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VARIATION BY SAMPLE TYPE IN THE CROSS-NATIONAL ANALYSIS OF OCCUPATIONAL PRESTIGE STRUCTURES

The Ohio State University

PH.D.

1979

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VARIATION BY SAMPLE TYPE IN THE
CROSS-NATIONAL ANALYSIS OF
OCCUPATIONAL PRESTIGE STRUCTURES

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of the Ohio State University

By

Matthew S. Baldwin, Jr., B.S., M.A.

* * * * *

The Ohio State University

1979

Reading Committee:    Approved By

Wen L. Li, Ph.D.
Alfred C. Clarke, Ph.D.
John F. Cuber, Ph.D.

Adviser
Department of Sociology
To my family
all branches and all generations
who mean more to me than anything else,
and especially to the memory of my mother and my father.
ACKNOWLEDGMENTS

My greatest debt of gratitude for the completion of this work is due to Wen Lang Li, my principal adviser, who provided all the necessary assistance—particularly at those critical moments when everything seemed to be falling apart. Special thanks are also due John F. Cuber and Alfred C. Clarke, the other members of my dissertation committee, for their continuing support. Dr. Cuber has had a more profound impact on my life than any other person in the discipline.

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VITA

August 15, 1941................................. Born - Chicago, Illinois

1965............................................. B.S. (Sociology), Loyola University of Chicago

1966-1968...................................... Teaching Assistant, Department of Sociology, The Ohio State University, Columbus, Ohio

1968-1971...................................... Instructor, Department of Sociology and Anthropology, University of Wisconsin, Whitewater, Wisconsin

1969............................................. M.A. (Sociology), The Ohio State University, Columbus, Ohio

1973-present................................... Assistant Professor, Department of Sociology and Anthropology, University of Dayton, Dayton, Ohio

PUBLICATIONS


# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>VITA</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>ix</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I.  INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>II. MAJOR ISSUES IN CROSS-NATIONAL AND INTRA-NATIONAL RESEARCH IN OCCUPATIONAL PRESTIGE HIERARCHIES</td>
<td>9</td>
</tr>
<tr>
<td>Studies Conducted Outside the United States</td>
<td>15</td>
</tr>
<tr>
<td>The Issue of Sampling Bias</td>
<td>20</td>
</tr>
<tr>
<td>Findings Reported in Primary Studies</td>
<td>23</td>
</tr>
<tr>
<td>Employing Two or More Sample Types</td>
<td></td>
</tr>
<tr>
<td>Summary of the &quot;Sampling Bias&quot; Explanation</td>
<td>32</td>
</tr>
<tr>
<td>The &quot;Structuralist&quot; Explanation</td>
<td>33</td>
</tr>
<tr>
<td>Summary</td>
<td>39</td>
</tr>
<tr>
<td>Footnotes</td>
<td>42</td>
</tr>
<tr>
<td>III. THE DATA SET AND METHODOLOGICAL ISSUES</td>
<td>44</td>
</tr>
<tr>
<td>The Data Set</td>
<td>46</td>
</tr>
<tr>
<td>Issues in the Matching Procedure</td>
<td>55</td>
</tr>
<tr>
<td>The Matching/Coding Procedure</td>
<td>64</td>
</tr>
<tr>
<td>Sample Coding</td>
<td>68</td>
</tr>
<tr>
<td>Computerized Matching of Occupational Titles</td>
<td>68</td>
</tr>
<tr>
<td>Dependent and Independent Variables</td>
<td>71</td>
</tr>
<tr>
<td>Occupational and Student Status of Respondents</td>
<td>72</td>
</tr>
<tr>
<td>Community Size</td>
<td>76</td>
</tr>
<tr>
<td>Societal &quot;Development&quot; Level</td>
<td>77</td>
</tr>
<tr>
<td>Organization of the Remaining Chapters</td>
<td>82</td>
</tr>
</tbody>
</table>
TABLE OF CONTENTS (CON'T)

IV. INTRA-NATIONAL VARIATION IN OCCUPATIONAL PRESTIGE ASSESSMENTS .......................................................... 85

Overview of the Intra-National Data Set .................. 94
"Teacher" Samples .......................................... 97
Student Versus Non-Student Samples .................. 98
Rural Versus Urban Samples .................................. 99
Consistency Among Student Samples .................. 101
"Urban" Adults .................................................. 106
Summary of Findings ........................................ 107
Relation of Findings to the "Structuralist" Position .... 108

V. CROSS-NATIONAL VARIATION IN OCCUPATIONAL PRESTIGE ASSESSMENTS ....................................................... 113

Variation by "Occupational" Status .................. 123
The Issue of the Representativeness of Student Ratings ............................................................... 127
"Occupational" Type Variation Among Samples With High Western-Correspondence ............... 133
"Occupational" Type Variation Among Samples With Low Western-Correspondence .................. 134
Variation by Community Size ................................ 136
Summary ....................................................... 139
TABLE OF CONTENTS (CON'T)

VI. SOCIETAL "DEVELOPMENT" AND LEVEL OF WESTERN-CORRESPONDENCE IN OCCUPATIONAL PRESTIGE ASSESSMENTS................................. 143

   Previous Analysis of Relation Between Industrialization and Prestige Hierarchy Agreement.............................................. 145
   Findings of the Present Investigation........................................ 148
   Variation Between "Academic" and "Non-Academic" Samples.................. 149

VII. SUMMARY AND CONCLUSIONS.................................................. 162

   Alternative Explanations of the Reported Finding of High Cross-National Agreement.............................................. 163
   Variables and Principal Hypotheses........................................... 164
   Principal Findings of the Intra-National Analysis of Variation By Sample Type................................................... 167
   Principal Findings of the Cross-National Analysis of Variation
     By Sample Type........................................................................ 169
   Principal Findings of the Analysis of The Relationship Between Level of Societal Development and Level of Western Correspondence.............................................. 174
   Over-View of Findings From the Three Principal Analyses.................. 177
   Issues Not Addressed in This Investigation.................................... 180
   A Final Retrospective............................................................... 189
<table>
<thead>
<tr>
<th>APPENDIXES</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Selected Characteristics of Studies Employed in the Principal Analysis</td>
<td>193</td>
</tr>
<tr>
<td>B. Published Studies Addressing Occupational Prestige Issues, By Country</td>
<td>206</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>213</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>3.1</td>
<td>Spearman Correlations with a Level or Significance Greater than .001 (between non-Western samples and Siegel data)</td>
</tr>
<tr>
<td>3.2</td>
<td>Deleted Occupational Titles, by Occupational Classification (non-Western data set)</td>
</tr>
<tr>
<td>3.3</td>
<td>Samples in the Final Data Set, by &quot;Occupational&quot; Status, Community Size and Country of Origin (Number of Samples per County = 1, Unless Otherwise Specified)</td>
</tr>
<tr>
<td>3.4</td>
<td>Societal Development Index and Values for Each of the Five Factors Employed, by Country</td>
</tr>
<tr>
<td>4.1</td>
<td>Spearman Correlations with Siegel Data and Number of Occupational Titles with Matches in the Siegel Data Set (Samples in Countries with Two or More Samples: The Intra-National Data Set)</td>
</tr>
<tr>
<td>4.2</td>
<td>Average Level of Western-Correspondence, Country (The Intra-National Data Set)</td>
</tr>
<tr>
<td>5.1</td>
<td>Spearman Rank-Order Correlation Values (rho) for Samples in the Cross-National Data Set by &quot;Occupational&quot; Status, Community Size and Country of Origin</td>
</tr>
</tbody>
</table>
### LIST OF TABLES (CON'T)

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2</td>
<td>Distribution of Correlation Values Between U.S. Data and Samples (for Cross-National Data Set) and &quot;Countries&quot; (for 1977 Treiman Data Set)</td>
<td>120</td>
</tr>
<tr>
<td>5.3</td>
<td>Mean Spearman Rank Order Correlations (rho) for &quot;Occupational&quot; Status Categories of Samples (Cross-National Data Set)</td>
<td>122</td>
</tr>
<tr>
<td>5.4</td>
<td>Analysis of Variance among Sample Types in Levels of Western Correspondence (Students, Farmers, Mine Workers and &quot;Urban&quot; Adults)</td>
<td>125</td>
</tr>
<tr>
<td>5.5</td>
<td>Newman - Kuels Test of the Significance of Differences Among Means of Individual Sample Types</td>
<td>125</td>
</tr>
<tr>
<td>5.6</td>
<td>Mean Spearman rho values for &quot;Occupational&quot; Status Categories</td>
<td>130</td>
</tr>
<tr>
<td>5.7</td>
<td>Mean Spearman Rank Order Correlations (rho) for &quot;Community Size: Categories of Samples (Cross-National Data Set)</td>
<td>137</td>
</tr>
<tr>
<td>6.1</td>
<td>Level of Western Correspondence (Spearman rho) of Samples, a by &quot;Occupational Status and by Country &quot;Development&quot; Index</td>
<td>153</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Since the first systematic study of the popular evaluation of the social status of occupations was conducted by George Counts in 1925, there has been a continuous flow of empirical studies on this subject conducted within the United States. Since mid-century, there has been a similar flow of such studies conducted in other parts of the world. To date, at least 150 such primary empirical studies have been conducted in at least 52 countries other than the United States.

One element common to the majority of these more than 150 studies has been the very great concern with establishing the extent of cross-national similarity in occupational prestige hierarchies. In this, these studies were repeating the pattern of development of the numerous American studies of the previous quarter-century — a pattern characterized by the extension of existing procedures to previously unsampled types of subjects. Also paralleling these earlier American studies, existing testing techniques were applied to the end of determining whether subjects in one country (presumably representing that country) would rate comparable occupational titles in essentially the same hierarchical order as those in other countries.

Just as the procedures employed in these non-U.S. studies were quite similar to the American studies, so also were their findings, although those findings are somewhat less clear and consistent among
the former studies. Undoubtedly the most outstanding finding of the U.S. studies was their relative invariance. Although some systematic variation by type of samples was found among the American studies, e.g., among blacks (Siegel, 1970), such variations were relatively minor and did not significantly counter the general proposition of occupational prestige hierarchy invariance among U.S. samples. For a comprehensive statement of such systematic sample variation among the relatively early U.S. studies, cf. Reiss, et. al. (1961).

Although the question of systematic variation in terms of such variables as community size, student versus non-student status, etc. among sub-groups within countries other than the U.S. has not been adequately treated in the secondary studies of this topic and although such sub-group variations as have been established among the non-U.S. studies are less consistent and clear than those among the U.S. studies, many researchers in this area of sociological inquiry have concluded that the pattern of invariance empirically established among American samples also characterizes the non-U.S. samples.

Two primary studies are especially frequently mentioned as evidence of cross-national (and presumably sub-national) occupational prestige hierarchy invariance: Tiryakian (1958) and Thomas and Soeparman (1963). These studies are cited because of the sharp contrast their countries offer to such industrialized nations as the U.S. In comparing the prestige assessments of their Indonesian student sample with those of an American probability sample (North and Hatt, 1947), Thomas and Soeparman arrived at a correlation of .95 on the basis of 20 shared occupational titles. In comparing judgments of his Philippino
heads of households samples with those of the North-Hall sample, Tiryakian arrived at a correlation of .96 on the basis of 18 shared occupational titles.

Such correlations are not isolated cases. Quite the contrary, correlations in the area of .90 are frequently found when comparing the ratings for given sets of titles in given countries with those reported in the U.S. Thus, for example, in their analysis of the relationship between the 1963 NORC (Hodge, Siegel and Rossi) scores and those of each of 23 studies, Hodge, Treiman and Rossi (1966) found an average correlation of .83 between each of the possible combinations of the 59 "national" hierarchies for which data existed at that time, based on regressed "national" data drawn from studies conducted within 52 actual countries.

The collective weight of all of this evidence would seem, at least on the face of it, to force the conclusion of cross-national prestige hierarchy invariance. Indeed, certain researchers have gone about the task of developing theoretical explanations of exactly why such invariance should exist and of why such minor variation as does exist should be expected to exist. The "structuralist" analysis will be considered in the following chapter. Very briefly, what is maintained is that it is the "essential structural similarity shared by all nations of any degree of complexity" that produces the reportedly very high level of cross-national agreement in occupational prestige hierarchy assessment.

Whether or not this "structuralist" explanation of cross-national agreement is referred to, the proposition that there is a very
high level of cross-national agreement in occupational prestige assessments seems in recent years to be gaining acceptance in the broader social stratification literature and in the general literature of the discipline, as is evidenced by the increasing frequency with which this finding of cross-national invariance is cited in introductory sociology texts. At the forefront of the "structuralists," Treiman concludes that the presumably invariant cross-national prestige hierarchy "appears to be a genuine Durkheimian social fact that exists independently of the particular values and attitudes of raters" (1977:59). Marsh refers to the high level of cross-national agreement in these assessments as "one of the great empirical invariants in sociology" (1971:214).

Methodological Critique

As early as 1952 (Davies), it was suggested that critical methodological flaws exist in the studies upon which such cross-national comparisons have been based. In general, what has been suggested is that these high correlations do not necessarily have the meaning which they have been imputed to have. Some have argued that these correlations may reflect a bias in the selection of subjects, particularly in "developing" societies more than they reflect a true cross-national invariance. Whether they do or not remains to be seen. It is the first goal of the present research to answer this question. It might be noted that Penn has recently suggested that "(the) 'great empirical invariant of sociology' is merely a great empirical myth of sociologists" (1975:362).
In many "developing" countries, the only samples which have been available are student samples or other specialized samples. An important part of the empirical basis for the conclusion of cross-national invariance comes from this type of data. Lewis and Haller (1964) and others have suggested that there may be systematic differences among various types of samples (e.g., student versus non-student samples and urban versus rural samples). For example, it has been suggested that student samples in "developing" societies may have a "Western bias."

Given this and given the rather heavy reliance on such "casual" samples in the available literature, some have argued that the conclusion of an essentially invariant occupational prestige hierarchy cross-nationally is, to say the least, premature. The literature on this topic to date contains no truly comprehensive examination of this issue, although Treiman has addressed this issue on the basis of a limited portion of the currently available data set. Treiman concluded from that partial examination that there were no systematic differences among various types of samples within countries. From this, he proceeded to the further conclusion that in countries in which no "better" samples were available, data from student samples, urban adult samples and other such specialized samples could be used as a reasonable basis from which to infer the presumably single occupational prestige hierarchy in each non-Western country. Given this, he reasoned that the currently available evidence provides a sufficient basis upon which to conclude that there is, indeed, an invariant occupational prestige hierarchy both within and between countries.
Treiman's (1977) confidence in this conclusion stands in rather sharp contrast to the rather guarded statement made in the Hodge, Treiman and Rossi (1966) study, which served as the starting point for Treiman's later analysis. Hodge et. al. offered an alternative methodological explanation to their own "structuralist" explanation of the reportedly high cross-national correlations. They suggested that "because the samples for the underdeveloped countries often consist mainly of students in Western type schools . . . , one may surmise that the correlations are high relative to those which one would obtain if prestige scores had been derived from a sample of the general population" (1966:320).

Given the continuing criticisms which have been made of this finding of relative cross-national prestige hierarchy invariance and of the "structuralist" position, e.g., Stehr (1974), Penn (1975), and Seligson (1977), and given the existence of contradictory findings, particularly in India, Brazil and the Philippines, this issue can hardly be said to have been settled. It is to the resolution of this issue that the present investigation is primarily directed.

Despite the relative extensiveness of this data, there have been very few attempts to systematically interrelate and statistically analyze the findings of these studies. This relative lack of secondary comparative analyses of these studies is quite regrettable since this type of data represents one of the limited number of sources of at least relatively comparable cross-national attitudinal data which might serve as a basis for comparative analysis of at least certain aspects of social structure.
The only exceptions to this generalization of lack of secondary analysis of this data are the works of Inkeles and Rossi (1956), Hodge, Treiman and Rossi (1966), Treiman (1968), Jakubowicz (1968) and Treiman (1977).

Only in the 1977 Treiman analysis was there any systematic attempt to address the issue of systematic variation among types of samples within countries and thus the question of sampling bias, since so much of the data from non-Western societies comes from student samples and other non-probability samples which may have something of a "Western bias." As has been indicated, even this was a limited attempt.

The present investigation replicates these secondary analyses de novo, using a somewhat different methodology and a somewhat larger data set. Starting with the listing of studies used in the Hodge, Treiman and Rossi (1966) investigation, a more extensive list of primary studies was accumulated. The data from each of the non-Western studies was coded by means of a more exacting system of matching occupational titles than has been employed to date. Once the non-Western data was computerized, Spearman rank order correlations were calculated between the occupational prestige ratings of each of the usable samples and those of the "model" Western data provided by Siegel (1971), thus providing a "Western correspondence" level for each of the available non-Western samples. It is these Spearman rho values which constitute the dependent variable of this analysis. The independent variables employed here are "occupational" status (including student versus non-student status) and the rural versus urban character of the communities.
from which the samples were taken. The central hypothesis to be tested here is that there are systematic differences between types of samples in their levels of Western correspondence.

Chapter 2 will consist of a more specific review of the occupational prestige literature than has been presented in this relatively brief introductory chapter. Chapter 3 will provide an explanation of the specifics of the methodology to be employed.

For reasons to be discussed below, an examination of systematic differences among types of samples should ideally be conducted only on an intra-national basis. However, because of limitations imposed by the relative lack of the sort of data required to address this issue intra-nationally, this examination will be supplemented by a separate analysis of variation among sample types cross-nationally. The findings of these two analyses will be reported in Chapters 4 and 5 respectively.

Chapter 6 will report the findings of one particular analysis which was prompted by one of the postulates of the "structuralist" position. That chapter will be concerned with the relationship between level of Western correspondence in the occupational prestige assessments of samples drawn from non-Western countries and the level of "development" of those countries.

Chapter 7 will report the conclusions of this analysis and will provide suggestions for future research in this area. In addition, it will attempt to go beyond the narrow confines of the hypothesis testing undertaken here to a broader critique of existing secondary analyses of this type of data.
CHAPTER II

MAJOR ISSUES IN CROSS-NATIONAL
AND INTRA-NATIONAL RESEARCH
IN OCCUPATIONAL PRESTIGE HIERARCHIES

In order to put the present investigation into a somewhat more specific context, a review of the relevant literature will be undertaken. In so doing, an attempt will be made to indicate the general directions of research and the nature of the data produced. Attention will be directed first to the early development of this research focus in the U.S. and then to the proliferation of such investigations in other parts of the world. Following this, the present research will be related to some of the issues posed by this literature.

As mentioned in the previous chapter, the first systematic attempt to determine the popular evaluation of the "social standing" of occupations was conducted by George Counts in 1925.¹ Counts asked his sample of 450 students and teachers to rank-order a list of 45 occupations in terms of the occupations that they "most looked up to." The mean rank given by the sample to each occupation was taken to be the measure of its position in the prestige hierarchy.

In the empirical studies which were to follow in the ensuing years in the United States,² a number of modifications in this basic procedure were employed. Much more heterogeneous samples came to be employed. The ranking procedure and the use of median ranks as measures
of centrality in the distributions found came to be replaced by somewhat more sophisticated rating procedures, involving everything from 3-point to 9-point scales of the "prestige" or "social standing" or the "general standing" of an occupation. The most common of these procedures came to be several variants of a 5-point scale.

Methods were developed for measuring the degree of correspondence in the findings of two or more studies which used different samples and somewhat different lists of occupational titles. This procedure involved the selection of those titles (either the same or at least roughly similar) which were shared by both lists. Coefficients of correlation between the values assigned these "matched" titles of the two studies were usually taken as the measure of overall prestige hierarchy agreement between the relevant universes of the two or more studies.

These early efforts in the analysis of occupational prestige systems reached something of a climax in the now classic North-Hatt study (1947). This study was outstanding not only in terms of the sophistication of its methodology and the precision of its analysis but also in terms of its representativeness in sampling, both of occupational titles and of subjects. Unlike many of the studies which preceded it, the North-Hatt study used representativeness as one of the prime criteria in the selection of occupational titles. Perhaps more importantly, the sample selected (almost 3,000 subjects) represented, for the first time among such studies, a random sample of the total U.S. population.

The findings of the 1947 North-Hatt (NORC) study had as one of its prime effects the confirmation (on a large representative sample of
the total U.S. population) of many of the conclusions reached in earlier, less extensive studies. Such conclusions include the relative ease with which the samples could rate the occupations listed, the tendency for greater dispersion in the ratings of the occupations in the middle ranges of the prestige hierarchy. (both within and between samples) and the relative lack of significant systematic variation in occupational prestige assessments, with some minor exceptions such as "over-evaluation" of one's own occupation and of occupations closely related to that of the rater. This last point is perhaps the most significant of all conclusions.

Undoubtedly, the most consistent finding of these early American studies analyzing data from more than one "type" of sample is the relative invariance in the findings on the popular evaluation of occupations. Indeed in this early phase, much of the impetus to research this topic seems to have been directed toward determining the extent to which the researcher's sample would produce an occupational prestige hierarchy similar to that found in other samples. The North-Hatt study climaxed this sort of research in its determination that there is a coherent national system of occupational prestige in the United States, at least to the extent that a device of the sort employed (a sample of 90 occupational titles) could be taken as a measure of the total prestige hierarchy in the United States.

Roughly as of the time of the 1947 North-Hatt (NORC) study, and no doubt at least in part because of the definitive nature of its data, research on the subject of occupational prestige changed in terms of both focus and locus. As of approximately that time, social
scientists in other parts of the world began to engage in research of this sort, and in the United States the direction of work in this area came to change in ways both more general and more specific.

In the United States (and to a lesser extent, in Europe), there were a number of attempts in the Fifties to organize some of this diffuse data, to draw conclusions from it and to relate this to the broader social stratification context of which it is a part. Some of the more theoretically inclined of such studies are those of Caplow (1954), Thomas (1956), Barber (1957), and Gordon (1958). Examples of some of the more methodologically inclined analyses of existing procedures are those of Svalastoga (1954 and 1959), Yaukey (1955), and Reiss, Duncan, Hatt and North (1961). This last is specifically an analysis (and extension) of the North-Hatt (1947) study. It is perhaps of more than passing interest that one of the more incisive of these early American investigations was produced by an Englishman (Davies, 1952).

The strong empirical tradition of research in this area also continued, but it came to take on new focuses. The by then traditional emphasis upon examination of possible variation of differing samples was continued but tended to examine types of samples not previously explored. Thus, Brown (1955) and later Siegel (1970) investigated the occupational prestige assessments of blacks; Stevic and Uhlig (1967) studied them among Appalachians; and Weinstein (1956 and 1968) and Lauer (1974) conducted their studies among very young children.

In addition to these extensions of analysis to previously ignored samples during this post-North-Hatt period, there were
replications of earlier analyses over similarly selected samples. The most outstanding instance of this was the 1963 NORC replication of the original North-Hatt study. The .99 coefficient of correlation between the findings of these two studies was commonly taken as ample proof of the stability of occupational prestige assessments over time (at least in the U.S.). The high degree of correspondence between the findings of this study and the original Counts study (1925) is further evidence of this stability.

Perhaps of greater interest and certainly more representative of more current research trends than these extensions and replications, however, are the many studies which, since 1947, have come to focus upon an analysis of the correlates of occupational prestige. Such studies are very generally of two types: those which are concerned with determining the relationship between occupational prestige and other indirectly related aspects of social behavior (e.g., Clarke's 1956 study of leisure patterns of persons whose occupations have varying levels of prestige) and those which are concerned with the more directly related "determinates" or "dimensions" of occupational prestige assessments.

Those studies having this latter type of focus may themselves be said to be divided into two sub-types: those which are concerned with such "objective" dimensions of occupations as average income or average educational attainment of the incumbents of these occupations and those which are concerned with such "subjective" dimensions of occupations as the presumed personality and other characteristics of the incumbents of these occupations, as judged by the raters themselves.
In general, the attempt in the latter type of research was to determine what factors prompt the respondents in their ratings of the prestige of occupations.

One of the earlier and more important examples of the studies which have tried to explain prestige variation in occupations in terms of variation in the income, educational and other "direct" and "objective" characteristics of those who occupy them is Duncan's (1961) analysis of the 1947 North-Hatt data, in which he tested the relationship between these three variables (prestige of the occupations, and the educational and income characteristics of those holding them). The multiple correlation coefficient he found (.91) suggests that the prestige of an occupation can largely be determined by these other variables. It might be noted, however, that in more recent years, this approach has been subjected to some degree of criticism (e.g., Vanneman and Pampel, 1977).

The focus on what are here termed the "subjective" dimensions or determinants of occupational prestige have also received considerable attention. The specific techniques vary from requesting the subjects to indicate "the one main thing" about the jobs they rated as having "excellent standing" (e.g., North and Hatt, 1947) to the use of the semantic differential (e.g., Thielbar and Feldman, 1969), but their aim in each of these studies was basically the same, i.e., to determine the specific factors which raters use in their assessment of the prestige of occupations.

At least in terms of the number of studies reported, this has been one of the prime foci of occupational prestige research since 1947.
Some additional examples are the works of Folsom and Sobolewski (1957), Stefflre (1959), Simpson and Simpson (1960), Garbin and Bates (1961 and 1966), Nelson and McDonagh (1961), Lewis and Lopreato (1963), Broom and Maynard (1964) and Stefflre, Resnikoff and Lezotte (1968). There have even been attempts to study these "subjective" dimensions of occupational prestige cross-nationally; for example, the works of McDonagh, Wermlund and Crowther (1959) and Mahler (1961 and 1966).

Studies Conducted Outside the United States

The existence of these cross-national studies of these subjective dimensions of occupational prestige are indicative of the second significant new direction in occupational prestige research since the 1947 publication of the North-Hatt study (the first having been the development of new focuses of analysis in the American studies). This new direction was the extension of such research to countries other than the U.S. The North-Hatt study (representing, as it did, a comprehensive national study of the social standing of occupations in the U.S.), was no doubt significant in the development of interest in this topic in certain other countries and the calling of the International Sociological Association's 1951 International Conference on Social Stratification and Social Mobility, which further increased interest in this topic around the world.

As was the case in the preceding American investigations of the population evaluations of occupations, these studies were undertaken for a great variety of purposes. Some were specifically concerned with determining sub-national variation. Some were specifically concerned with the national or cross-national analysis of the "subjective"
dimensions employed by the subjects in their ratings. Some were concerned with such specific topics as the popular evaluation of educational institutions, e.g., Green (1953). In only a few instances did researchers administer the same research instrument to two or more countries.

Despite these considerable variations in focus and research design, however, there are approximately 150 studies of this sort which were conducted in 52 different countries and for which at least relatively comparable data is available for the sort of analysis conducted in the present investigation. It should be noted here that for reasons to be considered below, with one exception, the analysis conducted here will ignore such studies conducted in Western industrial nations.

No doubt as was to have been expected, the general pattern of diffusion in these earliest studies was from the U.S. to those countries most culturally related to it (and most financially able to support social science research). Thus in 1950, local studies of occupational prestige were published in Great Britain (Hall and Jones), in the Netherlands (Tobi and Luyckx), and in Canada (Tuckman). From there, in very rapid succession, research of this sort was spread to other countries in Western Europe (Germany in 1954 and Norway in 1955), to Australia and New Zealand (1953), and to Japan by 1954. The British Hall and Jones study was particularly instrumental in the diffusion of this research. These problems of diffusion are quite interesting in themselves. For example, the first Japanese (1954) and the first Latin American (1957) studies were essentially replications of the British Hall and Jones (1950) study, whereas the first Indian study
(1956) was a replication of the American Deeg and Paterson study (1947). However interesting these patterns of diffusion might be, they will not be explored here. It should be noted before proceeding that these very early examples of research in the "developing" nations are quite atypical. Generally, such studies appeared only in the late Fifties and the Sixties. Further, it would appear that Western sociologists were largely unaware of those non-Western studies which did exist until the mid and late Sixties.

As of the late Fifties, there were very few studies of occupational prestige which had been conducted outside of the Western world. 1956 was a "water-shed" year in the development of this literature in that it marked the now-classic Inkeles and Rossi investigation which was the first systematic cross-national analysis of occupational prestige. This study not only laid the groundwork for the theoretical controversy which was to follow, but it also gave focus and important impetus to the proliferation of primary studies of the prestige of occupations throughout much of the non-Western world as of the early Sixties.

In comparing data from the six studied countries known to them at that time (West Germany, Great Britain, Japan, New Zealand, the U.S., and the U.S.S.R.), Inkeles and Rossi found a high degree of correspondence in total prestige hierarchies. The range of correlations they found was from .74 to .97. Noting that each of these studies for which data was available at the time were all at advanced stages of industrialization, and attempting to develop some explanation of these high degrees of similarity, they concluded that "a great deal of weight must be given to the cross-national similarities in social structure which
arise from the industrial system and from other common structural features, such as the nation-state" (1956:339). They identified this explanation as a "structuralist" position (as opposed to an opposite "culturist" position), on the question of "the interaction of the two systems -- the standardized modern occupational system and the individual national value pattern for rating occupations" (1956:329).

The central importance Inkeles and Rossi gave to industrialization as an explanation of high cross-national prestige similarity became the focus of many of the more important investigations of the late Fifties and the Sixties.

An article published in 1958 by Tiryakian (who was a research assistant on the Inkeles and Rossi project) was the first of many refutations of the basic argument on the relationship between industrialization and occupational prestige assessment, i.e., that cross-national similarity in occupational prestige systems is related to level of industrialization. In his analysis, Tiryakian failed to find any significant difference between the overall prestige ratings (for matchable titles) of heads of households in a suburb of Manila and in four rural communities in the Philippines (on the one hand) and the findings in the 1947 North-Hatt study.

Typically, when analysis of this sort were carried to other "developing" nations, similarly high degrees of total prestige hierarchy correspondence were found. Many additional empirical studies in developing nations were specifically directed to the question of relationship between degree of industrialization and degree of similarity in occupational prestige assessment structure, e.g., Thomas and Seoparman
in Indonesia (1963), Wood in Uruguay (1965), and Armer in Nigeria (1968). With only relatively rare exception, these studies confirmed the hypothesis of no significant difference in total prestige hierarchies by level of industrialization.

In a later summary of many of these studies, Hodge, Treiman and Rossi (1966) found consistently high coefficients of determination ($r^2$) between the NORC (1963) hierarchy and those of 23 other nations, including several of low degrees of industrialization (as measured by a per capita GNP of less than $450). They found that the mean coefficient of determination for the non-industrialized countries with the U.S. ratings was .82; that for the industrialized countries was .84.

On a larger, more geographically and culturally diffuse data set, Treiman (1977) later reported a correlation coefficient of .83 between his U.S. data and data from fifty-nine "foreign places" ($r^2 = .69$), which he took as validation of the "structuralist" position of an essentially invariant occupational prestige hierarchy cross-nationally.

This generally reported finding of a high level of prestige hierarchy agreement among samples from a variety of types of nations led to the development of two major research orientations, which have come to dominate the literature on this topic in the last twenty years.

One such orientation has reflected a scepticism about these findings and has been concerned with determining whether or not there is indeed the relative intra-national and cross-national prestige hierarchy invariance suggested by the majority of these studies. A number of researchers have argued that much of the apparent prestige hierarchy
invariance which has been reported is, to an important degree, the product of the methodologies employed in many of these studies. Of particular concern here is the possible bias which results from relying on samples which would seem to represent the most Westernized segments of non-Western societies, e.g., over-reliance on urban samples and on student samples.

The second research orientation in the post-Inkeles and Rossi period has largely concluded that the existing evidence has sufficiently established that there is an essentially invariant occupational prestige hierarchy within and between countries. From this premise, this orientation has proceeded on to a theoretical explanation of this essential invariance and to an explanation of what relatively minor variations there are from this system. The theoretical orientation which has come to completely dominate such explanations is that which was identified as the "structuralist" position by Inkeles and Rossi, although this position has undergone marked revision since it was originally suggested in 1956.

The remainder of this review of the literature will be somewhat artificially divided into an examination of these two contrasting research orientations.

The Issue of Sampling Bias

The various samples employed in the existing studies of occupational prestige have varied considerably in their at least prima facie representativeness of their total national population. Very few attempts have been made at systematic national sampling, e.g.,
North-Hatt (1947), Svalastoga in Denmark (1959), and NORC (1963). Also there have been only a few attempts at a random sampling of residents of a specific city (or cities) in a given country. Clearly, a majority of the occupational prestige studies conducted to date have employed what can perhaps best be described as "casual" samples, many of which have consisted almost exclusively of student or teacher samples. This is especially true in non-Western countries. Presumably these types of samples represent the most Westernized and most "modern" segments of these non-Western populations and, as such, their occupational prestige ratings cannot be taken as being representative of those of other possibly more "traditional" segments of these national populations.

An early warning of potential methodological problems, particularly sampling bias, came from Davies (1950) and somewhat later from Lewis and Haller (1964) and Haller and Lewis (1966). More recent methodological criticisms have come from Haller et al. (1972), from Stehr (1974), from Penn (1975) and from Seligson (1977). The "structuralists" themselves have acknowledged the potential problem. Hodge, Treiman and Rossi (1966) in offering an alternative methodological explanation to their own explanation of high cross-national correlations, suggest that "because the samples for the under-developed countries often consist mainly of students in Western-type schools . . . , one may surmise that the correlations are high relative to those which would be obtained if prestige scores had been derived from a sample of the general population" (1966:320). While considerably less cautious in making generalizations regarding intra-national variation by types of samples, Treiman (1977) devoted an entire chapter to this matter.
Despite this general concern for the question of sampling bias, however, to date there has been no systematic attempt to review more than a handful of studies in terms of possible systematic variation in terms of types of samples, e.g., rural versus urban samples and student versus non-student samples. This issue of systematic variation by sample type constitutes the prime focus of the present investigation. The results of this analysis will be reported in Chapters 4 and 5.

By way of preface to the analysis to be conducted here, a brief review of those primary studies which have specifically addressed the issue of variation by sample type within countries will be presented. The importance of the issue of variation by sample type to the methodology employed in the three major "structuralist" analyses will also be reported in this section. Since intra-national variation among types of samples is most likely to be found in non-Western societies, all Western data will be ignored in this review, as it will be in the principal analysis of this work.

Specifically, all data from studies conducted in Western Europe will be set aside. The only European data to be used in the principal analysis will be that which is available from Poland and the Soviet Union. All data from Canada, Australia and New Zealand will also be set aside, as will all U.S. data except for one study conducted by Siegel which synthesized data derived from several probability samples employed by the National Opinion Research Center (N.O.R.C.). The occupational prestige hierarchy derived from this data will be used in the later analysis as the "model" Western industrial occupational prestige hierarchy.
The review of some of the primary studies to be presented in this section will differ from the analysis to be reported in Chapters 4 and 5 in that it will include consideration only of those non-Western studies which have compared two or more types of samples (sub-samples). Further, it will differ from the later analysis in that it will report direct comparisons between samples conducted in a given study. In the later analysis, all samples available within given countries (irrespective of the study from which they came) will be compared to each other in terms of variation in level of correspondence with the Western system of occupational prestige assessment. Thus the later analysis will involve only an indirect comparison among samples but it will permit many more samples to be compared in a given analysis.

Findings Reported in Primary Studies Employing Two or More Sample Types

In the existing secondary analyses of this topic, particular attention has been given to Tiryakian's (1958) Philippine study and Armer's (1968) Nigerian study. Both of these were primarily directed to the question of variation by sample-types. Further, both of these studies concluded that such variation was very minor.

Tiryakian reported correlations ranging from .92 to .99 among the ten separate occupational groups in his sample. He also reported a correlation of .96 between his urban sample and his four rural samples (taken collectively). Armer employed three sub-samples of seventeen-year-old boys in the city of Kano, Nigeria. He reported a correlation of .89 between those with no education and those with some secondary schooling. A .89 correlation was also reported between those with some
primary schooling and those with some secondary schooling. An exceptionally high correlation of .97 was reported between those with no education and those with some primary school education.

A good deal of attention was given to these two primary studies and a few others to be described below in the most recent and most comprehensive secondary analysis on this topic, i.e., Treiman's 1977 work (which was an extension of his 1968 Ph.D. dissertation). Treiman was very understandably concerned with maximizing the number of occupational titles which would be the basis for the comparison of the occupational prestige hierarchies of any two countries. In order to do so (in countries in which two or more studies were conducted), he amalgamated the occupational titles (and their prestige rating values) into one overall "national" occupational prestige hierarchy. He specified his procedure as follows (1977:45):

1. The best study for a given country was chosen (based on the quality of its sample and extensiveness of its coverage of occupational titles),

2. If another study was available for that country, occupational titles contained in the two studies were matched,

3. The regression and associated correlation of the scores from the best study on those of the other study were computed, using all matching occupational titles,

4. If the correlation between the two sets of scores was ≥ .95, the regression equation was used to convert scores for all titles rated in the second study, but not in the best study, to the metric of the best study. If the correlation was < .95, the second study was not used. In a few instances . . . , the second study was regarded as representing a separate society within the same nation and was hence treated as an additional case.
5. Steps 1 through 4 were repeated for all additional studies from that country. If a new title appeared in more than one of the secondary studies, its score was estimated either from the best secondary study or, in the case where no secondary study was superior to the others, from the average predicted value.

Treiman goes on to indicate that "it should be clear that this procedure depends on the assumption that the prestige ratings in all studies from a given country reflect the same universe of prestige evaluations" (1977:46). This procedure also presumes "the absence of important intra-national subgroup variations." Treiman's primary justification for these assumptions came from the reported lack of such intra-national variation indicated in the investigations of Tiryakian, Armer and a few others.

However, it is possible that these researchers may have made generalizations on the issue of intra-national variation which may have gone beyond the limits of their data. For example, Tiryakian's four "rural" samples were all "situated at distances ranging from thirteen to about ninety miles away from Manila" (1958:391). Although it was not clear from the published report, it would seem that the "Nangka" sample (which contained forty-six percent of the total "rural" sample) may have been the community located only thirteen miles away from Manila. This may not have been much more distant from that city than was the "San Juan del Monte" sample ("a municipality located in the immediate suburbs of Manila"), which was taken as the "urban" sample. Furthermore, Tiryakian admitted that "the centripetal attraction of the Metropolis -- Manila -- makes itself felt in all parts of Luzon, and none of the agrarian sites chosen for the study is completely outside this
Furthermore, since the selection of subjects in each rural site was left entirely to the discretion of the college-trained interviewers, it is entirely possible (but by no means clear) that local teachers, traders and other relatively educated persons may have been over-represented in the "rural" samples.

Armer's Nigerian data clearly indicates a close correspondence in the occupational prestige ratings of student and non-student samples. However, it should be kept in mind that the full sample he employed consisted entirely of seventeen-year-old residents of Kano, a city of approximately 400,000 residents at the time the study was conducted. Although this was a carefully controlled research project, it would have been interesting if Armer had gone a step further to compare these samples with a sample of seventeen-year-old persons located in the villages of rural Nigeria or to compare them to a sample of Kano adults.

The basic issue of sample bias within countries has to do with how well a given sample (or set of samples) estimates the parameter (in this case, national) mean. Since most Nigerians live in villages and since most are adults, Armer's findings may be taken as suggestive but they can hardly be taken as definitive.

Certain other primary studies not as frequently mentioned as these would also seem to lend substantiation to the hypothesis of occupational prestige hierarchy invariance. Of particular relevance here are three non-student samples. In their 1964 study of Chilean adults in the Greater Santiago area, Carter and Sepulveda found a very high level of correspondence between sub-samples on the basis of socio-economic status, media contact, migrant status, occupation, sex and
political conservatism-liberalism. In their 1968 study of Greater Georgetown (Guyana) adults, Graham and Beckles could find no significant differences between sub-samples on the basis of age, race or socio-economic status.

Unlike these other studies, Koppel (1964) employed rural residents as well as urban residents in his Puerto Rican study. He also found high correspondence among his sub-samples in terms of rural-urban residence (Spearman rank order correlation = .95), white collar-blue collar status (rho = .98), upwardly mobile-downwardly mobile (rho = .83) and other dimensions.

Those who would attempt to refute the "structuralist" hypothesis of occupational prestige hierarchy invariance might point out that, while the first two of these studies present carefully drawn samples of the capital cities within their respective nations, these samples cannot be taken as anything approaching a "national" sample. This would be especially true of Guyana, which as recently as 1977 had only forty percent of its population living in cities.

Koppel's Puerto Rican data, which was drawn from both rural and urban segments of the population, cannot be challenged on this basis. However, it might be noted that Puerto Rico is geographically quite small and that its level of media-saturation is quite high. For example, there were 597 radio receivers per 1,000 population in Puerto Rico in 1970, more than twice as many per capita as found in any of the "non-Western countries" for which occupational prestige data is available, with the exception of Argentina (370 per 1,000 population) and the U.S.S.R. (390 per 1,000 population). To use another measure, there
were 10.9 telephones in use per 100 inhabitants of Puerto Rico in 1970. Of the other twenty-four "non-Western countries" for which occupational prestige data is available, all but Argentina, Japan and South Africa had fewer than four phones in use per 100 inhabitants (1977 U.N. Demographic Yearbook). To infer that there are no significant rural-urban differences in occupational prestige assessments in non-Western countries (in general) on the basis of this Puerto Rican data would be tenuous at best.

Somewhat more convincing evidence of relative invariance between types of samples within non-Western countries is available from Mitchell and Irvine's (1966) Zambian data. Three samples were compared in that investigation: illiterate recruits in the coal-mining industry, "advancees" in that industry (who "occupied the most responsible posts filled by Africans in that industry" at that time) and secondary school students. The product-moment correlation coefficients ranged from .90 (recruits and advancees) to .93 (recruits and students) to .96 (advancees and students).

This consistency among the Zambian student and non-student samples is indeed remarkable, especially since they slightly exceed the correlation between the recruits and advancees. This would seem to provide striking evidence for Treiman's contention that "the 'Western bias' of student prestige evaluations, insofar as it exists at all, is rather small" (1977:68). However, it might be noted that there is no community size or regional variation between the student and non-student samples, thus repeating the situation of Armer's Kano data.
In addition to the above studies, there have been a number of investigations which have compared student samples to other student samples on the basis of a variety of dimensions (e.g., rural-urban, sex, curriculum, socioeconomic status). Very high levels of correspondence have been reported in India by Krishnan (1956 and 1961) and D'Souza (1962). Further evidence of relative invariance among student samples comes from Castillo (1962) in the Philippines, from Wilkerson (1967) in Mexico, from Cart and Rousson (1967) in Burundi, from Hicks (1967) in Zambia, and from Hicks (1965) and Morsbach and Morsbach (1967) in South Africa.

Of course, the finding of high correspondence among student samples within nations cannot be taken as sufficient evidence of a more generalized intra-national prestige hierarchy invariance. In fact, if student samples were to have a high level of consensus within countries while there were found to be significant differences between them and other types of samples, this would tend to argue in favor of the position that students do have a "Western bias" in their assessments of the prestige of occupations. This is one of the questions to be addressed in the present investigation.

It is not even clear, however, that there is such an invariance among student ratings within countries. One study suggests that there are important differences among student samples. Shubkin (1975:80) reported that among the sub-samples in his U.S.S.R. study that "the evaluation of young people of towns and villages and of capital cities and the periphery differ considerably. For example, the evaluations of graduates from Leningrad schools differ from those of
graduates from Novosibirsk schools and even more from those of rural schools." Unfortunately, he offers no further explanation or statistical expression of this data. Given this lack of specification of data (and lack of a clear sample description), great caution must be exercised in drawing any conclusions from Shubkin's data.

Some further evidence of variation among student samples comes from Epstein (1967) in his research in New Britain. He concluded that there was variation among his six samples in terms of (rural-urban) place of origin, especially in terms of the evaluation of agricultural titles. However, he failed to report the specifics of these findings.

Just as there are some minor differences in reported findings among student samples in these primary studies, so also are there some differences reported in certain studies which have employed non-student samples and in studies which have compared student and non-student samples. These studies seem to have attracted somewhat less attention than the Tiryakian and Armer studies cited above, but they present interesting data nonetheless.

Haller et al. (1972) compared the occupational prestige ratings of two rural Brazilian samples with those of Sao Paulo university students earlier sampled by Hutchinson (1957). Probability samples were drawn from Acucena (a relatively isolated farming village) and Bezerros (a less isolated community with a mixed farming economy directed to a nearby large urban market). The correlations between the hierarchies presented by the three samples ranged from .69 (Acucena and university students) to .89 (Bezerros and university students) to .92 (Acucena and Bezerros). This prompted the researchers to conclude that "isolated
sectors of some contemporary societies may have occupational prestige hierarchies (and therefore systems of stratification) which differ from the well-known Euro-American form" (1972:941).

More striking evidence of such intra-national variation "(on the basis of the rural-urban dimension) comes from Cook's comparison of urban university students (and some professional men) and peasant villagers in India. The rank-order correlation between these samples was .21. Even more interesting is the .11 correlation between villagers and a broader urban sample.

One conclusion which might be taken from this review of primary studies which have addressed the issue of variation among types of samples within countries is that no clear general conclusion may be reached on the basis of this type of examination alone. What is required is a more systematic examination of this data. The sort of systematic examination which would be required is one in which all of the existing data would be standardized so that data from all of the available studies in a given country could be analyzed on a common basis. One limitation of the above examination is that in most studies the findings within a given study were not systematically compared with the findings of other studies within the same country. The intra-national analysis to be reported in Chapter 5 will go beyond these limitations (but will, of course, have certain limitations of its own). Chapter 6 will carry this examination of variation in prestige hierarchy assessment one step further. It will address these same questions on a cross-national basis. Once this is accomplished, it will be possible
to make a more reasonable determination of whether or not Treiman's assumption of no significant differences among types of samples is valid.

If this hypothesis is validated, it will help to establish the validity of Treiman's procedures for amalgamating data from various studies conducted within given countries. If the hypothesis of no significant differences among sample types fails to be supported by this examination, it will raise serious question regarding the empirical grounding of the "structuralist" theory of occupational prestige.

Summary of the "Sampling Bias" Explanation

As was indicated above, there is a dual focus to this review of the literature, just as there have been two primary orientations which have tended to dominate the development of this literature. Both of these orientations have been concerned with one explanandum, i.e., the reportedly high levels of correspondence in occupational prestige assessments both within and between countries of varying levels of societal development.

The explanation which was considered above essentially suggested that the level of cross-national agreement in occupational prestige assessment has been substantially overstated and that the level of intra-national agreement has been substantially understated, at least in Third World countries. The argument here is essentially one of sampling bias.
It has been argued that there may be substantial differences in occupational prestige assessments among various types of samples within non-Western nations, e.g., rural/urban and student/non-student. Further, it has been argued that the types of samples which have usually been available in non-Western societies are the types of samples which might be most expected to conform to Western standards of occupational prestige assessment. Minimally, the criticism is that "isolated sectors of some contemporary societies may have occupational prestige hierarchies (and therefore systems of stratification) which differ from the well-known Euro-American form" (Haller et al., 1972:941).

The "Structuralist" Explanation

In sharp contrast to the "sampling bias" explanation of the reportedly high levels of agreement between countries, the "structuralist" explanation, at least as stated in its most recent formulation (Treiman, 1977), largely dismisses the proposition that there are systematic differences among types of samples within "developing" countries.

The point is that differences in perceptions of the prestige hierarchy are not socially structured; it is very hard to find systematic differences among subgroups of the population with respect to the way they hierarchically order occupations. While it is possible to locate isolated instances of differences in the evaluation of particular occupations, these exceptional cases are too few to seriously discredit the claim of near-perfect consensus across population subgroups in the prestige evaluation of occupations. (1977:60)

Given this, the issue of sampling bias is taken to be moot.

It is considered reasonable to use the occupational prestige ratings of
student samples and urban adult samples (in countries in which these are the only types of samples available) as representative of the ratings which would be obtained if a national probability sample had been employed. From this premise of an essentially invariant occupational prestige hierarchy, the "structuralists" go on to provide a theoretical explanation of this relative invariance and of the relatively minor cross-national variations which have been reported. The explanation they provide is derived from the "functionalist" theoretical perspective. The development of this "structuralist" position will be briefly delineated in terms of the three cross-national analyses which are responsible for its development. These are the studies of Hodge, Treiman and Rossi (1966), Treiman (1968) and Treiman (1977).

Before proceeding to this review, it might be noted that the organization of this chapter differs somewhat from what is perhaps the more usually expected form. As has been indicated, two somewhat separate topics are being considered in this chapter: the "structuralist" analysis of systems of occupational prestige and the methodological critique (especially sampling bias) of that position, at least to the extent that the "structuralist" position is largely premised on the assumption of no systematic differences among types of samples within countries.

The more usual order of presentation might have been to consider the "structuralist" position first and then proceed to a consideration of any methodological problem areas. This order was reversed in this chapter to reinforce the point that the work
undertaken here is directed primarily toward an examination of this issue of sampling bias and not toward a critique of the "structuralist" theoretical formulation. Of course, the theoretical and methodological issues are closely related in that the present analysis is directed toward a critical examination of the evidence which is taken as the empirical foundation of the "structuralist" position. Also, since the concern here is primarily with a methodological issue, this review of the "structuralist" position will be brief.

A further point to be noted before proceeding to a consideration of the "structuralist" theoretical argument is that since the Inkeles and Rossi (1956) investigation, there was one published cross-national analysis of occupational prestige assessment, other than the three "structuralist" analyses mentioned above. This was the investigation conducted by Jakubowicz (1968). Since this study raised no new theoretical or methodological issues and since all of her data (seventeen studies conducted in fourteen countries) had already been cited in the earlier Hodge, Treiman and Rossi (1966) investigation, the Jakubowicz study will not be considered here.

As mentioned earlier, the main conclusion of the Inkeles and Rossi article was that, in analyzing cross-national variation in occupational prestige assessments, "a great deal of weight must be given to the cross-national similarities in social structure which arise from the industrial system and from other common structural features, such as the nation-state" (1956:339). The central position which Inkeles and Rossi gave to industrialization made that variable the central focus of many of the empirical investigations which were to follow,
e.g., Tiryakian (1958), Wood (1965) and Armer (1968). As was also mentioned earlier, these early studies (by and large) failed to find any evidence that industrialization served to differentiate countries in terms of their citizens' evaluations of the prestige of occupations, at least as defined by similarity in the total set of shared occupational titles available to make such a comparison.

However, a major point in Inkeles and Rossi's analysis which these studies largely failed to consider in rejecting what they considered to be "structuralist" theory of cross-national occupational prestige similarity, was Inkeles and Rossi's suggestion of the importance of the "other common structural features, such as the national state" in any exploration of this phenomenon. It was precisely in terms of these "other common structural features" that the Hodge, Treiman and Rossi (1966) investigation continued the thread of the original structuralist position.

In their 1966 paper, these writers pointed to "the need for a theory of occupational prestige which will account for the gross similarity in the evaluations of occupations in all societies" and they went on to modify the structuralist position by "stressing more heavily the many structural features which national societies of any degree of complexity share" (1966:310). Hodge, Treiman and Rossi summarized their modified structuralist hypothesis as follows: "Gross similarities in occupational prestige hierarchies can be accounted for on the basis of gross uniformities in social structure across societies, whatever the particulars of different societies might be" (1966:312).
Treiman's 1968 and 1977 investigations were somewhat more theoretically ambitious than this 1966 study in that he placed his explanation of cross-national similarity and variation in terms of a more general theory of the assessment of occupational prestige. His basically "functionalist" explanation is summarized in terms of four basic propositions (1977:5-6):

First, the similarity in the "functional imperatives" faced by all societies results in a basic similarity in the specific functions that have to be accomplished. This, together with inherent limitations in possible organizational forms, results in a basically similar configuration of occupational roles in all societies beyond those of the most rudimentary size and organizational complexity. That is, a division of labor will necessarily develop and, moreover, will develop in a similar way in all societies.

Second, differentiation inherently implies stratification. Specialization of functions carries with it inherent differences in the control over scarce resources, which is the primary basis of stratification. These resources include skill, authority, and property, each of which functions in a somewhat different way. Together they create differential power, in the most general sense of that term. Thus, the division of labor creates a characteristic hierarchy of occupations with respect to power exercised.

Third, the power resulting from control over scarce resources creates the opportunity for, and almost invariably results in, the acquisition of special privilege; thus the basic similarity among all complex societies in the relative power exercised by various occupations creates a corresponding similarity with respect to occupational differences in privilege.

Fourth, power and privilege are everywhere highly valued, and hence powerful and privileged occupations are highly regarded in all societies.

Thus, since the division of labor gives rise to characteristic differences in power, and power begets privilege, and power and privilege beget prestige, there should be a single, worldwide occupational prestige hierarchy. (1977:5-6)
From this explanation of why "there should be a single, worldwide occupational prestige hierarchy," Treiman proceeds on to an explanation of what accounts for what he considered to be the relatively small differences among countries in degree of prestige hierarchy agreement. Presuming that "the prestige of occupations derives largely from the skill and training to perform them and the income gained from doing them," it is reasonable to conclude that "as the socioeconomic characteristics of occupations change, their prestige ought to change accordingly" (1977:129-130).

A major transition occurring in virtually all Third World societies is industrialization, a process which might be expected to bring about such changes in the socioeconomic characteristics of occupations. Thus, it would be reasonable to expect that there might be some relatively moderate association between level of industrialization in a Third World country and the level of correspondence between the occupational prestige ratings available from samples in these countries and the ratings available from Western countries.

Treiman's "structuralist" explanation of the presumed relative worldwide occupational prestige hierarchy invariance will be tested in the present investigation only to the extent that the basic premise of invariance among sample types within nations will be subjected to critical examination. This "structuralist" explanation will also be tested to the extent that the entire process of generating the correlation values which are the basic empirical "building blocks" of this comparative analysis will be repeated de novo, using somewhat different procedures and using a somewhat broader data set in order to
determine whether or not the same conclusion of occupational prestige invariance is reached cross-nationally and intra-nationally. Thus, the present investigation involves only a partial and indirect test of the "structuralist" explanation of (presumed) occupational prestige hierarchy invariance. The examination of variation by sample type within and between countries is the central focus of this study. The findings of this investigation will be reported in Chapters 4 and 5.

However, the postulate that there is a moderately strong relationship between level of societal "development" and the (presumably) minor variations among countries in the levels of "Western agreement" among the samples drawn from them will be tested directly. The findings of that analysis will be reported in Chapter 6.

**Summary**

The present investigation is principally concerned with a critical methodological issue in the cross-national analysis of occupational prestige structures. In essence, this issue has to do with whether or not the ratings of such specialized samples as students, teachers and "urban adults" in developing countries may be taken as representative of the occupational prestige ratings of the full populations of the countries from which they are drawn. This issue is an important one in that for many non-Western countries, these are the only types of samples which are currently available. In many of the "lesser developed countries," the "structuralists" used data from student samples (and other possibly atypical samples) as evidence of the essentially invariant cross-national system of occupational prestige assessment, simply because no other types of sample were available.
Even before the first systematic cross-national analysis of occupational prestige structures was conducted by Inkeles and Rossi (1956), this issue of sampling bias was raised. Even the first systematic statement of the (revised) "structuralist" position (Hodge, Treiman and Rossi, 1966) acknowledged the importance and unresolved nature of this issue. In his 1977 work, Treiman addressed this issue by bringing together data from several studies but, to date, there has been no published attempt to address this issue with the force of the full set of studies which are currently available. It is to this concern that the present work is primarily directed.

The theoretical explanation offered by the "structuralist" position and the three major "structuralist" cross-national analyses were only very briefly reviewed here because that is not the principal concern of the present work. The breadth and the depth of the work of these scholars is most impressive. This is especially true of Treiman's 1977 work. In the review of their work presented here, justice was not done to the complexity of these analyses but this was done intentionally, given the limited focus of this investigation. The focus here is not on the "structuralist" explanation, as such. Rather, it is upon two of the elementary tenets of that position, i.e., that occupational prestige assessments are essentially invariant cross-nationally and that there are no systematic differences among types of samples in non-Western countries.

If these propositions are confirmed by the present analysis, this will lend further empirical substantiation to the "structuralist" position. If they fail to be confirmed, this will raise a question
regarding the explanatory power of this position but, alone, this may not be taken as an adequate basis for refutation of that position. It might be noted in concluding this chapter that although the present investigation is not the first attempt by a researcher who is not a part of the "network" of "structuralists" which has raised these issues, it is the first attempt to do so which has employed more than a half-dozen primary studies.
1. De Miguel and Linz (1966:68) have suggested that the first such attempt was that of Lewis Leopold in *Prestige: A Psychological Study of Social Estimate* (London: T. Fisher Unwin), published first in Hungarian in 1913 and next in German in 1916. Jakubowicz (1968:65) suggests that the first study of this type was conducted by Stevenson in Great Britain in 1911. Be that as it may, the at least putative "father" of this area of research is generally considered to be Counts. Due to the ambiguity of the only citations mentioning these studies, these are among the very few studies of occupational prestige for which it has not been possible to secure copies.

2. Examples of this type of research over this 20-year period (1925-1945) are the works of Bogardus (1928), Wilkinson (1929), Anderson (1934), Beckman (1934), Nietz (1935), Smith (1935), Coutu (1936), Hartman (1936), Cattell (1942), and Smith (1943).

3. This study was designed by C. C. North and Paul K. Hatt but was executed by the National Opinion Research Center. For this reason, this study is commonly referred to as the (1947) NORC study of occupational prestige.

4. e.g., Krishnan in India (1956 and 1961), Tiryakian in the Philippines (1958), Lewis and Haller in Japan (1964), Epstein in New Britain, a trust territory of Australia (1967), Armer in Nigeria (1968), and Haller, Holsinger and Saraiva in Brazil (1972).

5. e.g., Japan Sociological Society (1954), Hutchinson (1957), Ramsey and Smith (1960), Castillo (1962), Mahler and Bhargava (1963), Hicks (1966), Clignet and Foster (1966), Wilkerson (1967), Brown (1969), Kaushal (1970), Marsh (1970). Not incidentally this has been a prime area of interest among those who have studied this topic. A good deal of data on this topic is presently available for countries around the world. Although time considerations prohibit any exploration of this important topic here, it might serve as an important focus of further research.

7. e.g., Japan Sociological Society (1954), Ramsey and Smith in Japan (1960), Carter and Sepulveda in Chile (1964), Graham and Beckles in Guyana (1968), Nisihiri in Japan (1968), Kaushal in India (1970), Marsh in Formosa (1970), and Haller, Holsinger and Saraiva in Brazil (1972).

8. Another type of sampling bias which has been suggested in the literature but which will not be considered here has to do with a bias of the available occupational titles. Haller and Lewis summarized this problem as follows: (1966:212)

Most of the studies on which the conclusions about intersocietal similarities in occupational prestige structures rest use twenty or fewer occupational titles in their comparisons, and none has ever used a genuinely random sample of titles, if indeed such a thing can be imagined. It is almost certain that most have over-sampled the higher prestige end (as defined in the West) and to some extent the lower, and have under-sampled the middle range. Because of this problem, most of the existing research has probably overestimated the amount of correlation between the occupational prestige hierarchies of different societies.
CHAPTER III

THE DATA SET AND METHODOLOGICAL ISSUES

The primary goal of the present investigation was to test the "structuralist" hypothesis of occupational prestige hierarchy invariance, both within and between countries. Treiman's (1977:6) suggestion that there is a "single worldwide occupational prestige hierarchy" will be subjected to scrutiny.

A second goal was to attempt to explain whatever variation there might be found among these samples in terms of certain characteristics of these samples. Of central concern here were student/non-student status, occupational status, the rural-urban character of the communities from which these samples were drawn and the level of modernization of the societies in which they were located.

To provide as adequate as possible a test of these hypotheses, a concerted effort was made to eliminate any samples or any occupational titles from the data set which might have had the effect of biasing the findings. Particular care was taken to eliminate any data which might have had the effect of biasing the findings in the direction failing to confirm the null hypothesis of no significant differences. Thus the present investigation can be taken as a rather conservative test of the "structuralist" hypothesis of intra-national and cross-national occupational prestige hierarchy invariance.
A major portion of this investigation was directed toward a retest of this hypothesis. However, certain strategies were employed here which had not been used before. Further, the data set employed here differed in certain important respects from other secondary analyses of this type of data. Unlike previous analyses, the data set used here was drawn exclusively from non-Western countries (with one exception). Also, certain of the primary studies used here are being used for the first time in secondary analysis.

Perhaps most importantly, the final data set employed here differs from these few other secondary analyses in that the criteria of "matchability" employed in making matches between occupational titles appearing in one sample and occupational titles from another sample were very rigorous and unaccepting of matches between ambiguous titles.

A relatively high proportion of the 3,473 occupational titles which were available in the original data set was rejected from the final data set, primarily on the grounds of inadequacy of fit into one of the occupational categories contained in the International Labour Office's "International Standard Classification of Occupations" (ISCO), which was used as the basis of occupational coding in this research. This coding procedure and the rejection of titles which resulted from it will be explained in this chapter, as will be the other bases of exclusion of both occupational titles and of samples. (A description of the studies from which the data used in this investigation were derived is provided in Appendix A.)

Following an explanation of these matters, the operationalizations of the key dependent and independent variables will be explained.
Explanation of further specifics of the analyses conducted will be reserved for the three "findings" chapters (Chapters 4-6).

The Data Set

As has already been indicated in the review of the literature, there is virtually no evidence of any systematic variation in occupational prestige assessments within or between industrially advanced Western societies. The few exceptions to this generalization are minor, e.g., black-white variation in the United States (cf. Siegel, 1970).

No significant systematic sub-national variation of any importance was found among any of the four national probability samples which currently exist -- North and Hatt (1947) and Hodge, Siegel and Rossi (1961) in the United States, Svalastoga (1959) in Denmark, or Carlsson (1958) in Sweden. Furthermore, in studies using somewhat more limited samples in these highly industrialized countries, similar findings have been reported. Even Hodge, Treiman and Rossi (1966:313-316) who have been at the forefront of those who advance the case of sub-national as well as cross-national prestige hierarchy invariance, suggest that their generalizations may not be quite as valid in developing nations as they are in highly industrialized nations:

Published analyses of existing studies have failed to uncover any large systematic differences in the prestige ratings accorded occupations by different subgroups of the population, and hence representativeness of the samples involved is not a very important issue. Ratings from a few respondents, however chosen, duplicate very well those obtained from larger and more representative samples. Evidence bearing on this appreciable consensus among subgroups of raters comes, however, largely
from industrialized countries and there may be
greater disagreement among raters in less
developed places.

On the assumption that occupational prestige hierarchies in
highly industrialized societies are essentially invariant across sub-
groups within these societies (with such minor exceptions as indicated,
for example, by Reiss et.al., 1961, in the United States), analysis was
limited to those non-Western countries of the world for which data was
available. This limited the investigation to countries in Africa, Asia,
Latin America and Eastern Europe.

This evidence of a relatively invariant occupational prestige
hierarchy within and between Western industrial societies was
sufficiently strong to warrant the use of one Western industrial data
set as a model of the social standing of occupations in such societies.
Such a model was adopted to serve as a standardized basis for compari-
sions among data sets drawn from non-Western samples.

By far the best single data set (in terms of comprehensiveness
of coverage of occupational titles) currently available is that developed
by Siegel (1971). Through regression analysis of the occupational
prestige values derived from pre-existing NORC data sets, Siegel was
able to assign a prestige rating value to every occupational title
listed in the 1970 United States Bureau of the Census' Alphabetic
Index of Industries and Occupations. There was a total of 440 titles
available in this listing. This data set (herein referred to as the
"Siegel data") was used as such a "model" of the occupational prestige
hierarchy found in Western industrial societies (i.e., Western Europe,
North America and Australia and New Zealand).
Each of the 75 samples in the non-Western data set were compared to the Siegel data on the Western industrial occupational prestige hierarchy through Spearman rank-order correlation analysis. Each of these 75 correlation values was taken as an indication of the extent to which the occupational prestige hierarchy presented by each of these samples corresponds to this standardized Western industrial occupational prestige hierarchy.

The primary goal of the present analysis was to determine whether or not there are systematic and significant differences among the available non-Western samples in the assessment of the prestige of occupations. Operationally, they were compared on the basis of their respective similarities to or differences from Siegel's standardized Western hierarchy. These 75 Spearman rank-order correlation values comprised the dependent variable in this analysis.

It is obvious that not all Western societies have a high level of industrialization. At first, existing data from Western societies of moderate to low levels of industrialization were scheduled for inclusion into the primary analysis. (Such data exists for Ireland, Norway and Spain.) However, upon discovery that four of the six available samples from these nations had to be rejected because they offered too few reliability "matchable" titles (see below), a judgment was reached that the two remaining samples were too few to merit inclusion in the principal analyses.

After having excluded all Western samples (except for the data from Siegel's secondary analysis), certain non-Western samples were excluded because the respondents were asked to rate or rank occupations
on a basis other than prestige or social standing. For example, the two samples available in Brenner and Hrouda's (1969) Czechoslovakian study were rejected because their respondents were asked to rate the 30 listed occupations in terms of their "ideal income," i.e., the income which the respondents believed would be appropriate to each occupation listed. (It might be noted that the Spearman rank-order correlation between each of these samples and the Siegel data were at the relatively low levels of .62 and .64.) Another example of rejected non-Western data was Shanthamani and Hafeez's (1970) Indian sample, in which the respondents were asked to indicate their "liking" or indifference to each of the 101 occupational titles listed.

Another basis for exclusion of samples from the final data set was the time-period in which the study was conducted. All but two of the available non-Western studies were conducted after 1955. These exceptions were Davis' 1927 study of the social standing of occupations in the U.S.S.R. (two samples) and the research conducted by Obrdleik in Czechoslovakia in 1937.

Treiman (1977:116-128) presents some interesting (but not conclusive) evidence of the relative invariance of occupational prestige assessment over great spans of time but since a goal here was to provide the most conservative test possible of the null hypothesis of no significant differences in occupational prestige evaluation (and since both of these societies were in dramatic flux at the time of these investigations), these samples were excluded from the final data set.

Had these samples been kept in the final data set, the general level of prestige hierarchy agreement would have been lessened. The
Spearman correlations between the Siegel data and the two U.S.S.R. samples were .26 and .28 for the young adult and teenager samples, respectively. The Spearman between the Siegel data and the ratings of the Czechoslovakian young urban adult sample was .57.

A further criterion used in the selection of samples for inclusion into the final data set was the number of occupational title matches which could be made between each sample and the Siegel Western industrial list. Because of the low level of confidence which can be placed in correlations in which the number of cases is less than ten, only those non-Western samples which had ten or more titles which had matches in the Siegel data set were used. The selection of this criterion also facilitates comparison with some of the findings in Treiman's 1977 analysis, which also employed this criterion.

However, comparison of the present work with preceding analyses is made somewhat difficult because of a distinctive aspect of the methodology of the present research. A point which distinguishes the present research from others is the rigor of the procedure whereby occupational titles in one data set are matched to those in other data sets.

The specifics of the "matching" process employed here will be explained below. It will suffice here to mention that the matching procedure used in some of these other analyses have resulted in some rather questionable matches. In some earlier analyses, the matching procedure seems to have been approached rather casually, resulting in some perhaps questionable matches. In Treiman's careful 1977 analysis,
the matching procedure was "to consider two jobs the same if they fulfill the same function in the division of labor, even if they involve different tasks" (49).

The matching procedure in the present analysis went beyond Treiman's rather careful and systematic approach to matching titles to a point of excluding any titles in the non-Western data set which lacked a very clear match in the Siegel data set.

Approximately 35 percent of all titles in the original non-Western data set were so deleted. This had the effect, of course, of reducing the number of Siegel-matching occupational titles in almost every one of the 75 samples which were finally kept in the data set. Very importantly, it also had the effect of reducing the number of samples which could be employed, since several of the samples which had ten or more titles before this rather rigorous title-matching procedure were reduced to nine or fewer titles after this procedure was completed.

In several cases, this had the effect of reducing the number of available samples for a given country. In the case of Guatemala, the only available sample was eliminated, thus excluding that country from any consideration. In the case of Zaire, four of the five available samples were so eliminated.

The fifth sample from Zaire was eliminated (thus excluding that country entirely from the analysis) on the basis of a further criterion of acceptability. It should be remembered that the dependent variable in the present analysis consists of the Spearman rank-order correlations between the occupational prestige hierarchies found in each of the available non-Western samples and the hierarchy available from
the Siegel (Western industrial) data. In three of the available non-Western samples which meet the criterion of having ten or more matchable titles, the level of significance of this Spearman correlation was very low. In order to maximize the opportunity for rejecting the null hypothesis, these samples were deleted from the final data set. The last remaining Zaire sample was eliminated for this reason, as were the first two Indian samples indicated in Table 3.1.

As is indicated in the table, there were only three samples other than these for which the significance level of the Spearman correlation was greater than .001. Since the .05 level of significance is one which is commonly employed in social science research, both the Cook and the Rossi and Inkeles samples were included in the final data set without any question. With some hesitancy, Armer's Nigerian sample was admitted, as well, because it was one of the relatively few non-student samples available from Africa. However, because of this relatively high probability for its level of significance, some caution should be exercised in the interpretation of data from this sample.

In summary, a given sample was included in the final data set if five criteria had been met:

1. With the exception of the Siegel data, each sample must have been drawn from a non-Western nation.

2. The stimulus presented to the respondents must have been the "prestige" or "social standing" of occupations or some equivalent term, rather than some other basis of occupational evaluation.

3. The study which generated the sample must have been conducted in the post-World War II period.
Table 3.1 - Spearman Correlations with a Level of Significance Greater than .001 (between non-Western samples and Siegel data).

<table>
<thead>
<tr>
<th>Sample Description</th>
<th>Spearman</th>
<th>Sig. Level</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zaire (Xydias '56) (high school students)</td>
<td>.06a</td>
<td>.41</td>
<td>17</td>
</tr>
<tr>
<td>India (D'Souza '64) (village household heads)</td>
<td>.17a</td>
<td>.30</td>
<td>12</td>
</tr>
<tr>
<td>India (Mahler &amp; Bhargava '63) (college students)</td>
<td>.47a</td>
<td>.08</td>
<td>10</td>
</tr>
<tr>
<td>Nigeria (Armer '68) (17 yr. olds - Kano)</td>
<td>.52</td>
<td>.06</td>
<td>10</td>
</tr>
<tr>
<td>India (Cook '62) (adult peasants)</td>
<td>.45</td>
<td>.05</td>
<td>14</td>
</tr>
<tr>
<td>USSR (Rossi &amp; Inkles '57) (adult emigres in US)</td>
<td>.71</td>
<td>.01</td>
<td>10</td>
</tr>
</tbody>
</table>

*a samples deleted from the final data set
After having undergone a rather rigorous "matching" procedure, each sample must have had at least ten occupational titles which had clear matches with the Siegel data.

The level of significance for the Spearman correlation coefficient between the occupational prestige hierarchy of each non-Western sample and the Siegel hierarchy must have been at least at the .05 level (with the exception of Armer's Nigerian sample).

The samples which remained in the final data set after these exclusions were made are as follows (grouped by geo-cultural region):

<table>
<thead>
<tr>
<th>Region</th>
<th>N samples</th>
<th>N studies</th>
<th>N countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>24</td>
<td>17</td>
<td>9</td>
</tr>
<tr>
<td>Asia (excluding Middle East)</td>
<td>32</td>
<td>24</td>
<td>11</td>
</tr>
<tr>
<td>Middle East</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Latin America (including Guyana)</td>
<td>13</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

These 75 samples available from 54 studies conducted in 30 non-Western countries represent only a portion of the currently available data set. However, the use of the previously stated criteria of acceptability helps to assure that it is highly comparable data set and that it is the sort of data which would be necessary to conduct the analysis important to the present investigation.
Issues in the Matching Procedure

As indicated in the review of the literature, a good deal of attention has been directed to the question of possible bias in using certain "special" types of samples of subjects, especially student samples. Indeed, the determination of whether or not such systematic biases exist is a central focus of the current investigation.

A further topic of importance, but one which has received much less attention, has to do with how closely a given title in one study matches what is presumably the same (or functionally the same) title in any other study. In comparisons within societies, such problems are usually minimal, since there is usually strong coherence in the understandings of the meaning of a given title. Such problems are also minimized (but not eliminated) in comparisons between samples drawn in different societies in situations in which exactly the same list of titles is employed in both societies.

However, when using such a broad data set as is employed here, a number of problems of the "matchability" of occupational titles arise. The situation is particularly confounded when, as in the present analysis, countries of such low levels of industrialization as Afghanistan, Burundi and Ethiopia are being compared on the basis of the similarity of the occupational prestige structures reported there to the occupational prestige structure found in a society characterized by a very high level of industrialization (Siegel's United States data). To make a decision of this sort results in the exclusion of all of those titles employed in non-Western samples which do not have a clear "match" in the occupational order of highly industrialized nations.
Many of the available occupational titles in non-Western samples simply lack any clear counterpart in the industrialized order, e.g., "Shehu's slave - unsalaried" (Nigeria) and "scavengers" (Zambia). Many of the available titles are not even occupations, in the conventional sense of the term, e.g., "archbishop" or "member of the royal family" (Ethiopia).

Many available titles contain modifying terms which jeopardize their comparability with the United States Census (Siegel) titles, e.g., "nightclub entertainer" (Pakistan) and "ballet dancer" (Zambia). To lessen the effect of such qualifying terms, a policy was established to exclude all such titles, when the modifying term might reasonably be expected to have a hierarchical significance to the respondents. Thus "rural doctor" (Philippines), "attorney in a small city" (Argentina) and "postmaster in a country post office" (Guyana) were excluded from the final data set.

The issue of modifying terms in the occupational title was particularly problematic for agricultural titles. Such titles as "small farmer" and "large farmer" were rather common. Rather than confound the final data set with mismatched titles, all agricultural titles which did not have a clear match with the six titles contained in the Siegel (United States Census) list of titles were excluded.

Many of the available titles are a legacy of the relatively recent colonial past in certain of countries for which samples are available and thus lack true parallels in the Western industrial order of occupations, e.g., "teacher in an English school" versus "teacher in a vernacular school" (Sri Lanka) and "priest" versus "African minister..."
of religion" (Zimbabwe-Rhodesia). For purposes of comparison with the Siegel data, how does one code such differing titles, particularly when they appear in the same listing of occupational titles, as in the above case? Also, should "Catholic priest" and "Protestant minister" be considered to be essentially the same title in the Philippines? Again, for the sake of avoidance of such problems of matchability, all such questionable titles were eliminated unless they had a clear match to Siegel's "clergymen" (excluding religious minority ministers of religion).

One set of occupational titles which was particularly problematic consisted of legislative and executive governmental officials. Not the least of these problems results from the fact that, while there is an extremely broad spectrum of such occupational titles available for the non-Western samples (from "rural village head" in Nigeria to "Prime Minister" in Japan), the only available match for most of these titles in the Siegel data was "officials and administrators; public administration, n.e.c."

The Siegel data offers very few governmental official titles other than this extremely broad classification (e.g., "postmasters and mail superintendents"). Furthermore, only one of the original 151 governmental official titles available in the non-Western data set even approximated the level of generalization of that one Siegel title. This was the title "civil servant" (or "public servant") which was employed in 18 samples. However, on the possibility that this title might have some particular hierarchical meaning in the context of
government service to the various sets of respondents involved, it was not considered advisable to include this title in the final data set.

Because of this major problem of matchability between these legislative and executive governmental officials and the one available Siegel title, all such titles were eliminated from the final data set. This had the negative effect of rather sharply decreasing the number of potential matches, but it had the positive effect of decreasing the number of mismatches which might have been made.

For purposes of cross-national comparison, military titles have the distinct advantage of clarity of meaning. The general distinction between "military officer" and "enlisted man" are relatively clear elements of the essentially universalistic military systems throughout the world (at least in regular armies). A debilitating disadvantage for the present analysis, however, is that the Siegel titles encompass only the civilian labor force of the United States. For this reason, the 118 military titles available from the original non-Western data set were excluded. It might also be noted that the ISCO provides no coding for military titles.

It might have been possible to go beyond the Siegel data set to get occupational prestige values for military titles in Western industrial countries but to have done so would have been to go beyond the confines of the original structure of the analysis and (more importantly) might have had the effect of "loading" the final data set in the direction of finding greater variability in levels of agreement with the Siegel hierarchy than might have been found were these titles to have been kept in the data set.
Many of the non-Western countries for which data is available are relatively "new" states, or were so at the time in which their respective studies were being conducted. This is particularly true of the African countries, some of which were still under the domination of a colonial power at the time of these investigations, and some of which had become independent only within the decade before its available study was conducted. In such situations, the role of the military is commonly rather profound. Given this, the prestige or social standing might be expected to be highly variable over time, given the popular perception of the legitimacy of the political role of the military at the particular time in which the investigation was conducted.

It would have been very difficult to have developed the sort of data which would have been necessary to control for this factor. Thus no attempt was made to go beyond the Siegel data to develop Western industrial prestige values for military titles. All such titles were excluded from the final data set.

It should be clear from this and the preceding exclusions from the data set that a concerted effort was made in the direction of eliminating occupational titles which (if kept in the data set) would have had the effect of decreasing the level of occupational prestige hierarchy agreement between each of the non-Western samples and the Siegel data.

The question of bias is, of course, an ever-present issue in scientific research. Since a major goal of the present research was to provide the null hypothesis of no significant differences between samples with as reasonable as possible a chance of being accepted, care
was taken to minimize the effect of those factors which might tend to lessen the level of prestige hierarchy agreement among samples.

It was decided that whatever biases might be in the final non-Western data set should be (wherever possible) in the direction of agreement with, rather than divergence from, the Western industrial model of the structure of occupational prestige presented by Siegel. This was done in the interest of making this as conservative a test of the null hypothesis as possible. Having done so, it was hoped that any variability which was to have been found among samples would be (to the greatest extent possible) a product of true variability among samples, rather than the result of certain loadings which were permitted to be made in the data set as a result of the title-matching process. Thus, any variability which might be found might, if anything, be taken as something of an understatement of prestige hierarchy variation among samples.

It has been noted by Haller et al. (1972) and others that part of the relatively high level of prestige hierarchy agreement among samples might be a function of the overrepresentation of occupational titles at the extremes of (at least the Western industrial) occupational prestige hierarchy and the proportionate underrepresentation of titles toward the middle of this structure. This is based on the presumption that there is greater variability in the assessment of the prestige of "middle range" titles than there might be at the extremes of such hierarchies.

If this is the case and if the title exclusions indicated above tend to be selective of titles at any particular portion of these
occupational prestige hierarchies, a bias might be introduced which might have the effect of skewing the findings either in the direction of increased or decreased levels of agreement with the Siegel data.

Table 3.2 indicates variation (by occupational classification) in the extent to which occupational titles in the original non-Western data set were deleted. The classification employed here is the United Nation International Labour Office's International Standard Classification of Occupations (ISCO) (1968), which will be explained below.

Setting aside the agricultural, etc. workers for the moment, the exclusion of most governmental officials resulted in a very high rejection rate for administrative and managerial workers. However, when the "highest" two categories ("professional, technical and related workers" and "administrative workers") were grouped together, the rejection rate for this grouped category was 30.3 percent which is not far from the 35.2 percent overall rejection rate of titles.

The two "lowest" occupational categories ("service workers" and "production workers, etc.") both had relatively low rejection rates (22.6 percent combined). Of the two "intermediate" occupational categories ("clerical and related workers" and "sales workers"), there was an approximately average rejection rate for clerical workers but an unusually high rejection rate for sales workers (44.3 percent when combined). The sales workers category had this particularly high rejection rate primarily because "shopkeeper" and various specialty shopkeepers were not considered to have any adequate match in the Siegel listing of titles, which tends to emphasize employees and tends
Table 3.2 - Deleted Occupational Titles, by Occupational Classification (non-Western data set)

<table>
<thead>
<tr>
<th>ISCO Major Group</th>
<th>Original Group</th>
<th>Kept Titles</th>
<th>Deleted Titles</th>
<th>Percent Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/ - Professional, Technical &amp; Related Workers</td>
<td>1038</td>
<td>844</td>
<td>194</td>
<td>18.7</td>
</tr>
<tr>
<td>2 - Administrative &amp; Managerial Workers</td>
<td>288</td>
<td>80</td>
<td>208</td>
<td>72.2</td>
</tr>
<tr>
<td>3 - Clerical &amp; Related Workers</td>
<td>307</td>
<td>208</td>
<td>99</td>
<td>32.2</td>
</tr>
<tr>
<td>4 - Sales Workers</td>
<td>240</td>
<td>102</td>
<td>138</td>
<td>57.5</td>
</tr>
<tr>
<td>5 - Service Workers</td>
<td>389</td>
<td>333</td>
<td>56</td>
<td>14.4</td>
</tr>
<tr>
<td>6 - Agricultural, Animal Husbandry, etc., Workers</td>
<td>261</td>
<td>136</td>
<td>125</td>
<td>47.9</td>
</tr>
<tr>
<td>7/8/9 - Production &amp; Related Workers</td>
<td>751</td>
<td>549</td>
<td>202</td>
<td>26.9</td>
</tr>
<tr>
<td>Eliminated in 1st &quot;cut&quot;^a</td>
<td>199</td>
<td>0</td>
<td>199</td>
<td>100.0</td>
</tr>
<tr>
<td>TOTAL =</td>
<td>3473</td>
<td>2252</td>
<td>1221</td>
<td>35.2</td>
</tr>
</tbody>
</table>

^a Because of the structure of the ISCO system, it was impossible to code these titles, e.g., military titles.
to ignore owner-proprietors. It might be noted, however, that the ISCO listing does contain a code for "working proprietor, retail trade" under "sales workers" (major group number 4).

If the proposition that overrepresentation of occupations at the extremes of "the" (Western industrial) occupational prestige structure (and underrepresentation of occupations in the middle range) is valid, the distribution of rejection rates for occupational titles indicated here would seem, at least to some extent, to countervail the previous efforts at giving the null hypothesis of no significant differences (in occupational prestige assessments) among samples a maximum opportunity to be accepted.

However, it should be noted that this proposition regarding proportionate loadings of occupational titles has, to date, not been validated. (This might be the subject of subsequent analysis.) It might be noted, as well, that the rather high rejection rates of agricultural titles might to some extent tend to mitigate this possible bias.

It has been noted by Treiman (1977), Haller et al. (1972) and others that, although they could find little systematic variation among samples in prestige hierarchy agreement, an important part of that variability which was found came from farmer samples, particularly in the farmers' assessments of the prestige of agricultural titles. It might be inferred that a relatively high proportion of dissensus in prestige hierarchy assessments centers around these agricultural titles. If this inference may reasonably be made, the high rejection rates of such titles might tend to balance any consensual bias introduced by the relatively high rejection rate of sales workers titles.
Of course, all of the above refers to the non-Western data set in aggregate and does not pertain to the distribution of titles among these titles in any particular sample.

The Matching/Coding Procedure

The original "non-Western" data set contained 3,473 occupational titles from 103 samples available from 71 studies and conducted in 36 countries. (It will be recalled that in its original form, the "non-Western" data set contained six samples from three low-industrialization nations located in Western Europe, all of which were subsequently eliminated from the data set.)

To assemble this rather large data set into an organized form, a form which would provide comparability among the non-Western samples and comparability of each to the Siegel data set, a single occupational coding form had to be employed. This occupational coding list would have to be sufficiently extensive in its scope of coverage of occupational titles and sufficiently precise in making distinctions among them that any non-ambiguous title in either the non-Western or the Siegel data sets could be tied to a clear and precise title code. The International Labour Office's 1968 revised edition of the International Standard Classification of Occupations was adopted for this purpose.

The 1,881 occupational titles contained in this listing are organized into a four-level classification structure, providing successively finer detail: 8 major groups, 83 minor groups, 284 unit groups and 1,506 occupational categories. Each title is assigned a five-digit code, one for each of the above levels of classification and the last digit for the occupational title itself.
Thus, for example, an organic chemist is coded "01120." The first digit refers to the "professional, technical and related workers" major group. The second digit refers to "physical scientists and related technicians." The third digit refers to "chemists." The fourth digit refers to "organic chemists." Since no distinction is made among organic chemists, the last digit is coded zero. In addition to this, a definition is provided for each of these titles.

The general coding procedure employed here involved a search of these 1,881 ISCO title codes for each title contained in the list of titles available from each non-Western sample and from the Siegel list of titles. This work proceeded on a sample by sample basis until all 103 samples in the original non-Western data set and the titles from Siegel were coded, thus converting each title into a numerical code, which could be used in computer analysis.

One hundred and ninety-nine (199) of the titles from the original non-Western data set were not put through this process, however. These were titles for which it was apparent from the beginning that no matches could be found in the ISCO listing. For example, 108 of these 199 were military titles, which could not ultimately be matched with the Siegel civilian labor force listing, nor was there an ISCO code available for them. Some of the others were so vague (e.g., "regent"), so particular to pre-industrial society (e.g., "witchdoctor") or so "non-occupational" (e.g., "member of the royal family") that none but a cursory attempt was made to locate them within the ISCO occupational coding system.
A comparison between the original ISCO coding system and that employed here demonstrates that a variation from this system was made throughout the data set. Although the 199 non-matchable titles referred to above were to be deleted from the non-Western data set, it was thought advisable that these excluded titles should be kept readily available for future analysis. Of special interest in this regard were the military titles.

Since the full range of coding values (0 through 9) in the first digit of the ISCO codes had already been monopolized by the data which had not been summarily rejected, a problem arose as to what code might be given this data. It would have to be a code which would keep this rejected data apart from the rest of the data set, while at the same time it would have to be kept readily retrievable on computer tape.

To resolve this issue, each of the five-digit ISCO codes were converted to a six-digit code, by the insertion of a "0" (indicating "kept" titles) or a "1" (indicating rejected titles). Thus, for example, a "13390" in the original ISCO coding system ("elementary school teacher") became a "013390" in the revised coding system, indicating (to the computer) that it was to be kept in the data set.

Contrariwise, all titles which were to be deleted on this first exclusion were given a six-digit code, the first digit of which was always a "1." The computer programs which generated the list of the 75 Spearman rank-order correlations contained a command to delete all data with such a code. Specific categories of these deleted titles
were given a special coding in the remaining five digits, on the possi-

bility that such data might be used in a further analysis at a later
date but these codes are not of relevance here.

A very similar modification in the ISCO coding procedure was
employed for the Siegel (United States Census) list of occupational
titles. Here, also, the five-digit ISCO code was changed to a six-
digit code. All Siegel titles to be kept in the data set were prefaced
with a "0" (to parallel the coding for the non-Western data) and all
"rejected" Siegel titles were prefaced with a "2," so as to preclude
any accidental computer matches with any rejected titles in the non-
Western data set.

One rather important difference between the United States
Bureau of the Census' occupational classification system and that of
the ISCO is that, while the former makes coding distinctions between
workers and apprentices, the latter does not. Rather, in the ISCO
coding system, "apprenticeship is considered to be a special status
within a normal occupation, rather than a unique type of occupation
which is filled solely by apprentices" (1968:22).

Rather than confound the Siegel data set with such non-
matchable titles (but at the same time keeping them readily available
for possible future analyses), all such Siegel titles were assigned an
exclusionary "2" in the first digit of its revised ISCO code. (It
might be noted that there was only one "apprentice" title in the
entire non-Western data set.) Certain other exclusions were made in the
Siegel data but they are too minor to mention here.
Sample Coding

Just as all occupational titles were coded for purposes of computer analysis, so also were all samples. Each sample was assigned a five-digit code. The first two digits referred to the country in which the sample was taken. The third and fourth digits referred to the study (within each country) from which the sample arose. Since a number of these studies reported separate data for two or more samples, the last digit was provided to distinguish among the samples from such multiple-sample studies. Thus, for example, sample code "12014" referred to an Indian (12----) study conducted by Krishnan in 1956 (---01--), which provided a sample of Harijan college students (----4), as distinguished from the other three samples reported in Krishnan's study.

Computerized Matching of Occupational Titles

After both occupational titles and samples were coded, these and all relevant data were punched on Hollerith cards. The most important data from each sample consisted of the average rank value assigned by each sample to each of the occupational titles presented to them. This was the only prestige hierarchy value which was available for all samples in the data set. For 46 of the 75 samples kept in the data set, there were occupational prestige rating values as well. This data was generated in those studies in which the respondents were requested to rate (usually on a five point scale) the social standing of each occupation presented to them and studies in which rating versus simple ranking data was published. This data was punched on the cards, as well.
Pearson correlations were employed to determine the association between the occupational prestige hierarchies of these 46 samples and the Siegel hierarchy but they were not used in this analysis, since they could not be calculated for almost 40 percent of the samples which were kept in the data set due to the absence of rating (versus ranking) data in these samples.

In some of the samples, a measure of dispersion of ratings for each title was also available. Where such data was available, it was also keypunched. However, since the coverage of samples was even less than in the case of the rating values, this data was not used. As in the case of these rating values, these measures of dispersion were included only for purposes of subsequent analysis.

The last item to be punched on each card consisted of the various titles themselves, as they appeared in their respective research reports, with English translations, where needed (at least to the extent possible in 25 "columns" on a Hollerith card). This was done for purposes of later verification of the closeness of the matches made by the computer in its scan of (modified) ISCO occupational title codes.

The making of matches between each of the non-Western samples and the Siegel data and the calculation of the statistics required for analysis (particularly the Spearman correlation coefficients) required two separate computer programs to be "run" for each of the 103 samples in the original non-Western data set.

Each title in a given non-Western sample and the corresponding title in the Siegel data were treated as one case. Thus a non-Western sample which might have had 20 non-rejected titles which had a match in
the Siegel data would have had 20 cases in this new "matched" data set for that sample. Once this matching procedure was effected by a Fortran program, a separate SPSS program was used to produce the required statistics. In this step, the prestige rating values of the Siegel titles which matched the "kept" titles in each non-Western sample were converted to rank values for purposes of computation of the Spearman correlation.

Once this two-step process was completed for the first sample, certain changes had to be made (at the computer terminal) in both the Fortran and SPSS programs to repeat this process for the second sample. This was done separately for each sample until the required statistics were computed for each of the 103 samples in the original "non-Western" data set. In all, 206 independent computer runs had to be accomplished successfully before analysis could proceed. As computer printouts became available, each was visually scanned to verify the correctness of title-matches.

Once all these data had been generated, a second data set was developed. This consisted of the statistics generated from the preceding task, a coding scheme for the "occupational" status of the respondents in each sample and for the size of the community in which each sample was located, and the data necessary for the creation of the "development index" of the country from which the sample was drawn (to be explained below).

It was at this point that a number of the samples from the original non-Western data set were excluded, on the basis of having had too few Siegel-matching titles to warrant their continued presence in
the data set. The data from these deleted samples was kept on the computer tape (for purposes of possible subsequent analysis) but they were given a special coding which had the effect of excluding them from the present analysis.

All analysis proceeded from this "second" data set. A number of SPSS programs were written to perform the various statistical analyses required for the present investigation. These procedures will be described following an explanation of the variables employed in them.

**Dependent and Independent Variables**

As has been indicated above, the primary concern of this study was to investigate the hypothesis of occupational prestige hierarchy invariance both within and between countries. To measure the level of agreement among prestige hierarchies on as standardized a basis as possible, a Spearman rank-order correlation was calculated between the hierarchy of occupations provided by each of the 75 usable non-Western samples and the Western industrial "model" occupational prestige hierarchy provided by the Siegel data. The 75 Spearman correlations thus produced served as the dependent variable of this analysis.

The second basic concern of this analysis was to determine whether or not any such differences which might be found among samples were systematic -- particularly in terms of the three variables which have been most frequently cited in the literature as possibly being able to "explain" some of this variation.
Two of these factors are of relevance to both cross-national and intra-national analysis: the occupational (and student versus non-student status) and the community characteristics of the samples. The third factor, the modernization level of the country from which the sample was taken, is of relevance to cross-national analysis only. These three factors were taken as independent variables to be used in the explanation of whatever variability there might have been in levels of agreement with Siegel's Western industrial occupational prestige hierarchy (the dependent variable). The operationalizations of these three independent variables will be explained next.

**Occupational and Student Status of Respondents**

As has been mentioned above, much attention has been given to the possibility that there might be systematic variation in occupational prestige assessments on the occupational status of raters and on the student versus non-student status of these raters. The issue of possible bias had been addressed before but never with more than a handful of samples and never with as relatively "cleansed" a data set as was available here.

For purposes of analysis, the seventy-five samples in the final data set were sorted into ten categories, on the basis of the known occupational and student/non-student characteristics of each sample (abbreviated on Table 3.3 as "occupational status"). These two factors were merged into one variable, partly because lack of precision in the reporting of the occupational characteristics in most of the primary studies limited the number of usable specific occupational
Table 3-3 - Samples in the Final Data Set, by "Occupational" Status, Community Size and Country of Origin (Number of Samples per Country = 1, Unless Otherwise Specified).

<table>
<thead>
<tr>
<th>&quot;Occupational&quot; Status</th>
<th>Very Large Urban</th>
<th>Other Urban</th>
<th>Rural</th>
<th>Mixed Urban/Rural</th>
<th>Insufficient Information</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students - Elem. School</td>
<td>- - -</td>
<td>South Africa</td>
<td>- -</td>
<td>Papua-N.G.</td>
<td>- - -</td>
<td>2</td>
</tr>
<tr>
<td>Students - Secondary School</td>
<td>Burundi</td>
<td>Nigeria</td>
<td>Ghana</td>
<td>Papua-N.G. (N=2)</td>
<td>Ivory Coast</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>South Africa</td>
<td>South Africa</td>
<td>Indonesia</td>
<td></td>
<td>South Africa</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Zambia (N=2)</td>
<td>Zambia</td>
<td>Philippines</td>
<td></td>
<td>Zambia (N=3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Indonesia</td>
<td>Japan</td>
<td>Philippines</td>
<td></td>
<td>South Africa (N=3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Korea</td>
<td>Guam</td>
<td>Phillipines</td>
<td></td>
<td>Phillipines</td>
<td></td>
</tr>
<tr>
<td>Students - College and Graduate</td>
<td>Ethiopia</td>
<td>India</td>
<td>Indonesia</td>
<td>- -</td>
<td>India (=4)</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>India</td>
<td>Mexico</td>
<td>Phillipines</td>
<td></td>
<td>Phillipines</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pakistan</td>
<td>Brazil</td>
<td>China</td>
<td>Mexico</td>
<td>Phillipines</td>
<td></td>
</tr>
<tr>
<td>Mixed - Students and Non-Students</td>
<td>- - -</td>
<td>Nigeria</td>
<td>- - -</td>
<td>- - -</td>
<td>- - -</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>India</td>
<td>Israel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>Brazil</td>
<td>Brazil</td>
<td>Brazil (N=2)</td>
<td>- -</td>
<td>Sri Lanka</td>
<td>6</td>
</tr>
<tr>
<td>&quot;Young Adults&quot;</td>
<td>Taiwan</td>
<td>- -</td>
<td>- -</td>
<td>- -</td>
<td>India</td>
<td>4</td>
</tr>
</tbody>
</table>
Table 3.3 - (continued)

<table>
<thead>
<tr>
<th>&quot;Occupational&quot; Status</th>
<th>Very Large Urban</th>
<th>Other Urban</th>
<th>Rural</th>
<th>Mixed Urban/Rural</th>
<th>Insufficient Information</th>
<th>f</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Adults&quot; - Occupation Unspec.</td>
<td>Japan (N=2) Taiwan Argentina (N=2) Chile Guyana Poland</td>
<td>- - -</td>
<td>- - -</td>
<td>Phillipines Puerto Rico</td>
<td>USSR</td>
<td>11</td>
</tr>
<tr>
<td>Mine Workers</td>
<td>- - -</td>
<td>- - -</td>
<td>Mauritania Zambia (N=2)</td>
<td>- - -</td>
<td>- - -</td>
<td>3</td>
</tr>
<tr>
<td>Farmers</td>
<td>- - -</td>
<td>- - -</td>
<td>India (N=3) Phillipines Brazil (N=2)</td>
<td>- - -</td>
<td>- - -</td>
<td>6</td>
</tr>
<tr>
<td>Railroad Trainees</td>
<td>- - -</td>
<td>- - -</td>
<td>- - -</td>
<td>- - -</td>
<td>Zambia</td>
<td>1</td>
</tr>
<tr>
<td>Subtotals</td>
<td>23</td>
<td>13</td>
<td>15</td>
<td>5</td>
<td>19</td>
<td>75 (total)</td>
</tr>
</tbody>
</table>
categories to only four such categories (teachers, miners, farmers, and railroad trainees). A further reason for merging these two factors into one variable was that the sample descriptions in many of the research reports on the primary studies were such that their samples could be classified only into the broad categories "mixed student and non-student samples," "young adults" (with no further specification) and "adults -- occupation unspecified." The "young adults" were assigned to a separate category on the suspicion that they may have contained both students and non-students.

In addition to these four specific occupational categories and three very general and partially overlapping categories, three categories of students were established in this coding scheme, corresponding to the three most general academic levels: elementary school students, high school students, and college (including graduate and professional school) students.

Table 3.3 indicates the number of available samples for each of these ten categories and indicates the countries from which each of the samples were drawn. In some of the analyses, the three student categories were merged into one and in some analyses these three categories were merged with the "teachers" category, to develop a general "academic" category of samples. In some analyses, the samples which were unambiguously adult in character were merged into one overall adult/worker category. In all cases, the "mixed student and non-student" samples and the "young adults" samples were treated independently. The rationale for these decisions will be provided in the "findings" chapters.
Community Size

Also indicated on Table 3.3 is the distribution of the seventy-five usable samples in terms of their reported community size characteristics. Haller et al. (1972), Tiryakian (1958), Koppel (1964) and Cook (1962) have considered the possibility that there might be systematic variation in occupational prestige assessments on the basis of community size, especially between the extremes of the rural-urban continuum.

It would have been desirable, of course, to have computed a Pearson correlation between community size (at the time of each investigation) and the level of agreement with the Siegel data, but in many studies the description of the sample(s) employed was too vague to permit this. In many of the studies neither the (at least rough) population size nor the name of the community from which the sample was drawn were reported.

Furthermore, even had such community size figures been available, it might not have been suitable to use them for theoretical reasons. The concern expressed in the literature is not with population size of community (as such) as it is with the possible relationship between community size and exposure to the industrial system. Thus, for example, Haller et al. (1972) speak of "media contact" and the travel time involved in access to large cities as factors which might be involved in bringing occupational prestige assessments of Third World ruralites into conformity with those of the (Western) industrial system.
For both of these reasons, "community size" was here operationalized into five simple categories. "Very large urban" included all cities of known populations of 500,000 or more and all national capital cities. The few capital cities of less than 500,000 population were included in this category on the presumption that national capital cities, of whatever size, are primary centers of diffusion of extra-national cultural elements. All other samples which were clearly drawn from urban communities were relegated to an "other urban" category.

These two urban categories were compared to a third category, one in which all of the samples were clearly and exclusively rural in nature. A fourth category was comprised of those samples which were indicated in their respective research reports as being comprised of both urban and rural respondents. Finally, a residual category was established to include all of those samples for which not enough information was provided to clearly include them in any of the preceding categories.

**Societal "Development" Level**

In addition to the occupational and student/non-student status of the respondents and the rural-urban character of their communities, a third independent variable was employed, i.e., the "development" level of the country from which each sample was drawn. It will be recalled that Inkeles and Rossi's (1956) structural diffusionist hypothesis suggests that the more a "developing" society reflects the Western industrial division of labor and social organization of work, the more
the occupational prestige hierarchy of that society would tend to be in agreement with the Western industrial occupational prestige hierarchy.

To test this hypothesis, a societal "development" index was generated for each country which contained at least one usable sample. This was accomplished by means of factor analysis. Five indicators were employed in the construction of this index. These indicators, along with the sources of the data and their weightings on the general "Societal Development" factor were:

1. energy consumption per capita — in kilograms of coal equivalent, 1973 (1977 U.N. Statistical Yearbook, table 142) (weighting = 0.2170)
2. radio receivers per 1,000 population, 1970 (1977 U.N. Statistical Yearbook, table 217) (weighting = 0.2170)
3. per capita gross national product (US$), 1971 (1975 World Population Data Sheet - Population Reference Bureau) (weighting = 0.1964)
4. percent of 5 to 19 year old population enrolled in school, 1973 (Ruth L. Sivard, World Military and Social Expenditures, 1977, table 3) (weighting = 0.1585)

The societal "development" process is obviously a multifaceted phenomenon and a very broad range of measures which seek to "tap" it are available from a variety of sources. These five were selected as being representative of some of the key elements of change involved in this overall process of societal "development."
Table 3.1 - Societal Development Index and Values for Each of the Five Factors Employed, by Country

<table>
<thead>
<tr>
<th>Country</th>
<th>Energy Consump. per cap.</th>
<th>Radios per 1000 pop.</th>
<th>GNP per capita</th>
<th>School Enroll. Rate</th>
<th>Infant Morality Rate</th>
<th>Development Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burundi</td>
<td>9</td>
<td>18</td>
<td>70</td>
<td>16</td>
<td>150</td>
<td>-9</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>34</td>
<td>6</td>
<td>80</td>
<td>11</td>
<td>181</td>
<td>-9</td>
</tr>
<tr>
<td>Afganistan</td>
<td>43</td>
<td>6</td>
<td>80</td>
<td>35</td>
<td>182</td>
<td>-7</td>
</tr>
<tr>
<td>Nigeria</td>
<td>81</td>
<td>23</td>
<td>130</td>
<td>24</td>
<td>180</td>
<td>21</td>
</tr>
<tr>
<td>Mauritania</td>
<td>119</td>
<td>47</td>
<td>180</td>
<td>13</td>
<td>189</td>
<td>43</td>
</tr>
<tr>
<td>Indonesia</td>
<td>136</td>
<td>39</td>
<td>90</td>
<td>31</td>
<td>125</td>
<td>45</td>
</tr>
<tr>
<td>Pakistan</td>
<td>185</td>
<td>15</td>
<td>130</td>
<td>25</td>
<td>132</td>
<td>60</td>
</tr>
<tr>
<td>India</td>
<td>196</td>
<td>21</td>
<td>110</td>
<td>38</td>
<td>139</td>
<td>61</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>134</td>
<td>37</td>
<td>110</td>
<td>60</td>
<td>45</td>
<td>70</td>
</tr>
<tr>
<td>Ghana</td>
<td>163</td>
<td>78</td>
<td>300</td>
<td>43</td>
<td>156</td>
<td>98</td>
</tr>
<tr>
<td>Philippines</td>
<td>311</td>
<td>39</td>
<td>220</td>
<td>61</td>
<td>78</td>
<td>138</td>
</tr>
<tr>
<td>Ivory Coast</td>
<td>361</td>
<td>17</td>
<td>340</td>
<td>40</td>
<td>164</td>
<td>150</td>
</tr>
<tr>
<td>Zambia</td>
<td>539</td>
<td>18</td>
<td>380</td>
<td>51</td>
<td>157</td>
<td>214</td>
</tr>
<tr>
<td>Zimbabwe-Rhod.</td>
<td>714</td>
<td>28</td>
<td>340</td>
<td>37</td>
<td>122</td>
<td>266</td>
</tr>
<tr>
<td>Iraq</td>
<td>695</td>
<td>116</td>
<td>370</td>
<td>47</td>
<td>99</td>
<td>292</td>
</tr>
<tr>
<td>Brazil</td>
<td>615</td>
<td>126</td>
<td>530</td>
<td>50</td>
<td>94</td>
<td>303</td>
</tr>
<tr>
<td>Korea</td>
<td>915</td>
<td>126</td>
<td>310</td>
<td>61</td>
<td>60</td>
<td>358</td>
</tr>
<tr>
<td>Guyana</td>
<td>1233</td>
<td>105</td>
<td>400</td>
<td>61</td>
<td>40</td>
<td>447</td>
</tr>
<tr>
<td>Chile</td>
<td>1176</td>
<td>143</td>
<td>800</td>
<td>78</td>
<td>71</td>
<td>536</td>
</tr>
<tr>
<td>Mexico</td>
<td>1160</td>
<td>276</td>
<td>740</td>
<td>56</td>
<td>61</td>
<td>547</td>
</tr>
<tr>
<td>Argentina</td>
<td>1864</td>
<td>370</td>
<td>1290</td>
<td>57</td>
<td>60</td>
<td>886</td>
</tr>
<tr>
<td>Country</td>
<td>Energy Consump. per cap.</td>
<td>Radios per 1000 pop.</td>
<td>GNP per capita</td>
<td>School Enroll. Rate</td>
<td>Infant Mortality Rate</td>
<td>Development Index</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------</td>
<td>----------------------</td>
<td>----------------</td>
<td>----------------------</td>
<td>-----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>South Africa</td>
<td>2773</td>
<td>100</td>
<td>850</td>
<td>52</td>
<td>117</td>
<td>1000</td>
</tr>
<tr>
<td>Israel</td>
<td>2952</td>
<td>222</td>
<td>2610</td>
<td>62</td>
<td>21</td>
<td>1447</td>
</tr>
<tr>
<td>Poland</td>
<td>4554</td>
<td>173</td>
<td>1350</td>
<td>56</td>
<td>28</td>
<td>1664</td>
</tr>
<tr>
<td>Japan</td>
<td>3918</td>
<td>551</td>
<td>2320</td>
<td>68</td>
<td>12</td>
<td>1752</td>
</tr>
<tr>
<td>USSR</td>
<td>4684</td>
<td>390</td>
<td>1400</td>
<td>64</td>
<td>26</td>
<td>1762</td>
</tr>
</tbody>
</table>

**Excluded Countries:**

<table>
<thead>
<tr>
<th>Country</th>
<th>Energy Consump. per cap.</th>
<th>Radios per 1000 pop.</th>
<th>GNP per capita</th>
<th>School Enroll. Rate</th>
<th>Infant Mortality Rate</th>
<th>Development Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiwan</td>
<td>-</td>
<td>-</td>
<td>490</td>
<td>65</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td>Papua-N.G.</td>
<td>-</td>
<td>-</td>
<td>290</td>
<td>-</td>
<td>159</td>
<td>-</td>
</tr>
<tr>
<td>Guam</td>
<td>11,832</td>
<td>900</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>USA</td>
<td>11,738</td>
<td>1412</td>
<td>5590</td>
<td>84</td>
<td>18</td>
<td>-</td>
</tr>
</tbody>
</table>
The relatively high level of "fit" among these indicators is indicated by the Pearson correlations between each of the ten possible pairs among these indicators. These correlations ranged from a low of .62 (energy consumption and school enrollments) to a high of .94 (energy consumption and per capita GNP). The mean of these correlations was .74, indicating a relatively high level of correspondence among these factors but reflecting, as well, the partial independence of these variables.

The weighting values of these indicators was determined by use of the SPSS program for alpha factoring, with equimax rotation (Statistical Package for the Social Sciences, 2nd edition, pp. 481-485). Once these weighting values were determined, the societal development index for each country was established by multiplying each country's value on each indicator by the weighting assigned by the factor analysis to that value, then summing these five weighted values for each country. The single value thus produced was used as the index of each country's development level. The development index values for each country for which full data were available (and the data from which these values were generated) are indicated on Table 3.4.

The negative values for Burundi, Ethiopia and Afghanistan are a product of their having relatively low values on the four indicators in the equation with positive signs and their having relatively high values on the fifth indicator, which had a negative sign (infant mortality rate).

It might be noted that development index values were available for only 26 countries, as opposed to the 29 countries for which usable
data was available. There were three countries for which development index data was unavailable for one or more of the five indicators. These countries were Taiwan, Papua-New Guinea and Guam. Data for two of the five indicators ("energy consumption" and "radio receivers" per capita) were drawn from a U.N. source. Because of certain political and other considerations, such data for Taiwan and Papua-New Guinea were not available from that source. Since Guam is a possession of the United States, certain other data was not available for it. (The United States data is presented only for the interest of the reader. This data was not employed in the analysis.)

It would have been possible to seek out this missing data from other sources, thus permitting the inclusion of the available data from these three countries in the analysis. However, to have done so might have jeopardized the comparability of the data set used in the present analysis, since any such source of data might be expected to have some idiosyncratic features. Rather than risk this, these three countries were not considered in the analysis of variation in prestige hierarchy agreement by level of societal development.

Organization of the Remaining Chapters

Having considered the data set and the operationalizations of the variables to be employed in this analysis, attention will now be directed to the types of the analyses which were conducted and to the structure of the remainder of this report.

To recapitulate, the primary goal of this investigation was to examine the "structuralist" contention that there is an essentially
invariant hierarchy of the prestige of occupations both within and between the countries of the world. The extent of this variability-invariability was measured in terms of agreement of these hierarchies and a "model" Western industrial occupational prestige hierarchy.

A further goal was to determine whether or not any such differences which might have been found were systematic in terms of certain characteristics of the samples (student versus non-student status, etc.). This issue was to be explored on both an intra-national and a cross-national basis. A third important goal was to determine whether or not there were significant and systematic differences among the samples on the basis of the "development" level of the societies from which they were drawn.

The specific hypotheses to be tested and the specifics of the procedures used to test them (along with the principal findings of these analyses) will be reported in three separate chapters.

The first of these "findings" chapters (Chapter 4) will deal with variation in occupational prestige assessments within countries. The basic question to be addressed here is whether or not there are significant and systematic differences in occupational prestige assessments between student and non-student samples, between samples of differing occupations and between rural and urban samples. This analysis will be limited, of course, to those countries with two or more differing types of samples.

Chapter 5 will deal with these questions on a cross-national basis. Here it will be possible to employ the full data set. One
example of this type of analysis will be a comparison of all student samples (taken together, regardless of country) with all non-student samples, similarly taken.

Chapter 6 will also be concerned with a cross-national analysis but it will differ from Chapter 5 in that it will focus upon the extent to which differences among samples (in their extent of agreement with the Siegel data) are related to the development level of the countries from which they were drawn.

Following these three "findings" chapters, a "conclusion" chapter (Chapter 7) will be devoted to a general consideration of the various methodological and other problems involved in conducting a comparative analysis of occupational prestige assessments. It will be much less statistically-oriented than the other three and will focus on the "caveats" which must be employed in such analyses. It will present the conclusions of this analysis and will present certain suggestions for future research in this area.
CHAPTER IV
INTRA-NATIONAL VARIATION IN OCCUPATIONAL PRESTIGE ASSESSMENTS

The "structuralist" school has maintained that there are no systematic (socially structured) differences among samples in the assessment of the prestige of occupations, either within or between countries. The particular concern of this chapter is with intra-national variation. Any clear evidence of such systematic variation would call into question the fundamental proposition of that school, i.e., no significant differences among samples. The primary goal of this chapter is to report an examination of the available data to determine whether or not evidence supports the structuralists' position.

Two different approaches are available to empirically address this question. One consists of the separate analysis of those primary studies in which a researcher has compared the occupational prestige ratings of two or more samples with each other and perhaps compared these findings with those derived from a sample drawn from a different country. A second approach which may be used to address this question consists of the broader analysis of the relatively standardized comparative data which was generated for the present analysis (as reported in Chapter 3 of this work). In this latter approach, what are being
compared are varying levels of agreement with a "model," such as the Western industrial occupational prestige hierarchy.

Chapter 2 indicated some of the major findings of the primary studies which compared two or more samples (or which compared two or more categories of respondents contained in one sample). As that review indicated, some of these findings were at least seemingly contradictory. Some of these studies reported systematic differences among sample-types and some did not. Some of the clearer findings which may be drawn from those studies (i.e., findings of direct relevance to the independent variables indicated in Chapter 3) may be summarized as follows:

1. There was a high level of agreement (rho = .96) between suburban Manila residents and rural respondents in four villages located within 70 miles of Manila (Tiryakian, 1958).

2. There was a high level of agreement (rho = .95) between rural and urban samples in Puerto Rico (Koppel, 1964).

3. There were no significant differences among samples drawn in the capitol cities of Chile and Guyana, in terms of any of the variables tested for (Carter and Sepulveda, 1964 and Graham and Beckles, 1968, respectively).

4. Rural "young people" were found to "differ considerably" from urban "young people" in the U.S.S.R. (Shubkin, 1975).

5. Urban students differed considerably from isolated villagers in Brazil but differed only marginally from farmers closely integrated with the economy of a nearby large city (Haller et al., 1972).

6. There was virtually no correspondence (rho = .11) between rural and urban (students and professional men) samples in India (Cook, 1962).
7. There was a high level of agreement between students and mine recruits (rho = .93) and between students and mine "advances" (rho = .96) in Zambia (Mitchell and Irvine, 1966).

8. Student and non-student samples differed considerably in Zaire (Xydias, 1956).

9. There was a high level of agreement between student and non-student 17-year-old boys in a large Nigerian city (Armer, 1968).

10. Within countries, student samples tend to have very high levels of agreement with other student samples, irrespective of their other characteristics (data from 11 separate studies in 7 countries, with some "dissenting" data).

These findings, of course, are based on a very limited data set. The comparative data set generated for the present analysis (as explained in Chapter 3) permits further examination to go beyond the simple comparison of the various samples available within any given study to a comparative analysis of all of the studies available within each country and the various samples within studies. As explained in Chapter 3, this "new" comparative data set offers a standardized basis of comparison (i.e., the rho values) of all the samples available within a given country, irrespective of the source of the data.

While there is a distinct advantage in using this "new" data set for purposes of intra-national comparison, its use poses at least two disadvantages. First, this is only an indirect test of the level of agreement among samples. The samples were compared on the basis of their relative degree of agreement with one "model" Western industrial sample, rather than being compared directly with each other.

Secondly, because of the various data exclusions indicated in Chapter 3, certain of the studies reviewed in Chapter 2 were not
employed in the present analysis. For example, in the interest of permitting the null hypothesis of no significant differences between categories of respondents the greatest opportunity to be accepted, Davis' (1927) U.S.S.R. study was rejected from the final data set, since the time frame in which it was conducted was very different from that in which the other studies were conducted. The .28 and .25 Spearman correlations between these samples and the U.S. data were very low and would have tended to bring into question Treiman's contention that "the prestige hierarchy tends to be extremely stable over time, even in countries undergoing rapid industrialization and other social change" (1977:60).

A further example of data which was excluded from the final set was Xydias' (1956) study in Zaire, the first of all published studies of occupational prestige in Africa. This study (and the four samples made available from it) were excluded for a different and more typical reason. This data was excluded primarily because the number of matched titles between the individual samples and the Siegel data were fewer than ten in three out of the four samples. Had these Spearman values (.06, .14, .32 and .00) been included in the data set, it also would have tended to call the "structuralist" explanation into question but such evidence could reasonably be challenged.

Attention will next be directed to the intra-national analysis which was conducted on the comparative data set specifically created for this investigation.

As indicated above, the units of analysis in this investigation of intra-national variation are the various samples available
within each country, irrespective of the study from which it came. The dependent variable here consists of the Spearman rank-order correlations (rho) between the hierarchies derived from each of these samples and the Western industrial "model" hierarchy of occupational prestige available from the Siegel data.

The goal of this part of the overall investigation was to determine whether or not there were systematic differences among the samples within individual countries in terms of the independent variables specified in Chapter 3 (i.e., occupational and student status and community size). The greatest single limitation to this analysis is the lack of cases in each of the various "types" of samples (in terms of the independent variables) within each country. Even in those countries which contain several samples, frequently there were not enough cases for the differing types of samples to permit a statistical comparison between them. (For example, all but one of the South African samples are student samples.) Given this problem of data availability, only a few tests of statistical significance could be made. Following this, a more impressionistic analysis of this intra-national data was made. More rigorous statistical testing will be presented in Chapter 5, where the cross-national data is much more extensive, thus permitting a more rigorous statistical testing of hypotheses.

The available intra-national data set is indicated in Table 4.1. As can be seen in that table, analysis may proceed only on a limited scale, but enough variation in types of samples within countries is available to permit certain limited generalizations.
Table 4.1 - Spearman Correlations with Siegel Data and Number of Occupational Titles with Matches in the Siegel Data Set (Samples in Countries with Two or More Samples: the Intra-National Data Set.

<table>
<thead>
<tr>
<th>Available Samples</th>
<th>Spearman</th>
<th>N</th>
<th>Matches</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIGERIA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) 81 High School Students - Bornu (Cohen, 1970)</td>
<td>.73^a</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>(2) 591 17 year Olds - Kano; Mixed Students and Non-students (Armer, 1968)</td>
<td>.52^b</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>SOUTH AFRICA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) 182 High School Students - Durban (Kuper, 1965)</td>
<td>.95</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>(2) 50 Teachers - Durban (Kuper, 1965)</td>
<td>.92</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>(3) 180 Elementary School Students - Durban (Kuper, 1965)</td>
<td>.90</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>(4) 50 High School Students - English Speaking (Morsbach &amp; Morsbach, 1967)</td>
<td>.73</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>(5) 29 High School Students - Cape Colours (Morsbach &amp; Morsbach, 1967)</td>
<td>.73</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>(6) 48 High School Students - Afrikaaners (Morsbach &amp; Morsbach, 1967)</td>
<td>.68</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>(7) 82 High School Students - Jewish-Johannesburg (Morsbach, 1967)</td>
<td>.68</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>ZAMBIA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) 1138 High School Students - &quot;Across Zambia&quot; (Hicks, 1969)</td>
<td>.88</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>(2) 147 High School Students - (Mitchell, 1964)</td>
<td>.82</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>(3) 147 High School Students - Rural and Small Town (Mitchell &amp; Irvine, 1965)</td>
<td>.82</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>(4) 33 High School Students - Europeans (Hicks, 1967)</td>
<td>.82</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>(5) 25 High School Students - Multi-racial</td>
<td>.82</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>(6) 653 High School Students - Near Lusaka</td>
<td>.81</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>(7) 85 Railway Trainees - Literate (Hicks, 1966)</td>
<td>.79^c</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>(8) 55 Mine Worker &quot;Advances&quot;</td>
<td>.73</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>(9) 96 Illiterate Mine Workers (Mitchell &amp; Irvine, 1965)</td>
<td>.68</td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>
Table 4.1 - (continued)

<table>
<thead>
<tr>
<th>Available Samples</th>
<th>Spearman rho</th>
<th>N Matches</th>
</tr>
</thead>
</table>

**INDIA**

(1) 214 College and Graduate Students - Bombay University (D'Souza, 1962) | .85 | 22 |
(2) 30 Graduate Students and Professional Men (Cook, 1962) | .83 | 14 |
(3) 180 Students (primarily) - Unspecified (Cook, 1962) | .82 | 14 |
(4) 35 Young Adults - Bangalore, "Occupation" Unspecified (Krishnan, 1961) | .79 | 19 |
(5) 84 College Students - Brahmins (Krishnan, 1956) | .78 | 19 |
(6) 50 College Students - Lingayats (Krishnan, 1956) | .77 | 19 |
(7) 50 College Students - Harijans (Krishnan, 1956) | .76 | 19 |
(8) 110 Rural Heads of Households (D'Souza, 1964) | .70<sup>d</sup> | 11 |
(9) 50 College Students - Vokkalgas (Krishnan, 1956) | .68 | 19 |
(10) 40 Rural Heads of Households (Singh, 1967) | .66<sup>e</sup> | 12 |
(11) 30 Male Peasants - Over 20 Years Old (Cook, 1962) | .45<sup>f</sup> | 14 |

**INDONESIA**

(1) 774 High School Students - West Irian, Drawn From "Tiny Villages" (van den Veur, 1966) | .83 | 18 |
(2) 939 High School Students - Bandung (Population: 1 million) (Thomas and Soeparmian, 1963) | .69 | 17 |
(3) 334 High School and College Students - New Britain (Epstein, 1967) | .67 | 20 |

**PAPUA - NEW GUINEA**

(1) 100 High School Students - Scattered Locations (Conroy, 1974) | .82 | 16 |
(2) 410 Elementary School Students - Scattered Locations (Conroy, 1974) | .74 | 16 |
(3) 199 Vocational Trainees - Scattered Locations (Conroy, 1974) | .73 | 16 |
Table 4.1 (continued)

<table>
<thead>
<tr>
<th>Available Samples</th>
<th>Spearman rho</th>
<th>N Matches</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>JAPAN</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 899 Adults - Large Cities (Japan Sociological Society, 1954)</td>
<td>.91</td>
<td>20</td>
</tr>
<tr>
<td>2. 622 Adults - Tokyo probability sample (Nishihira, 1968)</td>
<td>.86</td>
<td>46</td>
</tr>
<tr>
<td>3. 536 Urban High School Students (Ramsey and Smith, 1968)</td>
<td>.80</td>
<td>18</td>
</tr>
<tr>
<td><strong>PHILIPPINES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 78 High School Students - Rural Agric. School (Castillo, 1962)</td>
<td>.92</td>
<td>18</td>
</tr>
<tr>
<td>2. 606 Heads of Households - Rural and Manila (Tiryakian, 1958)</td>
<td>.86</td>
<td>23</td>
</tr>
<tr>
<td>3. 510 Junior College Students - state university (Kunde and Davis, 1959)</td>
<td>.86</td>
<td>17</td>
</tr>
<tr>
<td>4. 78 High School Students - Manila (Castillo, 1962)</td>
<td>.82</td>
<td>18</td>
</tr>
<tr>
<td>5. 60 (Rural) Village Leaders - &quot;Out-Island&quot; (Voth, 1970)</td>
<td>.74</td>
<td>84</td>
</tr>
<tr>
<td><strong>TAIWAN (REP. of CHINA)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 507 Heads of Households - Taipei (Marsh, 1970)</td>
<td>.90</td>
<td>22</td>
</tr>
<tr>
<td>2. 386 Young Adults - Taipei (Gritching, 1971)</td>
<td>.80</td>
<td>78</td>
</tr>
<tr>
<td><strong>ARGENTINA</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 100 Blue-Collar Workers - Capital City (Cucullu de Murmis, 1961)</td>
<td>.84</td>
<td>21</td>
</tr>
<tr>
<td>2. 100 Professionals - Capital City (Cucullu de Murmis, 1961)</td>
<td>.83</td>
<td>21</td>
</tr>
<tr>
<td><strong>BRAZIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 210 Teachers - Rural Province (Gouveia, 1965)</td>
<td>.96</td>
<td>11</td>
</tr>
<tr>
<td>2. 939 Teachers - Rural Province (Gouveia, 1965)</td>
<td>.95</td>
<td>12</td>
</tr>
<tr>
<td>3. 397 Teachers - Sao Paulo City (Gouveia, 1965)</td>
<td>.94</td>
<td>12</td>
</tr>
</tbody>
</table>
Table 4.1 - (continued)

<table>
<thead>
<tr>
<th>Available Samples</th>
<th>Spearman rho</th>
<th>N Matches</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BRAZIL (continued)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(4) 500 University of Sao Paulo Students (Hutchinson, 1957)</td>
<td>.88</td>
<td>21</td>
</tr>
<tr>
<td>(5) 121 Heads of Households - Farm Community Near Large City (Haller, et.al., 1972)</td>
<td>.87</td>
<td>42</td>
</tr>
<tr>
<td>(6) 45 Teachers - Small Cities (Gouveia, 1965)</td>
<td>.85</td>
<td>12</td>
</tr>
<tr>
<td>(7) 100 Heads of Households - Isolated Villagers (Haller et.al, 1972)</td>
<td>.74</td>
<td>39</td>
</tr>
<tr>
<td><strong>U.S.S.R.</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) (?) Young Adults - Rural and Urban Males (Shubkin, 1969)</td>
<td>.82</td>
<td>14</td>
</tr>
<tr>
<td>(2) (?) Young Adults - Rural and Urban Females (Shubkin, 1969)</td>
<td>.81</td>
<td>14</td>
</tr>
<tr>
<td>(3) 2146 Former Soviet Citizens - Adults (Rossi and Inkeles, 1957)</td>
<td>.71 ^g</td>
<td>10</td>
</tr>
</tbody>
</table>

^a Unless specifically stated otherwise, all Spearman rank-order correlations were significant at the .001 level.

^b Significant at the .002 level

^c Significant at the .009 level

^d Significant at the .01 level

^f Significant at the .05 level

^g Significant at the .01 level
India and Zambia offered the most comprehensive sets of data for individual countries in terms of varying types of samples and the number of cases available for each of these types. The mean of the two clearly urban Indian samples (.825) differed significantly ($P \leq .05$) from the mean (.603) of the three clearly rural samples available for that country. There was not sufficient information for the other available Indian samples to clearly categorize them as being either urban or rural. Thus they were excluded from this analysis. There were significant differences, as well (also at the .05 level) between the only available "occupational" categories in that country. The mean of the six student samples was .780, as compared with .603 as the mean for the three "farmer" samples. In Zambia, the mean of the rank-order correlations with the Siegel data for the six student samples was .826, as compared with the .702 mean of the two mine worker samples. This difference was significant at the .01 level.

The number of cases for each of the categories of relevance here ("occupational" and student status and rural-urban location) in each of the other ten countries for which two or more samples were available was so few that no further attempts at statistical comparison between categories was attempted. However, an inspection of the intra-national data set reported in Table 4.1 might lead to certain tentative conclusions.

**Overview of the Intra-National Data Set**

First, when this intra-national data set was inspected as a totality (as it and data from countries containing only one sample will
be in the next two chapters), it was seen that there is a generally high level of correspondence between these samples and the Siegel Western industrial data. This would tend to offer some substantiation to the "structuralist" hypothesis of prestige hierarchy invariance within countries. However, this data is far from being invariant. The data suggests a generally high level of agreement among samples but hardly the essentially invariant system suggested by the "structuralists."

Treiman's own "national" data set for non-Western countries (drawn from his overall data matrix) suggests an essentially similar conclusion. Only 29 percent of Treiman's "countries" had a Pearson correlation of greater than .89 with the U.S. data, as did only 16 percent of the samples in the data set used here.

Treiman's data is presented in "nationally-grouped" form. Nowhere does he present correlations between individual samples, unless a given "country" happened to be represented by only one sample. Also, it will be recalled from Chapter 3 that several of Treiman's "countries" are actually differing types of samples in given countries. For example, Brazil is considered by Treiman to be three separate "countries," corresponding to the three samples available from Haller et al. (1972) and Hutchinson (1957). Treiman's data set also differs from that employed here in that he rejected all samples in a given country which failed to correlate .95 or higher with the methodologically "best" single study available in that country. To the extent that the methodologically "best" study available in a given country might be drawn from the most urbanized segment of that society (which might on both theoretical and empirical grounds be expected to be the
most similar to that found in Western industrial countries), it is possible that something of a methodological bias might have been introduced into his data set in the direction of increasing the levels of agreement with the Western industrial system. Perhaps this might help to account for the somewhat higher level of agreement in the Treiman data (in which 76 percent of the correlations were .80 or higher) versus the data set employed here (in which only 58 percent of the correlations were .80 or higher).

Whatever the explanation of the differences in the percent of .80 or higher correlations in Treiman's results and the results found here, it should be noted that fourteen percent of the correlations between the foreign samples and the Siegel data fell below .70.

Further examination of the full intra-national data set is reserved for Chapters 5 and 6. Suffice here to note that the data from the data set employed here (and the data set employed by Treiman) are far from being invariant.

The key question in the examination of intra-national variation, however, is not simply whether or not there is a broad range of levels of agreement with the Western industrial system, but rather, whether or not such variations are systematic within countries in terms of the three independent variables, i.e., occupational status, student versus non-student status, and community size.

The three comparisons for which sufficient data was available to reasonably conduct a test of statistical significance among means (Indian urbanites versus ruralites, Indian farmers versus students, and Zambian students versus mine workers) have suggested that there might
well be such systematic differences by sample type. Although there are not as many cases falling within these categories in other countries to permit further statistical analysis, the reader's attention is called back to Table 4.1 for a search of other possible generalizations. To facilitate this (non-statistical) comparison among samples, the samples are ordered within countries in this table on the basis of their Spearman correlations with the U.S. data, rather than on the basis of the study from which they came.

"Teacher" Samples

One of the very few occupational titles for which data is separately available is that of "teacher." Separate "teacher" samples are available in both the Brazilian and South African data. Four samples are available in the former and one in the latter. In both countries, teachers tended to have relatively high correspondence with the Western industrial scheme of occupational evaluation. Of the seven South African samples, teachers ranked second in agreement with the Siegel data. Of the seven Brazilian samples, three of the teacher samples occupied the first three ranks. The fourth teacher sample was correlated at .85 with the U.S. data but, inexplicably, this was slightly lower than the value for Haller's Bezerros sample (a small town linked closely by economic, communications and transportational ties to a large urban center). Apart from this generalization that teacher samples tend to have particularly (and very understandably) high correspondence with the Western industrial system of occupational evaluation, it might be noted that there is very little, if any,
variation among teacher samples on the basis of community size, except the slight possibility (suggested by the Brazilian data) that rural teachers might tend to "overconform" to Western industrial standards in this matter as compared to urban teachers.

**Student versus Non-Student Samples**

Significant differences between student and non-student samples have already been reported for India and Zambia. Further examination of the data would lend other, much more tentative validation to the proposition that student and non-student samples do differ significantly from each other. For example, Cohen's (1970) Nigerian sample, which consisted entirely of students, had a considerably higher level of agreement with the U.S. data than did the Armer (1965) sample, which consisted of both students and non-students of the same age ($\rho = .72$ and $.52$, respectively).

Further, Shubkin's (1969) two samples of "young people" in the Soviet Union (both of which consisted of an unspecified mix of students and non-students) were higher in their level of agreement with the U.S. data ($\rho = .82$ and $.81$) than Rossi and Inkeles' (1957) sample of adult Soviet emigres to the U.S. ($\rho = .71$).

Somewhat contradictory evidence exists for the Philippines. A comparison of Castillo's (1962) urban and rural student samples ($\rho = .82$ and $.92$, respectively) and the rural non-student sample offered by Voth (1970) ($\rho = .74$) suggests that such systematic differences might exist in the Philippines. What makes the Philippino data somewhat contradictory is that Tiryakian's (1958) mixed urban and
rural non-student sample had the same level of agreement with the U.S. data as did Castillo's urban student sample (rho = .82). An attempt was made in Chapter 2 to explain the differences between the Tiryakian and the Voth data. It was suggested that the differences between the two may lie in the fact that, while Voth's rural sample was far removed from any major city, Tiryakian's ruralites were located close to Manila.

Similarly mixed evidence arises from a comparison between the available Brazilian student and non-student samples. While there are marked differences between Hutchinson's (1957) University of Sao Paulo students and Haller et al.'s (1972) Acucena isolated villagers (rho = .88 and .74, respectively), there is virtually no difference between the university students and Haller's sample drawn from Bezerros (rho = .87).

**Rural versus Urban Samples**

An examination of these Philippino and Brazilian cases does suggest the possibility of a pattern, however. In both countries, the non-student samples which tend to correspond closely with the student assessments were either urban samples or rural samples clearly within the sphere of direct influence of major urban centers. This suggests the possibility that the "structuralist" argument of invariance in occupational prestige assessments might well be valid for urban samples, for rural samples under the close economic and cultural domination of nearby large cities and for student samples (regardless of their urban versus rural location). However, this argument may not be valid for
that portion of the rural population of the "less developed" countries of the world which is not under the direct domination of such large urban centers.

In 1978, approximately 72 percent of the population of the "less developed" world lived in rural areas (1979 World Population Data Sheet). No doubt an important part of that rural population lived in villages within the direct sphere of cultural influence of major urban centers, perhaps especially in South America, where the population tends to be more concentrated than in either Africa or Asia.

However, if Haller and his associates are correct in maintaining that "isolated sectors of some contemporary societies may have occupational prestige hierarchies (and therefore systems of stratification) which differ from the well-known Euro-American form" (1972:941), great caution must be exercised in arguing the position that there is an essentially invariant occupational prestige hierarchy which pervades all complex societies. The urbanites, these "urbanized" ruralites and the students who seem to demonstrate such high levels of conformity with the Western hierarchy may well be only a minority of the populations of Africa, Asia, and Central and South America, as the above figures suggest.

While there are only a few rural samples outside of the range of easy commuting distance from major cities in the currently available data set, the levels of agreement between these samples and the U.S. data are consistently lower than are the levels of agreement for other types of samples. Student samples and urban adult samples are grossly overrepresented in the currently available data set, as compared to
their comparative population size within their respective countries. This tends to strongly skew the country "averages" in the direction of artificially high levels of agreement with the Western data. This, in turn, is taken as sufficient evidence of an invariant intra-national and cross-national prestige hierarchy. The "deviant" evidence from the few rural samples outside of the direct cultural domination of large cities are dismissed. For example, Treiman (1977:60) maintains that "while it is possible to locate isolated instances of differences in the evaluation of particular occupations, these exceptional cases are too few to seriously discredit the claim of near-perfect consensus across population subgroups in the prestige evaluation of occupations."

The "isolated instances" of low levels of agreement with the Western industrial data are isolated only in the context of a data set which is overweighted with student and urban samples. The "non-urbanized" ruralites who have these low levels of agreement with the Western industrial system are not isolated in the sense of being only a small segment of the populations which these studies have very imperfectly sampled.

**Consistency among Student Samples**

To turn to a somewhat different issue, if there is indeed a Western bias on the part of student samples in non-Western countries, it should be expected that student samples (as a group) would tend to have higher levels of correspondence with the Western hierarchy than would be expected for non-student samples (as a group). It should also
be expected that there should be a high level of agreement among these student samples in their level of correspondence with these Western assessments.

It has already been indicated that there is some minor overlapping of student and non-student levels of agreement with the U.S. data but the weight of this very limited evidence would seem to be somewhat more in the direction of validating the hypothesis of a Western bias among student samples than it would be in the direction of failing to validate this hypothesis. However, if this hypothesis is valid, it should also be expected that there would be a minimum of variation among such samples in any given country. The evidence from the six South African student samples would seem to refute this expectation.

The Spearman correlations of these six samples range from .68 to .95, a very wide gap, indeed, in the context of the general distribution of the Spearman values in the full intra-national data set. It should be noted, however, that there is relatively high internal consistency within the three Spearman correlations in the Kuper (1965) data (rho = .95, .92 and .90) and within the four samples available from the Morsbach (1967) and the Morsbach and Morsbach (1967) data (rho = .73, .73, .68 and .68). It is entirely possible that these differences between Kuper's and the Morsbach's data may be the result of differences in the "rater task" employed in each of these studies.

Kuper's respondents were asked to rank occupations "in the order in which they enjoy prestige," which was typical of the wording used in investigations of occupational prestige. On the other hand, in
both of the Morsbach studies, the respondents were asked to rank occupations in terms of adjective pairs (respectable-despicable, important-unimportant, desirable-undesirable, etc.). The average of the ratings of the occupations over the ten dimensions was used as each occupation's prestige rating value in the Morsbach and Morsbach study. In the Morsbach study, only the ratings along the "respectable-despicable" dimension were employed here. Given the relative atypicality of this "rater task," the advisability of using the data from these two studies may be argued. There are reasonable arguments on both sides of the question. At the time the decision was made to include these studies, the pro-inclusion arguments prevailed.

Be that as it may, the point remains that the South African data alone cannot be taken as sufficient evidence of a high level of variation in student level of agreement with the Western industrial hierarchy within countries, given the high level of agreement within the studies employing each of these somewhat different types of rater tasks.

The relatively high level of variation in student data in the three Indonesian student samples (rho = .83, .69 and .67) cannot so easily be explained away. All three studies employed slight variants of the conventional rater task. All three requested ratings of rankings in terms of the "prestige" or "general standing" of the occupations listed. This sixteen point difference in correlation values may be taken as partial evidence of some marked differences in student assessments in Indonesian society. However, it might be noted that Indonesia is perhaps the most culturally diverse country in the world and that its population (outside of Java) is divided by more natural and linguistic
barriers than any other country in the world, as a result of geography and the particular brand of colonialism practiced by the Dutch. In Indonesia, outside of Java, perhaps any cultural homogeneity is to be wondered at. (The van der Veur and the Epstein studies were conducted at great distances away from Java, while the Thomas and Soeparman study was conducted in Java.)

Apart from these two countries (in which the "contradictory" data can be partially explained away), there tends to be a relatively high level of consensus among student samples within countries. The range of Spearman correlation values with the U.S. data in Zambia is .81 to .88. The range in India (with the exception of the Vokkaligas sample) is .76 to .85. In Papua-New Guinea, the range is .73 to .82.

All of this can hardly be taken as conclusive evidence of a very high level of agreement among student samples within countries. But, just as in the case of the comparison between student samples and non-student samples within countries, the weight of the existing evidence would seem to be on the side of calling into serious question one of the central propositions of the "structuralist" position, i.e., that "the prestige ratings by students in non-industrialized countries are not particularly deviant and are no more Western than ratings by non-students, which means that it is valid to use data from student samples to estimate the prestige hierarchies of countries from which no better data is available" (Treiman, 1977:60). While it might be entirely possible that student ratings might be only slight overestimations of the ratings of urbanites and of rural residents within close proximity to major cities, the evidence cited above would suggest that
student ratings may in no way approximate the ratings of the relatively isolated villagers, who constitute a great mass of the population of at least Asia and Africa.

Apart from the issue of how representative student ratings are of the true "country ratings" (if, indeed, such country ratings truly exist), there is a rather interesting minor point regarding student-to-student variation to be derived from an examination of Table 4.1. Contrary to what might have been expected, the ratings of Castillo's (1962) rural students conformed more to the U.S. hierarchy than did his urban sample (rho = .92 and .82, respectively). In the small range of variation among the Zambian student samples (rho = .81 to .85), it is interesting to note that the lowest level of agreement with the U.S. hierarchy was found in a sample located "near Lusaka" (the national capital), while the highest level of correspondence was found among students drawn from "across Zambia," presumably the majority of which were small town and village students. In Indonesia, the Thomas and Soeparman (1963) sample of students drawn from a city of one million population was "sandwiched between" the two village samples. This evidence suggests that, at least within countries, there are no systematic variations among student samples on the basis of community size.

If any generalization other than this might be made on the basis of this very limited data and relatively minor variation, it might be that rural students in the Third World more clearly conform to the Western industrial norms than do urban students, which is perhaps the opposite of what the "cultural diffusionist" position on this matter might suggest.
One possible explanation of this might lie in the relative overconformity to Western norms on the part of rural teachers, as compared with their urban counterparts. The only available evidence to address this possibility (and meager it is) is to be found in Gouveia's (1965) data for four samples of Brazilian teachers, located in communities of varying size. The Spearman correlations for his two rural teacher samples were .96 and .95, whereas the correlation for the Sao Paulo city teachers was .94 and teachers drawn from "small cities" had a correlation value of only .85. However, this evidence is slight indeed.

"Urban" Adults

It will be recalled from the review of those studies which reported two or more samples that urban adults tended to have consistently high levels of agreement among themselves and with the Western industrial hierarchy (within countries). Further evidence of this proposition is to be found in data from three countries. Cucullu de Murmis (1961) found that blue collar workers and professionals in Argentina's capital city were in very close correspondence (rho = .84 and .83, respectively). In two separate studies conducted in Japan, urban adults were also found to be in high level of agreement with each other and with the U.S. data (rho = .91 and .80). Somewhat less strong, but still convincingly high correspondence was found in two separate studies of urban adults in Taiwan (.90 and .80).
Summary of Findings

On the basis of this examination of this non-Western comparative intra-national data set and on the basis of the earlier examination of those primary studies which reported two or more samples (or "breakdowns" of samples), several at least tentative generalizations might be listed. A variety of such intra-national generalizations have already been suggested in this chapter but only those with reasonably clear evidence will be included in this listing.

1. There tends to be a very high level of agreement among urban adults, irrespective of occupational status and other variables.

2. Rural adults drawn from villages within the direct hinterland of large cities tend to have high levels of agreement with urban adults (including the totality of such geographically small and media-saturated "countries" as Puerto Rico).

3. Rural adults located outside of the direct hinterland of large cities tend to have relatively low (if any) correspondence with urban adults.

4. Student samples tend to have high levels of agreement among themselves and with urban adult samples.

5. Youths residing in large urban centers tend to have high levels of agreement among themselves, irrespective of student versus non-student status.

6. Teachers tend to have high levels of agreement among themselves and very high levels of agreement with the Western industrial pattern of occupational prestige evaluation.

It should be kept in mind that due to the already noted limitations of the available data set, these generalizations can be considered to be only tentative. It is axiomatic in a work of this sort that "further research is needed." This is particularly true in the
comparative analysis of occupational prestige structures. What is especially needed is data from rural samples in Third World societies which are located more than a few hours commuting distance from the nearest large city. Very little of such data is currently available. It is especially important for purposes of further testing the third generalization listed above.

Relation of Findings to the "Structuralist" Position

It is important at this point in this work to reiterate the significance of these findings for the "structuralist" position on the comparative analysis of occupational prestige hierarchies. Much of the evidence cited above serves to substantiate the "structuralist" position but part of it would call this position into serious question. That position posits that there are no systematic intra-national differences in the assessment of the prestige of occupations, with occasional "deviant" exceptions, such as the "anomalous" rural Indian data to which Treiman (1977:74) refers. The relatively high levels of deviation among urban and truly rural samples reported by Haller et al. (1972) in Brazil and Voth (1970) in the Philippines suggest that this may not be as anomalous a case as it might appear.

In his 1977 work, Treiman dealt with these "anomalous" samples in certain countries by treating them as samples drawn from what amounted to be separate countries.

The only exception to the pattern of consensus in prestige evaluations within each society is that within some -- but by no means all -- nonindustrialized countries, geographically distinct groups differ enough to warrant treatment as different populations.
(recall from Chapter 2 that the criterion for combining several studies from a single country was that the correlation between prestige ratings be at least .95). Not surprisingly, the level of sociocultural integration of some nonindustrialized countries is rather low, and it is probably reasonable to regard them as composed of several societies connected only by an overarching polity (1977:60).

Brazil was considered to be composed of three separate populations: the Acucena sample (isolated villagers), the Bezerros sample (a small farming community located within commuting distance from large urban centers) and the sample of Sao Paulo City university students. Two types of Indian samples were designated: peasants and university students. In Indonesia, the student samples from Java (Thomas and Seoparman) and West Irian (van der Veur) were treated as being drawn from different populations. In Nigeria, the Bornu (Cohen) and Kano (Armer) samples were given separate treatment. In the last (Thailand) of these five countries given this treatment by Treiman, separate designations were made for a peasant sample, a sample of Teachers College students and a capital city university student sample.

The Thailand data employed in Treiman's analysis was not included in the present work because, as of this writing, it had not been published. This Thai study was conducted by Treiman himself (Treiman et al., 1969).

It is quite reasonable to treat the two Indonesian samples as being drawn from "geographically distinct groups." In the situations of the other four countries given this special treatment, however, the basis of differentiation among samples is more than simple geographic distinction. Rather, these differences have to do with the very variables focused on in this chapter: student versus non-student status and rural versus urban sample source.
The very fact that Treiman felt compelled to treat this "anomalous" data in this fashion (differentiated as four of them are by student status, and community type, as well as "geographic" distinction), may suggest some lingering suspicion on his part that the data may contain more evidence of intra-national variation than his theoretical framework might care to admit. It should be noted, however, that some of the data which would tend to fail to support the "structuralist" position was apparently not available to him at the time of his 1977 investigation.

Apart from this apparently "anomalous" data in the "intra-national data set," there does tend to be a relatively high degree of correspondence in prestige ratings among urban adult samples, among rural adult samples located in the direct hinterland of large urban centers and among students (almost everywhere).

A further reason for exercising caution in using this data set as sufficient evidence of the validity of the "structuralist" position that there are only very minor (and presumably inconsequential) intra-national variations in the assessment of the prestige of occupations is that the range of variation within countries is, in some cases, rather substantial. This may be seen from a perusal of the Spearman values with countries presented in Table 4.1.

Table 4.2 presents these ranges in more clear and explicit form. The range of variation in levels of agreement with the Siegel data in some of these countries is much too broad to permit this data to be taken as sufficient evidence of the validity of the "structuralist" position. Of course, for the reasons suggested above, the
Table 4.2 - Average Level of Western-Correspondence, by Country (The Intra-National Data Set).

<table>
<thead>
<tr>
<th>Country</th>
<th>N SAMPLES</th>
<th>MEAN rho</th>
<th>STD. DEV.</th>
<th>MIN. rho</th>
<th>MAX. rho</th>
<th>rho RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDIA</td>
<td>11</td>
<td>.737</td>
<td>.112</td>
<td>.453</td>
<td>.848</td>
<td>.395</td>
</tr>
<tr>
<td>REPUBLIC SO. AFRICA</td>
<td>7</td>
<td>.799</td>
<td>.119</td>
<td>.679</td>
<td>.950</td>
<td>.272</td>
</tr>
<tr>
<td>BRAZIL</td>
<td>7</td>
<td>.882</td>
<td>.076</td>
<td>.741</td>
<td>.954</td>
<td>.213</td>
</tr>
<tr>
<td>NIGERIA</td>
<td>2</td>
<td>.625</td>
<td>.143</td>
<td>.524</td>
<td>.727</td>
<td>.202</td>
</tr>
<tr>
<td>ZAMBIA</td>
<td>9</td>
<td>.795</td>
<td>.059</td>
<td>.676</td>
<td>.876</td>
<td>.200</td>
</tr>
<tr>
<td>PHILIPPINES</td>
<td>5</td>
<td>.841</td>
<td>.064</td>
<td>.745</td>
<td>.916</td>
<td>.171</td>
</tr>
<tr>
<td>INDONESIA</td>
<td>3</td>
<td>.731</td>
<td>.088</td>
<td>.673</td>
<td>.832</td>
<td>.159</td>
</tr>
<tr>
<td>U.S.S.R.</td>
<td>3</td>
<td>.777</td>
<td>.059</td>
<td>.709</td>
<td>.816</td>
<td>.107</td>
</tr>
<tr>
<td>JAPAN</td>
<td>3</td>
<td>.855</td>
<td>.053</td>
<td>.799</td>
<td>.905</td>
<td>.106</td>
</tr>
<tr>
<td>TAIWAN</td>
<td>2</td>
<td>.818</td>
<td>.068</td>
<td>.800</td>
<td>.897</td>
<td>.097</td>
</tr>
<tr>
<td>PAPUA - NEW GUINEA</td>
<td>3</td>
<td>.761</td>
<td>.053</td>
<td>.725</td>
<td>.822</td>
<td>.097</td>
</tr>
<tr>
<td>ARGENTINA</td>
<td>2</td>
<td>.836</td>
<td>.002</td>
<td>.834</td>
<td>.838</td>
<td>.003</td>
</tr>
</tbody>
</table>
relatively broad range in the South African values might well be more a function of the distinct "rater task" employed in two of the studies than an indication of true rater variation in that country.

To indicate that the bulk of the currently available evidence tends to demonstrate a high level of agreement is not to say, however, that there are no systematic intra-national variations "out there" in the "real world." It should be kept in mind that many of the currently available samples were drawn from large cities. It should also be kept in mind that many of the currently available rural adult samples were drawn from communities in rather easy commuting distance from large urban centers.

What is being suggested here is that, given the limitations of the currently available data set, the conclusion of an essentially invariant hierarchy within countries is based on a minor "leap of faith." Further evidence, especially evidence from samples drawn from relatively isolated rural communities (wherein resides an important component of the Third World's population) would be necessary to put the fundamental "structuralist" proposition of no systematic variation by sample type on more secure empirical footing.
CHAPTER V

CROSS-NATIONAL VARIATION IN OCCUPATIONAL PRESTIGE ASSESSMENTS

The primary focus of the previous chapter was on the question of whether or not there were systematic differences in prestige hierarchy ratings among non-Western samples on the basis of occupational status, student versus non-student status and community size. Largely for purposes of standardization, this was operationalized in terms of variation among these samples in level of agreement with the "model" Western industrial occupational prestige hierarchy provided by Siegel. The primary focus of the present chapter is the same. The two chapters differ in that, while Chapter 4 addressed this question on a country-by-country (intra-national) basis, the present chapter addresses it on a cross-national basis. The two chapters differ also in that while the intra-national analysis utilized only a portion of the available data set, the cross-national analysis to be reported in this chapter used the entire data set described in Chapter 3.

The "intra-national data set" used in the previous chapter consisted only of data from those countries which contained two or more separately reported samples. It was noted throughout that chapter that this posed many limitations to the intra-national analysis. In the majority of the comparisons made in that chapter, the number of cases available for each type of sample within countries (e.g., urban
Brazilian samples) was so low that tests of the statistical significance of the differences between the means of these categories were not computed. In those situations, only an informal, descriptive comparison among samples was possible.

The full data set utilized in the analysis to be reported in this chapter included the "intra-national data set" but included, as well, the data from countries in which only one separately reported sample was available. Thus, all of the available data (other than that rejected for reasons specified in Chapter 3) was employed in the cross-national analysis.

This full data set is reported in Table 5.1. The table is organized in terms of the independent variables specified in Chapter 3, i.e., "occupational status" (including student versus non-student status) and the type of community in which the respondents resided. The values indicated in this table are the Spearman rank-order correlations (rho) between the occupational prestige hierarchies reported for each non-Western sample and the "model" Western industrial occupational prestige hierarchy available from Siegel's U.S. data, i.e., the "Western-correspondence" levels of these samples. Also indicated on this table are the countries from which each of these samples were drawn.

In the intra-national analysis reported in the previous chapter, each analysis was restricted to variations in ratings by sample type within countries. In the cross-national analysis, comparison of occupational prestige ratings by sample type proceeded independently of country. Thus, for example, in India there were only two clearly
Table 5.1 - Spearman Rank-Order Correlation Values (rho) for Samples in the Cross-National Data Set by "Occupational" Status, Community Size and Country of Origin.

<table>
<thead>
<tr>
<th>Community Size</th>
<th>&quot;Occupational&quot; Status</th>
<th>Very Large Urban</th>
<th>Other Urban</th>
<th>Rural</th>
<th>Mixed Urban/Rural</th>
<th>Insufficient Information</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students - Elem. School</td>
<td>- - -</td>
<td>South Africa</td>
<td>- - -</td>
<td>Papua-N.G.</td>
<td>- - -</td>
</tr>
<tr>
<td></td>
<td>Students - Secondary School</td>
<td>Barundi</td>
<td>South Africa</td>
<td>Philippines</td>
<td>- - -</td>
<td>Ivory Coast</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.8490</td>
<td>.9505</td>
<td>.9158</td>
<td>.8224</td>
<td>.9486</td>
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<tr>
<td></td>
<td></td>
<td>Philippines</td>
<td>Guam</td>
<td>Ghana</td>
<td>Papua-N.G.</td>
<td>Zambia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.8184</td>
<td>.8940</td>
<td>.8466</td>
<td>.7451</td>
<td>.8757</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Zambia</td>
<td>Zambia</td>
<td>Indonesia</td>
<td>Indonesia</td>
<td>Zambia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.8156</td>
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<td>.8316</td>
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</tr>
<tr>
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<td>Japan</td>
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<td>.8212</td>
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<td></td>
<td></td>
<td>Korea</td>
<td>Nigeria</td>
<td>.7827</td>
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<td>.8189</td>
</tr>
<tr>
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<td>.8273</td>
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Table 5.1 - (continued)

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<th>Mixed Urban/Rural</th>
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<td></td>
</tr>
<tr>
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<td>Israel .8977</td>
<td>- - -</td>
<td>- - -</td>
<td>- - -</td>
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<td>- - -</td>
<td>- - -</td>
<td>- - -</td>
<td>U.S.S.R .8161</td>
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<td></td>
<td>U.S.S.R .8073</td>
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<td></td>
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<td>India .7928</td>
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Table 5.1 - (continued)

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</thead>
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<td>Adults - No Occupation Specified</td>
<td>Adults - No Occupation Specified</td>
<td>Adults - No Occupation Specified</td>
<td>Adults - No Occupation Specified</td>
<td>Adults - No Occupation Specified</td>
<td>Adults - No Occupation Specified</td>
<td>Adults - No Occupation Specified</td>
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<td>Poland</td>
<td>Taiwan</td>
<td>Japan</td>
<td>Japan</td>
<td>Poland</td>
<td>Taiwan</td>
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<td>.8999</td>
<td>.8968</td>
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<td>Brazil</td>
<td>Philippines</td>
<td>Brazil</td>
<td>Philippines</td>
<td>Indonesia</td>
</tr>
<tr>
<td>.82 93</td>
<td>.86 96</td>
<td>.82 93</td>
<td>.82 93</td>
<td>.82 93</td>
<td>.82 93</td>
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<td>.82 93</td>
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<td>Other</td>
<td>Rural</td>
<td>Mixed</td>
<td>Insufficient</td>
<td>Information</td>
<td>Community Size</td>
<td>Community Size</td>
<td>Community Size</td>
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<td>Urban/Rural</td>
<td>Information</td>
<td>Community Size</td>
<td>Community Size</td>
<td>Community Size</td>
<td>Community Size</td>
</tr>
<tr>
<td>Zambia</td>
<td>.7277</td>
<td>.7277</td>
<td>.7277</td>
<td>.7277</td>
<td>.7277</td>
<td>.7277</td>
<td>.7277</td>
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<tr>
<td>Mauritania</td>
<td>.6760</td>
<td>.6760</td>
<td>.6760</td>
<td>.6760</td>
<td>.6760</td>
<td>.6760</td>
<td>.6760</td>
</tr>
<tr>
<td>Argentina</td>
<td>.6265</td>
<td>.6265</td>
<td>.6265</td>
<td>.6265</td>
<td>.6265</td>
<td>.6265</td>
<td>.6265</td>
</tr>
<tr>
<td>Zambia</td>
<td>.8623</td>
<td>.8623</td>
<td>.8623</td>
<td>.8623</td>
<td>.8623</td>
<td>.8623</td>
<td>.8623</td>
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<tr>
<td>Brazil</td>
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<td>.8701</td>
<td>.8701</td>
<td>.8701</td>
<td>.8701</td>
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<tr>
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</tbody>
</table>
Table 5.1 - (continued)

<table>
<thead>
<tr>
<th>&quot;Occupational&quot; Status</th>
<th>Very Large Urban</th>
<th>Other Urban</th>
<th>Rural</th>
<th>Mixed Urban/Rural</th>
<th>Insufficient Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farmers</td>
<td></td>
<td></td>
<td></td>
<td>Brazil .7143</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>India .6963</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>India .6602</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>India .4532</td>
<td></td>
</tr>
<tr>
<td>Railway (Trainees)</td>
<td>- - -</td>
<td>- - -</td>
<td>- - -</td>
<td>- - -</td>
<td>Zambia .7927</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>13</td>
<td>15</td>
<td>5</td>
<td>19</td>
</tr>
</tbody>
</table>
urban samples which could be compared with three clearly rural samples in the intra-national analysis. In the cross-national analysis of rural-urban differences, there were twenty-three "large city and national capitals" samples and thirteen "other urban" samples which could be compared to fifteen rural samples drawn from around the non-Western world.

As was done in the previous chapter for the intra-national data set, reportage of the data will here begin with a brief summary view of the "cross-national data set," i.e., the full data set. The distribution of Spearman rho values for the full data set is reported in Table 5.2. For purposes of comparison, the distribution of Treiman's (1977) correlations between each of the forty-five "countries" he used and his U.S. data are also reported in that table.

The distribution of the rho values compares very closely with the distribution of these values in the "intra-national" data set considered in Chapter 4. This further substantiates the general conclusion indicated there, i.e., that there is a generally high level of agreement among samples but hardly the "essentially invariant" system suggested by the "structuralists." A further point made in Chapter 4 was that Treiman's own data would seem to reinforce this general conclusion.

To proceed to the specifics of the analysis conducted here, it will be recalled from Chapter 2 that two variables were operationally specified, i.e., "occupational status" (including student versus non-student status) and community size. As was mentioned in that earlier chapter, the data set provided only a rather small number of types of
Table 5.2 - Distribution of Correlation Values Between U.S. Data and Samples (for Cross-National Data Set) and "Countries" (for 1977 Treiman Data Set).

<table>
<thead>
<tr>
<th>Correlations</th>
<th>Cross-National Data Set</th>
<th>Treiman Data Set</th>
</tr>
</thead>
<tbody>
<tr>
<td>.90+</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>1 - .89</td>
<td>35</td>
<td>21</td>
</tr>
<tr>
<td>1 - .79</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>1 - .69</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>less than .60</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>75</td>
<td>45</td>
</tr>
</tbody>
</table>

a Spearman rank-order correlation values were used in the present investigation (for each example).

b Pearson correlation values were used in Treiman's (1977) analysis (for each "country").
samples (samples in which all of the respondents were of one particular occupational classification). The only such categories which were available were teachers, farmers, mine workers and railway trainees. The "occupational status" (independent) variable included these four specific occupational categories, plus three categories of samples which consisted clearly and exclusively of students (separated in terms of level of schooling), plus an "adults - no occupation specified" category who were clearly not students and who very largely resided in large cities.

In addition to these eight categories, two further types of samples were specified: samples which clearly included both students and non-students and samples of "young adults." Some of the available studies described their samples as consisting of "young adults," with no specification as to whether or not some of the respondents in the sample were students. Because of the importance of the student/non-student variable to the present analysis, such samples were given this separate designation to exclude them from the student/non-student analysis.

Table 5.3 reports the number of samples contained in each of these ten categories and indicates the mean Spearman rho value for each of these categories (and the range of rho values within each of these categories). Also indicated on this table are the mean and the range of rho values for the entire data set.
Table 5.3 - Mean Spearman Rank Order Correlation (rho) for "Occupational" Status Categories of Samples (Cross-National Data Set).

<table>
<thead>
<tr>
<th>N Samples Samples</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min. rho</th>
<th>Max. rho</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students - Elementary</td>
<td>2</td>
<td>.816</td>
<td>.112</td>
<td>.737</td>
<td>.895</td>
</tr>
<tr>
<td>Students - Secondary</td>
<td>25</td>
<td>.808</td>
<td>.077</td>
<td>.679</td>
<td>.950</td>
</tr>
<tr>
<td>Students - College and Graduate</td>
<td>14</td>
<td>.811</td>
<td>.072</td>
<td>.673</td>
<td>.917</td>
</tr>
<tr>
<td>Mixed - Student and Non-Student</td>
<td>3</td>
<td>.748</td>
<td>.198</td>
<td>.524</td>
<td>.898</td>
</tr>
<tr>
<td>Teachers</td>
<td>6</td>
<td>.913</td>
<td>.045</td>
<td>.846</td>
<td>.954</td>
</tr>
<tr>
<td>Young Adults</td>
<td>4</td>
<td>.804</td>
<td>.010</td>
<td>.793</td>
<td>.816</td>
</tr>
<tr>
<td>Adults - No Occupation Specified</td>
<td>11</td>
<td>.865</td>
<td>.061</td>
<td>.709</td>
<td>.934</td>
</tr>
<tr>
<td>Mine Workers</td>
<td>3</td>
<td>.677</td>
<td>.051</td>
<td>.626</td>
<td>.728</td>
</tr>
<tr>
<td>Farmers</td>
<td>6</td>
<td>.694</td>
<td>.138</td>
<td>.450</td>
<td>.870</td>
</tr>
<tr>
<td>Railway Trainees</td>
<td>1</td>
<td>.793</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Samples</td>
<td>75</td>
<td>.808</td>
<td>.097</td>
<td>.453</td>
<td>.954</td>
</tr>
<tr>
<td>Total Students</td>
<td>41</td>
<td>.809</td>
<td>.074</td>
<td>.673</td>
<td>.950</td>
</tr>
<tr>
<td>Total Adults^a</td>
<td>20</td>
<td>.786</td>
<td>.124</td>
<td>.453</td>
<td>.934</td>
</tr>
</tbody>
</table>

^a Includes farmers, mine workers and "adults - no occupation specified."
Variation by "Occupational" Status

Because of the importance attached to the possibility of a "Western" bias among students in the literature, the question of student/non-student variation will be addressed first. The data indicates a very close correspondence among student samples, irrespective of level of education. Analysis of variance revealed that the mean level of correspondence with the Western industrial ratings of the fourteen college and graduate student samples (rho = .81) did not differ significantly from the mean of the twenty-five secondary school samples (rho = .81) or from the mean of the two elementary school samples (rho = .82).

Having established that there were no statistically significant differences in levels of Western correspondence among these three categories of student samples, the data from all forty-one student samples was "collapsed" into one overall "student" sample category. This new "student" category of samples was then compared with three other "occupational" categories by means of analysis of variance to determine whether or not the differences among these categories of samples were statistically significant.

The four "occupational" categories which were compared were "student" samples (rho = .81), "farmer" samples (rho = .89), "mine worker" samples (rho = .68) and "adults - no occupation specified" samples (rho = .69). As will be explained shortly, the last category can very largely be taken as an "urban adult" category of samples. The "mixed student and non-student" category and the "young adults" category were excluded from this analysis because of the overlap between
categories. The "railway trainee" category was deleted because there was only one sample available in that category. The "teacher" category was ignored because of their especially high average level of Western correspondence and because of their unique relationship with the "student" category.

The analysis of variance reported on Table 5.4 indicates that there was a significant difference among the means of the four "occupational" types of samples considered. However, when this finding was subjected to further scrutiny by means of the Newman-Keuls test to isolate the precise source(s) of the significant variation, only one of the six differences between sample means was found to be significant. This was the comparison of the mean of the "mine workers" samples and the mean of the "adults - no occupation specified" samples (Table 5.5).

Thus in five of the six possible comparisons of sample types, no statistically significant difference was found. Of course, it was not expected that there would be statistically significant difference between the "student" samples and the "adult - no occupation specified" samples because of the relatively close proximity of their means. Nor was it expected that there would be any statistically significant difference between the "farmer" samples and the "mine worker" samples, given the even closer proximity of the means of these two categories to each other. Realistically, statistically significant differences could be expected to have been found in only four of the possible six pairs of categories but the fact remains that in only one of these four comparisons was there a statistically significant finding.
Table 5.4 - Analysis of Variance Among Sample Types
in Levels of Western Correspondence
(Students, Farmers, Mine Workers and "Urban" Adults)

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>.1625</td>
<td>3</td>
<td>.05417</td>
<td>7.97*</td>
</tr>
<tr>
<td>Within Groups</td>
<td>.3880</td>
<td>57</td>
<td>.0068</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.5505</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $P < .01$

Table 5.5 - Newman-Kuels Test of the Significance of Differences Among Means of Individual Sample Types

<table>
<thead>
<tr>
<th></th>
<th>Miners</th>
<th>Farmers</th>
<th>Students</th>
<th>Adults</th>
<th>$r$</th>
<th>Critical Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>.677</td>
<td>.694</td>
<td>.809</td>
<td>.865</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miners</td>
<td>.02</td>
<td>.13</td>
<td>.19*</td>
<td>4</td>
<td>.19</td>
<td></td>
</tr>
<tr>
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<td>.11</td>
<td>.17</td>
<td>3</td>
<td>.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td></td>
<td>.06</td>
<td>2</td>
<td>.25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* $P < .05$
Given this finding, the hypothesis of no significant differences among "occupational" sample types was largely accepted on the basis of this analysis which employed the cross-national data set. This finding lends partial substantiation to the "structuralists" hypothesis of relative prestige hierarchy invariance.

However, the cross-national analysis of variation in levels of Western correspondence among "occupational" categories of samples was not dropped at this point for three reasons. First, the failure to find significant differences in five out of the six possible pairs of sample types may have been partially due to the relatively small number of cases (samples) in each of the four categories. Although there were forty-one student samples, there were only eleven "adult - no occupation specified" samples, only six "farmer" samples and only three "mine worker" samples. Of course this is only a very partial explanation of the general failure to find significant differences, especially in view of the fact that the only statistically significant difference reported was that between the "adults - no occupation specified" category and the "mine workers" category, which consisted of only three samples.

A more important reason for continuing this analysis of variation by "occupational" sample type has to do with the limitations of approaching this issue cross-nationally. It will be recalled that in the intra-national analysis of this question which was reported above, only three "t" tests were permitted, in view of the small number of samples available analysis by sample type within countries. It will also be recalled that in each of these tests, there was found to be a significant difference by sample type. A distinct disadvantage to
approaching this question of sample type variation cross-nationally is that variation in Western correspondence by "national characteristics" (such as societal "development" level) may be an intervening variable (see Chapter 6). Thus this failure to find significant differences by "occupational" type cross-nationally in more than one out of the six possible comparisons may not be taken as conclusive proof that there are no substantive differences among these various "occupational" types of samples.

A final reason for continuing the examination of this question is that the Newman-Keuls test employed here is a relatively "conservative" test of significance among individual pairs of means in the analysis of variance. The decision to employ this test was in keeping with the general orientation of this investigation that this would be as conservative as possible a test of the "structuralist" hypothesis of prestige hierarchy invariance.

For these reasons, further examination of variation by "occupational" sample type will be reported in this chapter. However, it must be kept in mind that this further exploration will be conducted in the context of the finding reported above, i.e., in only one of the six comparisons of the means of types of samples was there found to be a statistically significant difference.

The Issue of the Representativeness of Student Ratings

The mean of the rho values for the student samples was found to more closely approximate the mean of all of the rho values than any other type of sample. This would indeed seem to support Treiman's
contention that "students in non-industrialized countries are not particularly deviant and are no more Western than ratings by non-students" (1977:60). However, the mean of the full set of seventy-five Spearman rho values is rather heavily weighted by the disproportionate presence of student samples in the full data set. Forty-one of these seventy-five samples are student samples. Constituting fifty-five percent of all samples, perhaps it should come as no surprise that the mean of the student samples should rather closely approximate the mean of the full set of samples. Given this, it is obvious that the close proximity of these means cannot (by itself) be taken as sufficient evidence that "it is valid to use data from student samples to estimate the prestige hierarchies of countries for which no better data are available" (Treiman, 1977:60).

However, the high representation of student samples in the total distribution of available samples is not, by itself, sufficient explanation of the close correspondence between the mean of the student rho values and the mean of the full data set. The mean of the three clearly non-student categories of samples (taken collectively) is .79. These three categories are "adults - no occupation specified," "farmers," and "mine workers." (The "teacher" samples were excluded from this comparison because of their unique relationship with students.) This mean compared rather closely with the .81 mean for the forty-one samples of students. The "t" test revealed no statistically significant difference between these two means. (Unless specified to the contrary, the "t" test was used as the means of determining the statistical significance in all further computations reported in this
chapter.) This again would seem to lend empirical substantiation to the "structuralists" argument that data from student samples would be so closely related to that of other types of samples that they could legitimately be used where other types of samples are unavailable.

An inspection of Table 5.6 might help to resolve this issue. This is simply an abridgment of Table 5.3 in which the mean rho values for each category have been re-ordered in terms of rank to simplify inspection of the data for this purpose.

When the three "clearly student" categories of samples are set aside (forty-one samples) and when the two marginal categories of "young adults" and "mixed students and non-students" (seven samples, collectively) are also excluded, the distribution of rho values by sample type can be seen to be roughly bi-modal, except for the category of "railway trainees," for which only one sample was available.

Teachers and "adults - no occupation specified" tend to cluster high (rho = .91 and .86, respectively), while farmers and mine workers tend to cluster low (rho = .69 and .68, respectively). The mean of the three categories of samples which were clearly students (rho = .81) is "sandwiched" between these two clusters. Thus the very close approximation of the mean of the student rho values for the entire data set is in part the result of the location of the student rho values at a point roughly midway between the two "high Western-correspondence level" types of samples and the two "low Western-correspondence level" types of samples.

Non-Western students' levels of correspondence with Western industrial patterns of occupational prestige evaluation are about the
Table 5.6 - Mean Spearman rho Values for "Occupational" Status Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>rho</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>.913</td>
<td>6</td>
</tr>
<tr>
<td>Adults - No Occupation Specified</td>
<td>.865</td>
<td>11</td>
</tr>
<tr>
<td>Students - Elementary</td>
<td>.816</td>
<td>2</td>
</tr>
<tr>
<td>Students - College and Graduate</td>
<td>.811</td>
<td>14</td>
</tr>
<tr>
<td>Students - Secondary</td>
<td>.808</td>
<td>25</td>
</tr>
<tr>
<td>Young Adults</td>
<td>.804</td>
<td>4</td>
</tr>
<tr>
<td>Railway Trainees</td>
<td>.793</td>
<td>1</td>
</tr>
<tr>
<td>Mixed Students and Non-Students</td>
<td>.748</td>
<td>3</td>
</tr>
<tr>
<td>Farmers</td>
<td>.694</td>
<td>6</td>
</tr>
<tr>
<td>Mine Workers</td>
<td>.677</td>
<td>3</td>
</tr>
<tr>
<td>All Samples</td>
<td>.808</td>
<td>75</td>
</tr>
<tr>
<td>All Adults&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.786</td>
<td>20</td>
</tr>
<tr>
<td>All Students&lt;sup&gt;b&lt;/sup&gt;</td>
<td>.809</td>
<td>41</td>
</tr>
</tbody>
</table>

<sup>a</sup> Includes the three student categories.

<sup>b</sup> Includes farmers, mine workers and "adults - no occupation specified."
same as the level of Western-correspondence for all of the non-Western samples, taken collectively. However, the above data is largely a statistical artifact and can hardly be taken as sufficient evidence that "students in non-industrialized countries are not particularly deviant and are no more Western than ratings by non-students" (Treiman, 1977:60). While student samples are not "particularly deviant" from the overall mean of the levels of correspondence with the Western industrial system of occupational evaluation, they are indeed deviant from the other particular types of samples employed here. However, analysis of variance failed to demonstrate that these differences were statistically significant.

It should be noted here that the mere fact that there was such a close correspondence between the mean of the students' rho values and the mean of the rho values for the entire data set should not be taken as evidence that, in any particular country, student evaluations may be taken as a reasonably correct average of what would be obtained from a probability sample of the entire population.

The approach to the issue of possible systematic bias among sample types taken in this chapter has its limitations. It ignores the possibility that there may be systematic variations in levels of Western-correspondence in terms of national characteristics, such as societal level of "development." It is possible, for example, that the general level of Western-correspondence in countries of low industrialization levels might differ significantly from the general level of Western-correspondence in countries of high industrialization levels. (This issue will be the primary focus of Chapter 6.) If this should
prove to be the case, it would impose sharp limits on any generalizations from patterns found cross-nationally and patterns which might be found in any particular country.

The only really appropriate way to address the issue of systematic variation by sample type would be the direct approach reported in Chapter 4, i.e., analysis by sample types within particular countries. This would, of course, permit "national" variation by development level, etc. to be held constant. However, as was frequently mentioned in that chapter, the number of cases (samples) for each sample type of relevance here (student versus non-student status, rural versus urban residence, etc.) was insufficient to address this issue statistically, except in a few instances. It was for this reason that the present cross-national analysis of variation by sample-type was conducted.

This is only an indirect test of such variation in that it ignores the possible variation by such "national" characteristics as level of societal development. This cross-national analysis was employed here simply because it was one of the very few means available to address this issue of systematic variation by sample type. It is sufficient to note here that there are limitations to an analysis such as this. One of these limitations is that any of the findings presented here cannot be generalized to the system(s) of occupational prestige which exist in any particular country.

This examination of variation by "occupational" (including student/non-student) sample type will next proceed to an inspection of the findings for particular sample types. It should be remembered that
the rho values for each of the individual samples contained in each of
the ten "occupational" categories is reported in Table 5.1.

"Occupational" Type Variation
Among Samples with High
Western-Correspondence

As was anticipated in the intra-national analysis reported in
Chapter 4, teacher samples were found to clearly have the highest levels
of correspondence with the Western industrial system of ratings. The
average rho value was clearly the highest of all of the "occupational"
categories considered (rho = .91).

The intra-national analysis reported in Chapter 4 also indi­
cated that samples drawn from large cities (and capital cities of only
moderate size) tended to have a high level of correspondence with
Western industrial occupational prestige ratings, as did samples drawn
from rural communities located within the direct hinterland of large
cities. Eight out of the eleven samples contained in the "adults - no
occupation specified" category were clearly drawn from large cities or
(in the case of Georgetown, Guyana) from a capital city of only moderate
size. Two other samples in this category were taken from Tiryakian's
(1958) Philippino study and Koppel's (1964) Puerto Rican study. As
indicated in the previous chapter, both of these samples included rural
as well as urban residents. However, in both cases the rural component
of the samples was drawn from the direct hinterland of the capital
cities of those countries. Thus, the vast majority of the respondents
contained in this category of "adults - no occupation specified" lived
in large urban centers or in close proximity to them.
The remaining "adult - no occupation specified" sample was a rather atypical case. In the other ten samples, the lowest "rho" value was .83. The "rho" value for the Rossi and Inkeles (1957) sample of Soviet emigres residing in the U.S. was .71. Had this sample been deleted, the average "rho" value for this category would have increased from .86 to .88.

Not only are these two types of samples quite high in their levels of correspondence with the Western industrial data, but they are also relatively consistent. The teachers had the second lowest standard deviation of all ten categories of samples (.045, as compared with .097 for all seventy-five samples taken collectively). They also had the second smallest range of "rho" values (.11). The "adults - no occupation specified" category had a similarly low standard deviation (.061) but only an average range of "rho" values. However, with the exclusion of the Rossi and Inkeles Soviet emigre data, this range decreased from .22 to .10.

"Occupational" Type Variation Among Samples with Low Western-Correspondence

As indicated in Table 5.6, the average "Western-correspondence" levels of non-Western farmers and mine workers samples were clearly different from the average "Western-correspondence" level of students, teachers and "adults - no occupation specified." This is in keeping with the suggestion by Haller et al. that "isolated sectors of some contemporary societies may have occupational prestige hierarchies (and therefore systems of stratification) which differ from the well-known Euro-American form" (1972:941).
Little needs to be said of the mine workers samples, except to note their low level of correspondence with Western ratings and to note the consistency of the three available samples' rho values in both societies from which data was available. The range of these rho values was a relatively low 0.10.

As indicated in Table 5.1, of the six samples consisting entirely of farmers, three were drawn from India (rho = .70, .66, and .45) and one was drawn from a rather remote part of the Philippines (rho = .74). The two other samples were Haller's Acucena and Bezerros samples referred to in Chapter 4. Bezerros was a community within the direct hinterland of a large urban center (rho = .87) and Acucena was a remote farming community (rho = .74). Certain other Indian data was excluded from this analysis for reasons specified in Chapter 3. Had that data been included, it would have brought the average of the "farmer" category down even further. Treiman made note of the apparent "anomaly" of the Indian data (1977:74).

This data is consistent with the hypothesis suggested in Chapter 4 and much earlier by Haller et al. (1972) that there are clear distinctions between farmers located within close proximity to major urban centers and farmers located beyond the direct hinterland of major cities. The only exception to the general pattern of low Western-correspondence among these farmer samples is Haller's Bezerros sample, which falls into the former category, as did Tiryakian's Philippino villagers and Koppel's Puerto Rican ruralites, all of whom had close correspondence with the ratings of residents of large cities in those "countries." If the Bezerros sample were to be deleted from the very
broad range of rho values for the "farmer" category (rho range = .42), that range would have been decreased to a more moderate .29.

Part of the importance of attending to this data from farmers has simply to do with the fact that the majority of the population of the non-Western world are ruralites, even though not all of these are farmers. To use the occupational prestige ratings of students, teachers or urban adults to estimate national parameters would be questionable in view of the above findings and in view of the fact that at least in Asia and Africa, only a relatively small proportion of the total population lives in cities, in view of the fact that, similarly, students represent only a minority of these populations and in view of the fact that teachers constitute only a miniscule fraction of these populations. The sort of samples which would best represent the populations of most countries in Asia and Africa would be rural farmer samples, the sort of samples which are greatly lacking in the currently available data set.

Variation by Community Size

Much of what is important to be said regarding variation in levels of Western-correspondence in prestige hierarchy assessment has just been mentioned in connection with the consideration of differences between farmers and other types of samples. Table 5.7 presents the level of Western-correspondence (measured by rho) for each of the five categories of the community size (independent) variable, as specified in Chapter 3. The mean of the rho values for large city (and capital cities of only moderate population size) category of samples (.84) did
<table>
<thead>
<tr>
<th></th>
<th>N Samples</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min. rho</th>
<th>Max. rho</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Large Cities</td>
<td>23</td>
<td>.841</td>
<td>.066</td>
<td>.683</td>
<td>.937</td>
<td>.255</td>
</tr>
<tr>
<td>Other Urban</td>
<td>13</td>
<td>.830</td>
<td>.109</td>
<td>.524</td>
<td>.950</td>
<td>.26</td>
</tr>
<tr>
<td>Rural (including students and teachers)</td>
<td>15</td>
<td>.758</td>
<td>.138</td>
<td>.453</td>
<td>.954</td>
<td>.501</td>
</tr>
<tr>
<td>Mixed Urban &amp; Rural</td>
<td>5</td>
<td>.813</td>
<td>.082</td>
<td>.725</td>
<td>.916</td>
<td>.191</td>
</tr>
<tr>
<td>Insufficient Info. to Categorize</td>
<td>19</td>
<td>.793</td>
<td>.069</td>
<td>.679</td>
<td>.949</td>
<td>.270</td>
</tr>
<tr>
<td>All Samples</td>
<td>75</td>
<td>.808</td>
<td>.097</td>
<td>.453</td>
<td>.954</td>
<td>.501</td>
</tr>
<tr>
<td>Total Urban</td>
<td>36</td>
<td>.837</td>
<td>.083</td>
<td>.524</td>
<td>.950</td>
<td>.426</td>
</tr>
</tbody>
</table>
not differ significantly from the mean of the rho values for the "other urban" samples (.83). Apparently city size is not an important differentiating factor in occupational prestige assessments. Since there was no statistically significant difference between these two categories of urban samples in their rho values, these two were merged into one overall "urban" category consisting of the 36 samples, for purposes of comparison with the samples in the "rural" category.

It was found that the mean rho value for this merged "urban" category differed significantly from the mean rho value for the fifteen samples in the "rural" category (significant at the .05 level). However, in view of what has been learned above regarding the relatively high Western-correspondence levels of student and teacher samples, this somewhat understates the non-academic adult differences between rural and urban residents. Four of the fifteen rural samples were student samples and two were teacher samples — by far the most "Western" samples in the non-Western world, according to the evidence presented above. The remaining nine rural samples consisted of six farmer samples and three mine worker samples. With the teacher and student samples set aside, the average rho value for the remaining rural samples was .70, as compared to the .76 mean for the rural samples without these exclusions.

There was very clear variation in levels of Western-correspondence among the rural samples in terms of the "occupational" status (including student/non-student status) variable considered above. The two teacher samples had, as was to have been expected, the highest levels of agreement with the Western ratings (rho = .95). They were
followed by the three secondary school samples (rho = .86). On the other hand, the six farmer samples had an average rho of .65 and the three mine worker samples had a similarly low average rho value of .68. All of this would seem to lend empirical substantiation to the propositions suggested above. The only unexpected variation from this pattern came from the only rural college sample, i.e., Epstein's (1967) Indonesian sample. The rho value for that single sample was .67.

Summary

The analysis reported in this chapter has been concerned with determining whether or not there is evidence of systematic variation among sample types in terms of "occupational" status (including student versus non-student status) and in terms of community size. It involved an indirect test of the hypothesis that such systematic variation exists, unlike the direct test of the same hypothesis reported in Chapter 4. This cross-national analysis of variation by "sample type" was conducted only because it offered a much more extensive data base than was available for the intra-national analysis. This analysis ignored any "national" variables, such as societal level of "development," thus opening the possibility that some of the findings reported above may have been based on data which may have been "weighted" either in terms of overestimating a sample-type's agreement with the Western industrial system of occupational prestige assessments or underestimating it.

Considering all this, any conclusions which are to be arrived at from an examination of these findings must be tentative. However,
given this "caveat," certain reasonably clear findings have emerged from this cross-national analysis and the intra-national analysis of variation by rater-types in levels of correspondence with Western industrial patterns of occupational prestige assessment.

First, it must be noted that there is a high average level of Western-correspondence among the seventy-five non-Western samples in the total data set (rho = .81). Furthermore, the average level of Western-correspondence among student samples (rho = .81) conforms extremely closely to the overall average. Also, urban adult samples have, on the average (rho = .86), very high levels of Western-correspondence in their occupational prestige ratings and tend to be rather uniform in these levels, irrespective of country and city size. Beyond this, there seem to be only minor differences in Western-correspondence levels between urban samples and rural samples which are located in the direct hinterland of large urban centers. All of this would seem to validate the "structuralist" contention that there is an essentially invariant occupational prestige hierarchy to be found in all complex societies.

Despite all of this evidence, however, there is evidence that there are systematic variations by sample type -- evidence which would offer challenge to this fundamental "structuralist" tenet and evidence which cannot be easily dismissed. The most important systematic variation by sample type were the "isolated" rural samples which differed significantly from the urban samples, from the rural samples located in close proximity to large cities, from the students and from the teachers. In a world in which more than sixty percent of the population lives in
rural settings (75 percent in Africa and 73 percent in Asia), such variation may not be dismissed. The number of samples of ruralites living more than a few hours commuting time to the nearest large city is small in relation to the total number of samples available for this investigation and their combined mathematical effect on the average Western-correspondence level for the full data set is small. However, the real world of more than four billion living human beings is hardly the world of the available studies of occupational prestige. To relegate the few samples of ruralites located out of the direct hinterland of large cities (all of which have consistently low levels of Western-correspondence) to a category of a few aberrant cases is to create grand scale problems of estimating true national parameters.

A very important point to be kept in mind in reviewing the findings of this chapter and that which preceded it is that data constraints in the intra-national analysis (reported in Chapter 4) were such that tests of statistical significance were possible for only a very limited portion of the data set. In each of the three cases in which such tests could be employed, the differences among sample types were found to be statistically significant but until more of the sorts of data which are most needed become available, this evidence may be considered to be only suggestive.

In the cross-national analysis reported in this chapter, the only difference among "occupational" sample types which was found to be statistically significant was that between "mine workers" and "adults - no occupation specified." In the community size variable there were found to be statistically significant differences between rural and
urban sample types. Even these findings, however, could be in part the product of the presence of an intervening variable such as societal development level. This issue will be considered in the following chapter.

Perhaps the key term to be emphasized in the review of these two chapters is "caution" on the part of those who advance the "structuralist" proposition that there are no systematic differences among sample types and on the part of those who would suggest that the very high level of Western correspondence found in a great many studies is due in large measure to sampling bias, i.e., that the great bulk of the evidence which is taken to support the hypothesis of an essentially invariant world-wide system of occupational prestige is drawn from the most "Westernized" segments of the population of the non-Western world. At least some evidence is available to support both arguments. However, it is clear that the "structuralist" position on this question has yet to be validated.
CHAPTER VI

SOCIETAL "DEVELOPMENT" AND LEVEL OF WESTERN-CORRESPONDENCE IN OCCUPATIONAL PRESTIGE ASSESSMENTS

The previous two chapters were directed to a consideration of variation in levels of Western-correspondence among samples on the basis of the "occupational" status of respondents and on the basis of the (rural-urban) type of community from which they are drawn. It was found that there was a generally high level of agreement among samples in their levels of Western-correspondence. However, it was also found that there were some systematic differences among types of samples, especially for rural samples which were not located in relatively close proximity to major urban centers.

It was noted in Chapter 5 and it has been noted in the literature on this topic that there might be another type of systematic variation among samples, i.e., variation on the basis of some of the characteristics of the countries from which these samples were drawn. What has been focused upon in the literature is the possibility that industrialization or, more broadly, level of societal "development" of the countries from which samples are drawn might help to explain variation in Western-correspondence level among samples.

Rossi and Inkeles (1956) raised this issue almost a quarter-century ago. They noted that the very high correlations among the
occupational prestige hierarchies of samples drawn from six highly industrialized countries. The average correlation between the prestige hierarchies of the U.S. and those of the other five countries was .94. However, they also noted that there were certain discrepancies in prestige position according to types of occupations. Recognizing this and noting that all six countries had very high levels of industrialization, they concluded that in interpreting the findings of high cross-national correspondence, "a good deal of weight must be given to the cross-national similarities in social structure which arise from the industrial system and from other common structural features, such as the nation state" (1956:339).

The principal concern of the analysis reported in this chapter is with determining the relationship between societal "development" level and prestige hierarchy agreement. As described in Chapter 3, the independent variable here was operationalized in terms of a "development index," which was generated through factor analysis of five indicators associated with the process of societal "development." These indicators were energy consumption per capita, radio receivers per 1,000 population, per capita gross national product, percent of the five to nineteen year old population enrolled in school and infant mortality rate. Because of missing data for one or more of these indicators, Guam, Papua-New Guinea, Puerto Rico and Taiwan (Republic of China) had to be excluded. This left only twenty-six countries which could be included in this analysis.

The dependent variable employed here is the same as that used in Chapters 4 and 5, i.e., the Spearman rank-order correlation (rho)
between the occupational prestige ratings of each sample (or grouping of samples) and the ratings on matched titles in the Siegel (Western industrial) data.

The hypothesis to be tested here is that the occupational prestige ratings of samples drawn from the non-Western "world" which are characterized by high levels of "development" will have higher levels of correspondence with the Western industrial prestige ratings than will samples drawn from non-Western countries with low levels of "development."

**Previous Analysis of Relation Between Industrialization and Prestige Hierarchy Agreement**

It should be noted before proceeding that Treiman (1977) conducted a similar analysis. In that investigation, he reported a correlation of .56 between per capita GNP and prestige similarity to the U.S. for twenty-five "good data" societies remaining after "peasant India" and the U.S. were excluded. "Peasant India" (as opposed to "university student India") was omitted from his analysis because it fell "more than five standard deviation points below the mean correspondence with the United States, far lower than any other correlation, and would have seriously distorted the obtained results. Inclusion of peasant India drops the correlation a full 16 points, to .40, and noticeably alters the regression line" (1977:134).

The present analysis differs from this previous investigation in several regards. First, only non-Western samples were employed here (as elsewhere in this work). Fourteen of Treiman's original "countries"
in his data set were Western. It is not altogether clear which 25 "countries" were used in his analysis but since data quality was the basis of selection and since he reported a moderate positive association between quality of data and level of industrialization (\(\rho = .27\)), it would seem reasonable to conclude that a high proportion of the fourteen Western countries were represented on the list of twenty-five countries.

Of course, the "Western world" and the "developed" or "industrialized world" are hardly coterminous. To use a not altogether satisfying measure, for example, per capita GNP in Portugal, Ireland and Spain were, respectively, $1,850, $2,880, and $3,190 in 1977, whereas in the same year, the figures for Singapore, Martinique and Japan were $2,890, $3,340, and $5,640, respectively (1979 World Population Data Sheet).

Per capita GNP is a somewhat limited measure for comparing societies on the basis of industrialization or "development." For example, the United Arab Emirates, Kuwait and Qatar had per capita GNP's of $14,420, $12,700 and $11,670, respectively, in 1977. In the same year, per capita GNP in the U.S. was $8,640. Obviously, there are limits to this particular measure.

Because societal "development" is a multi-faceted phenomenon, involving changes in a broad variety of areas of life and because any single measure of these processes has its own limitations, the "development index" (described in Chapter 3) was devised.

A further point of difference between the approach used here and that employed by Treiman is that the "Indian peasant" data was not
excluded from this analysis. As suggested in Chapter 5, perhaps part of the "anomaly" of the Indian peasant data had as much to do with the fact that the respondents were rural residents (located in areas which were not in close proximity to large urban centers) as it had to do with the fact that they were Indians.

Another difference was that there were a few samples in the Treiman data set which were not used in the present analysis. With the exception of the Bone (1962) studies in the Guianas (which were rejected here for reasons of methodological inadequacy), all of these were data from unpublished sources. Contrariwise, there were a few samples employed in this investigation which were not available at the time of the previous research.

A final difference between the earlier analysis and the present work is that Treiman subdivided five Third World countries into separate populations, in cases in which there were clear differences in Western-correspondence level among types of samples.

In another part of his research, Treiman had reported that the average correlation between the U.S. prestige hierarchy and those of fifty-nine "foreign places" or "countries" in his data set was .83. Having noted this generally high level, he went on to explain the relatively small amount of variation remaining among "countries" in terms of level of industrialization, as measured by per capita GNP (as reported above). Presuming that "the prestige of occupations derives largely from the skill and training required to perform them and the income gained from doing so," it was considered reasonable to conclude that "as the socioeconomic characteristics of occupations change, their
prestige ought to change accordingly" (1977:130). Since "the pattern of social organization characterized by the factory system and the nation state . . . has been exported, to a greater or lesser extent, to most other nations throughout the rest of the world" and since the industrial system brings about changes in the socioeconomic characteristics of occupations, it was expected that there should be some at least moderate association between per capita GNP and level of agreement with the U.S. occupational hierarchy. The correlation of .56 (Indian peasant data deleted) was taken as evidence of this.

**Findings of the Present Investigation**

In the present investigation of twenty-five non-Western countries, a much more modest (and statistically non-significant) relationship was found between level of agreement with the Western (Siegel) data and the index of societal "development" employed here. The Pearson correlation between these variables was .23, which was considerably below Treiman's correlation of .56 (excluding the Indian peasant data) or even his .40 correlation (including the Indian peasant data).

This difference might be attributable to any of the methodological differences indicated above. The independent variable here was societal "development index," rather than simply per capita GNP. Treiman's data set included many Western countries, all of which were excluded here since the focus throughout this work has exclusively been on non-Western patterns. In some cases, the units of analysis differed in that no sub-national distinctions were made in the data set.
Given all of these possibilities and given the inadequacies of the currently existing data set, the issue of resolving the differences in the findings of these two investigations was not directly pursued. Suffice here to note that given the methodology employed here, the hypothesis of a positive relationship between Western-correspondence and societal "development" level was not supported on the basis of the available evidence.

Variation Between "Academic" and "Non-Academic" Samples

One assumption of the type of analysis reported here is that the mean of the available "rho" values for the various samples available from a given country may be taken as a reasonable measure of "the" occupational prestige hierarchy of that country. This assumption is problematic on a number of grounds -- particularly in countries which have a relatively broad range of levels of Western-correspondence among the various samples available in those countries.

Treiman averted this problem by having only one occupational prestige hierarchy for each "country." This he derived by regressing the occupational rating values of each sample in a country (which correlated to at least .95 with the "best" sample in that country) on to a common metric with the occupational hierarchy of that "best" sample. A second means whereby he averted this problem was by creating a second (or even a third) separate "population" in each country characterized by divergent ratings among samples.

The procedure of using a simple mean of the levels of Western-correspondence among the various samples available within a given
country was also problematic given the finding (guarded though it was) of some systematic differences among sample types (reported in Chapters 4 and 5).

In view of the controversy surrounding the use of student samples and in view of the unusually high levels of Western-correspondence among "teacher" samples (reported in Chapter 5), it was decided that the general analysis of the relationship between Western agreement and societal "development" level should be repeated separately for "academic" samples (teacher samples and student samples) and "non-academic" samples. The latter category consisted of five of the "occupational" status categories employed above: "young adults," "adults - no occupation specified," mine workers, railway trainees and farmers. There were forty-three "academic" samples and twenty-two "non-academic" samples available for these two separate analyses.

A major difference between these two analyses and the general analysis of the relationship between level of Western-correspondence and "development" level was that these two separate analyses had to proceed on a sample-by-sample basis, rather than on the grouped country-by-country basis. Each individual sample was assigned the "development index" value of the country from which it came. There was no grouping of data by country.

In the general analysis reported above, the Pearson correlation between Western-correspondence and "development index" was .25 (significance = .13) for the twenty-six countries available. In the sample-by-sample analysis of forty-three "academic" samples, the correlation dropped to -.06, indicating no association whatever between
Western-correspondence and development index. This provides some substantiation to the claim that there is a cross-national universality among student (or at least "academic") ratings, irrespective of their society's level of "development." (For some contrary evidence, see the relatively low levels of Western-correspondence among student samples in Indonesia and Nigeria.)

While there was no association between level of Western-correspondence and "development index" for the "academic" samples, there was a significant association between these variables in the separate analysis of "non-academic" samples. The Pearson correlation was .46. This is hardly a strong correlation, although it was statistically significant. Nor is it possible, given the methodology employed here, to be very free in making interpretations from it regarding the association between Western-correspondence and level of societal development.

What is interesting about this correlation for "non-academic" samples (r = .46) is its rather stark contrast with the correlation derived from the "academic" samples (r = -.06). If, indeed, Treiman's argument on the relationship between industrialization and the prestige of given occupations in given countries is correct, it should be expected that there would be roughly the same sort of moderate statistical relationship between Western correspondence and "development" level as found for the "non-academic" samples. Not to have found any association between these two variables for the "academic" samples, while there was a moderate positive correlation for the "non-academic"
samples raises some question regarding the proposition that "it is valid to use data from student samples to estimate the prestige hierarchies of countries for which no better data is available."

This comparison between these correlations is hardly conclusive proof of anything. However, in the context of the warnings in the literature about the use of student samples and in the context of what has been learned in Chapters 4 and 5, this comparison suggests that caution must be employed in interpreting findings based at least in part from the ratings of "academics."

In view of Treiman's contention that the Indian peasant data was anomalous, the analysis of "non-academic" samples was carried one step further. A separate analysis was conducted on the "non-academic" samples with all "farmer" samples deleted. With this deletion, the number of samples available decreased from twenty-two to sixteen and the correlation decreased from .46 (significant at the .02 level) to .35 (not found to be statistically significant). Although the farmer samples had a clear and important role in contributing to the moderately high correlation between Western-correspondence and "development index," the presence of these farmer samples was not alone responsible for the rather sharp differences between "academic" and "non-academic" samples.

However, this contrast between the -.06 correlation for the "academic" samples and the .46 correlation for the "non-academic" samples should not be over-emphasized. Table 6.1 reports the "development index" value for each of the twenty-six countries used in this analysis. It also indicates the Western-correspondence level of each sample available in each country, grouped by "occupational" types.
Table 6.1 - Level of Western Correspondence (Spearman rho) of Samples, by "Occupational" Status and by Country "Development" Index

<table>
<thead>
<tr>
<th>Country</th>
<th>Country Devl't. Index</th>
<th>Country Mean rho</th>
<th>Students b</th>
<th>&quot;Occupational&quot; Type Mixed Stud. &amp; Non-Stud. Adults d Farmers Other</th>
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<tr>
<td>U.S.S.R.</td>
<td>1762</td>
<td>.7775</td>
<td></td>
<td>.8161 .7091</td>
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<td>.7990</td>
<td>.9049 .8626</td>
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<tr>
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<td>.8999</td>
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</tr>
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<td>.7986</td>
<td>.9505e</td>
<td>.9231 (Teachers)</td>
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<tr>
<td>Argentina</td>
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<td></td>
<td>.8378 .8343</td>
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<tr>
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<td>.8649</td>
<td>.9339 .8586</td>
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Table 6.1 (Continued)

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<th>Country Mean rho</th>
<th>&quot;Occupational&quot; Type &amp; Non-Stud. Adults</th>
<th>&quot;Urban&quot; &quot;Urban&quot; Type Farmers Other</th>
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<td>.8823</td>
<td>.8757</td>
<td>.8701 .9545 (Teachers)</td>
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<td>.8292</td>
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<td>.8115</td>
<td>.9371 (Teachers)</td>
</tr>
<tr>
<td>Zambia</td>
<td>214</td>
<td>.7950</td>
<td>.8757</td>
<td>.8685 .7927 (Railway Trainees)</td>
</tr>
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<td></td>
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<td>.7277 (Mine Workers)</td>
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<td>.8685 (Teachers)</td>
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Table 6.1 (Continued)

<table>
<thead>
<tr>
<th>Country</th>
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<th>Country Mean</th>
<th>&quot;Occupational&quot; Type</th>
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<td></td>
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<td>Mixed Stud. &amp; Non-Stud. Adults</td>
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<td>India</td>
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<td>.8229 .7928 .6963 .6602 .4532</td>
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<td>.9170</td>
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<td>Mauritania</td>
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<td>.6265</td>
<td>.6265 (Mine Workers)</td>
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<td>.7903</td>
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</tr>
<tr>
<td>Ethiopia</td>
<td>-9</td>
<td>.8678</td>
<td>.8678</td>
</tr>
</tbody>
</table>

Category Mean | .8095 | .7900 | .8559 | .6944 | - |
Number of Samples | 41 | 7 | 13 | 6 | 10 |
Table 6.1 (Continued)

a Guam, Papua New Guinea, Puerto Rico and Taiwan (Republic of China) were excluded from this analysis because of missing data for one or more of the five indicators which were used to generate the "development" index.

b Because there were no significant differences between the three levels of schooling (reported in Chapter 5), elementary, secondary and college student samples were merged into one category for this analysis.

c "Mixed students and non-students" samples were merged with "young adults" into one category for this analysis.

d All but one of these samples was completely urban in character. The Philippino sample contained rural adults (all from within 70 miles of Manila), as well as urban adults. This category is elsewhere in this work referred to as "adults - no occupation specified."

e It should be remembered from Chapter 4 that a variant "rater task" was employed in the four South African samples listed last here.

f Negative values in the development index occurred because of very low values on the four positive indicators and very high values on the infant mortality rate indicator.
An inspection of this table reveals that the "non-academic" samples available in the countries which were high on the development index were almost exclusively urban adults, which tended to have high levels of Western correspondence (with the exception of the sample of Soviet emigres residing in the U.S.). On the other hand, the "non-academic" samples available in the countries which were low on the development index were almost exclusively either farmers or mine workers, who tended to have low levels of Western correspondence. The Philippino urban adult sample was the only exception to this latter generalization.

Given this, it is entirely possible that this moderate association between societal development level and Western correspondence among the "non-academic" samples is more a function of the types of samples available in the "high development" countries versus the "low development" countries than it is a function of level of societal development.

This raises an issue not heretofore considered. In Chapter 5, it was concluded on the basis of the available evidence that urban adults (or "adults – no occupation specified") in non-Western countries were clearly and consistently very high in their levels of Western correspondence. The only exception to this was the Soviet emigre sample. Given this breakdown by country development index, even this finding is not altogether clear. With the exception of the Philippino sample, all of the urban adult samples are in the highest third of these non-Western countries in terms of societal development level.
It is entirely possible that urban adult samples in the lesser developed of these countries would have similarly high levels of Western correspondence. The Philippino data would suggest that this might be so. Also, much weaker data which supports this conclusion is available from the two Indian "mixed student and non-student" samples. However, this would be rather slender evidence upon which to base a conclusion that the high Western correspondence levels of the highest third of these countries in terms of societal development level would also be found in these lesser developed countries. The relatively low Western correspondence level of Armer's sample of seventeen-year-old youths in the city of Kano, Nigeria (rho = .52) would seem to suggest that this might not be the case. Until further evidence from urban adult samples in these lesser developed countries becomes available, no real conclusion can be reached on this issue.

Contrariwise, it should be noted that the statistically significant difference between urban and rural samples noted in Chapter 5 may be, in part, a result of the relative scarcity of available rural samples in the more developed countries of the non-Western world, which might possibly have higher levels of Western correspondence than rural samples drawn from lesser developed countries. With the exception of Haller's two Brazilian samples, all of the available rural adult samples were drawn from countries in the bottom half of countries listed in terms of societal development level. This issue cannot be resolved until further evidence from rural adult samples in the more developed countries of the non-Western world becomes available.
Chapter 5 reported the cross-national analysis of variation in level of Western-correspondence in prestige ratings by sample type. It was noted in that chapter that, ideally, such an analysis should be conducted only on an intra-national basis, given the possibility that there might be a "national" intervening variable (such as societal development level) which might confound the findings of such an analysis.

Because of the relatively small number of samples within each of the "occupational" and community size categories within each country in the intra-national analysis, the cross-national analysis was undertaken, despite the limitations of that type of analysis. The findings of that analysis were presented with the caveat that any firm conclusion would have to await the results of the analysis of the relationship between Western correspondence and societal development index, which was reported in the present chapter.

Unfortunately, the findings of the analysis reported in this chapter raise more questions than they resolve. Some of the tentative conclusions of Chapter 5 were made even more tentative as a result of this analysis. The conclusion of very high and very consistent levels of Western correspondence was found to be based very largely on data drawn from the more developed countries of the non-Western world. The conclusion of relatively low levels of Western correspondence among rural samples was found to be based very largely on data drawn from the less developed countries of the non-Western world.

The moderate relationship between level of Western correspondence and level of societal development among the "non-academic" samples
which was reported in this chapter \((r = .46)\) could thus have been the result of a bias in the currently available data set, i.e., virtually no urban adult samples in the lesser developed countries and virtually no rural samples in the more developed countries of the non-Western world.

The virtually complete lack of any association between level of Western correspondence and level of societal development among the "academic" samples \((r = -.06)\) poses less of a problem. Academic samples (student samples and teacher samples) are represented in countries at every level of societal development. There is no question of a sampling bias here (at least for student samples). With relatively few exceptions, they had very high levels of Western correspondence, almost irrespective of societal development level.

In summary, the findings reported in this chapter have failed to support Treiman's argument on the relationship between level of Western correspondence and societal development level. It is entirely possible that this was the result of the use of differing methodologies and somewhat differing variables. Further, there was found to be a moderate relationship between these variables in the analysis of "non-academic" samples but no association was found between these variables in the analysis of "academic" samples. However, even this moderate relationship among the "non-academic" samples may have been the result of sampling bias.

Given the absence of the sort of data which would be necessary to clearly test the hypothesis of a moderate positive relationship between these variables, no clear conclusion may be reached on this
question. All that may be said with certainty is that the level of Western correspondence among "academic" samples is not affected by the development level of their respective countries and that "further research is needed" on the question of variation among "non-academic" samples, particularly research employing the specific "missing" types of samples indicated above.
CHAPTER VII

SUMMARY AND CONCLUSIONS

This investigation began with a reference to some of the most frequently cited primary studies of occupational prestige. For more than a half century such studies have been systematically conducted in the U.S. The single most important finding of those U.S. investigations was that there were only very minor variations in levels of occupational prestige hierarchy agreement among samples on the basis of age, sex, race, ethnicity, region, community size, socioeconomic status and other dimensions. Further, it was found that there was great stability over time in these assessments. Given the role of the mass media, mass education and other homogenizing features of 20th century American society, perhaps this was to have been expected.

When such studies began to be conducted on a systematic basis in Western European countries and in Canada, Australia and New Zealand in the immediate post-World War II period, there was also found to be a very high level of agreement among various types of samples and a high level of agreement with the U.S. occupational prestige hierarchy. Perhaps this also was to have been expected, for basically the same reasons.

Not so expectedly, when such investigations began to be conducted with some frequency in non-Western nations as of the late
Fifties, it was commonly reported that even in these culturally very disparate countries, there was a high level of correspondence between the occupational prestige assessments of samples drawn from those countries and those of samples drawn from Western countries. Further, there was some limited early evidence which suggested that there were only minor differences among types of samples within these non-Western countries.

**Alternative Explanations of the Reported Finding of High Cross-National Agreement**

Two types of explanations have been offered to account for this finding of reportedly high levels of cross-national agreement in occupational prestige assessment. One is the theoretical explanation offered by the "structuralists." Very briefly, it is maintained that it is "the essential structural similarity shared by all nations of any degree of complexity" that produces the reportedly very high level of cross-national agreement in occupational prestige hierarchy assessment. Springing from the seminal work of Inkeles and Rossi (1956), the most prominent works of this "school" are those of Hodge, Treiman and Rossi (1966) and Treiman (1977).

This explanation argues from the position that there are no systematic variations among types of samples within non-Western nations, with, perhaps, one or two minor exceptions such as that of Indian peasants. Given this, it argues that data derived from "casual" samples of almost any nature may be used to estimate the presumably single national occupational prestige hierarchy of any non-Western country,
even though probability samples are, of course, to be preferred. This point is methodologically very crucial in that a great many of the non-Western samples which are currently available (and upon which the conclusion of a cross-national invariance in occupational prestige assessments has been based) are samples of students, samples of teachers and samples of adults drawn from large cities. These are the very types of samples which might be most expected to have a "Western-bias."

A second explanation which has been advanced to account for the reportedly high level of cross-national agreement is an "alternative methodological explanation," which arises from this last point. The central issue here has to do with the possibility that there might be systematic differences among types of samples within non-Western countries. If there are such differences in occupational prestige assessments between student samples and non-student samples, between urban samples and rural samples, etc., the conclusion of an essentially invariant cross-national occupational prestige hierarchy will be brought into serious question, given the relatively high proportion of the non-Western data set which comes from such possibly atypical samples. The search for such possible systematic variation by sample type within non-Western societies was the primary focus of this investigation.

Variables and Principal Hypotheses

The dependent variable in each of the analyses conducted here was operationalized as level of agreement between the occupational
prestige hierarchy derived from each non-Western sample and the "model" Western industrial hierarchy derived from Siegel's (1971) synthesis of existing U.S. data. The level of "Western agreement" of each of the seventy-five usable non-Western samples was measured by the Spearman rank-order correlation between each of these pairs of samples.

The independent variables of the principal analysis conducted here were "occupational" status (including student versus non-student status) and community size. The "occupational" status variable included three separate student categories of samples (based on level of schooling), a teacher category, a farmer category, an essentially urban adult category (no occupation specified) and a mine workers category. In addition to these, there were two marginal categories of samples which were largely excluded from the analysis. There were "mixed student and non-student samples" and samples of "young adults." Also, largely excluded from the analysis was a category of "railway trainees," which contained only one sample.

The community size variable consisted of a category of samples drawn from large urban centers (including all national capitals), a category of samples drawn from "other urban" places and a category of samples drawn from rural places. Two additional categories of samples were largely ignored. There were "mixed urban and rural" samples and samples which were not clearly enough described to make a clear distinction in terms of type of community.

A third independent variable was employed in a separate analysis. That analysis was concerned with the relationship between level of Western correspondence in occupational prestige assessments
and societal "development" level. The latter was measured by a "development index" which was derived from five indicators through factor analysis.

Two principal hypotheses were considered. The first hypothesis was that there are systematic differences in levels of Western correspondence among the various types of samples indicated above. This was the central concern of this analysis. Two separate analyses were conducted to test this hypothesis. In the first of these, sample types were compared within the countries from which they were drawn. Thus, for example, the available Indian student samples were compared with the available Indian farmer samples in terms of their levels of Western correspondence. In the second of these analyses, samples were compared irrespective of national origin. Thus, for example, all student samples (taken collectively) in the full non-Western data set were compared with all farmer samples (taken collectively). The results of these analyses were reported, respectively, in Chapters 4 and 5.

The second hypothesis was that there is a direct association between level of Western correspondence in occupational prestige ratings and societal "development" level. This was somewhat less critical to the central concern of this investigation but it addressed what has been a central issue in the literature since the publication of the non-classic Inkeles and Rossi (1956) investigation. Also, it addresses an important methodological issue raised in the cross-national analysis by sample type. The findings of that analysis were reported in Chapter 6.
In reviewing the full set of samples available for the intra-national analysis, it was noted that, in general, there tended to be a relatively high level of Western correspondence among these samples, taken as a whole. Fifty-eight percent of the samples from countries from which two or more samples were available had rank-order correlations (rho) of .80 or more with Siegel's Western data. However, this data was far from being invariant. Forty-two percent of the samples had rho values of .79 or less, including sixteen percent which had rho values of .69 or less. This would seem to be far from the essentially invariant system depicted by the "structuralists."

Proceeding to the analysis of variation by sample type, which was the specific concern of Chapter 4, it was noted that in only three instances was it possible to conduct tests of the statistical significance of the differences between the mean rho values of the various sample types. This was due to the small number of cases available in each of the sample types within countries. The "t" tests revealed that there were statistically significant differences in each of these comparisons. These comparisons were between urbanites and ruralites in India, between farmers and students and between students and mine workers in Zambia.

In inspecting the rho values for categories of samples for which there was insufficient numbers of cases to conduct tests of statistical significance, several tentative conclusions were reached. Four types of samples were found to have generally high and generally
consistent levels of Western correspondence: student samples, teacher samples, "urban adult" (no occupation specified) samples and rural samples which were drawn from localities which were in rather close proximity to major urban centers. However, two types of samples were found to have generally low and generally consistent levels of Western correspondence: mine workers samples and rural samples which were drawn from localities which were not in close proximity to major urban centers.

These findings partially validate the "structuralist" contention of an essentially invariant cross-national occupational prestige structure. As measured here, there does seem to be such a cross-nationally invariant hierarchy among urbanites, among ruralites within the direct hinterland of major urban centers and among persons functioning within educational institutions, almost irrespective of locale.

However, these findings also serve to partially invalidate the contention that there is such an essentially invariant cross-national system of occupational prestige assessments. The systematic differences in levels of Western correspondence between these four types of samples and the mine worker and "isolated" rural samples would seem to confirm the contention of Haller, et al. (1972:941) that "isolated sectors of some contemporary societies may have occupational prestige hierarchies (and therefore systems of stratification) which differ from the well-known Euro-American form."

It was made very clear in the reportage of this analysis in Chapter 4, however, that in only a very few cases was it possible to
conducted tests of statistical significance of the differences between
the means of the categories of samples. Given this, the findings of
this intra-national analysis must be considered to be highly suggestive
but only tentative.

Principal Findings of the
Cross-National Analysis of
Variation by Sample Type

Because data limitations permitted only a few intra-national
analyses of variation by sample type, this analysis was repeated on a
cross-national basis. In the intra-national analysis, the average
levels of Western correspondence among the various types of samples
were compared only within individual countries. In the cross-national
analysis, comparisons of types of samples were made irrespective of the
countries from which the various samples were taken. A disadvantage to
this type of analysis is that it ignores such "national characteristics"
variables as societal level of development (considered in Chapter 6).
Two separate cross-national analyses were conducted, i.e., analysis by
"occupational" status and analysis by community size.

In the analysis of "occupational" (including student versus
non-student) status, there were found to be no statistically significant
differences among samples of elementary, secondary and college level
students. Since this was so, all student samples were merged into one
category for further analysis. The mean level of Western correspondence
of this category of student samples was compared to that of three other
"occupational" categories of samples: farmer samples, mine worker
samples and "urban adult" (no occupation specified) samples.
As anticipated, no statistically significant differences were found between the student samples and the "urban adult" samples. Both types of samples had rather high levels of Western correspondence \((\rho = .81 \text{ and } .87, \text{ respectively})\). Nor, as expected, were there found to be any statistically significant differences between farmer samples and mine worker samples. Compared to the mean level of Western correspondence of the full data set \((\rho = .81)\), both had rather low levels of Western correspondence \((\rho = .69 \text{ and } .68, \text{ respectively})\).

The Newman-Kuels test also provided substantiation for a third proposition suggested by the intra-national analysis. The difference between the mean Western correspondence level of the mine workers samples and that of the "urban adults" samples was found to be statistically significant. However, this test failed to demonstrate statistically significant differences in the comparisons between students and mine workers, between students and farmers or between farmers and "urban adults." This failure to find statistically significant differences in these three comparisons of sample types would seem to lend empirical support to the "structuralist" contention that there are no systematic differences among types of samples, just as the finding of statistically significant differences between mine worker samples and "urban adult" samples would fail to lend empirical support to this contention.

However, because of certain constraints involved in this cross-national analysis by "occupational" types, these findings were not taken to be conclusive. One of these constraints reflected the relative superficiality of this particular analysis. Sample types were
compared, irrespective of any variation in the general "national" level of Western correspondence among countries. If it were to be established, for example, that the majority of the available samples in a particular sample type were drawn disproportionately from countries with a particularly high level of societal "development," while the majority of the available samples in a contrasting sample type were drawn disproportionately from countries with a particularly low level of societal "development," the "objective" differences between these samples could have been either over-stated or under-stated if, in fact, there is an association between societal "development" level and the mean Western correspondence level of the samples in individual countries. This issue will be addressed in the summary of Chapter 6, which specifically addressed this question.

For the immediate purposes of the review of the cross-national analysis by "occupational" sample type, it is sufficient to indicate here that for this and other reasons, the failure to find statistically significant differences in three out of the four comparisons of "occupational" sample types was not considered sufficient basis for accepting the proposition of no substantively significant differences among these types of samples.

Given this, further exploration of cross-national variation by "occupational" status was conducted without the use of tests of statistical significance. Several tentative findings came out of this exploration, generally with the effect of providing further validation to the also tentative findings of the intra-national analysis of "occupational" status.
On the key issue of the representativeness of student ratings, it was found that there was a very close proximity between the mean Western correspondence level of student samples and that of all available samples. However, this was largely found to be a statistical artifact, resulting from the fact that more than half of the available samples are student samples and, more importantly, resulting from the location of student rho values roughly in the middle of what is essentially a bi-modal distribution of rho values between the "high Western correspondence" sample types (teachers and "urban adults") and the "low Western correspondence" sample types (farmers and mine workers).

Another finding of this analysis was that teachers and urban adults had unusually consistent and unusually high levels of Western correspondence. Further, it was found that mine workers had the lowest levels of Western correspondence, although there was much less consistency in the farmer samples than in the mine worker samples. The differences among the farmer samples had largely to do with whether or not the samples were drawn from communities which were in close proximity to large urban centers. All of these findings served to reinforce the tentative conclusions of the intra-national analysis of variation by "occupational" status reported in Chapter 4.

The second of the two cross-national analyses by sample type was concerned with variation by community size. Since the differences between the "large city" and "other urban" types of samples were not found to be statistically significant, these two categories were merged into one simple "urban" category, which was compared with a category of
samples which were clearly rural in character. The mean level of Western correspondence of the urban samples ($\rho = .84$) differed significantly (at the .05 level) from the mean level of Western correspondence of the rural samples ($\rho = .76$). With the rural teacher and student samples set aside, the $\rho$ value of the "non-academic" rural samples dropped to .70. Although this finding is based on limited evidence, it would seem to support the critique of Haller et al. (1972) much more than it would support the "structuralist" position on this matter.

By way of summary of this analysis of variation in Western correspondence level by "occupational" and community size sample type, it may be said that there is clear, albeit limited, evidence that there are systematic differences between urban and rural sample types in levels of Western correspondence. There is also somewhat less clear evidence that there are systematic, if not statistically significant, differences among some of the "occupational" types considered above.

These findings may not be taken as being conclusive, however. There were limitations to both the intra-national and the cross-national analyses conducted here. The primary limitation of the intra-national analysis was that the number of samples in each sample type within countries was so small as to prohibit the use of tests of statistical significance, except in three cases. The primary limitation of the cross-national analysis was that it ignored such "national" variation effects as variation in Western correspondence by societal "development" level. Given the possibility of such "national" variation, it was reported in Chapter 5 that the findings of the
cross-national analysis of variation by sample type would have to remain tentative, pending the results of the analysis of variation in Western correspondence level by societal "development" level.

Principal Findings of the Analysis of the Relationship Between Level of Societal Development and Level of Western Correspondence

One of the principal reasons for conducting this particular analysis had to do with the problem stated in the previous section, i.e., that the findings of the cross-national analysis of variation in Western correspondence level by sample type would have to remain tentative until a determination could be made as to whether or not part of the apparent differences among sample types may have been a function of the differing character of the countries from which these samples were drawn. This could be problematic if it were found that a large share of the samples from a particular sample type were drawn from countries toward one end of the societal "development" spectrum, while a large share of the samples from a contrasting sample type were drawn disproportionately from countries toward the opposite end of the "development" spectrum. Were this to be found, it would serve to lessen whatever force there might have been in the findings of the cross-national analysis by sample type. Such a finding would, of course, have only limited impact on the findings of the intra-national analysis.

The decision to conduct this analysis as a check on the findings of the cross-national analysis by sample type proved to be a fortuitous one, in that such a situation was discovered. There was found to be a very moderate positive association between level of
societal "development" and level of Western correspondence in occupational prestige assessments. The Pearson correlation between these variables was found to be .23, which was considerably below what might have been anticipated by Treiman. On the suspicion that the presence of the "academic" samples, i.e., student and teacher samples, might have caused this relationship to be either over-stated or under-stated, separate analyses of the academic samples and non-academic samples were conducted. There was found to be virtually no association between these variables in the analysis of the academic samples \( (r = -0.06) \). However, there was found to be a moderately positive association between these variables in the analysis of non-academic samples \( (r = 0.46) \), which was roughly in the range of the value which would have been predicted by Treiman's argument.

This would seem to argue for the atypicality of these student and teacher samples. However, when the rho values of the non-academic samples were further examined, it was found that the samples available in the countries which were high on the development index were almost exclusively urban adults, who tended to have high levels of Western correspondence. Contrariwise, the samples available in the countries which were low on the development index were almost exclusively farmers or mine workers, who tended to have low levels of Western correspondence. There were virtually no urban adult samples available from countries of low development level and there were virtually no farmer or mine worker samples available from countries of high development level.
This raises the possibility that the moderate positive association between level of societal development and level of Western correspondence may have been largely the product of the availability of certain types of samples in the high development level societies versus the low development societies. Contrariwise, it raises the alternate possibility that the finding of statistically significant differences in levels of Western correspondence between the available rural and urban samples may have been largely the product of the relative scarcity of rural samples in the more developed countries and the relative scarcity of urban samples in the less developed countries.

Either (or both) of two separate effects may be operative here, i.e., a country development level effect and a sample type effect. While there is a relative abundance of samples available in the full data set, there is a distinct lack of precisely the sorts of samples which would be required to conclusively address this issue. What would be required would be urban samples from the less developed countries of the non-Western world and rural samples from the more developed countries of the non-Western world. Any conclusions on the question of urban-rural variation must remain only tentative until such data becomes available.

Another issue which may not conclusively be addressed until further evidence from urban adult samples becomes available has to do with the reported differences between student samples and urban adult samples. The mean rho values for these types of samples were .81 and .87, respectively. Although this difference was not found to be statistically significant, it was interesting that the urban adult
samples had a higher mean level of Western correspondence than did the student samples, which would be expected to have the strongest "Western bias" of all sample types, according to the "Western diffusion" model. Since virtually all urban adult samples were clustered in the countries with the highest levels of development, while the student samples were rather evenly distributed among countries at all levels of development, perhaps the higher Western correspondence level of the urban adult samples may be, in part, the result of the operation of a "country development level" effect. But, again, this issue cannot be definitively resolved until more data from urban samples drawn from low development level countries becomes available.

Overview of Findings from the Three Principal Analyses

The results of this analysis were somewhat disappointing. At almost every turn, it was apparent that there was not enough data of the required types to address the issues considered here with any real degree of finality, at least if tests of statistical significance are to be taken as the final arbiter of scientific fact. However, the findings presented above may minimally be considered to be highly suggestive of the proposition that there are systematic differences intra-nationally among certain of the sample types considered here, particularly between rural samples (not drawn from the hinterlands of large cities) and other types of samples, as has been suggested by Haller and others for many years. The early conclusion that there were no systematic differences between urban and rural samples was found to be based upon somewhat questionable rural samples, e.g., Tiryakian's
Philippine "rural" residents, all of whom were within rather easy commuting distance and radio signal distance from Manila. The findings of Voth's (1970) subsequent investigation of Philippinos residing at some distance from Manila brings Tiryakian's conclusion regarding the lack of rural-urban differences into question, as does Haller's Brazilian (1972) data and the data from a variety of Indian studies.

The issue of intra-national variation by sample type is both theoretically and methodologically central to the "structuralist" position. One key methodological issue has to do with the procedure employed by Hodge, Treiman and Rossi (1966) and Treiman (1977) by which two or more samples available in a given country were merged through a common metric to one occupational prestige hierarchy determined for that country. The specifics of this procedure were reported above and will not be restated here, except to note that to require that the data for a second or third or fourth study in a given country be correlated to .95 with the data from the methodologically "best" study in that country may introduce something of a "Western bias" into the single prestige hierarchy which is presented for that country. This would be so to the extent that the methodologically best studies (e.g., probability samples versus "casual" samples) might tend to be the various probability samples of urban adults (which have been shown to have rather consistently high levels of Western correspondence), as opposed to rural samples which have generally been taken on a more "casual" basis and which have been demonstrated to have relatively low levels of Western correspondence (at least the less "urbanized" of
them). To the extent that this is so, this would seem to "load" the single prestige hierarchy in the direction of Western correspondence and thus, in effect, to beg the question of cross-national invariance in occupational prestige hierarchies. To divide a few of these countries into separately reported sub-populations, as was done by Treiman (1977), does not adequately address this problem.

In sum, this investigation has not definitively established that there are systematic intra-national differences among the types of samples considered here, although there is some reasonably strong evidence that this is the case. The failure to find such systematic (and statistically significant) differences among sample types is not, however, the result of convincing evidence to the contrary. Rather, it is the result of a lack of data from the sorts of samples which must be available to adequately conduct such a test.

Contrariwise, for the same reason, the "structuralist" contention that there are not such systematic variations among sample types must also be considered a proposition which has yet to be empirically established. The requirement of further data of the types specified above pertain here at least as much as they do to the contrasting position. The "structuralist" theoretical formulation may or may not provide an adequate explanation of the assessment of occupational prestige but until this issue of intra-national variation by sample type is resolved, this theory will have to be treated as only a partially tested set of assumptions.
The present investigation had an important "Western bias" of its own. The dependent variable used throughout was "Western correspondence," as measured by the Spearman rank-order correlation between the occupational prestige ratings of each non-Western sample and the ratings available from Siegel's (1971) U.S. data, which provided occupational prestige ratings for titles in the U.S. Bureau of the Census 1970 Census of Population, Alphabetical Index of Industries and Occupations. To be eligible for inclusion in the final data set, each occupational title from each study had to be "matched" with a parallel title in both the ISCO listing of titles and the U.S. Bureau of the Census titles. Having established these criteria and having decided that this matching procedure would be conducted rigorously, any occupations which were not found in the Western industrial occupational system were ignored, irrespective of their prestige or presumed importance. All traditional occupations in these non-Western societies were essentially treated as being non-existent.

It should be recalled that approximately one-third of all the available occupational titles were deleted from the analysis conducted here. The vast majority of these were deleted because they were either too overly specified (e.g., lawyer in a small city) or too underly specified (e.g., independent professional) to be clearly matchable with the ISCO or U.S. Census titles. However, a number of them were eliminated because they were essentially unmatchable with these two coding schemes because not all occupations in pre-industrial societies (or
societies in transition from that condition) are to be found in industrial society.

Thus "geomancer" was eliminated in one Taiwanese study, while "Protestant minister" was kept in the data set. In another Taiwanese study, "Chinese doctor" was deleted, while "physician" was kept. In Zimbabwe-Rhodesia, "diviner" was deleted, while "priest" was kept. Zambian "witch doctors," "water diviners" and medicine men" were all eliminated, as were Nigerian "sellers of charms," "horsed servants" and "shehu's slaves - unsalaried."

In addition, since the ISCO and the U.S. Census codes both list formally recognized ("legitimate") occupations, all "informal sector" occupations which are found in both industrial and "early industrial" societies were eliminated from consideration. Thus were eliminated Ethiopian "prostitutes," Mexican "moonshiners," Taiwanese "quacks" and Zambian "beggars" and "thieves."

There is a roughly opposite type of problem involved in comparing occupational systems cross-nationally and even intra-nationally. Just as there are certain "traditional" titles in many non-Western societies which have no real "match" with titles available in industrial societies, so also there are certain specialized "industrial order" titles which, realistically, cannot be rated by persons in the more rural segments of many non-Western societies simply because those titles are too specialized to be recognized by such respondents.

Given both of these problems, it is apparent that in any cross-national or intra-national analysis of prestige hierarchy correspondence, what are being compared are not the full occupational systems
of each country or each sub-system within countries but rather only those segments of these occupational systems which can be compared.

Hodge, Treiman and Rossi recognized this problem and suggested that "It is quite possible . . . that much genuine diversity in occupational-prestige systems not captured by our analysis is reflected in the relative placement of occupations that are not comparable across societies, or even subsectors of any given society" (1966:311). Given this, the "actual" level of cross-national and intra-national agreement reported in this investigation may have been greatly overstated.

Going beyond the issue of comparability (or incomparability) of individual titles, there is a further issue of the distribution of the titles which are available for comparison between samples. Haller and Lewis (1966) have argued that there may be an important bias in the sampling of occupational titles which may have the effect of overstating the actual level of prestige hierarchy agreement among samples. Hodge, Treiman and Rossi recognized this problem as well. Thus they suggested that (1966:312):

No single study of occupational prestige is based on a sample of occupations that is representative of the universe of occupations extant in the country where the study was conducted. For example, of the ninety occupational titles rated in the 1947 NORC survey, thirty-one fell in the census major occupation group 'professional, technical, and kindred workers' and another sixteen fell into either 'laborers, except farm and mine' or 'service workers, except private household,' far exceeding the proportions of all occupational titles in these categories. By and large, prestige studies tend to overrepresent the extremes of the occupational hierarchy and underrepresent the middle sector of the occupational ladder. Hence, comparisons among countries may
produce high correlations simply because the extremes of the occupational hierarchy are overrepresented and the middle, where disagreement seems most likely to occur, is poorly represented.

A third issue which was not considered in this analysis has to do with the "subjective" dimensions employed by subjects in their assessment of the prestige of occupations. The evidence of an essential invariance in occupational prestige assessment in the U.S. has been so overwhelming that researchers interested in pursuing questions of occupational prestige within the U.S. have largely directed their attention to studying how respondents rate occupation on the basis of a variety of possible prestige dimensions, e.g., social usefulness. Seligson (1977) and others have suggested that the dimensions employed by respondents in various societies and in various sectors within societies may vary considerably. Thus there might be variability in the bases of occupational assessments between samples. Although this issue was not addressed in this investigation, a portion of the non-U.S. literature in this area was cited earlier in this work. This is a fascinating area for continued investigation. For an extensive review of the available literature on this issue, see Widdison (1970).

A fourth issue not considered here has to do with how the prestige hierarchy position of particular occupations change over time or how the level of "Western correspondence" of entire hierarchies has changed over time. Fossum and Moore (1975) have provided an interesting examination of how U.S. prestige hierarchies have changed over time. In this they have contrasted the explanatory power of functionalist and conflict theories of social stratification in accounting for these changes.
This might be an interesting avenue of future investigations in non-Western societies. For example, it might be very interesting to replicate the Toro (Uganda) investigation cited by Kelley and Perlman (1971) in the period since the Asians were expelled from that country. They virtually monopolized commercial and professional positions at the time of the earlier study and have since been largely replaced by indigenous Africans. It might be most interesting to investigate how the changed ethnic character of the incumbents of these occupations has changed the prestige of these occupations. The same might be said of the Chinese in post-Sukarno Indonesia and of other "marginal trading peoples." It might be interesting, as well, to investigate the changing prestige position of military titles, as the ethnic character of the officer corps in many recent colonies has changed and as the political role of the military has changed in many Third World societies.

Part of the reason that this question of changes in occupational prestige structures over time was not pursued here had to do with the relatively narrow time frame in which most of these non-Western studies have been conducted, i.e., the late Fifties to the present. With the passage of time and (hopefully) the continuation of this type of investigation in non-Western societies, both the time frame and the data base will have been expanded.

It will be recalled, however, that not all non-Western studies were conducted within this rather narrow time frame. The Western correspondence levels (rho) of Davis' (1927) two Soviet samples were .24 and .28, which was hardly in keeping with Treiman's contention that there is no significant variation in prestige hierarchy assessment over time.
The low Western correspondence level of Obrdlek's (1937) Czechoslovakian sample (rho = .51) would seem to bring this proposition into further question. However, this data was not employed in this analysis because of the early decision to make this analysis as conservative an examination of the "structuralist" contention of cross-national and intra-national invariance as could reasonably be conducted.

To accomplish this rather conservative analysis of this contention, the procedures employed by "structuralists" and their predecessors were followed rather carefully, despite the criticisms which have been made of these procedures. Furthermore, any samples with relatively low Western correspondence levels which could be excluded on any reasonable ground were, in fact, excluded, with the exception of the Morsbach and Morsbach (1967) samples.

Despite the relative conservatism of the test of the hypothesis of prestige hierarchy invariance, there was sufficient evidence of systematic variation by sample type to conclude that the acceptance of this proposition by some researchers has been premature. The constraints of the currently available data set are such that, at present, this question cannot be resolved either in the affirmative or in the negative.

Specifically, the types of non-Western samples which are most required to resolve this are more rural samples (other than students and teachers) which are not drawn from the direct hinterlands of major cities. It would be highly useful if probability samples could be taken in such communities, rather than let educated urban interviewers select whomever they please because the respondents they might choose might
well be the local respondents with whom they have the most in common and with whom they might feel most comfortable, i.e., local governmental officials, retailers and teachers. It would be very useful, as well, if the occupational prestige assessment of each sample type is separately reported, rather than simply reporting simple correlation coefficients between each sample type.

Another required type of sample are probability samples of urban adults in the "lesser developed" countries of the Third World. Virtually all the urban adult samples currently available are drawn from the larger cities of the more "developed" Third World countries. Their reportedly high levels of Western correspondence might possibly have as much to do with their residence in societies with highly developed educational and communications systems as they have to do with their urban residence. It is entirely possible that this is not the case but until such data is available the separate effects of country development level and sample type cannot adequately be assessed. For the same reason, it would be desirable to see rural samples drawn from some of the "more developed" Third World nations.

To further test the "culturalist" and the "structuralist" explanations, it would be very desirable to see more studies conducted both in the urban and rural sectors of Eastern European countries. Two Czechoslovakian samples were excluded from this analysis because of a somewhat variant "rater task." Both had rather low levels of Western correspondence. The probability sample of Warsaw adults provides by far the best quality Eastern European data, but the high level of Western correspondence of this sample can hardly be taken as sufficient
evidence that there might not be some systematic differences in prestige hierarchy variation between quasi-Marxist and quasi-capitalist societies. If there is anything distinct about the prestige hierarchy of a Marxist-Leninist society, Poland might be one of the less likely Eastern European societies in which to discover it and Warsaw one of the least likely cities. However, the Polish data is very useful. Fortunately, for purposes of comparative analysis, there are several Polish studies of occupational prestige available (see Appendix B). Unfortunately, for purposes of this particular analysis, all but one of these studies were written in Polish, which was one language for which it was not possible to secure the services of a translator.

Apart from the issue of the types of samples which would be required to test the hypothesis of prestige hierarchy invariance, there is the further issue of the sorts of procedures which should be adopted in future investigations. Apart from studies which are specifically addressing the dimensionality of occupational prestige assessments, future investigators should be advised against the use of variant "rater tasks" (see Appendix A). To depart significantly from the usual wording of the instructions to the respondents is to invite rejection of their work from future cross-national investigations, as was done with several samples here.

Future investigators should also be advised against the use of either overly specific or overly generalized occupational titles. A reasonably safe course would be to restrict the choice of titles to those contained in the ISCO listing, exercising some care that the
titles selected should not be overrepresentative of very high and very low prestige titles (by Western standards).

One simple procedure which would greatly facilitate future secondary analyses would be to report the ISCO occupational code number along with the occupational title. The most onerous part of the present investigation was coding all 3,473 available occupational titles in terms of the ISCO codes and then re-coding them, once certain deficiencies and incomparabilities were discovered. Many dozens of man-hours were devoted to this not so simple task alone. It should be kept in mind, however, that the ISCO codes have something of an industrial system bias. In countries in which previous investigations have used "traditional" titles, it might be most instructive to have these same titles repeated in a subsequent study, to trace changes in the prestige hierarchy position of these titles as these countries "modernize." On this point, it should go without saying (but past experience has dictated that it must be said), that any researcher who would address any such questions in non-Western societies should thoroughly acquaint himself or herself with any previous investigations in the country to be studied.

Perhaps the most important suggestion to researchers interested in the comparative analysis of occupational prestige structures is that the hypothesis of occupational prestige hierarchy invariance is nothing more and nothing less than an hypothesis — still to be tested and still awaiting empirical confirmation with the sort of data which has yet to be developed. The "structuralists" are to be commended for the painstaking, systematic and thoughtful work which they
have directed to the investigation of this matter, especially when very few, other than Haller and his associates, took the time to do anything other than to offer a critique.

However, to accept the hypothesis as empirically established scientific fact, given the current state of the data set, would, to say the least, be premature and, to say the most, would be antithetical to the interests of the sorts of inquiry which would be necessary to provide an adequate test of the hypothesis.

This hypothesis may or may not be Marsh's "great empirical invariant of sociology." It may or may not be Penn's "great empirical myth of sociologists." If this hypothesis should eventually be proved to be based on "scientific fact," so much the better for the development of an axiomatic theory of social stratification. If this should prove to be based on something other than "scientific fact," this will hardly be the first instance on the perpetuation of a "scientific myth."

Perhaps the most important point to be stressed to researchers interested in this topic of inquiry is that what seems to be the developing "conventional wisdom" that such an invariance exists should not dissuade them from conducting the sorts of investigations which would be required to either confirm this hypothesis or to put it to rest.

A Final Retrospective

A point which has been made almost ad nauseam throughout these past four chapters is that the analysis reported here has not definitively demonstrated the invalidity of the "structuralist" case on the
issue of sample type variation. At least equally important, however, is the conclusion that this analysis has failed to support their case.

It should be borne in mind in interpreting this second conclusion that it was reached after having conducted this analysis using the structuralists' own methodology — a methodology which some of its critics have claimed tends to load the data in the direction of spuriously high levels of agreement. It has been argued that there is something of a self-fulfilling prophecy in these techniques.

The occupational titles being compared in this type of analysis are not any sort of a representative sample of the occupations in a given country, but only a truncated (and Western-biased) list of titles. It may be presumed that this has had the effect of loading the findings in the direction of maximizing similarities among samples. The aggregated nature of the data may be presumed to have had a similar effect. The issue of acquiescent responding has not been addressed in this work but to the extent that this phenomenon may have been operative in the original interviewing of subjects, this can only have had the effect of further loading in the direction of spuriously high levels of agreement.

To this point, this report has been almost apologetic about the relatively few tests of statistical significance which could be conducted, due to data limitations. However, as Haller et al (1972:948) noted, "probability tests are rarely if ever presented in this research subject." Given the various loadings in the data set, care should be taken not to attach an excessive importance to the fact that only a few statistically significant differences among sample types were found and
that further analysis called even these into question. Of course, the distinction between substantive and statistical significance should be kept in mind in interpreting such findings.

Apart from the various methodological issues considered in this work, there is an important theoretical, indeed ideological, point which merits attention. Stehr (1974:414) has suggested that "the functionalist interpretation of the observed invariance in occupational prestige ratings . . . is subject to the accusation that it itself becomes a vehicle of legitimation or reinforcing ideological position of a given system of inequality." This is, of course, hardly a new criticism of the broader structural-functional theoretical framework of which the "structuralist" position considered here is but one manifestation.

Perhaps the importance of Stehr's comment is that it underscores the point that the general research topic considered here (and certainly the structuralist position on this topic) has an ideological, as well as a scientific, significance. A function of functionalism is the validation of an existing system of distribution of power and privilege. It presents an answer to the questions of who gets what and why and whether or not a society's system of distribution of rewards must continue indefinitely (by reason of functional imperative). After more than thirty years of the continuing debate which originated with the original Davis-Moore controversy, this issue need hardly be considered at this point. What is important, however, to stress at the conclusion of this work is that, given the ideological as well as the scientific importance of this general topic, it would be regretful
(to say the least) if the structuralists' "great empirical invariant of sociology" is to be accepted uncritically and without the further research which would be required to test it properly. In short, an examination of the work of the structuralists demonstrates the assumptions of that school, but it does not prove their case.
### APPENDIX A - Selected Characteristics of Studies Employed in the Principal Analysis

<table>
<thead>
<tr>
<th>Country, Study</th>
<th>Sample Size</th>
<th>Sample Characteristics</th>
<th>No. of Occs.</th>
<th>Prestige Rating Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASIA</strong></td>
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<tr>
<td>Afghanistan</td>
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</tr>
<tr>
<td>Hondrich, 1964</td>
<td>41</td>
<td>Upperclassmen at University of Kabul - economics majors.</td>
<td>18</td>
<td>S. asked to rank occupations in terms of &quot;respect.&quot;</td>
</tr>
<tr>
<td><strong>India</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Krishnan, 1956</td>
<td>234</td>
<td>Male college students in Mysore from the four major castes. N = at least 50 from each caste.</td>
<td>25</td>
<td>S. asked to rank occupations in the order of their &quot;social standing.&quot;</td>
</tr>
<tr>
<td>Krishnan, 1961</td>
<td>147</td>
<td>6 sub-samples: 125 S from 5 districts of Mysore State, 22 S from Madras State; median age: 22; otherwise unspecified.</td>
<td>25</td>
<td>S. asked to rank occupations in order of their personal preference.</td>
</tr>
<tr>
<td>Cook, 1962</td>
<td>210</td>
<td>7 sub-samples (30 S each): 120 M &amp; F students, ages 14-20; 60 graduate students; 30 adult male peasants.</td>
<td>22</td>
<td>S. asked to rank occupations &quot;in the order in which you admire the occupations.&quot;</td>
</tr>
<tr>
<td>D'Souza, 1962</td>
<td>214</td>
<td>Graduate and undergrad. students at Bombay University, differing in curriculum pursued, sex, rural-urban place of birth, mother tongue and father's occupation.</td>
<td>30</td>
<td>S. asked to rank occupations in order of their &quot;social standing.&quot;</td>
</tr>
</tbody>
</table>
### APPENDIX A - (Continued)

<table>
<thead>
<tr>
<th>Country, Study</th>
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<th>Prestige Rating Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>India (Cont.)</strong></td>
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<tr>
<td>D'Souza, 1964</td>
<td>399</td>
<td>Heads of households in two &quot;agricultural villages little affected by urban centers&quot; (285 in Chincholi sample; 114 in Kolur sample).</td>
<td>16</td>
<td>$S_s$ asked to grade occupations &quot;according to their prestige&quot; (paired comparison technique).</td>
</tr>
<tr>
<td>Singh, 1967</td>
<td>40</td>
<td>Heads of households in Mohali village.</td>
<td>18</td>
<td>$S_s$ asked to grade occupations according to their &quot;prestige&quot; (paired comparison technique).</td>
</tr>
<tr>
<td><strong>Indonesia</strong></td>
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<tr>
<td>Thomas &amp; Soeparman, 1963</td>
<td>939</td>
<td>Students from 6 high schools with specialized curricula in Bandung (1961 pop.: 966,359) - &quot;perhaps the nation's most progressive city.&quot;</td>
<td>30</td>
<td>$S_s$ asked to rank occupations &quot;according to prestige.&quot;</td>
</tr>
<tr>
<td>Van Der Veur, 1966</td>
<td>774</td>
<td>Students from at least 5 secondary schools with specialized curricula in several cities in West Irian; predominantly males; median age: 17.7 years; &quot;vast majority came from West Irian's tiny villages;&quot; parents of over two-thirds engaged in subsistence occupations.</td>
<td>34</td>
<td>$S_s$ asked to rate occupations on a 5-point scale of &quot;the general standing of these occupations and posts&quot; in their society.</td>
</tr>
</tbody>
</table>
### APPENDIX A - (Continued)

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<tr>
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<th>Prestige Rating Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indonesia (Cont.)</strong></td>
<td>Epstein, 1967</td>
<td>Students enrolled in 4 secondary schools and one college in the Gazelle Peninsula of New Britain. Primarily Tolai from the immediate vicinity of Rabaul. &quot;Today recognized as the wealthiest and most sophisticated group in Papua-New Guinea.&quot;</td>
<td>30</td>
<td>Ss asked to rate occupations on a 5-point scale of &quot;prestige.&quot;</td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>Japan Sociological Society, 1951</td>
<td>Stratified probability sample of 19 to 68 year old males in 6 large Japanese cities.</td>
<td>30</td>
<td>Ss asked to rate occupations according to &quot;social status and prestige.&quot;</td>
</tr>
<tr>
<td></td>
<td>Ramsey &amp; Smith, 1960</td>
<td>Two sub-samples: all seminars in 2 high schools in Tokyo (N = 178) and all seniors in 2 high schools in a city of 20,000 population (N = 358).</td>
<td>23</td>
<td>Ss asked to rate occupations on a 5-point scale of &quot;prestige&quot; - &quot;very high&quot; to &quot;very low.&quot;</td>
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<tr>
<td></td>
<td>Nisihira, 1968</td>
<td>Probability sample drawn from Tokyo voter registration lists, divided into two groups, each of which rated 54 occupations (including 10 occupations common to both lists).</td>
<td>98</td>
<td>Ss asked to rate occupations on a 5-point scale of prestige - &quot;le plus important, important moyen, ordinaire, le plus ordinaire.&quot;</td>
</tr>
</tbody>
</table>
### APPENDIX A - (Continued)

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<tr>
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<th>Sample Characteristics</th>
<th>No. of Occs.</th>
<th>Prestige Rating Procedure</th>
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</thead>
<tbody>
<tr>
<td>Korea</td>
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<tr>
<td>Chang &amp; Lewis, 1967</td>
<td>864</td>
<td>Third and fourth year males in four Seoul high schools varying in type of curriculum.</td>
<td>80</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations on a 5-point scale of prestige - excellent to poor.</td>
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<tr>
<td>Pakistan</td>
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<tr>
<td>Eister, 1965</td>
<td>129</td>
<td>Two sub-samples of graduate students: 49 candidates for M.A., 80 candidates for M.S. from the Institute of Public and Business Administration.</td>
<td>39</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations on a 5-point scale of prestige.</td>
</tr>
<tr>
<td>Papua-New Guinea</td>
<td></td>
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<tr>
<td>Conroy, 1974</td>
<td>709</td>
<td>100 secondary school students, 410 elementary school students and 199 vocational trainees - all drawn from &quot;scattered locations.&quot;</td>
<td>22</td>
<td>5-point scale ranging from &quot;very highly respected&quot; to &quot;held in very low respect.&quot;</td>
</tr>
<tr>
<td>Philippines</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tiryakian, 1958</td>
<td>606</td>
<td>Five sub-samples predominantly of heads of households in a suburb of Manila and in four rural communities; rough quota sampling technique.</td>
<td>30</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations in order of &quot;social standing.&quot;</td>
</tr>
<tr>
<td>Kunde and Davis, 1959</td>
<td>510</td>
<td>&quot;Junior College students at the state university;&quot; 244 males, 266 females; median age: 18.</td>
<td>23</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations &quot;in the order of their social standing.&quot;</td>
</tr>
</tbody>
</table>
### APPENDIX A - (Continued)

<table>
<thead>
<tr>
<th>Country, Study</th>
<th>Sample Size</th>
<th>Sample Characteristics</th>
<th>No. of Occs.</th>
<th>Prestige Rating Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines (Cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Castillo, 1962</td>
<td>476</td>
<td>Senior students from 6 high schools, differing in SES recruitment.</td>
<td>25</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations on a 5-point scale of &quot;prestige.&quot;</td>
</tr>
<tr>
<td>Voth, 1970</td>
<td>60</td>
<td>Village captains, councilmen and village school teachers in the (isolated) Dumaquete Trade Area of Negros Island.</td>
<td>148</td>
<td>&quot;General, occupational prestige&quot; procedure of unspecified nature.</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green, 1953</td>
<td>unspec.</td>
<td>Graduate teachers, otherwise unspecified.</td>
<td>37</td>
<td>&quot;Prestige status rating of unspecified type.&quot;</td>
</tr>
<tr>
<td>Taiwan (R.O.C.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh, 1970</td>
<td>507</td>
<td>Systematic, multi-stage area sample of male household heads.</td>
<td>36</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations on a 5-point scale of prestige.</td>
</tr>
<tr>
<td>Gritchting, 1971</td>
<td>386</td>
<td>Taipei &quot;young adults.&quot; Educated elite, mainlanders and males overrepresented.</td>
<td>126</td>
<td>5-point scale of &quot;occupational prestige.&quot;</td>
</tr>
<tr>
<td>Guam</td>
<td></td>
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<td></td>
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</tbody>
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<tbody>
<tr>
<td>AFRICA</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Burundi</td>
<td>37</td>
<td>High school juniors and seniors village to capital city.</td>
<td>64</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate the standing of each occupation on a 5-point scale.</td>
</tr>
<tr>
<td>Cart and Rousson, 1967</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethiopia</td>
<td>200</td>
<td>Students in the introductory sociology classes at Haile Selassie I University, 95 percent males.</td>
<td>90</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to number slips of paper with occupational titles printed on them.</td>
</tr>
<tr>
<td>Brown, 1969</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ghana</td>
<td>775</td>
<td>Boys from fifth form population in public secondary schools.</td>
<td>25</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to &quot;rank 25 occupations on a 5-point scale ranging from very high prestige to very low prestige.&quot;</td>
</tr>
<tr>
<td>Foster, 1965</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ivory Coast</td>
<td>1837</td>
<td>Male students in 8 secondary schools.</td>
<td>25</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate on a 5-point scale.</td>
</tr>
<tr>
<td>Clignet and Foster, 1966</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mauritania</td>
<td>unspec.</td>
<td>Trained and untrained mine workers (ages 25-35), none with more than a few years' industrial experience.</td>
<td>42</td>
<td>Not reported.</td>
</tr>
</tbody>
</table>
## APPENDIX A - (Continued)

<table>
<thead>
<tr>
<th>Country, Study</th>
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</thead>
<tbody>
<tr>
<td><strong>Nigeria</strong></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Armer, 1968</td>
<td>591</td>
<td>All 17 year old boys who could be located in a 16 percent probability area sample of the 128 wards of the city of Keino.</td>
<td>16</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations on a 5-point scale of &quot;social position.&quot;</td>
</tr>
<tr>
<td>Cohen, 1970</td>
<td>81</td>
<td>Secondary school boys.</td>
<td>55</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rank all occupations from 1-55.</td>
</tr>
<tr>
<td><strong>Zimbabwe-Rhodesia</strong></td>
<td></td>
<td></td>
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<tr>
<td><strong>South Africa</strong></td>
<td></td>
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</tr>
<tr>
<td>Kuper, 1965</td>
<td>362</td>
<td>School children in Durban.</td>
<td>16</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to arrange a set of index cards as to ranking of prestige, and rate each ranking on a 4-point scale.</td>
</tr>
<tr>
<td>Morsbach, 1967</td>
<td>82</td>
<td>Pupils in the last two classes of a Jewish high school in Johannesburg.</td>
<td>20</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations on a 7-point scale.</td>
</tr>
<tr>
<td>Morsbach and Morsbach, 1967</td>
<td>127</td>
<td>High school juniors: 48 Africaans - speaking whites, 29 Africaans - speaking Colonials and 50 English - speaking whites.</td>
<td>20</td>
<td>S&lt;sub&gt;S&lt;/sub&gt; asked to rate occupations on a 7-point Semantic Differential.</td>
</tr>
</tbody>
</table>
### APPENDIX A - (Continued)

<table>
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<tr>
<th>Country, Study</th>
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<th>Sample Characteristics</th>
<th>No. of Occs.</th>
<th>Prestige Rating Procedure</th>
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<tbody>
<tr>
<td>Zambia</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Mitchell and Epstein, 1959</td>
<td>653</td>
<td>Pupils and scholars at three educational institutions near Lusaka.</td>
<td>32</td>
<td>S&lt;sub&gt;9&lt;/sub&gt; asked to place each occupation in one of five prestige categories from very high prestige to very low prestige.</td>
</tr>
<tr>
<td>Mitchell, 1964</td>
<td>147</td>
<td>Secondary school students in Ndola, N. Rhodesia.</td>
<td>31</td>
<td>S&lt;sub&gt;9&lt;/sub&gt; asked to grade each occupation on a 5-point scale ranging from very high prestige to very low prestige.</td>
</tr>
<tr>
<td>Mitchell and Irvine, 1965</td>
<td>298</td>
<td>Three groups including recruits to the copper mining industry, advancees in the copper mining industry, and students in a secondary school.</td>
<td>42</td>
<td>S&lt;sub&gt;9&lt;/sub&gt; asked to rate occupations at that time open to Africans.</td>
</tr>
<tr>
<td>Hicks, 1966</td>
<td>85</td>
<td>All trainees at the Broken Hill Railways Training School.</td>
<td>12</td>
<td>S&lt;sub&gt;9&lt;/sub&gt; asked to answer a question for each occupation on a range of 1-5.</td>
</tr>
<tr>
<td>Hicks, 1967</td>
<td>75</td>
<td>Members of a multi-racial secondary school in Zambia.</td>
<td>118</td>
<td>S&lt;sub&gt;9&lt;/sub&gt; asked to grade the importance in prestige of each job from a first grade job to a fifth grade job.</td>
</tr>
<tr>
<td>Country, Study</td>
<td>Sample Size</td>
<td>Sample Characteristics</td>
<td>No. of Occs.</td>
<td>Prestige Rating Procedure</td>
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</tr>
<tr>
<td>Zambia (Cont.)</td>
<td>1100</td>
<td>Secondary school pupils across Zambia</td>
<td>32</td>
<td>S&lt;sub&gt;s&lt;/sub&gt; asked to grade each occupation into one of five categories.</td>
</tr>
<tr>
<td>Hicks, 1969</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CENTRAL AND SOUTH AMERICA</td>
<td></td>
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</tr>
<tr>
<td>Argentina</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cucullu de Murmis, 1961</td>
<td>200</td>
<td>100 &quot;professionals&quot; and 100 blue collar workers in Buenos Aires (3 other samples deleted here).</td>
<td>30</td>
<td>S&lt;sub&gt;s&lt;/sub&gt; asked to rate occupations on a 5-point scale of prestige.</td>
</tr>
<tr>
<td>Brazil</td>
<td>500</td>
<td>Freshmen from &quot;all faculties&quot; of the University of Sao Paulo, divided by sex, father's occupation, intelligence and present employment vs. non-employment.</td>
<td>25</td>
<td>S&lt;sub&gt;s&lt;/sub&gt; asked to &quot;sort the occupation cards into six groups of descending social status, using as a criterion the status which the informat considered the comm. in general would accord to each occupation.&quot; Then asked to arrange cards in &quot;descending order of social status the occupations he had included in each of the 6 class groups.&quot;</td>
</tr>
<tr>
<td>Country, Study</td>
<td>Sample Size</td>
<td>Sample Characteristics</td>
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<td>Prestige Rating Procedure</td>
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<tr>
<td>Brazil (Cont.)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gouveia, 1965</td>
<td>1582</td>
<td>Teachers in 4 separate samples: 397 from Sao Paulo, 45 from a small city, 939 and 201 from 2 rural provinces.</td>
<td>18</td>
<td>S&lt;sub&gt;s&lt;/sub&gt; asked to rate occupations on a 5-point scale of prestige.</td>
</tr>
<tr>
<td>Haller, Holsinger and</td>
<td>100</td>
<td>Random sample of heads of households in the &quot;municipio&quot; (county) of Acucena, State of Minas Gerais. Very high on &quot;index of geographic isolation.&quot; 83 percent of population farmers. 37 percent never listen to radio, never read newspapers or magazines.</td>
<td>71</td>
<td>S&lt;sub&gt;s&lt;/sub&gt; asked to rate occupations on a 5-point scale of &quot;the prestige (prestigio . . .) which people attribute to the occupation.&quot; Titles read to S&lt;sub&gt;s&lt;/sub&gt;, who pointed to a sketch of a 5-rung ladder of occupational prestige.</td>
</tr>
<tr>
<td>Saraiva, 1972</td>
<td>121</td>
<td>Modified random sample of heads of households in the &quot;municipio&quot; of Bezerros, State of Pernambuco. Includes city of Bezerros - 1964 population 16,316. 74 percent of total population farmers. 5 percent never listen to radio. 62 percent never read newspapers. 67 percent never read magazines.</td>
<td>75</td>
<td>Same as Acucena study.</td>
</tr>
</tbody>
</table>
### APPENDIX A - (Continued)

<table>
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<th>No. of Occs.</th>
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<tr>
<td><strong>Chile</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Carter and Sepulveda, 1964</td>
<td>230</td>
<td>Area probability sample of &quot;adult&quot; (15 and over) members of households in Greater Santiago area (1963 metro. area population approximately 2 million).</td>
<td>16</td>
<td>Ss asked to rate occupations on a 5-point scale of &quot;level of prestige.&quot;</td>
</tr>
<tr>
<td><strong>Guyana (British Guiana)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graham and Beckles, 1968</td>
<td>142</td>
<td>Random sample of Guyanese-born male heads of households in Greater Georgetown (1960 population 72,991); stratified to assure proportionate SES and racial representation; Ss divided into 5 occupational groups, 65 percent in groups 4 and 5; 42 percent Negro, 30 percent East Indians, 28 percent other.</td>
<td>40</td>
<td>Ss asked to rate occupations on a 5-point scale of &quot;general standing . . . in British Guiana;&quot; Ss then asked to rank all of the occupations in each of the 5 categories.</td>
</tr>
<tr>
<td><strong>Mexico</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilkerson, 1967</td>
<td>109</td>
<td>Students enrolled in the College of Humanities, University of Veracruz - &quot;one of the more active provincial universities.&quot; Majority of students from Veracruz. Veracruz State is the richest and most foreign-influenced in Mexico. 72 percent of sample freshmen and sophomores. Mean years of parental education: 7.8 years.</td>
<td>50</td>
<td>Ss asked to rank occupations according to &quot;relative prestige perceived by the individual.&quot; Also asked for &quot;frame of reference&quot; for evaluating their top three and bottom three choices.</td>
</tr>
</tbody>
</table>
APPENDIX A - (Continued)

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</tr>
</thead>
<tbody>
<tr>
<td><strong>Puerto Rico</strong></td>
<td>734</td>
<td>Mixed quota-probability sampling technique. 390 adults from urban areas, 34 from rural. One-third of sample female. Broad age, religion and SES ranges. Administered to one gainfully-employed member of household, preferably the head of household.</td>
<td>50</td>
<td>Ss asked to rate occupations on a 5-point scale of &quot;social standing.&quot; Then asked for &quot;frames of reference&quot; bottom three rated occupations, cf. Tiryakian (1958) and Wilkerson (1967).</td>
</tr>
<tr>
<td><strong>MIDDLE EAST</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Iraq</td>
<td>225</td>
<td>College students of the University of Baghdad.</td>
<td>62</td>
<td>Ss asked to rate each occupation on a 7-point semantic differential.</td>
</tr>
<tr>
<td>Israel</td>
<td>119</td>
<td>Probability sample of urban male Israeli boys ages 15-24.</td>
<td>27</td>
<td>Ss asked to rate occupations on a 5-point scale of social standing.</td>
</tr>
<tr>
<td><strong>EASTERN EUROPE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>763</td>
<td>Warsaw adults - quota sample.</td>
<td>29</td>
<td>Ss asked to rate occupations on a 5-point scale of &quot;social prestige.&quot;</td>
</tr>
<tr>
<td>Country, Study</td>
<td>Sample Size</td>
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</tr>
<tr>
<td>U.S.S.R. Rossi and</td>
<td>2146</td>
<td>Soviet emigres resident in the United States.</td>
<td>13</td>
<td>S&lt;sub&gt;g&lt;/sub&gt; asked to rate occupations on a 5-point scale of &quot;popular regard&quot; (4 other dimensions deleted here.)</td>
</tr>
<tr>
<td>Inkeles, 1957</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shubkin, 1969</td>
<td>unspec.</td>
<td>&quot;Large groups of young people in the most diverse part of the country.&quot; Separate by sex.</td>
<td>21</td>
<td>&quot;Evaluated a 10-point scale - otherwise unspecified.&quot;</td>
</tr>
</tbody>
</table>
APPENDIX B

PUBLISHED STUDIES ADDRESSING OCCUPATIONAL PRESTIGE ISSUES, BY COUNTRY

AFRICA

Burundi
  Cart and Rousson, 1967

Ethiopia
  Brown, 1969

Ghana
  Clignet and Foster, 1964
  Foster, 1965

Ivory Coast
  Clignet and Foster, 1964
  Clignet and Foster, 1966

Mauritania
  Bonis, 1964

Nigeria
  Armer, 1968
  Cohen, 1970

Republic of South Africa
  Kuper, 1965
  Morsbach, 1967
  Morsbach and Morsbach, 1967

Sierra Leone
  Windham, 1970

Uganda
  Kelley and Perlman, 1971

Zaire
  Xydian, 1956

Zambia
  Mitchell, 1955
  Mitchell and Epstein, 1957
  Mitchell and Epstein, 1959
  Mitchell, 1960
Mitchell, 1964
Mitchell and Irvine, 1965
Hicks, 1966
Hicks, 1967
Hicks, 1969

Zimbabwe – Rhodesia
Mitchell, 1966

ASIA

Afganistan
Hondrich, 1964

Guam
Cooper, et. al, 1962

Hong Kong
Cottle, 1967
Liao and Ho, 1969

India
Gist, 1954
Krishnan, 1956
Krishnan, 1961
Mahler, 1961
Cook, 1962
Cormack, 1962
D'Souza, 1962
Bhargava, 1963
Mahler and Bhargava, 1963
D'Souza, 1964
Rezler, 1965
Singh, 1967
Broota and Broota, 1968
Kaushal, 1970
Paranjpe, 1970
Shanthamani and Hafeez, 1970
Mukerji, 1972

Indonesia
Thomas and Soeparman, 1963
Van der Veur, 1964
Van der Veur, 1966
Epstein, 1967
Thomas, 1962
Harris, 1968
Japan
Japan Sociological Society, 1954
Odaka and Nisihira, 1954
Ramsey and Smith, 1960
Lewis and Haller, 1964
Haller and Lewis, 1966
Nisihira, 1968

Korea
Chang and Lewis, 1967

Pakistan
Eister, 1965

Papua - New Guinea
Conroy, 1974

Philippines
Tiryakian, 1958
Kunde and Dawis, 1959
Castillo, 1962
Doherty, 1965
Voth, 1969
Voth, 1971

CENTRAL AND SOUTH AMERICA

Argentina
Cucullu de Murmis, 1961

Brazil
Hutchinson, 1957
Bori, 1960
Hutchinson and Castaldi, 1960
Gouveia, 1965
Iutaka, 1965
Park, 1969
Haller, et al., 1972

Chile
Carter and Sepulveda, 1964
Fischer, 1972

Costa Rica
Haller and Lewis, 1966

French Guiana
Bone, 1962

Guyana
Bone, 1962
Graham and Beckles, 1968
Haiti
Ronceray, 1970

Mexico
Rose, 1963
Wilkerson, 1967
Cone, 1973

Puerto Rico
Koppel, 1964

Surinam
Bone, 1962

Uruguay
Rama, 1960
Cucullu de Murmis, 1961
Wood, 1965
Wood and Weinstein, 1966

MIDDLE EAST

Iraq
Alzobaie and El-Channam, 1968

Israel
Ben-David, 1956
Lissak, 1963

EASTERN EUROPE

Czechoslovakia
Obrdlek, 1937
Brenner and Hrouda, 1968
Brenner and Hrouda, 1969

Poland
Sarapata, 1960
Zygulski, 1960
Horoszowska, 1961
Sarapata and Wesolowski, 1961
Wesolowski and Sarapata, 1961
Sarapata, 1962 (a)
Sarapata, 1962 (b)
Sarapata, 1962 (c)
Lutynska, 1963
Sarapata, 1963
Sufin, 1963
Wesolowski, 1963
Wesolowski, 1966
Jakubowicz, 1968
Sadaj, 1968
Koraszewska, 1969

U.S.S.R
- Davis, 1927
- Rossi and Inkeles, 1957
- Shubkin, 1964
- Artemov, et. al., 1968
- Choubkine, 1968
- Shubkin, 1969
- Yanowitch and Dodge, 1969

Yugoslavia
- Blashovic, 1965
- Dilic, 1965

WESTERN EUROPE

Belgium
- Gulliksen, 1964

Denmark
- Svalastoga, 1959

France
- Gulliksen, 1964

German Federal Republic
- Machenroth and Bolte, 1954
- Wurzbacher, 1954
- Mayntz, 1956
- Bolte, 1959
- Kunde, 1959
- Bolte and Hepp, 1967
- Wissler, 1968
- Vimont, 1970
- Wienn and Mayer, 1975

Great Britain
- Hall and Jones, 1950
- Davies, 1952
- Himmelweit, Halsey and Oppenheim, 1952
- Glass, 1954
- Moser and Hall, 1954
- Young and Willmott, 1956
- Adcock and Brown, 1957
- Gerstl and Cohen, 1964
- Mitchell, 1964
- Robin, 1964
- Oldman and Illsley, 1966
Ireland
  Hannan and Beegle, 1969

Italy
  Lutte and Greco, 1964
  Geist, 1970

The Netherlands
  Tobi and Luyckx, 1950
  van Hulten, 1953
  Kuiper, 1954
  van Heek, 1958
  Defares, Kema and van der Werff, 1962
  Vellekoop, 1963
  Vellekoop, 1966
  Berting, 1970

Norway
  Simenson and Geis, 1955
  Gulliksen, 1964
  Oyen, 1964

Spain
  de Miguel and Linz, 1966
  de Miguel, 1967

Sweden
  Carlson, 1958
  McDonagh, Wermlund and Crowther, 1959

Switzerland
  Tofigh, 1964
  Rousson, 1965

NEW WORLD "ANGLO" COUNTRIES

Australia
  Taft, 1953
  Congalton, 1962
  Congalton, 1963
  Allingham, 1965
  Congalton, 1965
  Congalton, 1969
  Encel, 1970
  Jones and Jones, 1972

Canada
  Tuckman, 1947
  Tuckman, 1950
  Tuckman, 1958
  Blishen, 1958
  Blishen, 1967
Pineo and Porter, 1967
Burshtyn, 1968
Jones and Jones, 1972

New Zealand
Congalton, 1953
Congalton and Havighurst, 1954
Vellekoop, 1963
Vellekoop, 1966
Davis, 1974
Chapman and Nicholls, 1976
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1957 "Social class and the ranking of occupations." British
Journal of Sociology 8 (March):26-32.

Allingham, John D.
1965 "On the measurement of occupational prestige." Australian
1965 "Comment on Congalton's reply." Australian and New Zealand

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