PERCEPTION OF ROLE STRAIN
BY OUTSIDE SALESemen

DISSERTATION

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

By

Mahmoud Triki

* * * * *

The Ohio State University

1973

Reading Committee:
Louis W. Stern
Steven Kerr
Thomas W. Milburn

Approved by

[Signature]
Adviser
Faculty of Marketing
Copyright by
Mahmoud Triki
1973
ACKNOWLEDGMENTS

This dissertation is a part of a larger project that I am undertaking with Professor Louis W. Stern, adviser and friend, which involves the perception of role strain by outside salesmen in various distribution channels. A close associate to the study from its inception and a member of the reading committee was Dr. Thomas W. Milburn. It is to these two men that I owe a large measure of thanks for their intellectual inspiration, their generosity in time, their constructive comments, and their patience which I continuously tested. The author also gratefully acknowledges the assistance and continued guidance of Professor Steven Kerr, who is the third member of the reading committee.

I would like to express my gratitude to Professor W. Arthur Cullman, chairman of the Marketing Department, for his strong and supportive interest in the study. His contacts with the business community were invaluable for selecting the right kind of salesmen and for insuring the full cooperation of the companies involved.

Discussions of various aspects of the dissertation with Professors James H. Davis, James L. Ginter, William S. Sargent, Robert J. Wherry and my friend Ernest Cadotte
gave impetus to the study. Their interest is greatly acknowledged.

I am indebted to various members of the faculty who were directly or indirectly involved at various stages of my doctoral program. Special mention should be made with regard to Professor Robert Bartels, a good friend and an adviser throughout my doctoral studies, and Professor Bernard J. Lalonde for his continuous encouragement and interest in my research activities.

A large number of people and organizations made all this possible. The generosity (moral as well as material) of a company that preferred to remain anonymous, the devotion of its management to the advancement of knowledge, and the full cooperation of its sales force exceeded all expectations that a researcher could hope for. The author will always owe a major debt of gratitude to these people and their organization.

The financial support of the French Foundation for Management Education (Fondation Nationale pour l'Enseignement de la Gestion des Entreprises) throughout my doctoral studies is greatly acknowledged.

Many thanks go to Mrs. Dolores Kacsor for her patience and endless efforts in typing this manuscript. My wife Samira, and my son Nabil could not have been more cooperative and cheerful in the past months. It is with love that I dedicate this dissertation to them.
VITA

February 26, 1939. . . . Born - Sfax, Tunisia

1962 . . . . . . . . Bachelor of Science in Business Administration, Washington University, St. Louis, Missouri

1963 . . . . . . . . Accountant, United States Embassy, Tunis, Tunisia

1964 . . . . . . . . Director of International Marketing, Societe' Tunisienne des Engrais Pulverises, Sfax, Tunisia


1967 . . . . . . . . International Teachers Program, Graduate School of Business, Harvard University, Boston, Mass.

1968-1970 . . . . . Assistant Professor, International Business, HEC/ISA, Jouy-en-Josas, France

1972-Present . . . . Research Associate, College of Administrative Science, The Ohio State University, Columbus, Ohio

FIELDS OF STUDY

Major Field: Marketing

Minor Fields: International Marketing Business Logistics
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>11</td>
</tr>
<tr>
<td>VITA</td>
<td>1v</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vii</td>
</tr>
<tr>
<td>Chapter</td>
<td></td>
</tr>
<tr>
<td>I  INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>The Salesman's Role in Perspective</td>
<td>3</td>
</tr>
<tr>
<td>Literature Review</td>
<td>7</td>
</tr>
<tr>
<td>Justification of the Study</td>
<td>13</td>
</tr>
<tr>
<td>Outline of Remaining Chapters</td>
<td>16</td>
</tr>
<tr>
<td>II BACKGROUN D AND ELEMENTS OF THE THEORY OF ROLE STRAIN</td>
<td>18</td>
</tr>
<tr>
<td>Definitions</td>
<td>21</td>
</tr>
<tr>
<td>Role</td>
<td>21</td>
</tr>
<tr>
<td>Positions</td>
<td>23</td>
</tr>
<tr>
<td>Expectations</td>
<td>23</td>
</tr>
<tr>
<td>Role Set</td>
<td>24</td>
</tr>
<tr>
<td>Sent Role</td>
<td>25</td>
</tr>
<tr>
<td>Types of Role Strain</td>
<td>27</td>
</tr>
<tr>
<td>Concensus and Ambiguity in Role</td>
<td>27</td>
</tr>
<tr>
<td>Expectations</td>
<td>27</td>
</tr>
<tr>
<td>Conflicting and Competing Expectations within a Role</td>
<td>32</td>
</tr>
<tr>
<td>Simultaneous Position Occupancy</td>
<td>35</td>
</tr>
<tr>
<td>Within a Role</td>
<td>35</td>
</tr>
<tr>
<td>The Norm of Reciprocity and Role Strain</td>
<td>37</td>
</tr>
<tr>
<td>Personality and Role Strain</td>
<td>38</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>40</td>
</tr>
<tr>
<td>Diversified Set of Role Relationships</td>
<td>40</td>
</tr>
<tr>
<td>Personality Characteristics and Role Strain</td>
<td>44</td>
</tr>
<tr>
<td>Demographic Characteristics and Role Strain</td>
<td>51</td>
</tr>
<tr>
<td>Performance and Role Strain</td>
<td>56</td>
</tr>
<tr>
<td>V</td>
<td></td>
</tr>
</tbody>
</table>
Table of Contents (Continued) .................................. Page

III  RESEARCH METHODOLOGY ............................... 59
      The Setting ........................................... 59
      Data Collection Methods ............................. 60
      Statistical Procedure ............................... 82

IV   DATA ANALYSIS. ......................................... 89
      Data Audit ........................................... 89
      Reliability Tests ................................... 91
      Hypotheses Testing ................................. 95

V    SUMMARY AND CONCLUSIONS ............................ 122
      Review of Major Aspects of Study .................. 122
      Summary of Research Findings ...................... 125
      Theoretical and Managerial
      Implications ....................................... 126
      Conclusions and Recommendations for
      Future Research .................................... 131

APPENDIX

A   Questionnaire Items .................................. 135
B   Personality Scales ................................... 146
C   Reliability Data on the JPI ........................ 151

BIBLIOGRAPHY .............................................. 154
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Percentage of Superintendents Who Perceived Their Exposure to Role Conflict and Role Congruency in 4 Situations.</td>
<td>41</td>
</tr>
<tr>
<td>2</td>
<td>Summary of the Variables.</td>
<td>62</td>
</tr>
<tr>
<td>3</td>
<td>Computation of Adjusted Sales</td>
<td>79</td>
</tr>
<tr>
<td>4</td>
<td>Role Strain Reliability Test</td>
<td>93</td>
</tr>
<tr>
<td>5</td>
<td>Level of Strain and Diversity of Role Senders</td>
<td>98</td>
</tr>
<tr>
<td>6</td>
<td>Level of Strain and Self-Esteem</td>
<td>100</td>
</tr>
<tr>
<td>7</td>
<td>Level of Strain and Conformity</td>
<td>102</td>
</tr>
<tr>
<td>8</td>
<td>Level of Strain and Sociability</td>
<td>105</td>
</tr>
<tr>
<td>9</td>
<td>Level of Strain and the Educational Level of the Salesman</td>
<td>107</td>
</tr>
<tr>
<td>10</td>
<td>Level of Strain and the Age of the Salesman</td>
<td>109</td>
</tr>
<tr>
<td>11</td>
<td>Correlation Between the Length of Time of the Salesman in His Position and the Level of Strain</td>
<td>111</td>
</tr>
<tr>
<td>12</td>
<td>Level of Strain and Length of Time in Present Position.</td>
<td>112</td>
</tr>
<tr>
<td>13</td>
<td>Correlation Between Performance Measures and Level of Strain</td>
<td>115</td>
</tr>
<tr>
<td>14</td>
<td>Level of Strain and Performance</td>
<td>117</td>
</tr>
<tr>
<td>15</td>
<td>Summary of Findings</td>
<td>121</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Conflict in marketing channels has always existed. It is the realization of the impact of such conflict on the marketing process that is recent. In fact, most of the research dealing with conflict and conflict resolution in distribution channels has been conducted in the past decade. Integrating concepts from the behavioral science literature, these studies tended to view conflict only in terms of the objectives and values of the parties involved.\(^1\) In other words, conflict has been studied only at the organizational level.

Palamountain isolated three forms of distributive conflict: horizontal competition, intertype competition, and vertical conflict.\(^2\) Mallen discussed the interplay between conflict and cooperation which often exists.


between buyers and sellers. Although he recognized the existence of conflict for each person within each department of a company, his treatment was limited to conflict between organizations. Another study of conflict was Cassady's analysis of relationships in horizontal competition.\textsuperscript{4} Stern and Gorman used concepts of role theory in their treatment of conflict in the channel of distribution, its causes, its effects on the behavior of channel members, and its outcomes. As causes of conflict, they suggest:

\ldots deviance in the performance of expected functions by one or more channel members, disagreement over resource allocation, differences in the perception of reality, attempts to control decision-making processes, incompatibility of goals, and ineffective communication between channel members.\textsuperscript{5}

A listing of all the studies related to conflict in distribution channel is beyond the scope of this brief introduction; but the literature review revealed that conflict and its functional or dysfunctional effects were analyzed at the organizational level.


Regardless of the prevailing conflict in a distribution channel, the salesman is the person who is often most affected by it. Since he is the contact man between his employing organization and its customers, he is bound to experience a certain level of strain in the performance of his role.

This research deals with the perception of role strain by the outside salesman. Drawing on role theory as well as on other relevant research, this empirical investigation explores: 1) the relationship between the role strain perceived by the outside salesman and the diversity of his role relationships, 2) the relationships between role strain and certain personality characteristics of the salesman, 3) the relationship between role strain and certain demographic attributes of the salesman, and 4) the relationship between role strain and the salesman's performance.

The Salesman's Role in Perspective

Viewed as a behavioral system, the channel of distribution is composed of interdependent organizations forming a coalition for the attainment of their mutual objectives. In this setting, the salesman occupies a key position in maintaining the necessary coordination between the different members of this coalition.
Pruden viewed him in two ways:

1. ... as a linking pin. The central function of an outside salesman is to hold together the exchange relationship between his company and its customers. ...  

2. ... as a man in the middle. The salesman is caught in the middle of the inherent conflict between seller and buyer. ...  

Another view of the salesman is that of a marginal man. He has a dual loyalty: one to his company, the other to his customers. Using Cooley's analysis of the reflected or looking-glass self, Stonequist states:  

... it is as if he (the marginal man) were placed simultaneously between two looking glasses, each presenting a sharply different image of himself. The clash in the images gives rise to a mental conflict as well as to a dual self-consciousness and identification.  

Making a similar analogy, Davis' description of the foreman's position can be most appropriate to that of the salesman:

... the foreman is left out of, or on the margin of, the principal activities and influences which affect his department. ... Various staff specialists make decisions and issue instructions which he merely transmits, if he sees them at all. He is powerless to

---


change them. . . He is usually left out of negotiations and his decisions are subject to review. . . He feels obliged to act like a manager; yet he does not receive the reward of full participation in management. 9

Howton and Rosenberg compare the role of the salesman to that of an entertainer. 10 They suggest that Goffman's paradigm for social interaction 11 is especially pertinent to salesmanship. They go on to point out some of the additional difficulties encountered by the salesman in performing his role:

Since he (the salesman) is typically on foreign territory, however [his control over the physical components of staging is desperately limited] and since he usually has no team to back him up, the burden of carrying the performance must be borne by his isolated, unsupported self. Moreover, there is no respite. 12


11 Erving Goffman interprets the presentation of self in everyday life as involving a performer, an audience, and a setting. The performer has a "routine" which he "runs through;" given enough skill, effective staging, and an audience sympathetically disposed to suspend disbelief, the performer is able to sustain a definition of reality. In such favorable circumstances, an audience "buys" the act and the performance is counted a success. Erving Goffman, The Presentation of Self in Everyday Life (New York: Anchor Books, 1959).

12 Howton and Rosenberg, op. cit., p. 114.
Sometimes, the strain and frustration may stem from the fact that some of the demands made upon the salesman conflict with his personal values or objectives. In this regard, Leavitt states:

... Sometimes a job demands of a man some activities that do not mesh with his conception of what is right or his conception of what is dignified or proper for him as a member of society. Salesmen seem to suffer from this conflict more than some other occupational groups. Sales managers beat the drums and wave the flag to get them to go out to sell Ajax iceboxes to Eskimos. But some Eskimos seem not to need iceboxes; or some other iceboxes look more useful than Ajax; or the salesman feels uneasy and uncomfortable about putting his foot in people's doors when he hasn't been invited.\(^\text{13}\)

Another source of strain may be attributed to the low status of the job itself. Mason attributes the low prestige of personal selling to many factors, among which are: the distasteful nature of persuading buyers to buy, and the denunciation of the salesman for not telling the truth at worst, or not telling the whole truth at best.\(^\text{14}\)

In addition to the aspects listed above, the role of the salesman is characterized by the diversity of the people he must deal with, and by his dependence on these people for adequately executing his job. In fact, when

---


dealing with his own organization, he often has to follow simultaneously the directives of the sales manager, the credit manager, the production manager, the logistics manager, and the advertising manager. When dealing with a customer, he often has to consider concurrently the purchasing agent, the technicians and other influentials in the buying organization, and his other customers. When he is negotiating a deal, his role set may include all of these people (i.e., those in his own organization and in his customers'). It is important to note that each coalition member in the channel holds expectations for him, and in many instances, compliance with one member's expectations may make it impossible to comply with other members' expectations. Such situations are bound to create a strain with which the salesman has to cope in performing his role obligations.

**Literature Review**

Personal selling and salesmanship are among the most abundant topics in the marketing literature. As early as 1962, Miner observed that "there is little question but that the salesman is one of the most extensively
studied men in the business world." Most of the traditional literature is descriptive and prescriptive. A large number of empirical studies have attempted to predict sales performance from information about the salesman's background characteristics, his personality, his interests and his ability factors. The main purpose of these studies has been to discover useful criteria for the selection of salesmen. The results of these efforts have been unconclusive since meaningful relationships have been found in certain settings, while in other settings, these relationships were not significant. Referring to these studies, Davis and Silk state:

In attempting to predict sales performance, this research has concentrated almost entirely on the characteristics of the salesman and has failed to take explicit account of who the salesman interacts with in attempting to make a sale. The assumption tacitly made is that differences among salesmen with respect to the types of prospects they contact are minimal, and hence variations in performance must be due to differences among the salesmen themselves.

---


More recently, a host of studies have used social and psychological knowledge about interaction and influence processes in the analysis of selling problems. In these investigations, the salesman is placed in a "personal selling process" situation in which the buyer has been assigned an active role. One of the pioneers of this type of research is F. B. Evans with his analysis of life insurance selling.\textsuperscript{18} He hypothesized that "the more similar the parties in the dyad are, the more likely a favorable outcome, a sale."\textsuperscript{19} He summarized his position as follows:

The sale (or no sale) is the result of the particular interaction situation, the face to face contact depends not on the characteristics of either party alone but how the two parties view and react to each other.\textsuperscript{20}

The studies that have examined the difficulties encountered by the salesman in the performance of his role obligations are limited in number and scope. The following is a review of the most relevant ones.

---

\textsuperscript{18}F. B. Evans, "Selling as a Dyadic Relationship," American Behavioral Scientist, Vol. 6, No. 9 (May, 1963), pp. 76-79.

\textsuperscript{19}Ibid., p. 78.

In an effort to analyze conflict in the salesman's role, and based on conclusions reached in various studies, Hise suggested a list of factors creating conflict in a selling role, the negative implications of such conflict, and the methods by which the amount of conflict may be reduced within the selling milieu. Among the factors creating conflict, he cited: 1) the organizational factors (i.e., role ambiguity in the salesman's task, profit emphasis by firms, ineffective training, compensation through commissions and establishment of individual goals), and 2) factors that are indigenous to the salesman's role itself (i.e., boundary position, excessive non-selling activities, semi-innovative position, dual selling tasks, and low occupational prestige).

In his analysis of the salesman's behavior throughout a sales transaction, Miller suggested that the sales transaction, the sales tactics and the behavioral implications of the salesman's conception of himself, his work and his customer are influenced by the sociological circumstances of the sales encounter, by the dynamics of the salesman-customer relationship, by the agency prescriptions and by the immediate profit for the

---

salesman. He pointed out some of the difficulties and conflicts encountered by the salesman and the way by which they resolve their conflict. For instance, commenting on the salesman's attempt to make the customers think they are getting something instead of losing anything, the author reports that the salesman's behavior appears organized around the premise that monetary and social success are the results of opportunistic dealings. Recognizing that such an attitude toward work appears "harsh" and "lacking in moral scruple," Miller suggested that the salesman protects himself from the feelings of guilt by attributing to his customers the same characteristics which mark his own behavior.

He (the salesman) sees them (the customers) as opportunistic, out to make or save a buck any way they can. . . . By selectively perceiving and if necessary, by misinterpreting the behavior of the customer to fit his own pattern of expectations, the salesman is able to rationalize the exploitive and manipulative aspects of his role, making his work acceptable to himself and tolerable to others.  

It is important to note that not all salesmen have the ability suggested by Miller to rationalize the "exploitive and manipulative aspects of their role" mentioned above.

23 Ibid., p. 22.
Self theory contends that tensions arise when the organism strives to satisfy needs not consciously admitted and to respond to experiences denied. As Rogers suggests, the more perceptions of experiences inconsistent with the concept of self there are, the more rigid is the organization of the self structure. When the self cannot defend itself any longer against deep threats, a psychological breakdown or desintegration occurs.\(^{24}\)

In an article on ways to help the problem drinker, Louis Cassels reports:

> The National Institute of Mental Health lists salesmen as one of the occupational groups "Particularly prone" to alcoholism. One study by the famed Yale Center of Alcohol Studies showed that 10% of all male patients at a large alcohol clinic were salesmen.\(^{25}\)

Finally, a study that is not related to the strain experienced by the salesman but that has used role theory is the investigation of Pruden and Reese. The authors analyzed the salesman's role-set relations in terms of power, authority and status; they developed two linear discriminant functions, one for performance and one for satisfaction. Based on a sample of 91 outside salesmen,


their findings showed that high and low performance and satisfaction were significantly different from each other along the dimensions of authority, power and status.\textsuperscript{26} None of the variables included in the study revealed a high discriminating power. Their discriminating function may have a predictive value since it correctly classified 67 percent for performance and 72 percent for satisfaction.

\textbf{Justification of the Study}

Both of the previous sections point out the difficulties inherent in the salesman's role. The literature reveals the existence of such difficulties and their consequences for the employing organization. Yet no attempt has been made to analyze the relationship between the level of strain experienced by the salesman and the potential factors that may be contributing to the strain.

Due to the importance of the role of the salesman and to the high cost of training salesmen, it becomes imperative for companies to have a stable sales force. The statistics on salesmen turnover vary with the type

\textsuperscript{26}Henry O. Pruden and Richard M. Reese, "Inter-organization Role-Set Relations and the Performance and Satisfaction of Industrial Salesmen," \textit{Administrative Science Quarterly}, Vol. 17 (December, 1972), pp. 601-609.
of industry and firm; but these remain notoriously high. In some companies, annual turnover ratios go as high as 100% -- even 180%.\textsuperscript{27} This high rate of turnover might account for a substantial waste in this marketing function. It is estimated that it may cost as much as $8500 to place a salesman in the field.\textsuperscript{28}

Beckman and Davidson state that:

If all personal selling activities could actually be accumulated, it is likely that their cost would comprise at least two-thirds of the total outlay for the entire selling function.\textsuperscript{29}

One might attribute this high rate of turnover to the level of strain experienced in the performance of role obligations. Despite the abundance of the literature in the field of selling, relatively little effort has been devoted to the scientific study of this area. In this regard, Montgomery and Webster note that:

Despite the fact that personal selling is the largest item in most firms' marketing budgets, it continues to be one of the most


elusive and poorly understood elements of the marketing program.30

Expressing the need for further research, Pruden and Reese state in the conclusion of their investigation:

The study constituted an initial step toward the analysis of role set relationships in an interorganizational context. Its findings achieved moderate success in demonstrating the utility of interorganizational role-set relations as determinants of a salesman's performance and satisfaction. However, since only 91 salesmen in one organization participated in the study, the findings cannot be regarded as conclusive, and the suggested explanations for the different patterns of interorganizational role set relationships can only be tentative.31

It is hoped that this research will shed some additional light on the possibilities offered by the integration of role theory concepts into the study of salesmanship. The researcher considers that:

1. A better understanding of role strain as it relates to personal selling constitutes a major element in predicting or explaining salesmen's behavior.


31 Pruden and Reese, op. cit., p. 605.
2. Knowing how role strain evolves may enable management to take the necessary steps to reduce strain, thus decreasing salesman's frustration, and consequently decreasing the existing high rate of turnover among outside salesmen. Such steps may include the design of the appropriate training program and an improved method of allocating products and customers to salesmen.

3. Knowing what types of personality characteristics most vulnerable to stressful situations will lead to better selection criteria.

4. The further application of theories from the social and behavioral sciences will contribute an additional dimension to existing concepts and theories of salesmanship.

Outline of Remaining Chapters

Chapter II presents the theoretical elements of role strain that are of special relevance to this research. Definitions are presented and operationalized for the purpose of this investigation. A number of studies dealing with role strain are examined. Attempts are made to draw some analogies between the role of the salesman and that of other occupations that have been
studied. The final part of this chapter deals with the generation of a list of hypotheses concerning the perception of role strain by the outside salesman. These hypotheses will be based on concepts drawn from the behavioral science literature.

Chapter III deals with the company selected to test the hypotheses put forward in Chapter II. A large manufacturer of pharmaceutical and health products has agreed to cooperate in this project. Various aspects of the company, its organization, its products, and the role of the salesman are presented. This is followed by a discussion on the development of the different components of the questionnaire, the measure of the variables involved, and the data collection. The final part of Chapter III deals with the statistical techniques used for the data analysis.

Chapters IV and V present the analysis of the data and the conclusions of this research. Chapter V examines the outcomes from the standpoint of role strain theory and the interpretations and inferences concerning the applicability of such theory to the role of the salesman. Finally, suggestions for further research in this area are made.
CHAPTER II

BACKGROUND AND ELEMENTS OF THE THEORY OF ROLE STRAIN

Throughout the literature on the theory of role, two terms have often been used to refer to difficulty in conforming to role expectations: role strain and role conflict. In an attempt to differentiate between the two terms, Secord and Backman state:

The more commonly employed term 'role conflict' is generally limited to situations where an actor is confronted with conflicting or competing expectations. 'Role strain' covers not only those situations, but a great variety of others in which an actor experiences difficulty in meeting a role expectation.¹

Following this distinction, it is clear that role strain is more general than role conflict, since one might experience role strain without necessarily experiencing role conflict; whereas an experience of role conflict is a generator of role strain. For instance, when a salesman has to travel on a bumpy road in the hot desert to contact his customer in a remote area, he is experiencing

a role strain; it is a part of his job, and there exist no contradictory or inconsistent expectations made upon him. In fact, both the salesman's customer and his employing organization expect him to make that call. On the other hand, when the customer holds some expectations that are in competition with those made upon him by his employing organization, he is experiencing role conflict, which is contributing to the strain that he must cope with in fulfilling his role.

Since the salesman's role is characterized by the diversity of expectations as well as by other difficulties that may not involve role conflict, the use of "role strain" seems to be more inclusive, and hence more appropriate. In this research, "role strain" is defined as "the felt difficulty in fulfilling role obligations."\(^2\) This definition implies that role conflict is a part of role strain. It may be argued that the term "role strain" is too general since it includes all job related dissatisfactions. But when one considers the nature of the selling job and the requirements of interaction of the salesman with his customers, the usage of "strain"

becomes appropriate as well as justified. Goode presents further support for the use of role strain. In his treatment of role strain theory, Goode points out the weaknesses of the most widely accepted theoretical view of society and which he labels the "Lintonian Model." According to this model, the continuity of social roles, and thus the maintenance of the society, is mainly a function of two major variables: the normative, consensual commitment of the individuals of the society; and the integration among the norms held by those individuals. Goode states that this view fails to account for the following.

1. Some individuals do not accept even supposedly central values of the society.

2. Individuals vary in their emotional commitments to both important and less important values.

3. This value commitment varies by class strata and by other characteristics of social position, for example, age, sex, occupation, geographic region, and religion.

4. Even when individuals accept a given value, some of them also have a strong or weak "latent commitment" to very different or contradictory values.

7. The values, ideals, and role obligations of every individual are at times in conflict.

---

3 Ibid.

4 Ibid.
Goode argues that approaching role interaction in terms of role strain offers the possibility of buttressing more adequately the weaknesses of the "Lintonian Model."

Since the role strain experienced by the salesman is due, in many instances, to conflicting expectations, both role strain and role conflict theories will be discussed. Before going any further in the exploration of the theory of role strain, some terms that are in common use in the role literature need to be defined.

**Definitions**

**Role**

The diversity of the definitions of role is one of the problems faced by the reader of the social science literature. In an attempt to categorize the different definitions, Gross, Mason and McEachern have suggested the following classes:

Definitions of role which either equate it with or define it to include normative culture patterns. . . as an individual's definition of his situation with reference to his and others' social positions. . . definitions which deal with role as the behavior of actors occupying social positions.\(^5\)

The authors point out the existence of three basic ideas in almost all of the above categories. These are that individuals: 1) in social locations, 2) behave, 3) with reference to expectations.

Among the definitions studied by this writer, all use the role concept to embrace the normative element of social behavior. For instance, Newcomb's definition of role includes "the ways of behaving which are expected of any individual who occupies a certain position. . . ,"6 Stern's definition speaks of "the set of prescriptions defining what the behavior of a position member should be,"7 and Sargent includes ". . . the demands and expectations of those in the group."8

For the purpose of this study, role is used in terms of Stern's definition (i.e., prescriptions which define the behavior of members).

---


Positions

The term position refers to the location of an actor or class of actors in a system of social relationships. Some authors equate position with status. A status, as defined by Linton, "...is simply a collection of rights and duties." A position can be completely described only by taking into consideration the total system of positions of which it is a part. For example, a thorough description of the web of all existing relationships requires the identification of all the positions that are related in one way or another to the salesman's job. Although some authors suggest that a person can occupy as many positions as he has counter-positions, in this study the unit of analysis will be the "position" as defined by multiple relationships.

Expectations

The term will be used in its predictive sense. To use Sarbin's terminology, "...a position in a social structure (is) a set of expectations or acquired anticipatory reactions. That is to say, the person learns (a) to expect or anticipate certain actions from other


Role Set

The concept of "role set" was introduced by Merton and refers to positions to which the focal person's role is related.\footnote{12}{Robert Merton, "Role Set," British Journal of Sociology, Vol. 8 (1957), pp. 106-120.} This relationship can be formal or informal, close or remote. In the case of the salesman, his role set may include the sales manager, the people working in the different departments of his employing organization, other salesmen, his customers, and any other people working in the channel. In this study, role set diversity will refer to the number of different role senders. In other words, the dimension of diversity will refer to the number of different persons with whom the salesman must interact, and not to the class of role senders. For example, when a drug salesman calls on a hospital, he has to interact with the doctors, the purchasing agent, the head nurse, etc. Each of these people is included in his role set, and the diversity of his role set within that hospital is equal to the total number of people that
he has to deal with when he calls on that hospital. His total role set would include role senders in other hospitals, other physicians, the druggists and his company's various role senders.

**Sent Role**

Following the formulation of Rommetveit,\(^{13}\) and using Kahn et al. terminology, role senders will refer to the members of a role set, and their communicated expectations constitute the sent role.\(^{14}\) The expectations of the members of the role set can be communicated to the focal person either directly, as when the sales manager gives instructions to the salesman in the field; or indirectly, as when a customer expresses dissatisfaction through his refusal to make purchases from the salesman.

**Level of Analysis**

Secord and Beckman propose three levels for analyzing role strain and its resolution: 1) the social system, 2) the personality dynamics of the individual, and 3) the

---


1) **Social System Level:** At this level, human behavior is viewed in terms of the social system; recurrent interactions between individuals are focused upon and conceptualized in terms of position and role. Concern is not with the characteristics of the actors themselves, but with the characteristics of the system of relations between actors. This is the sociologist's approach of analyzing role strain.

2) **Individual's Level:** This is the psychologist's approach; at this level, concern is with the individual, and the focus of analysis takes place in terms of personality dynamics and the relations between various conceptual components of the personality: needs, self-conception, and attitudes.

3) **Cultural Level:** At this level, the components of the cultural system are studied in terms of shared cognitions about the social and the non-social world. This can be viewed as the anthropologist's approach.

In this study, role strain will be analyzed in terms of the social system and the individual's levels. In other words, focus will be on the interactions between

---

15Secord and Backman, *op. cit.*, p. 468.
the salesman and his role senders as well as on the personality characteristics of the salesman.

Studies on role strain can be classified into two broad categories: those that emphasize the causes and consequences of role strain, and those that deal with the resolution of role strain. Since the present study belongs to the first category, the discussion of role strain theory will be limited to those aspects that are of relevance to the study.

Types of Role Strain

*Concensus and Ambiguity in Role Expectations:* Expectations associated with a role in a social system vary in clarity and in the degree of agreement or concensus among persons. Within certain limits, the more specific the expectations are, the easier it is to conform to them, and the more smoothly the system functions. In the case of unclear expectations, strain is produced by individual uncertainty about what is expected and by the many conflicting interpretations of what role behavior is appropriate.\(^{16}\) This is a very common phenomenon for newly developed roles which often lack clarity. Schwartz's

---

\(^{16}\)Secord and Backman, *op. cit.*, p. 470.
study of psychiatric nurses is a case where the new role for the nurses did not offer a sufficient guide to action or allow for a consistent treatment of the patients by different nurses. The nurses had been instructed to respond to the patients as individuals, recognizing each patient's needs and attempting to satisfy them. Schwartz comments on the lack of consensus:

The emphasis upon responding to patients in individualized ways and the consequent reduction in shared patterns of action resulted in nurses handling the same patient behavior in different ways. Nurses who wanted privacy in the nursing office while making out reports found that other nurses permitted patients free access to the office, sometimes to their great annoyance.

Newness of a role is not the only cause of ambiguity. The changing nature of a role can also be a source of ambiguity. The salesman may be called upon to play his role differently depending on the competitive position of the company and the ever-changing market conditions. Kahn et al., summarizes the conditions under which role ambiguity takes place:


18Ibid., p. 412.
The person may be uncertain about the scope of his responsibilities, about what is expected of him by others... The organizational structure may be ambiguous, he may be unclear about who has a legitimate right to influence him or about the limits of his authority over others. Confusion may center around organizational rules and regulations, around conditions under which various sanctions may be applied, or around what the sanctions might be. Ambiguity about how one is evaluated by his associates, about how satisfied they are with his behavior, seems to be a common problem. There may be uncertainty about job security or opportunities for advancement.\(^{19}\)

Since the salesman interacts more with people outside his organization (i.e., his customers), the uncertainties about the expectations held by each of his customers is an added dimension to be considered.

Sometimes, strain is produced by the lack of agreement between the focal person and his role senders on the role expectations. Secord and Backman list five forms of such disagreement:

1) Actors may disagree on what expectations are included in a given role. 2) Actors may disagree on the range of permitted or prohibited behavior. 3) Actors may disagree on the situation to which the role applies. 4) Actors may disagree on whether the behavior is mandatory or preferred. 5) Actors may disagree on which should be honored first when an expectation conflicts with another.\(^{20}\)

\(^{19}\)Kahn, et al., op. cit., p. 84.

\(^{20}\)Secord and Backman, op. cit., p. 472.
Using the salesman's role as an illustration for the above forms of disagreement: 1) there may be a lack of agreement between the sales manager and a salesman on whether a salesman should grant customers price concessions; 2) they may disagree on the range of the price concessions to be offered; 3) they may disagree on the situations to which price concessions should be applied; 4) the sales manager may think that the salesman should definitely not offer any price concessions whereas the salesman thinks it is preferable not to offer price concessions; 5) the sales manager may think that it is better to refuse a sale than to offer a price concession, and the salesman may think the opposite.

In a study on the "Effects of Expectation Levels and Role Concensus on the Buyer-Seller Dyad," Tosi hypothesized that role concensus and expectation level would be related to sales performance. The focus in the study was the extent to which customer and salesman share the same conception of the salesman's role. The investigation was conducted in the drug industry, and the sample consisted of 40 wholesale drug salesmen and 103 retail

pharmacists whom the former group contacted regularly. Both salesmen and their customers (pharmacists) were asked to indicate their perceptions of the "ideal" and "actual" behavior of salesmen on a set of predetermined scales. The measure of role concensus was the difference between the salesman's and customer's responses on the "ideal" scales. The expectation level (the degree to which the salesman's actual behavior was perceived to differ from that which was considered desirable) was measured by the discrepancies between the ideal and actual ratings given by either the salesman or the customer. As measures of sales performance, two indices were employed: (1) the share of a given customer's business placed with the salesman's firm, and (2) the number of other suppliers serving the same customer. No statistically significant relationship was found between role concensus and either measure of role success. On the other hand, the buyers' expectations levels were shown to be related to the number of suppliers they purchased from, but not to the share of business the salesman obtained. That is, the less the discrepancy between buyers conception of the ideal behavior of a salesman and his perception of how the particular salesman actually conducted himself, the fewer other suppliers the customer tended to deal with. Thus, it appeared that agreement
between the customer and the salesman as to how the salesman ought to behave did not have any bearing on the latter's effectiveness. But the closer the salesman came to meeting the customer's expectations regarding how he should function, the fewer the number of competitors he should have to contend with.

In a study of school superintendents, two forms of concensus were investigated: intraposition and interposition concensus (Gross, Mason and McEachern, 1958). Intraposition concensus refers to agreement among the incumbents of a position on the expectations which apply to that position. Interposition concensus pertains to agreement between incumbents and their partners on the expectations which apply to either of the two positions. Lack of concensus in both types (intra and inter) are bound to create role strain.

Conflicting and Competing Expectations Within a Role: Another source of role strain lies in conflicting or competing expectations that make up a role.\textsuperscript{22} Several types of role conflict have been identified. Kahn et al., refer to \textit{intra-sender conflict} as the case where prescriptions and proscriptions from a single member of the role

\textsuperscript{22}Secord and Backman, \textit{op. cit.}, p. 480.
set are incompatible. This kind of conflict may occur when the sales manager is inconsistent in his directives. For example, he may incite the salesman to promise a customer special specifications for his order while at the same time he may penalize that same salesman for making sales that require short production runs. Secord and Backman refer to this type of conflict as "conflict or competition within a role sector (which) pertains to expectations regarding behavior toward the same role partner."

Another type of conflict is intra-role conflict, where the individual perceives that others hold different expectations for him as the incumbent of a single position; or using Secord and Backman terminology, this can be termed as "conflict or competition between sectors (which) involve different partners." In this case, the salesman perceives that his employing organization expects him to represent the interests of the company; on the other hand, his customers expect him to be on their side,

23Kahn et al., op. cit., p. 19.
24Secord and Backman, op. cit., p. 480.
26Secord and Backman, op. cit., p. 480.
since as a salesman, they are giving him their business and favoring him over other salesmen. This concept of intra-role conflict is similar to what Kahn, et al., refer to as inter-sender conflict which they associate with situations where pressure from one role sender opposes pressures from one or more other senders.²⁷ The only difference is that Kahn's interpretation is closer to objective role conflict, whereas that of Gross, et al., is more subjective (i.e., perceived, which may have connotation with subjectivity).

Gross, Mason, and McEachern note that a superintendent must interact with teachers, school board members, PTA members, civic leaders, etc. They investigated the conflict between the salary demands of teachers and parents on the one hand, and members of the city council and taxpayer associations on the other. Whereas a majority of teachers and parents were perceived by the school superintendents as wanting them to fight for maximum salary increases, a majority of the members of the city council and the taxpayers associations were perceived as wanting them to "hold the line" or "be reasonable in their salary budget recommendations."

²⁷Kahn et al., op. cit., p. 20.
Simultaneous Position Occupancy and Role Strain: In cases where the incumbent occupies two or more roles which exert conflicting pressures, he is faced with *inter-role conflict*. Stouffer's study of conflicting social norms when students are proctoring an exam is an illustration of this concept.\(^{28}\) In such situations, catching a student who is also a friend of the proctor creates an inter-role conflict since the role expectations of exam proctor conflict with those of a close friend.

Another illustration of this type of conflict is offered by Burchard's study of the role of military chaplains who encounter incompatible roles, those of a religious leader and a military officer.\(^{29}\) In particular, this poses a problem in the chaplain's relations with enlisted men, with whom he mainly deals.

By and large chaplains are probably more conscious of rank than any other group of officers in the armed forces, mainly because of their ambivalent attitude toward it. The desire to become accepted as one of the fellows, is very strong. On the other hand, a priest, minister or pastor is one who is set apart from the group, a leader of the flock, not just one of them. But a good leader must be accessible; he must not be too distant from his flock; he must be on good personal relations with those he is leading. A military


officer, however, must not be familiar with his men. . . The chaplain, being both a military officer and a clergyman, must somehow come to grips with the problem of carrying on an effective religious ministry for enlisted personnel and at the same time of retaining his status as an officer.30

As an example of inter-role conflict facing the salesman, this may occur when he develops close and friendly relationships with some of his customers. In this case, his situation becomes very similar to that of the student proctoring an exam; his company expects sales and his customer expects friendly advice.

Another dimension of role conflict is the legitimacy of expectations. Getzels and Guba refer to legitimate expectations as "institutionalized role expectations." By legitimacy, they mean "mutual acceptance" by ego and alter of expectations in a given situation. These authors suggest that the severity of role conflict arising from multiple position occupancy will vary with two factors: 1) the relative incompatibility of the expectations involved, and 2) the rigor with which these expectations are defined in a given situation.31  

30 Ibid., p. 532.

and Toby are concerned with role obligations, mainly the universalistic and the pluralistic obligations. Other authors, such as Sarbin and Seeman do not require the legitimacy criterion.

All of these types of role conflict are contributors to the increase in the role strain experienced by an incumbent of a role position.

The Norm of Reciprocity and Role Strain: Another source of role strain is found in instances where the rights associated with a position may not be sufficiently rewarding to motivate the incumbent of that position to carry out their obligations. In such a situation, the incumbent feels he is being taken advantage of, being unfairly treated etc., and this may generate ambivalence toward meeting the expectations of the role partner. This condition is generally followed by attempts to restructure the relation in such a way as to equalize the rights and obligations associated with the two positions. It is not always the person who receives

\footnote{Samuel A. Stouffer and Jackson Toby, "Role Conflict and Personality," The American Journal of Sociology, Vol. 56, No. 5 (March, 1951), pp. 395-406.}

\footnote{Secord and Backman, \textit{op. cit.}, p. 486.}
fewer rewards who experiences role strain. Because of what Gouldner calls "the norm of reciprocity,"\textsuperscript{34} in many situations occupants of positions where obligations do not match rights may experience a certain amount of guilt which contributes to role strain.\textsuperscript{35} An illustration of such a strain is when the salesman is not convinced of the quality of the product he is offering to his customers; in other words, when he feels that his customers are not getting their money's worth.

**Personality and Role Strain:** Role strain may stem from characteristics of individual actors which interfere with role enactment or performance, or from the fact that a role to which an individual is assigned may be readily performed but is not suited to his needs or personal values. Secord and Backman classified the individual characteristics that lead to difficulty in meeting role expectations into three classes:


\textsuperscript{35} W. M. Evan, "Role Strain and the Norm of Reciprocity in Research Organizations," The American Journal of Sociology, Vol. 68 (1968), pp. 346-354.
First the actor may lack certain abilities and attributes necessary for successful enactment of the roles involved. Second, he may have a self concept contrary to the role expectations he is supposed to enact. Finally, he may have certain attitudes and needs that interfere with the enactment of a particular role.\textsuperscript{36}

The personal attributes may be either personal qualities (abilities, skills, personal characteristics or personality traits) or conferred attributes (an academic degree or a license). These attributes may facilitate or interfere with the expected behavior; it is in the latter case that they generate strain.

In the preceding section, an attempt has been made to highlight some basic concepts of role theory and role strain and to relate a number of empirical studies to these concepts. Illustrations were made on how these concepts apply to the role of the salesman; but these illustrations were mainly speculative. In the following section, some of these theories and empirical research will be drawn upon to generate a set of hypotheses pertaining to the role strain experienced by the outside salesman.

\textsuperscript{36}Secord and Backman, \textit{op. cit.}, pp. 488-489.
HYPOTHESES

In this section, some of the theories and research referred to previously as well as additional ones are drawn upon to elicit a series of testable hypotheses pertaining to the role strain experienced by outside salesmen. Although, among the various empirical studies cited throughout this dissertation, there are some sources reported which deal with multiple rather than single roles; it is felt that these sources are pertinent to the strain faced by salesmen for the following reasons: (1) the studies often deal with problems encountered by individuals in dealing with diverse groups or sets of role senders; and (2) the salesman, while occupying a single role, must behave, under certain circumstances, as though he were occupying two or more roles (e.g., that of friend and business associate in his dealings with certain customers). However, it is recognized that the findings cited often related obliquely rather than directly to the situation under investigation here.

Diversified Set of Relationships

Various studies have dealt with the degree of diversity of role set relationships and the incumbent's experience of role strain. Gross, Mason and McEachern have demonstrated that role conflict is more common in positions
requiring the incumbent to maintain a highly diversified set of role relationships. In their study of school superintendents, incumbents were exposed to four situations involving problems with which all of them had to deal (i.e., hiring and promotion of teachers, superintendent's allocation of his after-office hours, salary increases for teachers, and school budgets. The following table presents a summary of their findings.

Table 1
Percentage of Superintendents Who Perceived Their Exposure to Role Conflict and Role Congruency in 4 Situations

<table>
<thead>
<tr>
<th>Situation</th>
<th>Role Conflict %</th>
<th>Role Congruency %</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel Hiring &amp; Prom.</td>
<td>71</td>
<td>29</td>
<td>105</td>
</tr>
<tr>
<td>Time Allocation</td>
<td>53</td>
<td>47</td>
<td>105</td>
</tr>
<tr>
<td>Teacher Salary Recom.</td>
<td>88</td>
<td>12</td>
<td>105</td>
</tr>
<tr>
<td>Budget Recommendations</td>
<td>91</td>
<td>9</td>
<td>105</td>
</tr>
</tbody>
</table>

(Source: Gross, et al., Exploration in Role Analysis, p. 259)

37Gross, Mason and McEachern, op. cit.
Among the situations faced by the superintendents, "Budget Recommendations" had the smallest percentage of role congruency. The table shows that the diversity of divergent (or conflicting) expectations resulted in the exposure of the greatest proportion of school executives to role conflict.

Blau and Scott suggest that in situations where there is a high participation in many organizations and associations in a community, "...such interlocking organizational memberships have the result that in case of controversy, some individuals will belong to organizations that pull them in opposite directions... The cross pressures introduced by many linkages of this type mitigate the intensity of community conflict in several ways."38

The implications of an incumbent's identification with several different groups were explored by Park,39 Stonequist,40 and Hughes.41


40Stonequist, op. cit.

These authors discussed the creation of psychological problems for the individual and the development of new strata in the social structure as the result of some types of group membership. Hughes has demonstrated that possession of contradictory roles in different groups may create "dilemmas and contradictions of status" for the individual.

Reporting on a study of the reactions of people in four southern communities to physical disaster -- explosions and tornados -- Killian states:

\[ \ldots \text{conflicting group loyalties and contradictory roles resulting from multiple-group membership were significant factors affecting individual behavior in critical situations. The dilemmas created by the disasters also brought to light latent contradictions in roles not ordinarily regarded as conflicting.}^{42} \]

Getzels and Guba\(^{43}\) hypothesized that the extent of role conflict as seen by the actors is a function of the number and magnitude of incompatible expectations placed upon him; and their results supported their hypothesis.


\(^{43}\)Getzels and Guba, op. cit.
As it was discussed in the introduction chapter, the role of the salesman is characterized by: 1) the diversity of his role senders, and 2) the often conflicting expectations that he has to cope with. Based on the above theory and numerous studies, one may hypothesize that:

**Hyp. 1:** There is a direct relationship between the level of strain experienced by the salesman and the diversity of his role senders; the larger the number of role senders, the higher the level of strain.

**Personality Characteristics and Role Strain**

Earlier in this chapter, it was suggested that role strain may stem from characteristics of individual actors which interfere with role enactment. Three personality characteristics will be considered in this research: Self-Esteem, Conformity, and Social Participation. Here, the focus of attention is on the ways the personality of the perceiver may affect the manner in which he experiences the social environment.

**Self-Esteem:** Assuming that there exists a high degree of relationship between self-regard, self-esteem
and self-acceptance, Marlowe and Gergen\textsuperscript{44} report that persons low in self-esteem have been found to be generally more responsive to social-influence pressures than those high in self-esteem.

Hillson and Worche\textsuperscript{45} investigated the relationship between self-regard and the capacity to adapt to the social environment. Their findings revealed that subjects with low self-regard are associated with various forms of maladjustments. The neurotic, according to Adler, sets up fictitiously high goals because of intense feelings of inferiority and abnormal need for power.\textsuperscript{46} Unable to reach these "fictitiously" high goals, the incumbent is likely to experience strain.

Solley and Stagner found that after task failure, low self-esteem subjects require greater amounts of time to complete subsequent tasks. They reported that the "lows" also increase in palmar sweating to a greater extent than the highs when confronted with a "negatively


toned insoluble problem.  

Relating these concepts to the salesman, one may predict that salesmen low in self-esteem tend to set high personal quotas that are unrealistic and impossible to achieve; they also tend to present "rosy" pictures and to make promises to their customers in an attempt to impress them; and when these promises do not materialize, or when their actual sales performance does not measure with their quotas, they will experience strain. In the case of a salesman with a high-esteem, he does not feel personally threatened when a customer refuses to see him or mistreats him. Such a situation can be extremely stressful for low self-esteem salesmen, especially when they cannot talk back to their customers. As one respondent in Howton and Rosenberg's investigation puts it:

If I had told some of the people I've talked to what I thought of them, they would have thrown me out and I never would have gotten the business.

Another characteristic of low self-esteem subjects is that they deprecate themselves. This also is likely

---


49 Hillson and Worchel, op. cit., p. 83.
to generate strain for low self-esteem salesmen, especially if the customer enjoys a higher status or belongs to a higher hierarchical level. Based on the above, it is hypothesized that:

**Hyp. 2:** There is an inverse relationship between the level of strain experienced by the salesman and his level of self-esteem; the lower the self-esteem, the higher the level of strain.

**Conformity:** Subjects who score high on conformity are susceptible to social influence and group pressures. They tend to modify behavior to be consistent with standards set by others.

In his analysis of conflicting social norms, and referring to simultaneous role obligations, Stouffer made the following proposition:

If a person has simultaneous roles in two or more groups such that simultaneous conformity to the norms of each of the groups is incompatible, he can take one of only a limited number of actions, for example:

1. He can conform to one set of role expectations and take the consequences of non-conformity to other sets.
2. He can seek a compromise position by which he attempts to conform in part, though not wholly, to one or more sets of role expectations, in the hope that the sanctions applied will be minimal.50

It is very likely that a person high on conformity would take the second action. But either action would put the compliant person in a stressful position, since in either case, he is being forced to go against his desire for compliance.

Jones, Jones, and Gergen have shown that, when a person is seen to be dependent and consistently conforms, he is negatively evaluated. So far as the approval motive is concerned, in spite of his conformity, the high need-approval person does not appear to succeed in gaining the attraction of others. Marlow and Gergen cite a study by Bank who found that college men high in the need for approval were less liked by peers who knew them well. The authors speculate that the high need-approval person works too hard at winning acceptance to a point that is seen as unrealistically accommodating, and is disliked as a consequence. A similar point is made by Jones in his analysis of the tactics of ingratiation. The author suggests that slavish conformity

---


52 Marlow and Gergen, op. cit.

operating in the service of creating a positive impres-
sion on others runs the risk of alienating the target
person by creating suspicion about the ingratia tors
intentions.

From the discussion on the role of the salesman that
was presented in Chapter I, it is apparent that, due to
the diversity of his role relationships, the salesman
faces conflicting social norms and demands. The sales-
man who rates high on conformity will normally tend to
conform to pressures exercised by his various role senders.
Consequently, he is bound to find himself in the position
where his alternatives are limited, and where the choice
of any of the alternatives will produce a certain level
of strain. It is hypothesized that:

**Hyp. 3:** There is a direct relationship between
the level of strain experienced by the
salesman and his level of conformity; the
higher the conformity, the higher the
level of strain.

**Social Participation:** This term refers to persons
who are sociable, who will eagerly join a variety of
social groups, who seek both formal and informal associa-
tion with others, and who value positive interpersonal
relationships.
Wolfe and Snoek found in their investigation that 79 percent of those who tend toward introversion experienced strong role conflict as compared to 30 percent for those who scored high in sociability.\textsuperscript{54} They suggest that those who are very sociable stay in close contact with their role senders and with the latter's help more readily resolve conflicts when they arise. On the other hand, those who are more withdrawn respond less positively to mild pressures and thus elicit stronger pressures. In many instances, the salesman needs some information that is hard to obtain. For example, he would like to know what competition is offering to his customers, or what the buying organization's internal policies are. The only way he can have access to such information is to develop close ties with the people working in the buying organization and to gain their trust and sympathy. In the absence of such information, the uncertainties of his task environment become greater, and as a consequence, the level of his experienced strain is bound to increase, especially if his employing organization insists on acquiring such information. By being sociable, he increases the chances of getting the

full cooperation of his customers; this will take some of the pressure off him, and consequently will reduce strain.

Based on the above, one may hypothesize that:

Hyp. 4: There is an inverse relationship between the level of strain experienced by the salesman and his degree of sociability; the higher the sociability, the lower the level of strain.

**Demographic Characteristics and Role Strain**

There does not exist any comprehensive theory that relates role strain to demographic variables. A number of empirical studies revealed inconclusive results. In this investigation, three variables are under consideration: 1) the age of the incumbent, 2) his educational level, and 3) the length of his experience in his present position.

Indik, et al., have studied the relationships between strain and demographic variables. Their study concentrated on three variables: age, sex and education. Their results revealed no generalizations about relationships between the demographic variables and the strain indexes (i.e., Job Related Strain, Economic Strain, and Psychosomatic Symptoms), that hold for all subcategories of the population. Only 4 out of the 65 curves show a
statistically significant degree of curvilinearity.\textsuperscript{55} On the other hand, Wolfe and Snoek, in their attempt to study the sources of role strain among 54 positions in six major industrial locations, found that the higher the education of the focal person, the more common was the existence of strain.\textsuperscript{56} Only 7 percent of those who failed to finish high school were found to be facing strong role strain, while 77 percent of college graduates were found to be subjected to above average degrees of strain. They suggest several factors which might have accounted for this, among which: highly educated persons are typically assigned to positions of higher rank, and responsibility for liaison between the organization and external agencies is more apt to be entrusted to the educated.

With regard to age, Wolfe and Snoek found that greater strain tends to be imposed on younger persons than on older ones.\textsuperscript{57} Sixty-seven (67) percent of the focal persons under 35 were in the high strain group, while only 36 percent of those over 50 were faced with strain above the median level. As possible explanations, they


\textsuperscript{57}Tbid.
suggest: 1) the longer a person has been a member, the lower the degree of role strain he faces; 2) as people age, they either learn to cope successfully with conflict or move out of highly conflictual positions as a means of self protection.

Commenting on the age and experience aspects of the salesman, Howton and Rosenberg state:

This quality of toughness, the ability to shrug off rudeness or the veiled insult... is partly innate, but also partly a product of age and experience. As one respondent recalls, 'when I was young and inexperienced, I got into a few humiliating situations... [but] I find selling less humiliating as I get older.'\textsuperscript{58}

The way in which salesmen perceive their jobs may be a factor to be considered. Various studies have demonstrated that the job of a salesman is a transitional one, a step toward a better position. Raymond Mack hypothesized that:

The person in a determinate occupational status will view his work as an end in itself... while the person in an indeterminate occupational status will view his work as instrumental.\textsuperscript{59}

\textsuperscript{58} Howton and Rosenberg, \textit{op. cit.}, p. 197.

\textsuperscript{59} [Determinate occupational statuses were measured on how well defined the rights and duties of the status and how rigid the expectations of the role.] Raymond W. Mack, "Occupational Ideology and the Determinate Role," \textit{Social Forces}, Vol. 36 (October, 1957), p. 39.
His sample included 1,051 salesmen, 118 bankers and 292 engineers. His conclusions revealed that the salesmen viewed their work as instrumental; and that they left their jobs primarily to secure higher income or to accept jobs which promised greater promotional opportunities. Educated salesmen are likely to be more sensitive to the strains of the job and less predisposed to accept such strains since they know that they have the qualifications to take other less strenuous jobs. As people grow older, they become more settled; they look for more security and they are less likely to view their job as a transitional one; and they become more experienced in handling strain, thus less subject to it.

With regard to the effect of the length of time of the incumbent in his position, it may be argued that people who have been in the same position for a long time are more socialized with their task environment, and they have either learned how to avoid the strain or how to cope with it. Considering the role of the salesman, Whyte's famed study of restaurant waitresses is most pertinent.60 Whyte reported that experienced girls are much more aggressive toward service pantry workers and

bartenders, so that they are able to release some of their pressure in that direction. The author also notices important differences in the girls' relations with their customers and supervisors:

Most experienced waitresses build up a following of steady customers. Sometimes the relationship becomes a very cordial one, and the appearance of a steady customer may completely change the situation for a waitress who has been in difficulty with strangers. Even when the customer is an unpopular one, at least he is not an unknown quantity, and the waitress knows what to expect from him. 61

Concerning their behavior on the job, Whyte reports that experienced waitresses tackle the customers with confidence and without hesitation. As to their supervision, he notes that experienced waitresses proceed with little, if any, regulation of their behavior by supervisors, whereas inexperienced girls tend to be subjected to a good deal of close supervision.

A similar view is expressed by a pharmaceutical salesman:

It is a difficult thing, calling on a physician, especially if you've never called on him before. We find, or I find, anyway, that it takes anywhere from six months to a year to crack through the wall or whatever you'd call it in order to get to him... 62

61 Ibid.

62 Howton and Rosenberg, op. cit., p. 103.
Based on the above, one may hypothesize that:

Hyp. 5: The level of strain experienced by the salesman is related to certain demographic variables:

5.1 The higher the education of the salesman, the higher the level of strain.
5.2 The older the salesman, the lower the level of strain.
5.3 The greater the length of time of the salesman in his position, the lower the level of strain.

Performance and Role Strain

Various authors have suggested that subjects' performances decrease in the face of stressful situations. Miller and Worchel note that their subjects "dropped in efficiency when stress was introduced." 63 They did not find significant differences between the means of the combined low, medium, and high self-ideal (self-esteem) groups in terms of their reaction to stress.

Solley and Stagner report similar findings and suggest that "...the organism mobilizes additional energy when faced with a barrier, and that behavior at barriers often involves decreased efficiency in skilled tasks." 64

Relating performance to role conflict, Likert suggests that the higher the productivity of a group, the greater the accuracy of the perceptions of both workers and foremen about the others' expectations of a desirable production rate. "Good performance and high communication go together." 65

Cohen concludes that ambiguous situations and inconsistent directives were found to raise the anxiety of subordinates, to create less favorable attitudes toward the power figure, and to lower productivity. 66

Getzels and Guba found that instructors experiencing role conflict in a military school were the ineffective ones. 67 The only exception encountered that did not show the relationship between role consensus and effectiveness was Tosi's study discussed earlier in this chapter. With respect to the salesman, it is hypothesized

64 Solley and Stagner, op. cit., p. 62.


that:

**Hyp. 6:** There is an inverse relationship between performance and the level of strain experienced by the salesman. The higher the level of strain, the lower the performance.
CHAPTER III
RESEARCH METHODOLOGY

The data upon which this study is based were gathered from a large firm manufacturing and marketing pharmaceutical and health products (ethical as well as nonethical drugs, vitamins, and other nutritional products). The sample consisted of 300 salesmen comprising the total sales force of the company. Respondents were requested to fill out a one hour questionnaire pertaining to their perceived level of role strain and selected personality and demographic characteristics. A total of 275 questionnaires were returned, which constitutes a response rate of 91 percent. Additional data related to the diversity of role senders and performance were obtained from company records.

The Setting

In an effort to obtain maximum insight into the operations of the company and to use concrete data in the analysis of this research, it became necessary to disguise the name of the company involved; hereafter, we will refer to this company as Sigma.
Sigma is one of the largest companies in its industry. Its products are sold and distributed nationally. It enjoys an excellent reputation in the medical profession, and its brands are generally well received among ultimate consumers. Most of Sigma's products are either prescribed for or recommended to consumers by doctors. Hospitals and doctors are, therefore, prime targets for Sigma's promotional efforts. In fact, 90 percent of the salesmen's effort are expended in calling on doctors and hospitals.

The salesman does not sell to pharmacists or to the ultimate consumers. Rather, he is totally involved with missionary work among doctors, hospital personnel, and with the wholesale and retail trade. Unlike other types of selling where the salesman knows as soon as he leaves his customer whether or not he has made a sale, it may take weeks and even months before Sigma's salesmen can determine how successful they have been in influencing doctors and hospitals to prescribe or adopt Sigma's products. Such a situation may impose considerable strain because of the lack of immediate feedback.

**Data Collection Methods**

In-depth interviews were conducted with executives at the company's headquarters and with a small sample of
salesmen in the field to determine the characteristics of the salesmen's activities, the nature and extent of their interactions with their employing organization at various levels, and their contacts with various groups of people outside their employing organization. This information permitted the researcher to devise measures of the variables included in the hypotheses set forth in the previous chapter. These hypotheses related role strain to (1) the diversity of role senders, (2) the personality characteristics of the salesman (i.e., self-esteem, conformity, and social participation), (3) the demographic attributes of the salesman (i.e., age, education, and length of time in his present position), and (4) the salesman's performance. The following is a presentation of the measurements used for each of the individual variables. A listing of these variables is included in Table 2.

**Level of Role Strain**

Role strain refers, in this study, to the amount of tension experienced in connection with selling, specifically as a response to the salesman's job. The scale used to measure the level of role strain was the Job Related Tension Index (JRT), which was developed at the
Table 2
Summary of the Variables

Level of Role Strain:
- Individual items of the scale (15 items)
- Overall score (the sum of the scores on the fifteen items)

Personality Variables
- Conformity (20 items)
- Self-esteem (20 items)
- Social participation (20 items)
- Infrequency (20 items)

Number of Role Senders

Performance Measures
- Adjusted Sales
- Change in Sales
- Market Share
- Management Ranking
- Composite Ranking

Demographic Variables
- Age
- Education
- Number of years as a salesman with present employer
- Total number of years with present employer
- Number of years as a salesman
- Total number of years in the industry
Survey Research Center of The University of Michigan.\(^1\) The scores on this index are derived from a list of fifteen common problems on the job. Respondents were asked to answer each item by choosing one of five alternatives: Never; Rarely; Sometimes; Rather Often; Nearly All the Time. These alternatives were assigned coding values of from 1 to 5, respectively. The respondent's overall strain was his total score over the 15 items.

The items were chosen to provide a rough indication of a domain of potentially stressful conditions, with an emphasis on those conditions related to organizational structure and process and interpersonal relationships on the job. The list of items gives about equal emphasis to three sources of strain: incompatibility between job demands and the individual's resources for meeting those demands, conflict or ambiguity in role definition, and work overload. The topical content includes references to responsibility, authority, work load, influence, information accessibility, pressure, and the like. The data on this scale were originally collected by its developers from a national sample of 725 employed adults. To test the validity of this scale, its developers used an open-ended question "to elicit information about the

number, content and intensity of job related worries."² The responses to this open-end question were found to be closely related to the tension index.

In introducing the items listed below to the respondents, Indik, et al., justified the usage of the key term "to be bothered by" as representing "a very mild degree of annoyance, perplexity, or anxiety."³ Indik, et al., feared that "a stronger term would fail to discriminate among the great majority of respondents."⁴

The presentation and the wording of the items were as follows:

All of us occasionally feel bothered by certain kinds of things in our work. The following is a list of 15 statements related to things that sometimes bother people. Applying the scale below to each of the statements, please indicate in the space facing each statement how frequently you feel bothered by each of them.

1 2 3 4 5

Never Rarely Sometimes Rather Nearly all
Often of the time


⁴ Ibid.
1) Feeling that you have too little authority to carry out the responsibilities assigned to you

2) Being unclear on just what the scope and responsibilities of your job are

3) Not knowing what opportunities for advancement or promotion exist for you

4) Feeling that you have too heavy a work load, one that you can't possibly finish during an ordinary workday

5) Thinking that you'll not be able to satisfy the conflicting demands of various people over you

6) Feeling that you're not fully qualified to handle your job

7) Not knowing what your supervisor thinks of you, how he evaluates your performance

8) The fact that you can't get information needed to carry out your job

9) Having to decide things that affect the lives of individuals, people that you know

10) Feeling that you may not be liked and accepted by the people you work with

11) Feeling unable to influence your immediate supervisor's decisions and actions that affect you

12) Not knowing just what the people you work with expect of you

13) Thinking that the amount of work you have to do may interfere with how well it gets done

14) Feeling that you have to do things on the job that are against your better judgment

15) Feeling that your job tends to interfere with your family life

Scores range from a minimum of 15 (low strain) to maximum of 75 (very high strain).
Diversity of Role Senders

As pointed out in the previous chapter, the term "role senders" refers to the people included in the salesman's role set (e.g., those who hold expectations for him). With regard to Sigma's salesmen, their role senders include people in Sigma's sales organization as well as intermediaries and users of Sigma's products. Two aspects had to be analyzed in the determination of the number of role senders: (1) the sales force organization (i.e., the chain of command within the organization, the administration of the sales force, and the company's expectations for its salesmen), and (2) the nature and extent of interactions of the salesman with his customers.

Sales Force Organization: Sigma has divided the U.S. market into regions; each region is subdivided into districts each of which is comprised of about ten territories. Each salesman is assigned a territory; these territories vary in geographic size depending on the population density. Within the sales organization, the chain of command includes the national sales manager, regional managers, and district managers. While the salesman is in direct contact with his district and regional managers, his contacts with the national sales manager are almost nonexistent. Except in extreme cases,
hiring, firing, and promotion are in the hands of the regional and district managers.

Once a newly recruited salesman fully understands the duties of his job, he is left on his own. The company provides him with a list of doctors, hospitals, and pharmacists located in his territory. He is also provided with an automobile for which the company pays all business and maintenance expenses. Occasionally (about once a month, or when warranted), the district manager spends one day with each of his salesmen, accompanying him in his sales calls and discussing with him issues relative to his territory.

As presented in the company's manuals, the salesman's responsibilities are to develop and maintain business by presenting product information and service materials to those members of the medical and other professions concerned with the care of potential users of Sigma's products. With regard to administration, the salesman works with a minimum amount of direct supervision. However, in consultation with his district and, to a limited extent, his regional manager and the home office, he is expected to:
1) analyze his territory potential;
2) plan his work to realize this potential;
3) prepare his sales presentations to fit various prospects;
4) submit daily reports and weekly sales expense accounts;
5) participate in sales meetings and seminars; and
6) make suggestions for policy, procedure and promotional aids.

With respect to point 4 above, the salesman is required, after each call, to fill out a form indicating the date, the people contacted, the products presented during the call, and the quantities of samples given away. These call reports are mailed at the end of the day directly to the home office. On average, Sigma expects each one of its salesmen to call on seven doctors, one hospital, and two pharmacists per day. When the salesman calls on a doctor, he has to make a five-to-fifteen minute presentation on one or several products. In hospitals, he is expected to keep close contact with the doctors, nurses and other hospital staff, and to make sure that Sigma's products are in use in the hospital.

For certain nonethical and nutritional products, hospitals usually sign a contract covering a period ranging from three months to a year with the manufacturer who offers the lowest prices. It is very important to obtain these contracts, not only because hospitals are
significant users of such products, but also because the patient is most likely to use the same product after he leaves the hospital for an extended period of time. Sometimes, the loss of a contract with a large hospital has noticeable effects on the salesman's overall performance. Therefore, it is the salesman's responsibility to insure that hospital contracts are maintained and developed. Although the salesman participates in the bidding process and makes certain recommendations, he does not, however, have the final word on the bid price. Finally, the salesman has to call on pharmacists to check whether physicians are prescribing and recommending Sigma's products. He spends no more than 10 percent of his time calling on pharmacists. Sigma's management believes that if its brands are prescribed or recommended by doctors, consumers will buy them.

The Salesman and His Customers: The salesman calls on two major categories of doctors: specialists and general practitioners. The number of potential users of Sigma's products treated by a doctor determines the importance of that doctor to the salesman, which in turn determines the frequency of sales calls to that doctor. At the doctor's office, the main concern of the salesman is the doctor's availability. Usually, the receptionist decides if he has any chance of seeing the doctor and how
long he has to wait before he can see him. Sometimes, the waiting period can go beyond the 30-minute limit suggested by the company. In such cases, the salesman leaves the doctor's office and hopes that the next doctor will be more available. This can be very frustrating, especially if the doctor happens to be in a remote area. Once he gets to see the doctor, the salesman has to be quick in assessing the time available to him; this may range from 5 to 20 minutes. In some instances, because of the time constraint imposed by the doctor, the salesman has to present his story in the hallway in a very short period of time. Besides time and availability constraints, the limited training of the salesman in microbiology and the discrepancy between his status and that of a doctor can also be generators of strain.

In hospitals, the salesman has to interact with a larger number of people (i.e., doctors, the purchasing agent, other administrators, the head nurse, the pharmacist, stock room attendants, and any other people involved in acquiring, handling and administering Sigma's products). Some hospitals expect the salesman to check their stocks and reorder for them. The frequency of calls on hospitals is determined by the size and importance of each hospital. The salesman does not have to wait around to see any particular person; if he misses
one or two people in one call, he tries to see them on his next call since hospital calls are generally more frequent than doctors' calls.

With regard to pharmacists, as pointed out above, the effort expended on visits to pharmacists and other retail and wholesale outlets accounts for no more than 10 percent of the salesman's time. These pharmacists do not hold expectations for the salesmen with regard to the ordering function; instead, they order their purchases directly from the company. Even when a pharmacist has some complaints, the salesman merely communicates them to the district manager or directly to the company's headquarters.

For the purpose of this study, the number of role senders was determined through an analysis of salesmen's call reports and was restricted to counts of doctors and various hospital personnel contacted. Sigma maintains a record of all calls made by each salesman to doctors and hospitals. Also, the company maintains a record of the different people contacted during each call. For instance, the company has compiled data on the total number of calls to hospitals made during 1972, and the total number of people contacted during those hospital calls. The average number of people contacted per hospital call was taken as a measure of the number of role senders for each
hospital assigned to a particular salesman. Multiplying this average by the total number of hospitals in a particular territory gave a measure of the salesman's number of role senders in hospitals. Adding to this number the number of doctors included in his territory gave the total number of role senders for the particular salesman. To summarize, the diversity of role senders was determined by:

\[
\text{Diversity of Role Senders} = \frac{\text{(# of doctors in territory) + (number of hospitals in territory } \times \text{ average # of role senders per hospital)}}{\text{Average # of role senders per hospital}} = \frac{\text{Total # of people contacted in hospitals (1972)}}{\text{Total # of hospital calls (1972)}}
\]

The above formula does not account for all the members of the salesman's role set. Based on the assumptions listed below, role senders from within the company, doctors' receptionists, pharmacists, and other trade personnel were not included in the determination of the total number of role senders. These assumptions were:

1) The number of role senders from within the company is the same for all salesmen (i.e., three: his district and regional managers and the national sales manager); hence their inclusion in the total number of role senders or lack of it would give the same results.
2) There is a high correlation between the number of doctors and that same number of doctors augmented by the number of their receptionists; hence, the use of either number would give similar results in the study of the relationship between the level of strain and the number of role senders.

3) The number of pharmacists in a particular territory has limited effect on the level of strain experienced by the salesman. This assumption was based on the premise that pharmacists interact directly with the company headquarters when they have complaints or need additional service.

**Personality Variables**

Three of the hypotheses specified earlier relate the level of role strain experienced by the salesman to his level of self-esteem, his level of conformity, and his level of sociability. These personality characteristics were described in the previous chapter. The Jackson Personality Inventory\(^5\) (JPI) was selected to measure

---

\(^5\)Douglas N. Jackson is on the faculty of the University of Western Ontario. He is the author of Personality Research Form (PRF) published by the Research Psychologists Press, Inc.
these personality variables. This test is yet to be published.6

The JPI is an omnibus personality inventory consisting of 16 scales (including an infrequency scale) of homogeneous content. This scale was carefully constructed in a way that minimized the most serious form of test bias, i.e., response set and acquiescence. Each personality scale contains 20 items and has equal numbers of positively and negatively scored items. With respect to social desirability, all items which showed significant correlation with social desirability were eliminated (discriminant validation). A form of factor analysis developed by Jackson indicates that each scale has considerable independence from the rest. All items correlated with the total scale score. The validity coefficients were derived from Jackson's study of 70 undergraduates who completed peer ratings, self ratings, and the adjective check list involving the same traits as are contained in the JPI. The Pearson Product

6 The author wishes to acknowledge the contribution of Dr. Thomas W. Milburn to the description of the JPI test. Dr. Milburn is on the faculty of the Mershon Center for Social Research at The Ohio State University, Columbus, Ohio.
Moment Correlation coefficients for the validation test are presented in the Appendix.

With respect to item content, Jackson used theoretically informed pools of items (i.e., ones based on experimental studies of personality). This way, it was possible to develop scales with some construct validity. For the careless respondent, the author included an infrequency scale which provides protection against the major problems of known bias mentioned above (i.e., response set, acquiescence, and social desirability). The individual items of this scale are presented in the Appendix. Scores on each scale range from 0 to 20 (20 being the highest score on a particular scale). A high score on the infrequency scale is an indication of the carelessness of the respondent. In this research, all respondents who had an infrequency score higher than one were eliminated from the study.

Demographic Variables

Three of the hypotheses set forth in the previous chapter related the level of role strain to the educational level of the salesman, his age, and his experience (i.e., the length of time the salesman has been in his present position). The measurement of educational level and age are straightforward. Six intervals were used
for the measure of the educational level, and seven intervals for the measure of the age of the salesman. The boundaries of these intervals are presented in the Appendix along with the other items of the questionnaire.  

As to the determination of the seniority of the salesman in his job, four measures were used: (1) the length of time the subject has been a salesman with his present employer; (2) the total length of time he has worked with his present employer; (3) the length of time he has been a salesman (with his employer as well as with other employers), and (4) the total number of years he has worked in this industry (with this employer as well as with other employers in the same industry).

Performance

The last hypothesis considered in this research relates performance to the level of role strain experienced by the salesman. For purposes of this research, five measures of performance were utilized: (1) adjusted sales, (2) change in sales, (3) market share, (4) management ranking, and (5) composite ranking.

---

7Although only three scales are used in the study, the respondents took the entire JPI test (i.e., 15 scales). This was suggested by Sigma's management.
Adjusted Sales: The use of absolute sales figures has many drawbacks, among which are the variations from territory to territory due to differences in market potential, workload, degree of competition, company promotional effort, and so forth among territories. An attempt was made to offset the effects of these variations and to determine adjusted sales figures that may be compared across territories. In the absence of quantitative and objective data necessary for eliminating effects of these variations, it became necessary to rely on the subjective judgment of the national sales manager. The national sales manager was asked to estimate for each district an Environmental Market Conditions ratio (EMC ratio). The factors considered in the determination of the EMC ratio included: Sigma's promotional efforts in the particular district, the attitude of doctors and consumers toward Sigma's products, the strength of competition, and all other aspects over which the salesman has no control. The EMC ratio ranges from zero (for districts where the market conditions are the most unfavorable) to 1.0 (for districts where market conditions were at their best). For example, the assignment of an EMC ratio of 1.0 to a particular district means that the salesman working in that district enjoys the most favorable market conditions.
(e.g., doctors and consumers are extremely favorable to Sigma's products, Sigma's promotional efforts are at maximum, competing products are not much of a threat, and the salesman can achieve a good sales volume without much effort). On the other hand, the assignment of an EMC ratio of 0.5 to a district means that the salesman who works in such a district faces average market conditions.

Table 3 gives an example of the computation of the adjusted sales figure. Using the absolute sales figure, Table 3 shows that during 1972, salesman B had a better performance than salesman A ($360,000 versus $250,000). Evaluating the same salesmen by taking into account the market conditions faced by each one of them, salesman A shows a better performance than salesman B. The implicit assumption in this adjustment formula is that if salesman A were assigned to another territory with an EMC ratio higher than 0.5, his unadjusted sales volume would be proportionately higher than $250,000, assuming that his sales efforts were to remain the same.

1972 sales figures were used for the computation of adjusted sales. These figures were based on actual shipments to hospitals, pharmacists, and other outlets located in each of the territories. In case of shipments to large chains that overlap over many territories, the company requests from these large chains to provide the shipments
### Table 3

Computation of Adjusted Sales

<table>
<thead>
<tr>
<th></th>
<th>Sales Volume (1972)</th>
<th>Territory's EMC Ratio (1972)</th>
<th>Adjusted Sales (1972)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salesman A</td>
<td>$250,000</td>
<td>.5</td>
<td>500,000¹</td>
</tr>
<tr>
<td>Salesman B</td>
<td>$360,000</td>
<td>.8</td>
<td>450,000</td>
</tr>
</tbody>
</table>

¹Adjusted Sales = \( \frac{\text{Sales Volume}}{\text{Territory's EMC ratio}} \)
to each of their stores, and depending on the location of each store, the salesman receives credit for the stores in his territory. In cases where a chain does not provide such information, Sigma gives the salesman a percentage of the shipments to that chain; this percentage is based on the proportion of the chain's stores in his territory. Thus, the sales figures used are believed to be reasonably accurate. With respect to the EMC ratio, its subjectivity is recognized, but it is believed that it provides a more meaningful measure of sales performance than the use of unadjusted sales would afford.

**Change in Sales:** The second measure of performance considered was the change in sales. This figure represents the salesman's dollar increase or decrease in his sales volume in comparison to the previous year's sales volume.

**Market Share:** A third measure of performance used was the salesman's share of the market in his territory. These market share figures are prepared by the salesmen themselves and, in most cases, they do not vary by more than 10 percent when compared to the A. C. Nielsen figures for the particular region. The market share figures used are based on surveys conducted by the salesmen in hospitals located in their territories.
Management Ranking: The fourth measure of performance is the management ranking of the salesman. This ranking is performed by the national sales manager. Based on the district and regional managers' subjective quarterly rankings of their salesmen and on various statistics on each salesman's performance, the sales manager periodically ranks the salesmen into three classes: upper third, middle third, and lower third. The sales manager was asked, for the purposes of this study, to break each class into two; this gave six classes of performance. Rankings ranged from 1 to 6. Salesmen belonging to the lowest class of performers were assigned a 1 score; those belonging to the highest class were assigned a 6 score.

Composite Ranking: Finally, a performance measure was developed that gave equal weights to the four performance measures listed above (i.e., adjusted sales, change in sales, market share, and management ranking). Following the subjective ranking scheme, the salesmen were ranked from lowest sixth to highest sixth on each of the other three criteria. The rankings on all four criteria were then added to give a composite ranking. Scores on this composite ranking ranged from $\frac{1}{4}$ for the poorest to a maximum of $\frac{24}{4}$ for the best salesman.
Statistical Procedure

The hypotheses set forth in this study relate the level of role strain to (1) the number of role senders, (2) certain personality characteristics, (3) certain demographic attributes, and (4) performance. Although the way the hypotheses were stated implicitly suggests that one variable is the dependent variable, and the other is the independent variable, the research design used to test the above hypotheses does not allow to determine the causal basis for the relationship between the variables involved. Only static analysis is possible with the data at hand, which is not sufficient to determine causality. The determination of causality requires either (1) an experimental laboratory setting in which one variable can be manipulated in order to observe its effect on another, or (2) a longitudinal study where the same data are collected at two points in time. In the case of the second alternative, two statistical methods can be utilized; (a) cross-lagged correlational analysis, and (b) dynamic correlational analysis.8

The two primary statistical methods of analysis employed in this study were Contingency Analysis

---

and Correlation Analysis. While the two techniques measure the degree of association between two or more variables, they provide different insights in the analysis of the data.

Contingency Analysis was used to test for the relationships between the variables and to give the analyst a visual display of the data. In addition, this technique does not necessarily assume linearity in the relationship between the variables. It is a test of approximation; the larger the sample size, the better the approximation will be. With a sample as large as the one at hand, it was expected that the approximation would be good. Throughout the analysis, three intervals were used for each of the variables considered (i.e., low, medium, and high). The boundaries of these intervals are specified in the analysis chapter; but as a general rule, these boundaries were determined in a way that the low, medium, and high groups were approximately equal. This was for the purpose of insuring that the expected frequency of each cell was greater than 5.

For the purpose of the statistical analysis, the hypotheses set forth in the previous chapter are restated and tested in the null form (i.e., there is no relationship between role strain and the other variables considered). Whenever the computed $X^2$ value is higher
than the theoretical $X^2$ value, the null hypothesis that there is no significant relationship between the variables involved is rejected. In other words, the rejection of a null hypothesis implies that some relation does exist between the variables.

Since the hypotheses under test involve 2 variables at a time with three intervals used for each variable, this classification gave $3 \times 3$ tables. The theoretical value of such tables with 4 degrees of freedom is equal to:

$$X^2 = 9.49 \text{ at the 0.05 level}$$
$$X^2 = 11.14 \text{ at the 0.025 level}$$
$$X^2 = 13.28 \text{ at the 0.01 level}$$

The second statistical method used was Correlation Analysis. Broadly speaking, simple correlation analysis gives an evaluation of the closeness of the relationship between two variables. The extent of the relationship is determined by the correlation coefficient ($r$) which can take any value between -1 and +1. A negative correlation coefficient indicates an inverse relationship between the variables. Since the hypotheses are stated in the null form, whenever the absolute value of the correlation coefficient is greater than the minimum value for significance (0.13 at the 0.05 level for a sample size of
we reject the hypothesis that there is no relationship between the variables.

Since the sample size does not change throughout the analysis (226 respondents), the correlation coefficient for significance remains the same for all the hypotheses. Two levels of significance were considered (0.05 and 0.01). Their value is equal to:

1) 0.05 level with N = 226

\[
\frac{(N-2)}{1-r^2} = (1.96)^2 = 3.8416
\]

\[
224 \cdot r^2 = 3.8416 - 3.8416 \cdot r^2
\]

\[
r^2 = 0.01686
\]

\[
r = .12984
\]

2) 0.01 level with N = 226

\[
\frac{224 \cdot r^2}{1-r^2} = (2.58)^2 = 6.6564
\]

\[
224 \cdot r^2 = 6.65664 - 6.6564 \cdot r^2
\]

\[
r^2 = 0.02885
\]

\[
r = .16958
\]
Limitations of the Study

Although some limitations of the study were pointed out throughout the previous sections, a more complete discussion is presented here, following the comprehensive description in this chapter of the research methodology.

**Case Study:** The generalizations of this study must be regarded as tentative because they are based on an investigation of role strain among salesmen in a single company. The particular case is only typical of salesmen engaged in pharmaceutical missionary selling.

**Nature of the Data:** Eliciting from respondents the data called for by this study has some inherent limitations. Some of the items included in the questionnaire seem threatening in nature; and it was difficult, no doubt, for certain respondents to express candidly their emotional feelings. Regardless of the validity and reliability of the scales used, a certain amount of bias is likely to exist, especially in the personality scales. Another source of bias may be attributed to the fact that the questionnaires were filled out in a sales meeting. Due to the lengthy nature of the questionnaire, this was the only way to insure a high response rate. As revealed in the analysis chapter, the
questionnaires were scrutinized for the purpose of eliminating inconsistent and careless responses.

**Questionnaire Returns:** While 75 percent of the respondents completed the questionnaire in a usable form, nothing can be said about the actual level of role strain experienced by the remaining 25 percent.

**Strain Causes:** Due to time constraints, the variables considered to be related to the level of strain were limited to those evident in the JRT, and the selected personality and demographic characteristics mentioned previously. Obviously, there are a number of factors that could influence the level of strain besides those considered in this study. For example, these may include the compensation scheme, the attitude of the salesman toward the products he sells, and other problems that are indirectly related to his work, e.g., interference of his job with his life at home.

**Survey Research:** The data generated does not allow the determination of the causal relationships between the variables which a laboratory or field experiment would permit.

**Time Span:** The level of role strain was measured during a brief interval of time (i.e., at the time when the questionnaire was completed).

**Role Senders:** The elimination of doctors' receptionists, pharmacists, and other trade personnel from
the computation of salesman's role set diversity is another limitation. There is no doubt that these people hold some kind of expectations for the salesman, no matter how minimal these may be. But again, because of the unavailability of data and restraints of time, their inclusion was not possible. Another limitation relates to the fact that no consideration has been given to the degree of diversity of expectations held by the role senders. It was assumed that, on the basis of preliminary investigations involving sales personnel within the company reported earlier, expectations among various role senders were relatively homogeneous.

Performance: There are a large number of criteria that are used by companies to evaluate salesmen's performance. However, the lack of adequate measuring instruments and the high costs involved in collecting relevant information on performance militate against the development of highly reliable standards. In this study, time and availability of data also limited the choice of performance measures and prohibited an estimation of the reliability of the performance measures. For this reason, five standards were employed rather than a single measure.
CHAPTER IV
DATA ANALYSIS

In this chapter, the data are analyzed and the findings of the research are presented. Before proceeding with the analysis, the individual questionnaires were screened for inconsistencies and acquiescence, and the scales used in the questionnaire were tested for their reliability. The results of the screening and reliability tests are outlined below, followed by a presentation of findings relative to role strain among the salesmen surveyed.

Data Audit

Two criteria were used to check on the validity of each response: consistency and acquiescence.

Consistency

Part C of the questionnaire included the following questions:

1) How long have you been a salesman for your present employer?

2) How long have you been working for your present employer?
3) In total how many years have you worked as a salesman (with this employer as well as other employers)?

4) How many years have you worked in this industry (with this employer as well as with other employers in the same industry)?

Any respondent who gave inconsistent answers to the above questions were eliminated from the study. An example of inconsistency would be for a respondent to report that he has been as a salesman for his present employer (question 1) for a period of seven years and also that he has been working for his present employer (question 2) for a period of five years. This consistency check was applied to the four questions listed above.

**Acquiescence**

As pointed out in the description of the Jackson Personality Inventory test (see Chapter III), an infrequency scale was included to check on the possible carelessness of respondents in taking the personality test. On this infrequency scale, respondents should have a score of zero. A high score on this scale indicates that the respondent was acquiescent in his answers to the personality items, which constituted a basis for eliminating the respondent from the study. All responses that had infrequency scores higher than one were not included in the analysis.
This screening of the completed questionnaires reduced the sample size from 275 to 226 usable responses.

Reliability Tests

The reliability of a scale is a measure of the internal consistency of that scale. In evaluating a scale, it is essential to appraise the extent to which scores for a particular person would be similar if he took the same test at different times, and the extent to which scores are internally consistent. In this regard, Jackson states:

In psychological testing the concept of reliability has been used to refer to two distinct properties, the homogeneity or freedom from error and irrelevancy of test scores within a single administration of the test, and the stability of test scores over time.¹

Due to the time constraint and to the lengthy nature of the scales used, it was not possible to measure the reliability of the stability of test scores over time.

Reliability of the Role Strain Scale

The reliability of the role strain scale was measured by the "Subset Analysis Program."² This

¹Douglas N. Jackson, Personality Research Form, published by Research Psychologists Press.

²Robert Y. Wherry and Jerry Olivero, Computer Programs for Psychology (Columbus, Ohio: The Ohio State University, 1971), p. 45.
program uses the Kuder Richardson formula No. 8 where every item measures what the full test is measuring (single factor).\(^3\) This program calculates the K-R #8 and item-test correlations. The output of the Subset Analysis Program gives the mean, the standard deviation, and K-R #8 for each test as well as the mean, the standard deviation, and the item test correlations for each item.

The results of the reliability test for the role strain scale are presented in Table 4. The overall reliability coefficient measures the total internal consistency of the scale items. This coefficient is equal to .847, which is considered a high reliability coefficient. The item-test R represents how well an item is measuring what the scale is supposed to measure. In other words, it refers to the correlation of each item with the total test score. The highest inter-item R is item No. 11 with 0.681. Out of the fifteen items included in the scale, 9 of them have an R greater than 0.5; and the only item with an R below .4 is item No. 9 with R = 0.338. Due to the high K-R ratio (0.847), it was not deemed necessary to eliminate any of the items.

# TABLE 4
## ROLE STRAIN RELIABILITY TEST

**Role Strain**: Mean = 31.58, Sigma = 6.57, Kuder-Richardson Reliability (Formula 8) = 0.847

<table>
<thead>
<tr>
<th>Item #</th>
<th>Description</th>
<th>Mean</th>
<th>Sigma</th>
<th>Item-Test R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1)</td>
<td>Feeling that you have too little authority to carry out the responsibilities assigned to you</td>
<td>2.17</td>
<td>0.75</td>
<td>0.487</td>
</tr>
<tr>
<td>2)</td>
<td>Being unclear on just what the scope and responsibilities of your job are</td>
<td>1.74</td>
<td>0.68</td>
<td>0.444</td>
</tr>
<tr>
<td>3)</td>
<td>Not knowing what opportunities for advancement or promotion exist for you</td>
<td>2.46</td>
<td>1.16</td>
<td>0.505</td>
</tr>
<tr>
<td>4)</td>
<td>Feeling that you have too heavy a work load, one that you can't possibly finish during an ordinary workday</td>
<td>2.59</td>
<td>0.95</td>
<td>0.564</td>
</tr>
<tr>
<td>5)</td>
<td>Thinking that you'll not be able to satisfy the conflicting demands of various people over you</td>
<td>2.25</td>
<td>0.82</td>
<td>0.643</td>
</tr>
<tr>
<td>6)</td>
<td>Feeling that you're not fully qualified to handle your job</td>
<td>1.59</td>
<td>0.70</td>
<td>0.476</td>
</tr>
<tr>
<td>7)</td>
<td>Not knowing what your supervisor thinks of you, how he evaluates your performance</td>
<td>2.26</td>
<td>0.83</td>
<td>0.643</td>
</tr>
<tr>
<td>8)</td>
<td>The fact that you can't get information needed to carry out your job</td>
<td>1.88</td>
<td>0.76</td>
<td>0.539</td>
</tr>
<tr>
<td>9)</td>
<td>Having to decide things that affect the lives of individuals, people that you know</td>
<td>2.06</td>
<td>0.83</td>
<td>0.338</td>
</tr>
<tr>
<td>10)</td>
<td>Feeling that you may not be liked and accepted by the people you work with</td>
<td>1.83</td>
<td>0.68</td>
<td>0.517</td>
</tr>
<tr>
<td>11)</td>
<td>Feeling unable to influence your immediate supervisor's decisions and actions that affect you</td>
<td>2.18</td>
<td>0.82</td>
<td>0.681</td>
</tr>
<tr>
<td>12)</td>
<td>Not knowing just what the people you work with expect of you</td>
<td>1.79</td>
<td>0.69</td>
<td>0.630</td>
</tr>
<tr>
<td>13)</td>
<td>Thinking that the amount of work you have to do may interfere with how well it gets done</td>
<td>2.60</td>
<td>0.95</td>
<td>0.639</td>
</tr>
<tr>
<td>14)</td>
<td>Feeling that you have to do things on the job that are against your better judgment</td>
<td>1.90</td>
<td>0.72</td>
<td>0.462</td>
</tr>
<tr>
<td>15)</td>
<td>Feeling that your job tends to interfere with your family life</td>
<td>2.27</td>
<td>0.89</td>
<td>0.476</td>
</tr>
</tbody>
</table>
Reliability of Personality Scales

The method used to test the reliability of the personality scores (i.e., conformity, self-esteem and sociability) was the modified split half method. As pointed out in the previous chapter, each personality score was derived from the total score on the 20 items included in the scale. A random sample of 80 responses was taken. For each personality score, the respondent received two subsets of scores: (1) A score on items 1 through 5 and items 11 through 15, (2) A score on items 6 through 10 and items 16 through 20. To check on the internal consistency of the three scales, the two subsets of each scale were inter-correlated. The subsets of conformity have a correlation coefficient R equal to 0.649; the correlation coefficient of the self-esteem subsets is equal to 0.559; and the correlation coefficient of the sociability subsets is equal to 0.631. These coefficients represent reliability figures for half scales. The coefficients for the full scales could be estimated by the Spearman-Brown prophecy formula, which estimates the increased effectiveness of a lengthened test.\[^4\] To estimate the reliability of scales

of doubled length (i.e., the full scales rather than the split-halves used for the preliminary estimate), the following formula was used:

\[ r_{xx}' = \frac{2 \cdot r'}{1 + r'} \]

where \( r' \) is the correlation between scores for the half tests. The following reliability coefficients (R) were obtained:

\[ R \text{ of Conformity} = \frac{2 \times 0.649}{(1 + 0.649)} = 0.787 \]

\[ R \text{ of Self-Esteem} = \frac{2 \times 0.559}{(1 + 0.559)} = 0.717 \]

\[ R \text{ of Social Participation} = \frac{2 \times 0.631}{(1 + 0.631)} = 0.774 \]

These are considered high reliability coefficients.

**Hypotheses Testing**

As suggested in the methodology chapter (Chapter III), the hypotheses set forth in this study will be restated in the null form. This means that the rejection of a null hypothesis implies the acceptance of the original formulation.

For all the variables included in the hypotheses to be tested, the boundaries for the intervals were arbitrarily set in a way that the sample is divided into
equal groups which, in most cases, was approximately equal to \( \pm 1/2 \) standard deviation. These boundaries are specified in the tables.

**Role Strain and Diversity of Role Senders**

**Hyp. 1:** There is no relationship between the level of strain experienced by the salesman and the diversity of his role senders.

In this study, the sample mean for role strain is equal to 31.52 and the standard deviation equal to 6.54. In the national sample used for the development of the role strain scale by Kahn, et al. (Chp. III), the average strain among 725 employed adults was equal to 25.5; no measure of the standard deviation was given. Because of the long time difference between the administration of the tests, one cannot boldly conclude that Sigma's salesmen are experiencing more strain than other employed adults. For example, it may be that, on average, employed people in general are experiencing more strain in 1973 than were other people of similar characteristics and occupations in 1964. But, on the other hand, one may speculate that with the progress made in human relations techniques, companies in 1973 are better equipped to reduce stressful situations, and consequently the strain experienced by their employees is lower than if they were
living in 1964. If such is the case, one may rightly conclude that, on average, Sigma's salesmen are experiencing more strain than other employed adults.

The second variable is the diversity of role senders. The mean number of role senders for Sigma's salesmen included in the final sample was 342 with a standard deviation of 116.4. Table 5 shows a cross tabulation of role strain and role senders. With 4 degrees of freedom, the computed $X^2$ value is equal to 1.24, which is substantially lower than the theoretical $X^2$ value with the same degrees of freedom (i.e., 9.49). Hence, we do not reject the hypothesis that there is no relationship between the level of strain experienced by the salesman and the diversity of his role senders. The correlation coefficient between the level of strain and the number of role senders is equal to $r = -0.094$, which is below the minimum $r$ for significance (i.e., 0.13). Due to the lack of significant relationship, the negative correlation is due to chance and is not indicative of anything.

Role Strain and Self-Esteem

**Hyp. 2**: There is no relationship between the level of strain experienced by the salesman and his level of self-esteem.
Table 5
Level of Strain and Diversity of Role Senders

<table>
<thead>
<tr>
<th>Role Set Diversity</th>
<th>Low Less 290</th>
<th>Medium 290-359</th>
<th>High Over 360</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>27 (32.5)(^1)</td>
<td>21 (33.9)</td>
<td>31 (38.3)</td>
<td>79 (35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>31 (37.3)</td>
<td>22 (35.5)</td>
<td>24 (29.6)</td>
<td>77 (34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>25 (30.1)</td>
<td>19 (30.6)</td>
<td>26 (32.1)</td>
<td>70 (31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>83 (100.0)</td>
<td>62 (100.0)</td>
<td>81 (100.0)</td>
<td>226 (100.0)</td>
</tr>
</tbody>
</table>

\(^1\)Numbers between parentheses represent column percentages.
Chi Square = 1.24
Degrees of Freedom = 4
Not significant at the 0.01 level
The subjects in this sample scored high on self-esteem with a mean equal to 16.99 and a standard deviation equal to 2.82. Out of a maximum score of 20, 34.5 percent of the respondents scored 19 or 20, and 79.2 percent scored 16 and over.

Table 6 is a cross tabulation of the two variables. The $X^2$ value is equal to 22.92, which is higher than the theoretical $X^2$ value of 9.49 (at the 0.05 level with 4 degrees of freedom). This relationship is also statistically significant at the 0.01 level since the computed $X^2$ value (22.92) is higher than the theoretical $X^2$ value (13.28) at the 0.01 level with 4 degrees of freedom. So, based on the $X^2$ value, we reject the hypothesis that there is no relationship between the level of strain and the level of self-esteem. The rejection of this hypothesis is further supported by the correlation coefficient between the two variables, which is equal to $r = -0.254$. This coefficient is higher than the minimum $r$ for significance (i.e., 0.13 at the 0.05 level). Hence, there exists a relationship between the level of role strain and the level of self-esteem.

With regard to the direction of the relationship, the correlation coefficient shows an inverse relationship ($r = -0.254$). An examination of the contingency table (Table 6) shows this relationship. Among those
Table 6
Level of Strain and Self-Esteem

<table>
<thead>
<tr>
<th>Self-Esteem Level of Strain</th>
<th>Low 0-15</th>
<th>Medium 16-18</th>
<th>High 19-20</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>7 (14.9)</td>
<td>36 (35.6)</td>
<td>36 (46.2)</td>
<td>79 (35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>14 (29.8)</td>
<td>42 (41.6)</td>
<td>21 (26.9)</td>
<td>77 (34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>26 (55.3)</td>
<td>23 (22.8)</td>
<td>21 (26.9)</td>
<td>70 (31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>47 (100.0)</td>
<td>101 (100.0)</td>
<td>78 (100.0)</td>
<td>226 (100.0)</td>
</tr>
</tbody>
</table>

1 Numbers between parentheses represent column percentages.
Chi-Square = 22.92
Degrees of freedom = 4
Significant at the 0.01 level
who scored low on self-esteem, 55.3 percent experienced low strain. Among those who scored high on self-esteem, 46.2 percent experienced low strain as compared to 26.9 percent who experienced high strain. In summary, one may conclude that there is an inverse relationship between the level of role strain experienced by the salesman and his level of self-esteem; the lower the self-esteem, the higher the level of strain. This relationship is statistically significant at the 0.01 level.

**Role Strain and Conformity**

_Hyp. 3:_ There is no relationship between the level of strain experienced by the salesman and his level of conformity.

An examination of the scores on the conformity scale reveals that, on average, these scores are much lower than those of self-esteem. The conformity sample mean is equal to 10.00 and the standard deviation equal to 4.34. A little over 68 percent of the respondents had scores of 12 or less.

Table 7 shows the cross tabulation of role strain and conformity. The computed $X^2$ value is equal to 10.28, which is higher than the theoretical $X^2$ value of 9.49 (at the 0.05 level with 4 degrees of freedom), but not
<table>
<thead>
<tr>
<th>Conformity Level of Strain</th>
<th>Low 0-8</th>
<th>Medium 9-12</th>
<th>High 13-20</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>41 (47.7)</td>
<td>20 (29.0)</td>
<td>18 (25.4)</td>
<td>79 (35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>23 (26.7)</td>
<td>25 (36.2)</td>
<td>29 (40.8)</td>
<td>77 (34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>22 (25.6)</td>
<td>24 (34.8)</td>
<td>24 (33.8)</td>
<td>70 (31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>86 (100.0)</td>
<td>69 (100.0)</td>
<td>71 (100.0)</td>
<td>226 (100.0)</td>
</tr>
</tbody>
</table>

1Numbers between parentheses represent column percentages.
Chi-Square = 10.28
Degrees of Freedom = 4
Significant at the 0.05 level
higher than the $X^2$ value of 13.27 (at the 0.01 level with 4 degrees of freedom).

With regard to the correlation coefficient between level of strain and conformity, it is equal to $r = 0.237$. This coefficient is higher than the minimum $r$ for significance at the 0.05 level ($r = 0.13$) as well as at the 0.01 level ($r = 0.17$). Therefore, we reject the hypothesis that there is no relationship between the level of strain experienced by the salesman and his level of conformity.

The insignificance at the 0.01 level revealed by the contingency analysis may be attributed to the way the intervals were set and to the loss of information when the data were collapsed. Both the contingency table and the correlation coefficient ($r = 0.237$) show that the relationship between the variables is positive. But Table 7 shows that while the relationship held well for low and medium scorers, it did not hold well for the high scorers. For instance, among those who scored low on conformity, 47.7 percent experienced low strain as compared to 25.6 who experienced high strain. Among those who scored high on conformity, 25.4 percent experienced low strain, 40.8 percent experienced average strain, and 33.8 percent experienced high strain. To summarize, one may conclude that there is a direct
relationship between the level of strain experienced by the salesman and his level of conformity; the lower the conformity, the lower the strain. This relationship is statistically significant at the 0.01 level.

**Role Strain and Sociability**

Hyp. 4: There is no relationship between the level of strain experienced by the salesman and his level of sociability.

For sociability, the sample mean was equal to 12.93 and the standard deviation equal to 4.28. With 4 degrees of freedom, the computed $X^2$ value is equal to 5.85, which is lower than the theoretical $X^2$ value with the same degrees of freedom (i.e., 9.49). Therefore, the association between the two variables is not statistically significant, and we do not reject the hypothesis that there is no relationship between the level of role strain and the level of sociability. Table 8 shows the inexistence of any directional relationship between the two variables.

This conclusion is further supported by the correlation coefficient of the two variables ($r = -0.012$) which is much too low to have any statistical significance.
Table 8
Level of Strain and Social Participation

<table>
<thead>
<tr>
<th>Social Participation Level of Strain</th>
<th>Low 0-11</th>
<th>Medium 12-15</th>
<th>High 16-20</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>22 (28.2)</td>
<td>29 (39.7)</td>
<td>28 (37.3)</td>
<td>79 (35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>33 (42.3)</td>
<td>18 (24.7)</td>
<td>26 (34.7)</td>
<td>77 (34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>23 (29.5)</td>
<td>26 (35.6)</td>
<td>21 (28.0)</td>
<td>70 (31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>78 (100.0)</td>
<td>73 (100.0)</td>
<td>75 (100.0)</td>
<td>226 (100.0)</td>
</tr>
</tbody>
</table>

1Numbers between parentheses represent column percentages.
Chi-Square = 5.85
Degrees of freedom = 4
Not significant at the 0.05 level.
Role Strain and Demographic Attributes

**Hyp. 5:** There is no relationship between the level of role strain experienced by the salesman and certain demographic attributes:

5.1 There is no relationship between the level of strain and the education of the salesman.

5.2 There is no relationship between the level of strain and the age of the salesman.

5.3 There is no relationship between the level of strain and the length of time of the salesman in his present position.

**Education:** With regard to education, 27.4 percent of the respondents had no more than 2 years of college, 57.5 percent had an undergraduate degree, and 15 percent had a graduate education. Table 9 shows a cross tabulation of the level of strain and the educational level of the salesman. The computed $X^2$ value is equal to 1.66 with 4 degrees of freedom which is much lower than the theoretical $X^2$ value with the same degrees of freedom (i.e., 9.49). Therefore, there is no association between the two variables. This conclusion is further supported by the low correlation coefficient
Table 9  
Level of Strain and the Educational Level of the Salesman

<table>
<thead>
<tr>
<th>Education Level of Strain</th>
<th>2 years college or less</th>
<th>Undergraduate Degree</th>
<th>Graduate Education</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>18(29.0)¹</td>
<td>49(37.7)</td>
<td>12(35.3)</td>
<td>79 (35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>22(35.5)</td>
<td>44(33.8)</td>
<td>11(32.4)</td>
<td>77 (34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>22(35.5)</td>
<td>37(28.5)</td>
<td>11(32.4)</td>
<td>70 (31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>62(100.0)</td>
<td>130(100.0)</td>
<td>34(100.0)</td>
<td>226 (100.0)</td>
</tr>
</tbody>
</table>

¹Numbers between parentheses represent column percentages.

Chi-Square = 1.66
Degrees of freedom = 4
Not significant at the 0.05 level
between the educational level and strain \( r = -0.039 \). Hence, Hypothesis 5.1 is not rejected.

**Age:** An examination of the sample characteristics reveals the relatively young age of the respondents. 77.9 percent of the salesmen included in this study are under the age of 40; seven salesmen are between the ages of 45 and 50, and only six are over 50 years of age. If one were to classify as "old" only salesmen with the age of 50 and over, hypothesis 5.2 cannot be tested because only six respondents belong to this group. It is important to recognize the restrictions imposed by the data, since any respondent 40 years of age or older is being classified as "old."

Taking into account the above limitation, Table 10 shows the cross tabulation the level of role strain with age. The computed \( X^2 \) value is equal to 4.43 with 4 degrees of freedom. Compared to the theoretical \( X^2 \) value of 9.49 at the 0.05 level with 4 degrees of freedom, the computed \( X^2 \) does not show a statistically significant relationship between the variables. The same result is revealed by the correlation coefficient between the two variables where \( r = 0.09 \), which is also below the minimum \( r \) for significance at the 0.05 level (i.e., \( r = 0.13 \)). Therefore, we do not reject Hypothesis 5.2 and conclude that there is no relationship between the level of strain experienced by the salesman and his age.
Table 10
Level of Strain and the Age of the Salesman

<table>
<thead>
<tr>
<th>Level of Strain</th>
<th>Age</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 and Under</td>
<td>31-35</td>
<td>36 and Over</td>
<td>Row Totals</td>
</tr>
<tr>
<td>Low 15-29</td>
<td>43 (38.1)%</td>
<td>18 (28.6)%</td>
<td>18 (36.0)%</td>
<td>79 (35.0)%</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>41 (36.3)%</td>
<td>23 (36.5)%</td>
<td>13 (26.0)%</td>
<td>77 (34.1)%</td>
</tr>
<tr>
<td>High 35-75</td>
<td>29 (25.7)%</td>
<td>22 (34.9)%</td>
<td>19 (38.0)%</td>
<td>70 (31.0)%</td>
</tr>
<tr>
<td>Totals</td>
<td>113 (100.0)%</td>
<td>63 (100.0)%</td>
<td>50 (100.0)%</td>
<td>226 (100.0)%</td>
</tr>
</tbody>
</table>

1Numbers between parentheses represent column percentages.
Chi-Square = 4.43
Degrees of Freedom = 4
Not significant at the 0.05 level
Length of Time of the Salesman in His Position: Four measures of this variable were utilized: (1) the number of years as a salesman with present employer, (2) the total number of years with the present employer, (3) the total number of years as a salesman, and (4) the total number of years in the industry. The sample mean and standard deviation of each of these measures are:

- Number of years as a salesman with Sigma: Mean = 4.54, Std. dev.=5.21
- Total number of years with Sigma: Mean = 4.59, Std. dev.=5.22
- Total number of years as a salesman: Mean = 7.80, Std. dev.=6.30
- Total number of years in the industry: Mean = 5.24, Std. dev.=5.65

It is important to note that 41.2 percent of the respondents have been with the company less than two years. This is partly due to an expansion program of Sigma’s sales force in the past two years.

Table 11 presents the correlation between these variables and the level of strain. None of the variables measuring the seniority of the salesman in his position has a statistically significant relationship with the level of role strain. The measure that has the highest correlation coefficient with the role strain variable is the number of years as a salesman ($r = 0.079$); but this is not significant even at the 0.10 level. The fact that the other measures were not significant is explained by their high intercorrelation coefficients.

Table 12 shows each of the four measures of seniority
### Table 11
Correlation Between the Length of Time of the Salesman in His Position and the Level of Strain

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Level of Strain</td>
<td>1.000</td>
<td>0.066</td>
<td>0.068</td>
<td>0.079</td>
<td>0.075</td>
</tr>
<tr>
<td>2 As a salesman with Present employer</td>
<td>1.000</td>
<td>0.996</td>
<td>0.832</td>
<td>0.939</td>
<td></td>
</tr>
<tr>
<td>3 Years with present employer</td>
<td>1.000</td>
<td>0.827</td>
<td>0.942</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Years as a salesman</td>
<td>1.000</td>
<td>0.843</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Years in the industry</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 12
Level of Strain and Length of Time in Present Position

#### 12.A Level of Strain and the Number of Years as a Salesman with Sigma

<table>
<thead>
<tr>
<th>Years as a Salesman with Level of Strain</th>
<th>Less than 2 years</th>
<th>2-5</th>
<th>6 and over</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>38(40.9)¹</td>
<td>18(26.1)</td>
<td>23(35.9)</td>
<td>79(35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>30(32.3)</td>
<td>30(43.5)</td>
<td>17(26.6)</td>
<td>77(34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>25(26.9)</td>
<td>21(30.4)</td>
<td>24(37.5)</td>
<td>70(31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>93(100.0)</td>
<td>69(100.0)</td>
<td>64(100.0)</td>
<td>226(100.0)</td>
</tr>
</tbody>
</table>

¹Numbers between parentheses represent column percentages.
Chi-Square = 6.83
Degrees of Freedom = 4
Not significant at the 0.05 level

#### 12.B Level of Strain and the Number of Years with Sigma

<table>
<thead>
<tr>
<th>No. of years with Level of Strain</th>
<th>Less than 2 years</th>
<th>2-5</th>
<th>6 years and over</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>38(41.8)¹</td>
<td>17(24.3)</td>
<td>24(36.9)</td>
<td>79(35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>29(31.9)</td>
<td>31(44.3)</td>
<td>17(26.2)</td>
<td>77(34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>24(26.4)</td>
<td>22(31.4)</td>
<td>24(36.9)</td>
<td>70(31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>91(100.0)</td>
<td>70(100.0)</td>
<td>65(100.0)</td>
<td>226(100.0)</td>
</tr>
</tbody>
</table>

¹Numbers between parentheses represent column percentages.
Chi-Square = 8.39
Degrees of freedom = 4
Not significant at the 0.05 level
### 12.C Level of Strain and the Number of Years as a Salesman

<table>
<thead>
<tr>
<th>Number of Years as a Salesman of Strain</th>
<th>Less than 4 years</th>
<th>4-9 years</th>
<th>10 years and over</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>27(37.5)</td>
<td>26(32.9)</td>
<td>26(34.7)</td>
<td>79(35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>24(33.3)</td>
<td>33(41.8)</td>
<td>20(26.7)</td>
<td>77(34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>21(29.2)</td>
<td>20(25.3)</td>
<td>29(38.7)</td>
<td>70(31.0)</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>72(100.0)</strong></td>
<td><strong>79(100.0)</strong></td>
<td><strong>75(100.0)</strong></td>
<td><strong>226(100.0)</strong></td>
</tr>
</tbody>
</table>

1 Numbers between parentheses represent column percentages.
Chi-Square = 5.15
Degrees of Freedom = 4
Not significant at the 0.05 level

### 12.D Level of Strain and Number of Years in Industry

<table>
<thead>
<tr>
<th>Number of Years in Level Industry of Strain</th>
<th>Less than 2 years</th>
<th>2-5 years</th>
<th>6 years and over</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>31(45.6)</td>
<td>22(26.2)</td>
<td>26(35.1)</td>
<td>79(35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>18(26.5)</td>
<td>37(44.0)</td>
<td>22(29.7)</td>
<td>77(34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>19(27.9)</td>
<td>25(29.8)</td>
<td>26(35.1)</td>
<td>70(31.0)</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>68(100.0)</strong></td>
<td><strong>84(100.0)</strong></td>
<td><strong>74(100.0)</strong></td>
<td><strong>226(100.0)</strong></td>
</tr>
</tbody>
</table>

1 Numbers between parentheses represent column percentages.
Chi-Square = 8.72
Degrees of Freedom = 4
Not significant at the 0.05 level
cross-tabulated with role strain and the computed $X^2$ values. None of these $X^2$ values showed a statistically significant association of seniority with role strain. Therefore, we do not reject Hypothesis 5.3.

As pointed out above, a large percentage (41.2%) of the respondents have been with the company for less than two years. When these new recruits were taken out of the sample, the correlation coefficient dropped even further (for 149 respondents who have been with the company for two or more years, the correlation coefficient between the number of years as a salesman and level of strain dropped from 0.079 to -0.028).

Based on the above conclusions with regard to the independence of education, age, and seniority, on the one hand, and the level of strain on the other, we do not reject Hypothesis 5.

**Role Strain and Performance**

**Hyp. 6:** There is no relationship between the level of role strain and performance.

Five measures of performance were utilized: the change in sales over the previous year, the market share, the ranking of the salesmen by management, the adjusted sales, and the composite ranking. The description and the derivation of these measures were discussed in the previous chapter. Table 13 shows the correlation matrix of these variables with the level of strain. Three out
Table 13
Correlation Between Performance Measures and Level of Strain

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Strain</td>
<td>1.000</td>
<td>-0.156</td>
<td>-0.054</td>
<td>-0.164</td>
<td>0.055</td>
<td>-0.162</td>
</tr>
<tr>
<td>Change in Sales</td>
<td>1.000</td>
<td>0.263</td>
<td>0.220</td>
<td>-0.178</td>
<td>0.523</td>
<td></td>
</tr>
<tr>
<td>Market Share</td>
<td>1.000</td>
<td>0.385</td>
<td>-0.075</td>
<td>0.689</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Ranking</td>
<td>1.000</td>
<td>0.152</td>
<td>0.709</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted Sales</td>
<td>1.000</td>
<td>0.258</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Composite Ranking</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
of the five performance measures are significant at the .05 level, but not at the 0.01 level. Change in sales has a correlation coefficient with role strain equal to -0.156; the subjective ranking versus role strain has a correlation coefficient equal to -0.164, and the composite ranking with role strain has a correlation coefficient equal to -0.162. Market share and adjusted sales correlated with role strain with an $r = -0.054$ for market share, and $r = 0.055$ for adjusted sales.

Table 14 shows the cross tabulation of the various measures of performance and role strain. The computed $X^2$ value for change in sales and role strain with 8 degrees of freedom is equal to 8.11; the computed $X^2$ for subjective ranking with strain is equal to 7.82 (with 4 degrees of freedom); and the computed $X^2$ value of composite ranking with strain is 8.91 (with 4 degrees of freedom). These are not significant at the 0.05 level, but significant at 0.10 level.

As pointed out in a previous hypothesis, the fact that some of the performance measures were significant at the 0.05 level when the correlation coefficients were used and not significant at that same level when $X^2$ was used is due to the selection of the boundaries and to some loss of information when interval data are used instead of continuous data.

If one accepts performance to be measured by change in sales, subjective ranking, or composite ranking, the
### Table 14

#### Level of Strain and Performance

14. A Level of Strain and Adjusted Sales

<table>
<thead>
<tr>
<th>Level of Strain</th>
<th>Adjusted Sales</th>
<th>0-399</th>
<th>400-599</th>
<th>600 and over</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td></td>
<td>24(25.3)</td>
<td>26(36.6)</td>
<td>29(33.3)</td>
<td>79(35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td></td>
<td>20(29.4)</td>
<td>20(28.2)</td>
<td>37(42.5)</td>
<td>77(34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td></td>
<td>24(35.3)</td>
<td>25(35.2)</td>
<td>21(24.1)</td>
<td>70(31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>68(100.0)</td>
<td>71(100.0)</td>
<td>87(100.0)</td>
<td>226(100.0)</td>
</tr>
</tbody>
</table>

1 Numbers between parentheses represent column percentages.
Chi-Square = 5.24
Degrees of Freedom = 4
Not significant at the 0.05 level.

14. B Level of Strain and Change in Sales

<table>
<thead>
<tr>
<th>Change in Sales</th>
<th>-100 to</th>
<th>-0 to 9</th>
<th>10 to 24</th>
<th>25 to 34</th>
<th>35 &amp; over</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Strain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low 15-29</td>
<td>14</td>
<td>17</td>
<td>14</td>
<td>8</td>
<td>26</td>
<td>79</td>
</tr>
<tr>
<td></td>
<td>(35.9)</td>
<td>(41.5)</td>
<td>(25.5)</td>
<td>(27.6)</td>
<td>(41.9)</td>
<td>(35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>16</td>
<td>11</td>
<td>23</td>
<td>13</td>
<td>20</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>(25.6)</td>
<td>(26.8)</td>
<td>(41.8)</td>
<td>(44.8)</td>
<td>(32.2)</td>
<td>(34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>15</td>
<td>13</td>
<td>18</td>
<td>8</td>
<td>16</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>(38.5)</td>
<td>(31.7)</td>
<td>(32.7)</td>
<td>(27.6)</td>
<td>(25.8)</td>
<td>(31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>39</td>
<td>41</td>
<td>55</td>
<td>29</td>
<td>62</td>
<td>226</td>
</tr>
</tbody>
</table>

1 Numbers between parentheses represent percentages.
Chi-Square = 8.11
Degrees of Freedom = 8
Not significant at the 0.05 level
14.C Level of Strain and Market Share

<table>
<thead>
<tr>
<th>Market Share Level of Strain</th>
<th>Low</th>
<th>Low/ Med.</th>
<th>Med</th>
<th>Med./ High</th>
<th>High</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>14</td>
<td>17</td>
<td>14</td>
<td>8</td>
<td>26</td>
<td>79</td>
</tr>
<tr>
<td>15-29</td>
<td>(35.9)(^1)</td>
<td>(41.5)</td>
<td>(25.5)</td>
<td>(27.6)</td>
<td>(41.9)</td>
<td>(35.0)</td>
</tr>
<tr>
<td>Medium</td>
<td>10</td>
<td>11</td>
<td>23</td>
<td>13</td>
<td>20</td>
<td>77</td>
</tr>
<tr>
<td>30-34</td>
<td>(25.6)</td>
<td>(26.8)</td>
<td>(41.8)</td>
<td>(44.8)</td>
<td>(32.3)</td>
<td>(34.1)</td>
</tr>
<tr>
<td>High</td>
<td>15</td>
<td>13</td>
<td>18</td>
<td>8</td>
<td>16</td>
<td>70</td>
</tr>
<tr>
<td>35-75</td>
<td>(38.5)</td>
<td>(31.7)</td>
<td>(32.7)</td>
<td>(27.6)</td>
<td>(25.8)</td>
<td>(31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>39</td>
<td>41</td>
<td>55</td>
<td>29</td>
<td>62</td>
<td>226</td>
</tr>
<tr>
<td></td>
<td>(100.0)</td>
<td>(100.0)</td>
<td>(100.0)</td>
<td>(100.0)</td>
<td>(100.0)</td>
<td>(100.0)</td>
</tr>
</tbody>
</table>

\(^1\)Numbers between parentheses represent column percentages.
Chi-Square = 8.11
Degrees of freedom = 8
Not significant at the .05 level

14.D Level of Strain and Subjective Ranking

<table>
<thead>
<tr>
<th>Change in Sales</th>
<th>1-2</th>
<th>3-4</th>
<th>5-6</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Strain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-29</td>
<td>21(25.9)(^1)</td>
<td>39(41.5)</td>
<td>19(37.3)</td>
<td>79(35.0)</td>
</tr>
<tr>
<td>Medium</td>
<td>28(34.6)</td>
<td>34(36.2)</td>
<td>15(29.4)</td>
<td>77(34.1)</td>
</tr>
<tr>
<td>30-34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>32(39.5)</td>
<td>21(22.3)</td>
<td>17(33.3)</td>
<td>70(31.0)</td>
</tr>
<tr>
<td>35-75</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>81(100.0)</td>
<td>94(100.0)</td>
<td>51(100.0)</td>
<td>226(100.0)</td>
</tr>
</tbody>
</table>

\(^1\)Numbers between parentheses represent column percentages.
Chi-Square = 7.82
Degrees of freedom = 4
Not significant at the 0.05 level

(Performance for tables 14B and 14C was measured by 5 intervals.)
### Level of Strain and Composite Ranking

<table>
<thead>
<tr>
<th>Composite Ranking Level of Strain</th>
<th>4-11</th>
<th>12-15</th>
<th>16-24</th>
<th>Row Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low 15-29</td>
<td>17(25.4)&lt;sup&gt;1&lt;/sup&gt;</td>
<td>33(38.8)</td>
<td>29(39.2)</td>
<td>79(35.0)</td>
</tr>
<tr>
<td>Medium 30-34</td>
<td>20(29.9)</td>
<td>30(35.3)</td>
<td>27(36.5)</td>
<td>77(34.1)</td>
</tr>
<tr>
<td>High 35-75</td>
<td>30(44.8)</td>
<td>22(25.9)</td>
<td>18(24.3)</td>
<td>70(31.0)</td>
</tr>
<tr>
<td>Totals</td>
<td>67(100.0)</td>
<td>85(100.0)</td>
<td>74(100.0)</td>
<td>226(100.0)</td>
</tr>
</tbody>
</table>

<sup>1</sup>Numbers between parentheses represent column percentages.

Chi-Square = 8.91

Degrees of freedom = 4

Not significant at the 0.05 level
null hypothesis that there is no relationship between the level of strain and performance would be rejected; and that the relationship is negative and significant at the 0.05 level. If one uses the other measures of performance (i.e., market share or adjusted sales), the null hypothesis is not rejected.

Table 15 states the hypotheses in their original form and presents the summary of the findings.
Table 15
Summary of Findings
(Hypotheses stated in their original form)

<table>
<thead>
<tr>
<th>Hypotheses:</th>
<th>Reject</th>
<th>Accept</th>
<th>Level of Acceptance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship between:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Strain &amp; Diversity of Role Senders</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Strain &amp; Self Esteem</td>
<td></td>
<td>X</td>
<td>.01</td>
</tr>
<tr>
<td>Role Strain &amp; Conformity</td>
<td></td>
<td>X</td>
<td>.01</td>
</tr>
<tr>
<td>Role Strain &amp; Sociability</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Strain &amp; Education</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Role Strain &amp; Age</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role Strain &amp; Seniority</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Role Strain &amp; Performance as measured by:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted Sales</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in Sales</td>
<td></td>
<td>X</td>
<td>.05</td>
</tr>
<tr>
<td>Market Share</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Ranking</td>
<td></td>
<td>X</td>
<td>.05</td>
</tr>
<tr>
<td>Composite Ranking</td>
<td></td>
<td>X</td>
<td>.05</td>
</tr>
</tbody>
</table>
CHAPTER V
SUMMARY AND CONCLUSIONS

This final chapter provides a concluding perspective of the study. First, major aspects of the study are reviewed. Second, the research findings are presented in summary form. Third, some speculations about the theoretical as well as the managerial implications of the study are made. Finally, a number of suggestions for future research in this area are proposed.

Review of Major Aspects of Study

As set forth in Chapter I, the purpose of this study was to explore: (1) the relationship between the role strain perceived by the outside salesman and the diversity of his role relationships, (2) the relationships between role strain and certain personality characteristics of the salesman, (3) the relationship between role strain and certain demographic attributes of the salesman, and (4) the effect of role strain on the salesman's performance. A comprehensive literature review, in Chapter II, disclosed relevant concepts from role theory and other related investigations that could be used
for the analysis of the role strain experienced by the salesman. Based on these concepts, the following hypotheses were formulated:

**Hyp. 1:** There is a direct relationship between the level of strain experienced by the salesman and the diversity of his role senders; the larger the number of role senders, the higher the level of strain.

**Hyp. 2:** There is an inverse relationship between the level of strain experienced by the salesman and his level of self-esteem; the lower the self-esteem, the higher the level of strain.

**Hyp. 3:** There is a direct relationship between the level of strain experienced by the salesman and his level of conformity; the higher the conformity, the higher the level of strain.

**Hyp. 4:** There is an inverse relationship between the level of strain experienced by the salesman and his degree of sociability; the higher the sociability, the lower the level of strain.

**Hyp. 5:** The level of strain experienced by the salesman is related to certain demographic variables.
5.1 The higher the education of the salesman, the higher the level of strain.

5.2 The older the salesman, the lower the level of strain.

5.3 The greater the length of time of the salesman in his position, the lower the level of strain.

**Hyp. 6:** There is an inverse relationship between performance and the level of strain experienced by the salesman; the higher the level of strain, the lower the performance.

The data upon which this empirical research was based were gathered from a large firm manufacturing and marketing pharmaceutical and health products. The sample consisted of 300 salesmen comprising the total salesforce of the company. Respondents were requested to fill out a one-hour questionnaire pertaining to their perceived level of role strain and selected personality and demographic characteristics. Following an audit of the 275 completed questionnaires, 226 responses were found to be usable. Data relating to the number of role senders and performance were obtained from company records. The methodology and the measuring instruments used to test the above hypotheses were presented in Chapter III. Contingency analysis and correlation analysis were the
primary statistical methods used for purposes of this research.

Summary of Research Findings

The data were analyzed in Chapter IV where the hypotheses were restated in the null form. Prior to the data analysis, the role strain and personality scales were tested for their reliability. With regard to the role strain scale, the overall reliability coefficient as measured by the Kuder-Richardson formula was equal to 0.847. As to the reliability of the personality scales, the modified split half method gave the following coefficients: (1) Conformity $r = 0.787$, (2) Self-esteem $r = 0.717$, and (3) Sociability $r = 0.774$. The principal results of the study are summarized as follows:

1) The level of role strain was not found to be significantly related to the diversity of role senders.

2) A statistically significant ($p < .01$) inverse relationship was found to exist between the level of role strain experienced by the salesman and his level of self-esteem.

3) A statistically significant ($p < .01$) direct relationship was found to exist between the level of role strain experienced by the salesman and his level of conformity.
4) The level of role strain experienced by the salesman was not found to be significantly related to his level of sociability.

5) The level of role strain experienced by the salesman was not found to be significantly related to the demographic attributes of education, age, or the length of time he has been in his position.

6) An inverse relationship between the performance of the salesman and his level of role strain was found to be statistically significant at the 0.05 level, when performance was measured in terms of change in sales, subjective ranking, and composite ranking. But this relationship was not significant when performance was measured in terms of adjusted sales or market share.

**Theoretical and Managerial Implications**

As discussed in Chapters I and II, the boundary position of the salesman and the inherent strain in such positions has been suggested by a number of theorists and researchers. This research constitutes an attempt to integrate a number of concepts from the social and behavioral sciences into the analysis of the role of the salesman. Due to the limited scope of the study,
one has to be careful in generalizing from the above findings. It is imperative to put into perspective the particular type of selling involved as well as the limitations that were outlined in Chapter III.

Role Strain and Number of Role Senders

One of the problems faced by many sales managers is the allocation of territories to salesmen. The question often asked is: how many customers can a salesman handle effectively? In answering this question, the general tendency has been to consider the product's characteristics, the company's overall marketing strategy, the competitive conditions and a variety of other criteria, depending on the degree of management sophistication. Little consideration, if any, has been given to the relationship between the number of customers and the strain of the salesman in performing his role.

In the case of pharmaceutical salesmen, the number of doctors and hospitals assigned to a particular salesman were not found to have any relationship with the salesman's experience of role strain. This lack of relationship may be attributed to the following factors:

1) Expectations held by doctors and hospital personnel for pharmaceutical salesmen may be relatively congruent.
2) Unlike conventional selling where the salesman generally asks each of his prospects an immediate decision that involves a monetary transaction, the pharmaceutical salesman is providing his prospect (the doctor) with information that the latter needs. The encounter between the salesman and the doctor does not require an immediate decision or a monetary commitment. Hence, the doctor is most likely to be more receptive and less resistant to the salesman's story.

3) In a study on industrial purchasing behavior, Levitt found that "the better a company's reputation, the better are its chances (1) of getting a favorable first hearing for a new product among customer prospects, and (2) of getting early adoption of that product."\(^1\) It may be that, due to the excellent reputation enjoyed by Sigma in the medical profession, Sigma's salesmen are getting a "favorable hearing" from doctors and hospital personnel.

\(^1\)Theodore Levitt, *Industrial Purchasing Behavior, A Study of Communications Effects* (Boston, Mass.: Harvard University, Graduate School of Business Administration, 1965), p. 25.
This research suggests that pharmaceutical salesmen who belong to a company which has a good reputation in medical circles are not susceptible to experiencing a higher level of role strain if they are assigned a larger number of doctors and hospitals to contact.

Role Strain and Personality Characteristics

The use of personality tests as a criterion for selecting salesmen is one of the controversial issues in the salesmanship literature. In an effort to determine the most desirable personality characteristics for a salesman, a number of studies were cited in Chapter I that have attempted, with mixed results, to relate certain characteristics to selling performance.

This research explored the relationship between role strain and selected personality characteristics (i.e., self-esteem, conformity and sociability). The hypothesized relationships between role strain and self-esteem as well as between role strain and conformity were found to be statistically significant. The lack of a significant relationship between role strain and sociability may be explained by (1) the nature of the congruent and somewhat determined expectations held by doctors and hospital personnel for the pharmaceutical salesmen (e.g., when the salesman knows what is expected of him, he is likely to be prepared to meet those expectations and does not
necessarily have to be sociable to get their cooperation to do so), and (2) the marked difference between the salesman's status and that of doctors. As a consequence, their discussions are limited in time (5 to 20 minutes) and in substance (sales pitch). While it may be safe to generalize about the findings related to self-esteem and conformity, further research in other settings is necessary before concluding that the level of sociability has no effect on the salesman's experience of role strain.

**Role Strain and Demographic Attributes**

Knowing the relationship between these variables and the level of role strain can be instrumental in the selection of salesmen. As pointed out in the theory chapter, the hypotheses related to demographic variables (i.e., age, education and seniority) were based on previous empirical research. This study suggests that there is no relationship between demographic attributes and the level of strain. Such a finding is beneficial since companies that want to control the level of strain among their salesmen should reduce their concern regarding the demographic characteristics of their new recruits.

**Role Strain and Performance**

A very important aspect of this research is the determination of the relationship between the level of
role strain and the salesman's performance. Despite the conflicting results due to the inconsistent measures of performance used, it may be concluded that the findings tend to support the hypothesized relationship between the two variables since three out of the five performance measures used were significantly related to the level of strain.

**Conclusions and Recommendations for Future Research**

Out of the potential causes and effects of the level of role strain, a selected number of variables were considered. This research achieved its objective with limited success due to (1) the relatively limited number of variables considered, (2) the special type of selling considered, and (3) the methodological limitations. Three variables were found to be related to the level of strain (i.e., self-esteem, conformity, and performance). The low correlation coefficients suggest that one has to be careful in generalizing on these positive findings; however, further research in this area seems to be highly warranted. The following is a list of possible orientations for future research:
1) Longitudinal studies on the level of strain experienced by the salesman: This would consist of measuring the level of strain at different time intervals in order to analyze the variations in the levels of strain in terms of the variations of selected relevant variables and to determine the effect of role strain on salesmen's turnover. This design would permit the use of dynamic correlation and cross lagged correlation to determine the causal relationships between the variables. Such a study would require the researcher to maintain close ties with the company and its sales force for an extended period of time (two to three years).

2) Studies of role strain in a laboratory setting: This would complement field studies in that laboratory studies would also provide the means by which causal relationships between the variables could be determined.

3) Studies that relate role strain to other variables not considered in this research: Such variables would include: (1) other personality characteristics, (2) factors related to the task environment such that the organizational arrangements,
the competitive conditions, and a more systematic consideration of the attitudes of buyers toward the employing company and its products.

4) The inclusion of intervening variables: A possible orientation would be to take the personality characteristics of the salesman, and to analyze their experience of role strain under varying conditions (e.g., under varying competitive conditions, under different compensation schemes, or under varying levels of authority and responsibility assigned to the salesman).

5) A replication of this study in another industry where there is an uncongruency of expectations among the various customers: Such a study would shed additional light on the possibilities of generalizing the findings of this research. An excellent example would be to take the case where the salesman's prospect has to make immediate purchase decisions and where monetary transactions are involved.

6) Role Strain, Role Senders and Performance: A variation of this study would be an in-depth analysis of the relationship between role strain,
the diversity of role senders and performance. The number of role senders would be measured in terms of: (1) the total number of people with whom the salesman interacts, (2) the number of accounts included in his territory, (3) the number of "Decision Making Units" that he has to consider, and (4) the number of different products that are handled by the salesman. Although this study would be limited in scope (only three variables), it requires the design of various instruments necessary for an objective measure of the variables involved.

7) A comparative study of the level of strain experienced by the salesman in two different industries: A useful setting for such a study might be two distinct divisions of the same company where the basic policies of the two divisions do not vary. This would allow the analysis of strain in different industries with the control of a large number of variables. A similar study can be conducted in two or more companies in the same industry for the purpose of isolating the effect of organizational variables on the level of strain.
APPENDIX A

Questionnaire Items
Dear Salesman:

I am a doctoral student in Marketing at The Ohio State University, Columbus, Ohio. I have finished all the course requirements, and I am presently working on my dissertation, under the supervision of Dr. Louis W. Stern.

Among the different areas of marketing, salesmanship is of special interest to me; for that reason, my dissertation deals with salesmen in different industries.

Sigma is one of a number of companies that have allowed me to interview their salesmen. I am inviting you to participate in this research. I expect that the results of this research will provide different industries with a better appreciation of the salesman's problems and insights into how to create a better environment for the performance of sales functions.

The questionnaire was designed in a way that makes it adaptable to all salesmen, regardless of the nature of their selling activities. Each of the questions was carefully considered and each of them is vital to the study. It is important that you respond to all of them. Your replies will be held in strict confidence. No data on a particular person or a particular company will be identified. Please complete the questionnaire, seal it in the enclosed envelope, and return it.

I sincerely hope you will accept my invitation to participate in the study. Thank you in advance for your help.

Sincerely yours,

Mahmoud Triki
Research Associate
Profiles of Salesmen Across Industries

PART A

All of us occasionally feel bothered by certain kinds of things in our work. The following is a list of 15 statements related to things that sometimes bother people. Applying the scale below to each of the statements, please indicate in the space facing each statement how frequently you feel bothered by each of them.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Never</td>
<td>Rarely</td>
<td>Sometimes</td>
<td>Rather</td>
<td>Nearly</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Often</td>
<td>all the time</td>
</tr>
</tbody>
</table>

1) Feeling that you have too little authority to carry out the responsibilities assigned to you

2) Being unclear on just what the scope and responsibilities of your job are

3) Not knowing what opportunities for advancement or promotion exist for you

4) Feeling that you have too heavy a work load, one that you can't possibly finish during an ordinary workday

5) Thinking that you'll not be able to satisfy the conflicting demands of various people over you

6) Feeling that you're not fully qualified to handle your job

7) Not knowing what your supervisor thinks of you, how he evaluates your performance

8) The fact that you can't get information needed to carry out your job

9) Having to decide things that affect the lives of individuals, people that you know

10) Feeling that you may not be liked and accepted by the people you work with

11) Feeling unable to influence your immediate supervisor's decisions and actions that affect you

12) Not knowing just what the people you work with expect of you

13) Thinking that the amount of work you have to do may interfere with how well it gets done

14) Feeling that you have to do things on the job that are against your better judgment

15) Feeling that your job tends to interfere with your family life

PART B

On the following pages you will find a series of statements which a person might use to describe himself. Read each statement and decide whether or not it describes you. Then indicate your answer on the separate answer sheet.

If you agree with a statement or decide that it does describe you, answer TRUE. If you disagree with a statement or feel that it is not descriptive of you, answer FALSE.

In marking your answers on the answer sheet, be sure that the number of the statement you have just read is the same number on the answer sheet.

Answer every statement either true or false, even if you are not completely sure of your answer.
Please use this sheet to respond to the statements included in part B.

**Directions:** The answer boxes below are numbered the same as the statements included in section B. Answer each statement by placing an X in either the true (T) or the false (F) box as shown in the example.

**EXAMPLE**


**BEGIN HERE**

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 |
| T | F | T | F | T | F | T | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |

| 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 |
| T | F | T | F | T | F | F | F | T | T | T | F | T | T | F | T | F | F | T | T | T | T | F | F | T | T | F | F | T | F | T |
1. I am a calm, easy-going type of person.
2. I would like to learn about the geography of foreign countries.
3. If an artist is painting scenery, he should make his picture as accurate as possible.
4. I am very sensitive to what other people think of me.
5. Some days I am just too tired to do anything.
6. I prefer work which requires original thinking.
7. I prefer not to spend a lot of time worrying about a person whose condition can't be helped.
8. I often have a task finished sooner than necessary.
9. If I had a cold, it would not bother me to mix with other people.
10. When I want something, I'll sometimes go out on a limb to get it.
11. I make a better follower than a leader.
12. I often pretend to enjoy things which I dislike when it suits my purpose.
13. I only telephone friends when there is something important to discuss.
15. A person should be allowed to take his own life if the circumstances justify it.
16. Of the people I know, I like some better than others.
17. When I am waiting for anything, I usually get very anxious.
18. I have only one or two real hobbies.
19. Extremely simple problems bore me.
20. I can't be bothered trying to find out what others think of me.
21. I was a very active child.
22. I would dislike having to think of new toys and games for children.
23. I would feel discouraged and unhappy if someone I know lost his job.
24. Little things usually slip my mind.
25. I contribute to charity regularly.
26. I probably would not take the chance of borrowing money for a business deal even if it might be profitable.
27. I am usually quite confident when learning a new game or sport.
28. I don't change the way I act just to satisfy the person with whom I am dealing.
29. My life would be miserable if I didn't know a lot of people.
30. I think that people who readily change their beliefs just have no backbone.
31. Some of the current fashions for women are too indecent to be worn in public.
32. My musical compositions have been played in concert halls around the world.
33. Something has to be very important before I worry much about it.
34. Almost every section of the newspapers has something in it which interests me.
35. I like people who are stable and easy to understand.
36. In most situations, I usually agree with the opinions of the group.
37. Sometimes I can't even find the energy to think.
38. I am always seeking new ways to look at things.
39. I don't really care if my friends follow my advice or not.
40. I prefer to complete a task before resting, rather than taking a "break" in the middle.
41. I am too busy to find time to help needy people.
42. I would enjoy bluffing my way into an exclusive club or private party.
43. I have never been a very popular person.
44. I hold my personal feelings in check if they might interfere with my getting what I want from someone.
45. It wouldn't bother me to go for days without seeing another person.
46. I rarely decide that I don't like someone after only one or two meetings with him.
47. I often reject the beliefs that older people expect me to have.
48. I have had at least one cold in my life.
49. I get worried when I am expecting someone and he does not arrive on time.
50. I am not interested in trying to keep up with recent developments in science.
51. I enjoy involved discussions, even those that last for hours.
52. When I want to purchase something, I rarely consider other people's opinion of it.
53. I usually have several projects going at once.
54. I might be at a loss if I had to design a new book cover.
55. I am very sensitive to the moods of my friends so that I can almost feel what they are feeling.
56. I sometimes have trouble finding things when I need them.
57. If I accidentally scratched a parked car, I would try to find the owner to pay for the repairs.
58. If I invested any money in stocks, it would probably only be in safe stocks from large, well-known companies.
59. I rarely feel self-conscious in a strange group.
60. I would never try to appear less informed than I actually was about any topic.
61. I enjoy group activities more than things I do by myself.
62. I think it is best for a man to choose friends who agree with his general principles.
63. My values might seem a little old-fashioned by modern standards.
64. I have sometimes hesitated before making a decision.
65. People have told me that I have very steady nerves.
66. I usually look at a wide variety of different magazines each month.
67. Most things are quite simple once you get to know about them.
68. Before making a decision, I often worry whether others will approve of it.
69. I have no more than an average amount of energy.
70. Original ideas have occurred to me at almost any time of the day or night.
71. I try to keep my feelings toward people rather neutral.
72. It is unusual for me to fall behind in my work.
73. Sometimes it is too troublesome to do exactly what I promised I would do.
74. If the possible reward was very high, I would not hesitate putting my money into a new business that could fail.
75. I am not the type of person one remembers after one meeting.
76. I feel that I have a knack for getting the most out of people.
77. I like working where I won't be bothered by others.
78. I like to get to know a person well before judging him.
79. People should be allowed to take certain drugs if they enjoy it and harm no one else.
80. I have sight in only one eye.
81. Occasionally I feel so nervous that I begin to get all choked up.
82. I prefer activities which I know I will enjoy to ones I have never tried.
83. Modern music is too varied that there is something for each different mood I have.
84. I believe in speaking my mind, even if it offends others.
85. I avoid spending my time just sitting around resting.
86. I do not have an especially vivid imagination.
87. I would like to spend a great deal of my time helping less fortunate people.
88. I prefer starting a new task without detailed plans.
89. Under no circumstances would I give incorrect testimony or evidence in court.
90. When in school, I really took the chance of bluffing my way through an assignment.
91. It is easy for me to strike up a conversation with someone.
92. I would not enjoy a job where I might have to be nice to people I did not like.
93. I dislike eating alone.
94. I find that I get along best with people of my own nationality.
95. Cheating and lying are always wrong, no matter what the situation.
96. I have no sense of taste at all.
97. I rarely dwell on past mistakes.
98. I maintain a lively interest in reading books on several different topics.
99. I prefer dealing with problems which have clear-cut solutions.
100. It makes me feel uncomfortable to be dressed differently from those around me.
101. I don't have the necessary stamina to participate in long, involved discussions.
102. I enjoy thinking of original plans on which to work.
103. I think I could keep myself from worrying if a friend became ill.
104. My time is too valuable to be wasted unnecessarily.
105. I think it would be challenging to try to smuggle a small item into the country.
106. People have told me that I seem to enjoy taking chances.
107. I am ill at ease when I am meeting new people.
108. I enjoy trying to get people to do things without letting them know I'm doing it.
109. I don't particularly like to be surrounded by a group of noisy people.
110. I pay little attention to people who behave in an unusual way.
111. The discoveries of science may someday show that many of our most cherished beliefs are wrong.
112. I have kept a pet monkey for years.
113. I frequently worry about whether I am doing my work well.
114. I could never become interested in the strange hobbies that some people have.
115. I prefer drawings that require some study in order to be understood.
116. I do not worry about what I say when out socially.
117. I lead a busier life than most people.
118. I obtain more satisfaction from mastering a skill than coming up with a new idea.
119. I am often very sentimental where my friends are concerned.
120. I can't be bothered making lists of all the things I have to do.
121. If the conductor on a train forgot to take my ticket, I would tell him.
122. Skin diving in the ocean would be much too dangerous for me.
123. I am seldom at a loss for words.
124. When I want another person to do something for me, I usually ask him directly, rather than proceed by indirect means.
125. When travelling alone, I enjoy engaging in conversation with strangers.
126. Some people are just too narrow-minded to listen to the right way to live.
127. Our censorship laws have proven to be for our own good.
128. In my lifetime, I have eaten at least one meal in a restaurant.
129. I usually solve any problems I may have and then forget them.
130. There are very few topics that bore me.
131. I like simple, clear art the best.
132. I often wonder why some people get pleasure out of doing unconventional things.
133. Some nights I don't even have the ambition to read the newspaper.
134. People often ask me for help in creative activities.
135. I don't waste my sympathy on people who have caused their own problems.
136. I think a high degree of organization is important in anyone's life.
137. If people choose to drink and drive, it is their own business.
138. The thought of investing in stocks excites me.
139. My behavior would be quite awkward if I had to apply for a loan from a bank.
140. I have developed a talent for getting people to talk about themselves.
141. I like spare time activities which allow me to get away from people.
142. I find it refreshing to discuss my views with someone who strongly disagrees with me.
143. People who will never get well should have the choice of being put to death painlessly.
144. Some things don't turn out exactly as I plan them.
145. I become upset when something interferes with my schedule.
146. I prefer activities which are familiar to me.
147. I enjoy trying to figure out what a poet was trying to say in his poem.
148. I am not concerned about how many friends I have.
149. I enjoy all kinds of vigorous hobbies.
150. I don't really think of myself as a creative person.
151. I am quite affectionate toward people.
152. I do not need a neat desk in order to work well.
153. I am very careful not to litter public places.
154. I rarely, if ever, take risks when there is another alternative.
155. I am considered a leader in my social circle.
156. I would never do a favor for someone just to get something I wanted in return.
157. I get lonely when I am left by myself.
158. I consider good table manners an important quality in my dinner guests.
159. If I had to choose, I would prefer to live my life according to traditional values rather than the principles of science.
160. I have won trophies in professional golf tournaments.
161. I am not a "high-strung" person.
162. I enjoy listening to speeches on a wide variety of topics.
163. I try to make everything as simple and easy as I can.
164. My actions are governed by the way people expect me to behave.
165. If the working day were cut in half, I might be able to get through it without becoming exhausted.
166. I often surprise people with my novel ideas.
167. I have no patience with someone who is just looking for a shoulder to cry on.
168. Before I start a task, I like to determine the most efficient way of doing it.
169. If I could get away with it, I would not pay taxes.
170. I enjoy taking risks.
171. I often wish that I were more outgoing.
172. Without really trying, I find that I can stop people from arguing.
173. I would prefer a quiet evening at home to attending a social event.
174. If people continue to speak their native language after they have moved to this country, it is no concern of mine.
175. Married people who no longer love each other should be given a divorce.
176. I run five miles every day to keep healthy.
177. Once in a while my stomach feels as if it were tied in knots.
178. I would not care to see a motion picture about the life of the other.
179. The reasons that people do things are usually complex.
180. I seldom concern myself with how other people dress.
181. I am rarely too tired to read.
182. I don't usually contribute many new ideas to a project.
183. I tend to get strongly attached to people.
184. I like to keep my work organized loosely, so that I am not tied down by elaborate plans.
185. I would not even be tempted to collect unemployment insurance when I could be working.
186. I would prefer a stable position with a moderate salary to one with a higher salary but less security.
187. I enjoy stating my opinions in front of a group.
188. I never try to guide the conversation toward certain topics.
189. I would rather telephone a friend than read a magazine in my spare time.
190. I can tell as soon as I meet someone whether I will like him or not.
191. Young people would have fewer problems if they listened to their parents more.
192. I eat imported cheeses with all my meals.
193. I don't worry very much about the future.
194. I would enjoy hearing the details about discoveries in any field.
195. I admire people who take a simple, uncomplicated view of life.
196. It causes me a great deal of worry if I think that someone doesn't approve of something I have done.
197. I am not an energetic person.
198. I often try to invest new uses for everyday objects.
199. I rarely get upset when someone else makes a fool of himself.
200. I do not like to leave things until the last possible moment.
201. I see no need for belonging to service clubs or community organizations.
202. Taking risks does not bother me if the gains involved are high.
203. I seem to do more listening than talking in conversations with others.
204. I sometimes play various roles so that I appear in the best possible way to different people.
205. I am not interested in knowing a great many people.
206. Many of my friends have quite different political views.
207. People should be able to refuse to fight for their country without the fear of punishment.
208. I can eat most foods without feeling ill.
209. Once in a while, I get very upset about things that have happened in the past.
210. So many speeches are about things which are not important to me.
211. I always feel that I must look into all sides of a problem.
212. I do what I please, not what others say I should do.
213. I like to be constantly active.
214. I like a job which demands skill and practice rather than inventiveness.
215. I tend to get quite involved in other people's problems.
216. I sometimes start to write letters without finishing them.
217. Everyone should spend a part of his leisure time working on community projects.
218. I consider security an important element in every aspect of my life.
219. People seem to be interested in getting to know me better.
220. It is difficult for me to be polite to someone I do not respect.
221. I like to meet as many new people as I can.
222. I can put up with certain types of people for only short periods of time.
223. People today don't have enough respect for authority.
224. I have made several trips overseas to study old ruins and rock formations.
225. I am not a very excitable person.
226. I would find almost any type of music enjoyable.
227. I don't waste time thinking about problems that can't be solved.
228. I am very concerned about my popularity.
229. Sometimes feel as if I could sleep for a week.
230. I would enjoy the chance to make up plots for television programs.
231. I never get too upset about other people's misfortunes.
232. I seldom misplace things.
233. I collect souvenirs such as towels or glasses from hotels and restaurants I visit.
234. I would enjoy the challenge of a project that could mean either a promotion or loss of a job.
235. I like to remain unnoticed when others are around.
236. I talk about things I might need from a person in terms of his own desires and preferences.
237. I find it very relaxing to travel by myself.
238. I enjoy being with all kinds of people, even those whose habits may seem unusual.
239. The legal drinking age should be lowered.
240. I do some things better than others.
241. Sometimes I get upset about financial matters.
242. I rarely attend cultural events.
243. Usually I read several books at the same time.
244. I refuse to behave like everyone else just to please people.
245. I don't like to stay in bed very long when I am sick.
246. I seldom bother to think of original ways of doing a task.
247. When I talk about someone I like very much, I have a very hard time hiding my feelings.
248. I don't feel it is important to make good use of every minute in the day.
249. I think that the penalty for not paying traffic fines should be severe.
250. I try to avoid situations that have uncertain outcomes.
251. I usually try to add a little zest to a party.
252. Flattery has never been much help to me in getting people to do things.
253. I spend a great deal of my spare time with other people.
254. Some people have such foolish beliefs that I find it hard to understand how they can accept them.
255. No one has the right to take his own life.
256. I believe there are some jobs which I would not enjoy doing.
257. I seem to worry about things less than other people do.
258. I am keenly interested in all kinds of current events.
259. The most useful political principles are those that are easy to understand.
260. I try to act in such a way that others will accept me.
261. I do not feel that I have to keep constantly on the move.
262. I like to experiment with various ways of doing the same thing.
263. I try to keep out of other people's problems.
264. I am very regular in my habits.
265. Sometimes the only way to get waited on in a store is to push through to the head of the line.
266. I think I would enjoy almost any type of gambling.
267. I have trouble expressing my opinion.
268. Sometimes by agreeing with a person, I can gradually get him around to my way of thinking.
269. I don't need the company of others to be happy.
270. A person's social class makes no difference to me.
271. I think that religious institutions should pay taxes on their property just like everyone else.
272. I can walk a few blocks without getting too tired.
273. I often think about the possibility of an accident.
274. I would have only a slight interest in touring an art museum.
275. I enjoy the challenge of reading a complicated novel.
276. Generally, I don’t concern myself with what other people think of my beliefs.
277. I can easily work on several tasks without becoming tired.
278. I wouldn’t know where to begin if I had to design a boat.
279. I usually feel very sad when a movie has an unhappy ending.
280. When people visit me unexpectedly, I usually have to apologize for my state of disorder.
281. I would never hunt or fish out of season.
282. I would participate only in business undertakings that are relatively certain.
283. I am able to talk intelligently to people in a wide variety of occupations.
284. I often find it difficult to guess the mood of another person.
285. Rather than spend an evening by myself, I would invite a neighbor in to talk.
286. If I don’t like a person’s looks, I rarely make an effort to get to know him.
287. It is wrong to spend money on things you can’t afford.
288. Everyone in my family has the same birthday.
289. I seldom get “butterflies” in my stomach.
290. I am very interested in politics.
291. I think of myself as a straightforward, uncomplicated person.
292. I try to change things about myself that other people dislike.
293. I would be more efficient, if I didn’t tire so easily.
294. I hope to develop a new technique in my field of work.
295. I am not a very emotional person.
296. I become annoyed with people who are disorganized.
297. I see nothing wrong with having a traffic ticket “fixed.”
299. I prefer to go to social functions with a group of people so as not to stand out.
300. Since most people have their private dream world, you must understand this to deal with them effectively.
301. Generally, I prefer to be by myself.
302. I enjoy working with people who use different methods of organization than I do.
303. People respect tradition more than necessary.
304. All jokes seem pointless to me.
305. I sometimes feel jittery.
306. I can’t be bothered finding out about things that may never be of any use to me.
307. A musical theme with unusual features is more interesting than a simple one.
308. What the general public thinks does not affect my standards of beliefs.
309. I don’t need a lot of sleep to keep up my energy.
310. I usually continue doing a new job in exactly the way it was taught to me.
311. I get embarrassed for a speaker who makes a mistake.
312. I am in such a rush in the morning that I often forget to do something.
313. If I were called for jury duty, I would serve without hesitation no matter how inconvenient it might be for me.
314. I rarely make even small bets.
315. I find it easy to introduce people.
316. I see no useful purpose in pretending to like things that I really do not.
317. At a social event, I like to get around and talk to all the guests.
318. Some political groups are so unprincipled that they should be outlawed.
319. Many people are too hasty in trying to change our laws.
320. I usually sleep at least four hours every night.
PART C

1. How long have you been a salesman for your present employer? _____ years

2. How long have you been working for your present employer? _____ years

3. In total how many years have you worked as a salesman (with this employer as well as other employers)? _____ years

4. How many years have you worked in this industry (with this employer as well as with other employers in the same industry)? _____ years

5. What is your educational level?
   — less than 2 years high school
   — 2 years high school
   — High school degree
   — 2 Years College
   — Undergraduate degree
   — Some graduate education

6. Which age group do you belong to?
   — 25 or under
   — 26-30
   — 31-35
   — 36-40
   — 41-45
   — 46-50
   — Over 50
APPENDIX B

Personality Scales

(Individual Items of Self-Esteem, Conformity, Sociability and Infrequency)
<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am usually quite confident when learning a new game or sport.</td>
<td>I make a better follower than a leader.</td>
</tr>
<tr>
<td>I rarely feel self-conscious in a strange group.</td>
<td>I have never been a very popular person.</td>
</tr>
<tr>
<td>It is easy for me to strike up a conversation with someone.</td>
<td>I am not the type of person one remembers after one meeting.</td>
</tr>
<tr>
<td>I am seldom at a loss for words.</td>
<td>I am ill at ease when I am meeting new people.</td>
</tr>
<tr>
<td>I am considered a leader in my social circle.</td>
<td>My behavior would be quite awkward if I had to apply for a loan from a bank.</td>
</tr>
<tr>
<td>I enjoy stating my opinions in front of a group.</td>
<td>I often wish that I were more outgoing.</td>
</tr>
<tr>
<td>People seem to be interested in getting to know me better.</td>
<td>I seem to do more listening than talking in conversations with others.</td>
</tr>
<tr>
<td>I usually try to add a little zest to a party.</td>
<td>I like to remain unnoticed when others are around.</td>
</tr>
<tr>
<td>I am able to talk intelligently to people in a wide variety of occupations.</td>
<td>I have trouble expressing my opinion.</td>
</tr>
<tr>
<td>I find it easy to introduce people.</td>
<td>I prefer to go to social functions with a group of people so as not to stand out.</td>
</tr>
</tbody>
</table>
Conformity Scale

True

I am very sensitive to what other people think of me.

In most situations, I usually agree with the opinions of the group.

Before making a decision, I often worry whether others will approve of it.

It makes me feel uncomfortable to be dressed differently from those around me.

I often wonder why some people get pleasure out of doing unconventional things.

My actions are governed by the way people expect me to behave.

It causes me a great deal of worry if I think that someone doesn't approve of something I have done.

I am very concerned about my popularity.

I try to act in such a way that others will accept me.

I try to change things about myself that other people dislike.

False

I can't be bothered trying to find out what others think of me.

When I want to purchase something, I rarely consider other people's opinion of it.

I believe in speaking my mind, even if it offends others.

I do not worry about what I say when out socially.

I am not concerned about how many friends I have.

I seldom concern myself with how other people dress.

I do what I please, not what others say I should do.

I refuse to behave like everyone else just to please people.

Generally, I don't concern myself with what other people think of my beliefs.

What the general public thinks does not affect my standards or beliefs.
Social Participation Scale

My life would be miserable if I didn't know a lot of people.

I enjoy group activities more than the things I do by myself.

I dislike eating alone.

When travelling alone, I enjoy engaging in conversation with strangers.

I get lonely when I am left by myself.

I would rather telephone a friend than read a magazine in my spare time.

I like to meet as many new people as I can.

I spend a great deal of my spare time with other people.

Rather than spend an evening by myself, I would invite a neighbor in to talk.

At a social event, I like to get around and talk to all the guests.

I only telephone friends when there is something important to discuss.

It wouldn't bother me to go for days without seeing another person.

I like working where I won't be bothered by others.

I don't particularly like to be surrounded by a group of noisy people.

I like spare time activities which allow me to get away from people.

I would prefer a quiet evening at home to attending a social event.

I am not interested in knowing a great many people.

I find it very relaxing to travel by myself.

I don't need the company of others to be happy.

Generally, I prefer to be my myself.
Infrequency Scale

True
My musical compositions have been played in concert halls around the world.
I have sight in only one eye.
I have no sense of taste at all.
I have kept a pet monkey for years.
I have won trophies in professional golf tournaments.
I run five miles every day to keep healthy.
I eat imported cheeses with all my meals.
I have made several trips overseas to study old ruins and rock formations.
Everyone in my family has the same birthday.
All jokes seem pointless to me.

False
Of the people I know, I like some better than others.
I have had at least one cold in my life.
I have sometimes hesitated before making a decision.
In my lifetime, I have eaten at least one meal in a restaurant.
Some things don't turn out exactly as I plan them.
I can eat most foods without feeling ill.
I do some things better than others.
I believe there are some jobs which I would not enjoy doing.
I can walk a few blocks without getting tired.
I usually sleep at least four hours every night.
APPENDIX C

Reliability Data on the JPI
Dr. Thomas W. Milburn  
205 E. South St.  
Worthington, Ohio 43085

Dear Tom:

I am enclosing a very brief summary of the validity coefficients derived from the study of 70 Stanford University undergraduates who completed peer ratings, self ratings, and the Adjective Check List involving the same traits as are contained in the JPI. As you can imagine, this results in rather large multitrait-multimethod matrices of which I have only extracted minor diagonals. The Adjective Check List is comprised of 20 trait names rationally selected to reflect each of the JPI dimensions. The self rating was simply a bipolar rating scale on a trait relevant to the JPI scale. The peer rating involved the average rating of 8 to 10 people who knew the target person well. As you can see, most of these correlations are substantial. I do not have reliability data at hand, and in any case it would probably be best for your doctoral student to obtain it on the sample with which he is concerned. I am also enclosing a set of scale descriptions.

With every best wish.

Cordially,

[Signature]

Douglas N. Jackson

ed.  
Enc.
Table

Validity Coefficients for the Jackson Personality Inventory (N = 70)

<table>
<thead>
<tr>
<th></th>
<th>Adjective Checklist</th>
<th>Self Rating</th>
<th>Peer Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>.71</td>
<td>.64</td>
<td>.43</td>
</tr>
<tr>
<td>Breadth of Interest</td>
<td>.42</td>
<td>.19</td>
<td>.18</td>
</tr>
<tr>
<td>Complexity</td>
<td>.66</td>
<td>.37</td>
<td>.37</td>
</tr>
<tr>
<td>Conformity</td>
<td>.56</td>
<td>.64</td>
<td>.38</td>
</tr>
<tr>
<td>Energy Level</td>
<td>.72</td>
<td>.52</td>
<td>.47</td>
</tr>
<tr>
<td>Innovation</td>
<td>.79</td>
<td>.73</td>
<td>.37</td>
</tr>
<tr>
<td>Interpersonal Warmth</td>
<td>.66</td>
<td>.76</td>
<td>.32</td>
</tr>
<tr>
<td>Organization</td>
<td>.78</td>
<td>.56</td>
<td>.33</td>
</tr>
<tr>
<td>Responsibility</td>
<td>.46</td>
<td>.18</td>
<td>.33</td>
</tr>
<tr>
<td>Risk-Taking</td>
<td>.75</td>
<td>.77</td>
<td>.52</td>
</tr>
<tr>
<td>Self-Esteem</td>
<td>.73</td>
<td>.64</td>
<td>.66</td>
</tr>
<tr>
<td>Social Adroitness</td>
<td>.15</td>
<td>.10</td>
<td>.01</td>
</tr>
<tr>
<td>Social Participation</td>
<td>.70</td>
<td>.60</td>
<td>.47</td>
</tr>
<tr>
<td>Tolerance</td>
<td>.45</td>
<td>.24</td>
<td>.36</td>
</tr>
<tr>
<td>Value Orthodoxy</td>
<td>.72</td>
<td>.58</td>
<td>.57</td>
</tr>
</tbody>
</table>

Note:-- Adjective checklist scores were based on a rational selection of 20 adjectives representing the putative trait. Self ratings were based on the subject's rating of himself on a 9-point scale for a trait related to the JPI scale. Peer ratings were based on the pooled ratings of about a dozen judges well acquainted with the ratee.

Source: (Douglas N. Jackson, The University of Western Ontario, London, Canada)
BIBLIOGRAPHY

Books


Jackson, Douglas N. Personality Research Form. Published by Research Psychologists Press.


Wherry, Robert Y. and Olivero, Jerry. *Computer Programs for Psychology.* Columbus, Ohio: The Ohio State University, 1971.


**Articles**


