking or "theoretical" development of the concepts. The phrase is not meant to imply that a lot of thinking has not gone into the problem by many learned people.

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

Allihan, Milla A. Social Ecology. New York: Columbia Press, 1938.

Beshers, J. M. Urban Social Structure. New York: Free Press, 1962.

Blalock, Hubert M. Jr. Causal Inferences in Nonexperimental Research. Chapel Hill: The University of North Carolina Press, 1961.

_____, and Ann B. Blalock. Methodology in Social Research. New York: McGraw-Hill Book Company, 1968.

Blau, Peter. "Objectives of Sociology," A Design for Sociology: Scope, Objectives and Methods, Robert Bierstedt, editor. Philadelphia: The Academy of Political and Social Sciences, 1969. Pp. 51-52.

Bogue, Donald J. The Structure of the Metropolitan Community--A Study of Dominance and Subdominance. Ann Arbor: Horace H. Rackham School Graduate Studies, University of Michigan, 1950.

Bollens, John C., and Henry J. Schmandt. The Metropolis. New York: Harper and Row, 1965.

Christaller, Walter. Central Places in Southern Germany, trans. Carlisle W. Baskin. Englewood Cliffs: Prentice-Hall, 1966.

Dobriner, William (ed.). The Suburban Community. New York: G. P. Putnam's Sons, 1958.

Duncan, Otis Dudley. "Human Ecology and Population Studies," The Study of Population, Phillip M. Hauser and Otis Dudley Duncan, editors. Chicago: University of Chicago Press, 1959. Pp. 678-716.

_____. "Social Organization and the Ecosystem," Handbook of Modern Sociology, Robert E. L. Faris, editor. Chicago: Rand McNally and Company, 1964. Pp. 36-82.

_____, and Albert J. Reiss, Jr. Social Characteristics of Urban and Rural Communities, 1950. New York: John Wiley and Sons, Inc., 1956.

_____, and Others. Metropolis and Region. Baltimore: The Johns Hopkins University Press, 1960.

_____, Ray P. Cuzzort, and Beverly Duncan. Statistical Geography. Glencoe: The Free Press, 1961.

Durkheim, Emile. The Division of Labor in Society. New York: The Free Press, 1964.

_____. The Rules of Sociological Method. New York: The Free Press, 1964.

Freedman, Ronald, Amos Hawley, W. S. Landecker, and H. M. Miner. Principles of Sociology. New York: Henry Holt and Company, 1952.

Gras, N. S. B. An Introduction to Economic History. New York: Harper and Brothers, 1922.

Hadden, Jeffrey, and Edgar F. Borgatta. American Cities. Chicago: Rand McNally and Company, 1965.

Halbwachs, Maurice. Population and Society, trans. Otis Dudley Duncan and Harold W. Pfautz. Glencoe: The Free Press, 1960.

Hathaway, Dale E., J. Allan Beegle, and W. Keith Bryant. People of Rural America. Washington, D.C.: U.S. Government Printing Office, 1968.

Hawley, Amos. Human Ecology. New York: The Fonald Press Company, 1950.

_____ (ed.). Roderick D. McKenzie on Human Ecology. Chicago: The University of Chicago Press, 1968.

Hempel, Carl G. "Fundamentals of Concept Formation in Empirical Science," International Encyclopedia of Unified Science. Vol. II, No. 7. Chicago: University of Chicago Press, 1952.

Hoover, Edgar M. The Location of Economic Activity. New York: McGraw-Hill Book Company, Inc., 1948.

Isard, Walter. Location and Space-Economy. New York: John Wiley and Sons, 1956.

Jones, Victor, Richard L. Forstall, and Andrew Colliver. "Economic and Social Characteristics of Urban Places," The Municipal Year Book: 1963. Chicago: The International City Managers Association, 1963.

Losch, August. The Economics of Location, trans. William H. Woglom with the assistance of Wolfgang F. Stopler. New Haven: Yale University Press, 1954.

Marx, Melvin H. "The General Nature of Theory Construction," Theories in Contemporary Psychology, Melvin H. Marx, editor. New York: The Macmillan Company, 1963. Pp. 19-21.

McKenzie, Roderick D. "Human Ecology," Encyclopedia of the Social Sciences, Edwin R. A. Seligman, editor. New York: Macmillan Company, 1933. Pp. 314-15.

McKenzie, Roderick D. The Metropolitan Community. New York: McGraw-Hill, 1933.

_____. "Demography, Human Geography, and Human Ecology," The Fields and Methods of Sociology, L. L. Bernard, editor. New York: Ray Lang and Richard Smith, 1934.

Merton, Robert K. Social Theory and Social Structure. Revised and enlarged edition. Glencoe: The Free Press, 1961.

Northrup, F. S. C. The Logic of the Sciences and the Humanities. New York: The Macmillan Company, 1947.

Ogburn, William F. Social Characteristics of Cities. Chicago: International City Managers' Association, 1937.

Park, Robert E., Ernest W. Burgess, and Roderick D. McKenzie (eds.). The City. Chicago: University of Chicago Press, 1925.

Reiss, Albert J., et al. Occupations and Social Status. Glencoe: The Free Press of Glencoe, Inc., 1961.

Schnore, Leo F. The Urban Scene. New York: The Free Press, 1965.

Sjoberg, Gideon, and Roger Nett. A Methodology for Social Research. New York: Harper and Row, Publishers, 1968.

Sundquist, James L., and David W. Davis. Making Federalism Work. Washington, D.C.: The Brookings Institution, 1969.

Theodorsen, George A. "Human Ecology and Human Geography," Readings in Contemporary American Sociology, Joseph S. Roucek, editor. Patterson, New Jersey: Littlefield, Adams and Co., 1961. Pp. 339-57.

_____. Studies in Human Ecology. New York: Row, Peterson and Co., 1961.

Vance, Rupert, and Sara Sutker. The Urban South. Chapel Hill: The University of North Carolina Press, 1954.

Vidich, Arthur J., and Joseph Bensman. Small Town in Mass Society. Princeton: Princeton University Press, 1958.

Weber, Max. The Theory of Social and Economic Organization, trans. A. M. Henderson and Talcott Parsons, Talcott Parsons, editor. Glencoe: The Free Press, 1947.

_____. "Class, Status and Party," Max Weber: Essays in Sociology, Hans Gerth and C. Wright Mills, editors. Oxford: Oxford University Press, 1946. Pp. 180-95.

Wood, Robert C. "A Division of Powers in Metropolitan Areas, in Metropolitan Areas," Area and Power, Arthur Maass, editor. Glencoe: Free Press, 1959. Pp. 53-69.

Zetterberg, Hans. On Theory and Verification in Sociology. Third enlarged edition. New York: The Bedminster Press, 1965.

Articles and Monographs

Alexander, John W. "The Basic-Nonbasic Concept of Urban Economic Functions," Economic Geography, 30 (July, 1954), 246-61.

Barth, Ernest A. T., and Walter Watson. "Social Stratification and the Family in Mass Society," Social Forces, 45 (March, 1967), 392-402.

Berry, Brian J. L., and William L. Garrison. "The Functional Bases of the Central-Place Hierarchy," Economic Geography, 34 (April, 1958), 145-54.

Bierstedt, Robert. "An Analysis of Power," American Sociological Review, 15 (December, 1950), 730-38.

Blalock, Hubert M., Jr. "The Identification Problem and Theory Building: The Case of Status Inconsistency," American Sociological Review, 31 (February, 1966), 52-61.

_____. "Status Inconsistency and Interaction: Some Alternative Models," American Journal of Sociology, 73 (September, 1967), 305-15.

Bogue, Donald J. "An Outline of the Complete System of Economic Areas," American Journal of Sociology, 60 (September, 1954), 136-39.

Brush, John E., and Howard E. Bracey, "Rural Service Centers in Southwestern Wisconsin and Southern England," Geographical Review, 45 (October, 1955), 559-69.

Clemente, Frank A., and Richard B. Sturgis. "Industrial Diversification of American Communities," Urban Studies, 8 (February, 1971), 47-53.

Cottrell, Leonard. Death by Dieselization," American Sociological Review, 16 (June, 1951), 358-65.

Day, L. H. "Status Implications of the Employment of Married Women in the United States," American Journal of Economics, 20 (July, 1961), 391-97.

Duncan, Beverly. "Population Distribution and Manufacturing Activity: The Nonmetropolitan United States 1950," Papers and Proceedings: The Regional Science Association, 5 (1959), 96-101.

Duncan, Otis, Dudley. "Population Distribution and Community Structure," Cold Harbor Springs Symposia on Quantitative Biology, 22 (1957), 357-71.

_____, and Leo F. Schnore. "Cultural, Behavioral, and Ecological Perspectives in the Study of Social Organization," American Journal of Sociology, 65 (September, 1959), 132-46.

Duncan, Otis Dudley. "From Social System to Ecosystem," Sociological Inquiry, 31 (Spring, 1961), 140-49.

Firey, Walter. "Sentiment and Symbolism as Ecological Variables," American Sociological Review, 10 (April, 1945), 140-48.

Form, William. "The Place of Social Structure in the Determination of Land Use," Social Forces, 32 (May, 1954), 317-24.

Galpin, C. J. The Social Anatomy of an Agricultural Community, Research Bulletin 34. Madison: University of Wisconsin Agricultural Experiment Station, May, 1915.

Gibbs, Jack P., and Walter T. Martin. "Toward a Theoretical System of Human Ecology," Pacific Sociological Review, 2 (Spring, 1959), 29-36.

_____. "Urbanization and Natural Resources: A Study in Organizational Ecology," American Sociological Review, 23 (June, 1958), 266-77.

_____. "Urbanization, Technology, and the Division of Labor: International Patterns," American Sociological Review, 27 (October, 1962), 667-77.

Lampard, Eric E. "The History of Cities in the Economically Advanced Areas," Economic Development and Cultural Change, 3 (1954-55), 81-136.

Lenski, G. E. "Status Crystallization: A non-vertical dimension of social status," American Sociological Review, 19 (August, 1954), 405-13.

_____. "Status Inconsistency and the Vote: A Four Nation Test," American Sociological Review, 32 (April, 1967), 398-301.

McKenzie, Roderick D. "The Scope of Human Ecology," Publications of the American Sociological Society, 20 (July, 1926), 141-54.

Park, Robert Ezra. "Human Ecology," The American Journal of Sociology, 42 (July, 1936), 1-15.

Schnore, Leo F., and David W. Varley. "Some Concomitants of Metropolitan Size," American Sociological Review, 20 (August, 1955), 408-14.

Schnore, Leo F. "Social Morphology and Human Ecology," American Journal of Sociology, 63 (May, 1958), 620-34.

Teibout, Charles M. "The Urban Economic Base Reconsidered," Land Economics, 32 (February, 1956), 95-99.

Ullman, Edward. "A Theory of Location for Cities," American Journal of Sociology, 46 (May, 1941), 835-64.

Vining, Rutledge. "Delimitation of Economic Areas: Statistical Conceptions in the Study of the Spatial Structure of an Economic System," Journal of the American Statistical Association, 48 (March, 1953), 44-55.

Vining, Rutledge. "A Description of Certain Spatial Aspects of an Economic System," Economic Development and Cultural Change, 3 (1954-55), 160-69.

Vogt, Evon Z., and Thomas F. O'Dea. "A Comparative Study of the Role of Values in Social Action in Two Southwestern Communities," American Sociological Review, 18 (December, 1953), 645-54.

Public Documents

Advisory Commission on Intergovernmental Relations. Metropolitan America: Challenge to Federalism. Washington, D.C.: Advisory Commission on Intergovernmental Relations, 1967.

U.S. Bureau of the Census. U.S. Census of Population: 1960. General Social and Economic Characteristics. Final Report PC (1). Washington, D.C.: U.S. Government Printing Office, 1961.

_____. U.S. Census of Population: 1960. Number of Inhabitants, United States Summary. Final Report PC (1)-A. Washington, D.C.: U.S. Government Printing Office, 1961.

_____. Methodology and Scores of Socioeconomic Status. Working Paper No. 15. Washington, D.C.: U.S. Government Printing Office, 1963.

_____. U.S. Census of Population: 1960. Subject Reports. Educational Attainment. Washington, D.C.: U.S. Government Printing Office, 1963.

_____. U.S. Census of Population, 1960: Selected Area Reports. State Economic Areas. Final Report PC(3)-1A. Washington, D.C.: U.S. Government Printing Office, 1963.

_____. U.S. Census of Population and Housing: 1960. 1/1,000 and 1/10,000 Description and Technical Documentation. Washington, D.C.: U.S. Government Printing Office,

Unpublished Materials

Clemente, Frank A. "The Division of Labor in American Communities: An Ecological Analysis." Unpublished Master of Arts thesis, University of Tennessee, Knoxville, 1969.

Feldt, Allan Gunnar. "The Local Ecological Community: An Investigation of Relative Independence in an Urban Society." Unpublished Ph.D. dissertation, University of Michigan, East Lansing, 1962.

Hadden, Jeffrey K. "A Systematic Study of the City as a Unit of Analysis." Unpublished Ph.D. dissertation, The University of Wisconsin, Madison, 1963.

Hodges, Robert. "Occupational Composition and Status Crystallization: An Aggregate Approach." Unpublished Master of Arts thesis, University of Chicago, Chicago, 1961.

Kaplan, Howard B. "An Empirical Typology for Urban Description." Unpublished Ph.D. dissertation, New York University, New York, 1958.

Keyes, Fenton. "The Correlation of Social Phenomena with Community Size." Unpublished Ph.D. dissertation, Yale University, New Haven, 1942.

Labovitz, Sanford. "Technology and the Division of Labor." Unpublished Ph.D. dissertation, University of Texas, Austin, 1963.

Spielman, Ralph. "A Study of Stratification in the United States." Unpublished Ph.D. dissertation, University of Michigan, Ann Arbor, 1953.

Stoeckel, John. "The Impact of Metropolitan Dominance Upon the Status Structure and Status Consistency of Rural-Farm and Urban Populations." Unpublished Ph.D. dissertation, Michigan State University, East Lansing, 1966.

Winsborough, Halliman H. "Variation in Industrial and Occupational Composition with City Size." Unpublished Master of Arts thesis, University of Chicago, Chicago, 1959.

APPENDICES

APPENDIX A

PERCENTAGE OF WIVES EMPLOYED BY LEVEL OF FAMILY INCOME

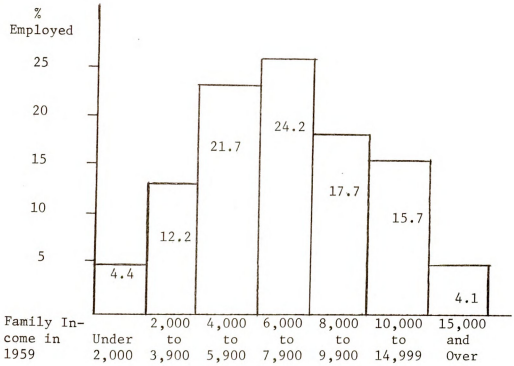

Figure 2. Histogram Depicting Per Cent of Wives Employed Within Various Family Income Categories*

*The data for the figure come from Table 14, page 170, of U.S. Bureau of the Census, U.S. Census of Population: 1960, Subject Reports, Sources and Structure of Family Income (Washington, D.C.: U.S. Government Printing Office, 1964).

It should be noted that the income categories at the upper end are collapsed over a greater range. Nevertheless, the decreasing percentage of employed females in the upper income range is apparent. While it is not directly relevant to our hypotheses, the fewer females

employed in the lower income brackets is also apparent. We suggest that the low percentages at this end of the income distribution are not, however, the result of choice as we expect those at the upper end to be.

APPENDIX B

LIST OF SAMPLE COMMUNITIES BY STATE AND SIZE

Community	Size Category[1] 1	2	3	State Total
Alabama				8
Anniston		X		
Cullman	X			
Decatur		X		
Florence		X		
Huntsville			X	
Mountain Brook	X			
Prichard		X		
Troy	X			
Arizona				2
Mesa		X		
Scottsdale	X			
Arkansas				4
Camden	X			
Fort Smith			X	
Hot Springs		X		
Jonesboro	X			
California				62
Alameda			X	
Albany	X			
Altadena		X		
Arden-Arcade			X	
Baldwin Park		X		
Banning	X			
Bell Gardens		X		
Buena Park		X		
Burbank			X	

[1]Size category 1 = 10,000-24,999; 2 = 25,000-49,999; 3 = 50,000-99,999.

Community	Size Category 1	2	3	State Total
California (cont.)				
Burlingame	X			
Castro Valley		X		
Claremont	X			
Concord		X		
Culver City		X		
Delano	X			
Downey			X	
El Cajon		X		
El Monte	X			
Eureka		X		
Fremont		X		
Garden Grove			X	
Glendora	X			
Hawthorne		X		
Huntington Beach	X			
Inglewood			X	
La Habra		X		
Lancaster		X		
Lemon Grove	X			
Los Altos	X			
Lynwood		X		
Menlo Park		X		
Mill Valley	X			
Monrovia		X		
Monterey Park		X		
National City		X		
North Highlands	X			
Norwalk			X	
Ontario		X		
Oxnard		X		
Pacific Grove	X			
Pico Rivera		X		
Pittsburg	X			
Redondo Beach		X		
Richmond			X	
Rosemead	X			
Salinas		X		
San Bernardino			X	
San Buenaventura		X		
San Gabriel	X			
San Mateo			X	
San Rafael	X			
Santa Clara			X	
Santa Rose		X		
Seaside	X			
South Gate			X	
South San Gabriel		X		
Sunnyvale			X	
Tulare	X			

Community	Size Category 1	2	3	State Total
California (cont.)				
Watsonville	X			
West Covina			X	
West Hollywood		X		
Whittier		X		
Colorado				6
Boulder		X		
Durango	X			
Fort Collins		X		
Longmont	X			
Pueblo			X	
Wheat Ridge	X			
Connecticut				11
Briston		X		
Enfield		X		
Groton	X			
Hamden		X		
Meriden			X	
Middletown		X		
New London		X		
Norwalk			X	
Stratford		X		
Wallingford		X		
West Hartford			X	
Delaware				1
Newark	X			
Florida				16
Brownsville		X		
Carol City	X			
Coral Gables		X		
Fort Lauderdale			X	
Fort Myers	X			
Fort Pierce		X		
Hollywood		X		
Lakeland		X		
Leesburg	X			
Miami Beach			X	
Palatka	X			
Panama City		X		
Pensacola			X	
St. Augustine	X			
Tallahassee		X		
Winter Park	X			

Community	Size Category 1	2	3	State Total
Georgia				8
Albany			X	
College Park	X			
East Point		X		
Forest Park	X			
Macon			X	
Midway-Hardwick	X			
Rome		X		
Smyrna	X			
Idaho				4
Boise City		X		
Caldwell	X			
Pocatello		X		
Twin Falls	X			
Illinois				34
Arlington Heights		X		
Berwyn			X	
Bloomington		X		
Brookfield	X			
Centralia	X			
Champaign		X		
Danville		X		
Decatur			X	
De Kalb	X			
East Peoria	X			
Elgin		X		
Evanston			X	
Freeport		X		
Glencoe	X			
Granite City		X		
Highland Park		X		
Jacksonville	X			
Lansing	X			
Macomb	X			
Maywood		X		
Monmouth	X			
Naperville	X			
North Chicago	X			
Oak Lawn		X		
Oak Park			X	
Park Ridge		X		
Quincy		X		
Rantoul	X			
Skokie			X	
South Holland	X			
Waukegan			X	
Westchester	X			
Wilmette		X		
Zion	X			

Community	Size Category 1	2	3	State Total
Indiana				11
Bloomington		X		
Crawfordsville	X			
Hobart	X			
Kokomo		X		
Logansport	X			
Marion		X		
Mishawaka		X		
Muncie			X	
Portage	X			
Richmond		X		
Wabash	X			
Iowa				8
Burlington		X		
Cedar Falls	X			
Cedar Rapids			X	
Davenport			X	
Fort Dodge		X		
Mason City		X		
Muscatine	X			
Sioux City			X	
Kansas				7
Atchison	X			
Emporia	X			
Hutchinson		X		
Junction City	X			
Olathe	X			
Prarie Village		X		
Winfield	X			
Kentucky				6
Ashland		X		
Covington			X	
Hopkinsville	X			
Newport		X		
Paducah		X		
Richmond	X			
Louisiana				7
Bastrop	X			
Bossier City		X		
Gretna	X			
Kenner	X			
Lake Charles			X	
New Iberia		X		
Ruston	X			

Community	Size Category 1	2	3	State Total
Maine				4
Augusta	X			
Lewiston		X		
Portland			X	
Sanford	X			
Maryland				9
Arbutus-Helethrope-Riley	X			
Cumberland		X		
Dundalk			X	
Hagerstown		X		
Hyattsville	X			
Overlea	X			
Rockville		X		
Suitland-Silver Hill	X			
Wheaton			X	
Massachusetts				26
Adams	X			
Belmont		X		
Braintree		X		
Brookline			X	
Dedham	X			
Everett		X		
Fall River			X	
Framingham	X			
Haverhill		X		
Lawrence			X	
Lexington		X		
Lynn			X	
Medford			X	
Methuen		X		
Milford	X			
Natick		X		
Northampton		X		
Pittsfield			X	
Reading	X			
Revere		X		
Somerville			X	
Swampscott	X			
Taunton		X		
Wellesley		X		
Weymouth		X		
Winthrop	X			
Michigan				23
Allen Park		X		
Ann Arbor			X	
Berkley	X			
Birmingham		X		

Community	Size Category 1	2	3	State Total
Michigan (cont.)				
East Lansing		X		
Eastlawn	X			
Garden City		X		
Grosse Point Park	X			
Hazel Park		X		
Inkster		X		
Jackson			X	
Lakeview	X			
Lincoln Park			X	
Midland		X		
Mount Clemens	X			
Oak Park		X		
Pontiac			X	
River Rouge	X			
Royal Oak			X	
St. Clair Shores			X	
Southfield		X		
Troy	X			
Wyandotte		X		
Minnesota				11
Austin		X		
Bloomington			X	
Brainerd	X			
Crystal	X			
Hibbing	X			
Minnetonka		X		
New Ulm	X			
Rochester		X		
St. Louis Park		X		
South St. Paul	X			
Winona	X			
Mississippi				4
Greenville		X		
Hattiesburg		X		
MaComb	X			
Meridian		X		
Missouri				10
Bellefontaine Neighbors	X			
Clayton	X			
Columbia		X		
Hannibal	X			
Jefferson City		X		
Kirkwood		X		
Moberly	X			
Rolls	X			
St. Joseph			X	
University City			X	

Community	Size Category 1	2	3	State Total
Montana				3
Anaconda	X			
Butte		X		
Great Falls			X	
Nebraska				
Beatrice	X			
Grand Island		X		
Norfolk	X			
Nevada				2
Reno			X	
Sparks	X			
New Hampshire				2
Laconia	X			
Nashua		X		
New Jersey				38
Atlantic City			X	
Belleville		X		
Bloomfield			X	
Bound Brook	X			
Clark	X			
Cranford		X		
East Orange			X	
East Paterson	X			
Edison		X		
Ewing		X		
Garfield		X		
Gloucester City	X			
Hawthorne	X			
Hoboken		X		
Irvington			X	
Linden		X		
Livingston	X			
Maple Shade	X			
Middletown		X		
Millburn	X			
New Brunswick		X		
New Milford	X			
North Bergen		X		
Orange		X		
Paramis	X			
Pennsauken		X		
Plainfield		X		
Raritan (Monmouth County)	X			
Ridgewood		X		
Roselle	X			
Scotch Plains	X			

Community	Size Category 1	2	3	State Total
New Jersey (cont.)				
South River	X			
Union City			X	
Verona	X			
Vineland		X		
Westfield		X		
West Orange		X		
Woodbridge			X	
New Mexico				4
Alamogordo	X			
Grants	X			
Hobbs		X		
Roswell		X		
New York				34
Amsterdam		X		
Baldwin		X		
Bellmore	X			
Cheektowaga-Northwest			X	
Copiague	X			
Dunkirk	X			
Eggertsville		X		
Elmont		X		
Freeport		X		
Fulton	X			
Glens Falls	X			
Hudson	X			
Ithaca		X		
Jericho	X			
Kingston		X		
Levittown			X	
Lindenhurst	X			
Lockport		X		
Massapequa		X		
Massena	X			
New Hyde Park	X			
New Rochelle			X	
North Tonawanda		X		
Ogdensburg	X			
Oswego	X			
Plainview		X		
Port Washington	X			
Rockville Center		X		
San Remo	X			
Schenectady			X	
South Westbury	X			
Troy			X	
Wantagh		X		
Westbury	X			

Community	Size Category 1	2	3	State Total
North Carolina				10
Asheville			X	
Burlington		X		
Chapel Hill	X			
Gastonia		X		
Hickory	X			
High Point			X	
Kannapolis		X		
Lumberton	X			
Salisbury	X			
Wilmington		X		
North Dakota				3
Bismark		X		
Grand Forks		X		
Jamestown	X			
Ohio				31
Alliance		X		
Athens	X			
Berea	X			
Brunswick	X			
Chilicothe	X			
Cleveland Heights			X	
Cuyahoga Falls		X		
Deleware	X			
Elyria		X		
Fairview Park	X			
Garfield Heights		X		
Greenville	X			
Hamilton			X	
Lakewood			X	
Lorain			X	
Mansfield		X		
Marion		X		
Martins Ferry	X			
Middletown		X		
Niles	X			
Norwood		X		
Oregon	X			
Reading	X			
Sandusky		X		
South Euclid		X		
Springfield			X	
Struthers	X			
Upper Arlington		X		
Urbana	X			
Westlake	X			
Wooster	X			

Community	Size Category 1	2	3	State Total
Oklahoma				7
Bartlesville		X		
Bethany	X			
El Reno	X			
Lawton			X	
Midwest City		X		
Norman		X		
Sapulpa	X			
Oregon				3
Albany	X			
Dalles (The Dallas in 1950)	X			
Roseburg	X			
Pennsylvania				37
Abington			X	
Aliquippa		X		
Baldwin	X			
Bethlehem			X	
Bloomsburg	X			
Butler	X			
Castle Shannon	X			
Chester			X	
Columbia	X			
Donora	X			
Easton		X		
Ellwood City	X			
Harrison	X			
Haverford			X	
Hazleton		X		
Lancaster			X	
Lansdale	X			
Lebanon		X		
Lower Burrell	X			
Middletown	X			
Middletown (UT)		X		
Mount Lebanon		X		
Nanticoke	X			
Norristown		X		
Oil City	X			
Penn Hills			X	
Pottsville	X			
Ridley		X		
Sharon		X		
Shenandoah	X			
Stowe	X			
Uniontown	X			
Upper Darby			X	
Waynesboro	X			

Community	Size Category 1	2	3	State Total
Pennsylvania (cont.)				
West Mifflin		X		
Williamsport		X		
York			X	
Rhode Island				3
Bristol	X			
Newport		X		
Pawtucket			X	
South Carolina				6
Anderson		X		
Charleston			X	
Florence	X			
Greenville			X	
Orangeburg	X			
Spartanburg		X		
South Dakota				1
Huron	X			
Tennessee				8
Bristol	X			
Dyersburg	X			
Inglewood		X		
Johnson City		X		
Lebanon	X			
Oak Ridge		X		
Red Bank - White Oak	X			
Woodmont-Green Hills-Glendale	X			
Texas				26
Abilene			X	
Baytown		X		
Bellaire	X			
Brownsville		X		
College Station	X			
Denton		X		
Edinburg	X			
Grand Prairie		X		
Greenville	X			
Hurst	X			
Irving		X		
Lamesa	X			
Laredo			X	
Longview		X		
Mercedes	X			
Mesquite		X		
New Braunfels	X			
Odessa			X	

Community	Size Category 1	2	3	State Total
Texas (cont.)				
Pharr	X			
Port Arthur			X	
San Marcos	X			
Temple		X		
Terrell	X			
Texas City		X		
Typer			X	
Weslaco	X			
Utah				3
Murray	X			
Provo		X		
Ogden			X	
Vermont				0
Virginia				8
Charlottesville		X		
Covington	X			
Hampton			X	
Hopewell	X			
Petersburg		X		
Roanoke			X	
Springfield	X			
Winchester	X			
Washington				5
Bremerton		X		
Kennewick	X			
Pasco	X			
Richland	X			
Vancouver		X		
West Virginia				5
Clarksburg		X		
Dunbar	X			
Huntington			X	
Parkersburg		X		
South Charleston	X			
Wisconsin				13
Appleton		X		
Chippewa Falls	X			
Eau Claire		X		
Green Bay			X	
Janesville		X		
Kaukauna	X			
Manitowoc		X		
Neenah	X			

Community	Size Category 1	2	3	State Total
Wisconsin (cont.)				
Racine			X	
Sheboygan		X		
Two Rivers	X			
Waukesha		X		
West Allis			X	
Wyoming				2
Casper		X		
Rock Springs	X			

APPENDIX C

DISTRIBUTIONS OF DEPENDENT VARIABLES

Table 35. Centile Distribution and Codes for Occupational Strata Scores

Distribution of Scores	Codes
31.02 and under	0
31.03 - 32.26	1
32.27 - 33.97	2
33.98 - 34.94	3
34.95 - 35.75	4
35.76 - 37.00	5
37.01 - 38.62	6
38.63 - 41.33	7
41.34 - 45.39	8
45.40 and over	9

Table 36. Centile Distribution and Codes for Educational Strata Scores

Distribution of Scores	Codes
9.1 and under	0
9.2 - 9.8	1
9.9 - 10.3	2
10.4 - 10.8	3
10.9 - 11.2	4
11.3 - 11.8	5
11.9 - 12.0	6
12.1 - 12.3	7
12.4 - 12.6	8
12.7 and over	9

Table 37. Centile Distribution and Codes for Income Strata Scores

Distribution of Scores	Codes
$4,312 and under	0
4,313 - $5,103	1
5,104 - 5,441	2
5,442 - 5,781	3
5,782 - 6,124	4
6,125 - 6,557	5
6,558 - 7,020	6
7,021 - 7,695	7
7,696 - 8,456	8
8,457 and over	9

Table 38. Distribution of Strata Consistency-Inconsistency Degree Scores

Scores	Number of Communities	Per Cent
Consistent		
100	59	10.95
92	133	24.68
86	64	11.87
84	54	10.02
Inconsistent		
78	70	12.99
76	29	5.38
72	13	2.41
71	40	7.42
67	17	3.15
64	21	3.90
63	11	2.04
59	6	1.11
57	15	2.78
55	3	.56
49	1	.19
43	1	.19
40	1	.19
35	1	.19

Table 39. Distribution of Consistency-Inconsistency Types for the Nation and by Region

	Rank	Nation	West	North Central	South	Northeast
Strata consistency						
Extremely high	4	16.7% (90)	17.9% (17)	20.5% (32)	7.5% (10)	20.0% (31)
High	3	17.8 (96)	33.7 (32)	13.5 (21)	11.3 (15)	18.1 (28)
Low	2	13.2 (71)	4.2 (4)	16.7 (26)	12.8 (17)	15.5 (24)
Extremely low	1	9.8 (53)	2.1 (2)	3.2 (5)	23.3 (31)	9.7 (15)
Per cent consistent		57.5	57.9	53.9	54.8	63.3
Strata inconsistency						
Income high		10.4% (56)	2.1% (2)	14.1% (22)	2.3% (3)	18.7% (29)
Income low		13.5 (73)	11.6 (11)	12.8 (20)	26.3 (35)	4.5 (7)
Occupation high		4.6 (25)	1.0 (1)	3.2 (5)	12.8 (17)	1.3 (2)
Occupation low		8.2 (44)	21.0 (20)	11.5 (18)	0.8 (1)	3.2 (5)
Education high		2.2 (12)	6.3 (6)	1.3 (2)	2.3 (3)	0.6 (1)
Education low		3.5 (19)	0.0 (0)	3.2 (5)	0.8 (1)	8.4 (13)
Per cent inconsistent		42.4	42.0	46.1	45.3	36.7
(N)		(539)	(95)	(156)	(133)	(155)