A STUDY OF PSYCHOLOGISTS IN INDUSTRY

A Thesis Presented for the
Degree of Master of Arts

By
Ralph Raymond Canter Jr., B.A.

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UNIVERSITY

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Approved by

[Signature]
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### TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>TITLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>SCIENTIFIC MANAGEMENT AND SCIENTIFIC PSYCHOLOGY</td>
<td>1</td>
</tr>
<tr>
<td>II.</td>
<td>PSYCHOLOGY AND PSYCHOLOGISTS IN INDUSTRY</td>
<td>5</td>
</tr>
<tr>
<td>III.</td>
<td>A STUDY OF PSYCHOLOGISTS IN INDUSTRY</td>
<td>10</td>
</tr>
<tr>
<td>IV.</td>
<td>THE RESULTS OF THE SURVEY</td>
<td>19</td>
</tr>
<tr>
<td>V.</td>
<td>ANALYSIS OF THE RESULTS</td>
<td>24</td>
</tr>
<tr>
<td>VI.</td>
<td>GENERAL CONCLUSIONS</td>
<td>65</td>
</tr>
</tbody>
</table>

APPENDIX I  
TABLES OF DATA

APPENDIX II  
THE QUESTIONNAIRE

APPENDIX III  
THE COVERING LETTER

BIBLIOGRAPHY
LIST OF FIGURES

FIGURE                                      PAGE
1. Numbers of psychologists Employed in     17
   Business and Industry in Selected Years
2. The Range and Mean of Percentages of     59
   Respondents Supervising and/or Performing
   Work Functions in Each Classification
   (Total Group)
3. The Percent of Work Functions in Each     60
   Classification Performed and/or Supervised
   By 50% or More of Respondents (Total Group)
4. The Range and Mean of Percentages of     61
   Respondents Supervising and/or Performing
   Work Functions in Each Classification
   (By Groups)
5. The Percent of Work Functions in Each     62
   Classification Performed and/or Supervised
   by 50% or More of Respondents (By Groups)

LIST OF TABLES

TABLE                                      PAGE
1. Analysis of Returns of the Questionnaire 19
2. General Employment Areas of Respondents and Numbers in Each 21
Chapter I

SCIENTIFIC MANAGEMENT AND SCIENTIFIC PSYCHOLOGY

With the introduction of scientific techniques and procedures into industrial production in the last sixty years it is not surprising to find the increased utilization of scientific psychology. The birth of psychology as a science antedates the scientific management movement initiated by F. W. Taylor only by a few years (1). While the scientific management techniques and procedures were spreading rapidly throughout American industry, scientific psychology was slowly being introduced in laboratories in the colleges and universities. It was not until the first World War that there were psychological principles well enough developed to begin and applied psychology. The history of applied psychological techniques in industry has been well written by Burtt (2), Moore (3), Moore and Hartmann (4), and Viteles (5).

Soon after World War I industry had an opportunity to develop and use the methods and tools of scientific psychology. These were beginning to come out of the laboratory in a form which could be directly applied to industrial problems. However, the available trained personnel who could use them were unfortunately few in number. Some applied psychologists attempted to develop their own publication called Industrial Psychology (6) in order to establish an organized source of information where the techniques and methods could be explained and evaluated. It is significant that this journal lasted barely three years, from 1926 through 1928. It seems to indicate primarily that industry was not sufficiently interested in psychology
as a method and as a science to enable psychological study activity.

But this has been true of the introduction of many of the sciences into industrial situations. Research activity must demonstrate that it can pay its own way. There has been much resistance to the movement toward science and scientific methods. Even scientific management, as rapidly as it spread, was not accepted functionally for many years by large segments of American industry (7). The reasons are obvious. The demands of the scientific method are such that it often means complete re-adjustment of organization to utilize them to the best advantage. Also, the techniques proposed often were too abstract for the industrialist to comprehend them (7).

Consequently, in the depression years of the thirties', scientific activity, including psychological activity, was severely restricted. Perhaps it was a good thing. Psychology went back to the classrooms and laboratories to do further research in order to improve its techniques and further establish its principles. Its success in doing this seems to be well demonstrated by the flood of literature, both popular and technical, that has appeared in the last ten years. These articles have described many of the psychological methods and techniques which are meeting with success in industry.

Tiffin in the preface to his Industrial Psychology has written:

"The growth of interest in psychological methods during the past decade within such organizations as the American Management Association shows that psychology as a technology has been developed as a tool of industrial management. ... the industries that have given them
It is interesting to note that in the popular (and some technical) articles written by psychologists in industry in this last decade, the emphasis has been on the need for exploring the human relationships as the major problem area, and not so much on the technical problems, both personnel and process. Viteles said that "...it indicates the growing concern of industrial psychologists with the sentiments, feelings and attitude of workers, supervisors, and managers, and with the interplay of people in the social organizations of the industrial enterprise." (9)

Again, a little over a year ago, Mr. Henry Ford II made a pertinent statement of the problems for industrialists and psychologists alike. He said "... there is a whole vast area in which we are only beginning to make significant progress -- which we might call the field of human engineering. ...Machines alone do not give us mass production. Mass production is achieved by both machines and man ... we have not successfully written into our equations whatever complex factor represents Man, the human element." (10)

This is a statement of the present problem. But it is necessary to add that this problem has been "present" for a goodly number of years -- it has not been clearly recognized. Muscio (11) in 1920, Wulfeck (12) in 1940, Viteles (13) in 1941, and recently Evans (14) pointed out that management has adopted "scientific management" as descriptive of their technical process and product problem solutions, but they are still refraining from using scientific psychology in the solution of their human relations problems. Wulfeck adds, however, that there are increasing numbers of "...Modern executives interested
in discovering those forces which will enable their fellow executives, and management generally, to build on the enduring elements of human nature..." (11)

It has been increasingly evident that the problems in industry are being more clearly defined. Hood (15) described the specific problems facing management and the American public in a speech entitled "New Frontiers for Management." Since he is an official of one of the largest corporations in the country, it has significance for the people engaged in psychology in industry. He outlined the areas which hold the basic problems and indicated that the solutions are those which require the services of applied psychologists working as team members with economists, sociologists, and management experts. Viteles (16) also described some of the existing problems of our industrial civilization and suggests the contribution that psychologists can make toward their solution. And very recently, Kornhauser (33) makes some specific comments as to socially significant problems and outlines some of the necessary research activity.

It is necessary, for the purposes of this paper, to give attention more to the psychology and psychologists operating in industry rather than, to the psychological problems therein. This theme will be discussed in the next chapter.
Chapter II

PSYCHOLOGY AND PSYCHOLOGISTS IN INDUSTRY

Writers who have been concerned with the utilization of psychology in industry seem to have developed their definitions largely in terms of their individual perspectives. Smith in her *Handbook of Industrial Psychology* defined industrial psychology as "the study of the conduct of those who exchange the work of their hands and brains for the means to live." (17, p. 10) Moore expressed it as the study of "man in specific relationships with those parts of his environment that are affected by the business and industrial world." (3, p.1) Burtt, however, described it as psychology applied in three general ways to business and industry -- to employment problems, to industrial efficiency, and to advertising and selling. (2, p.3) Taft reported that industrial psychology is defined by its purposes: "the attainment of the maximum possible adjustment between a man and his job." (18)

Viteles effectively summarized his definition as "The application of psychology in industry involves inquiries into four kinds of relationships:

1. Relations between the worker and his work.
2. Relations between the worker and his immediate supervisor.
3. Relations between the worker and the management.
4. Relations between the worker and his fellow workers." (5, pp.54-55)

Meier recently emphasized that "The present era in industry may be regarded as the period of transition from the machine age to the scientific age." Correspondingly, he develops his belief that
"psychology, the science of man's behavior" must be utilized scientifically and experimentally in the industrial applications. (19)

The guiding principle for consideration here is not a formalized definition of industrial psychology but that the emphasis should be on psychology first and its applications second, for the latter cannot exist without the former. This point is well carried in Anastasi's report of "Experimental Psychology In The Undergraduate Curriculum." She quotes from several letters written by outstanding American psychologists who were in very close agreement concerning the importance of experimental design, scientific methodology and laboratory techniques. One expressed it as follows: "Having just come out of the AAP's psychological program -- (an applied effort if there ever was one!) I can say with some assurance that the best 'appliers' were those with a solid scientific background." (20)

Assuming then, that psychology in industry must be scientifically and experimentally based, this question follows, "Who is to apply psychology in industry?" Since it has been stressed that a "solid scientific background" is necessary, it follows simply that those people who have a good training in scientific psychology should do it. Without regard to the needs and problems existing horizontally and vertically in industry where the basic principles and theorems could well be applied by persons with only brief psychological instruction (19), the research for and installation of major psychological programs should only be attempted by those trained for such functions. However, the psychologists available seem to have been very small in number. In 1941, Viteles wrote: "Today, organizations employing
psychologist on a full-time or part-time basis still represents a pathetically small portion of the total number of industrial and business organizations in this country." (21) More recently, Hay has written, "Until a few years ago anybody who suggested that psychology might be valuable in personnel work was considered theoretical, academic and visionary. However, the trend is now strongly toward the use of psychological techniques in industrial personnel work. It is a question whether the supply of trained psychologists will be adequate after a time. The experience of some of the companies that have tried it shows that a much stronger personnel program can be achieved by using the techniques made available by psychologists. These do not merely include tests in selection and promotion.

"The psychologist can also be of great value in health programs, in mental health training, job analysis, industrial relations, and in safety programs. This being so, every personnel director ought to be something of a psychologist, and every large company should have one or more psychologists as advisors in the various personnel functions and for research." (22)

There is a definite problem concerning the supply of trained psychologists. Even if the psychologist is well trained and well grounded in scientific techniques, is he able to assume an active integrated role in modern industry? Uhrbrock (23) reported that for the majority of qualified psychologists, the answer appears to be "No", but with the modification that they have the potentialities for such work. The difference is largely in the experience of the individual psychologist. The academically cloistered man hasn't the
broad concepts of organization sufficiently well in mind to handle a well integrated position. If he goes into industry he must be willing to learn the industry first, and apply his psychology second. (24) Those who have gone into the industrial field and remained successful have applied their techniques only after the organization had accepted them as competent and helpful. (25)

Jenkins raised another problem for the psychologist entering or working in industry. It could be interpreted as necessitating a compromise of the psychologist's training. He suggests that the criteria of the present should be the statistically significant rather than the socially significant. (26)

Thus, there seems to be a whole new orientation needed in training psychologists for applied jobs, if Jenkins's comment is to be supported. Nearly all psychologists at one time or another have indicated their training needs. Clark and Smart (27) and an article in Occupations (28) indicated that applied psychologists place the need for study in the actual working situation as a primary need. Internships would seem to be the answer.

Thus, it becomes apparent that the psychologist entering industry is faced with problems other than being a trained psychologist. In the face of the present-day demands for psychologically trained people to be utilized in many areas, e.g., Veterans Administration Clinical Psychology Program, university and college teaching, industrial and government personnel work, etc., it seems obvious that the psychologist in training is forced to acknowledge the broadness of background
he must have to be adaptable for various jobs in which he may find himself. Very little current information is available as to what the psychologist may need. Consequently, a study of psychologist in industry, in order to identify their jobs at the present time, seems well warranted.

This thesis represents such an investigation. Originally, the author desired to make the study through personal interviews. This was not possible due to the geographical locations of the psychologists who would have been included. Consequently, the questionnaire technique was employed, which enabled a large number of possible respondents to be included.

The purpose of this thesis is to arrive at a clear understanding of the jobs of psychologists employed by business and industrial establishments in order that some of the educational and training requirements may be identified. In addition, it is desirable to know the opinions of the psychologists concerning some of the significant problems of psychologists in business and industry.
Chapter III
A STUDY OF PSYCHOLOGISTS IN INDUSTRY

Part 1: The Questionnaire

As indicated in the previous chapters, there is considerable room for speculation as to what the industrial psychologist is using from his training. Extending this speculation further, the question could be posed "What is the 'industrial psychologist' doing?". This is not a simple question. It has significance for training, placement, promotion, and service in the industrial situation. The author attended an Industrial Psychology Panel discussion at the Midwestern Psychological Association meeting held recently in Chicago. The participants in the discussion emphasized the place of the psychologist, his possible functions, his professional value to the organization, the approaches he should use, and similar problems. However, it seemed that all present were concerned with one basic question - though it was not overtly expressed. It is "What are the present duties and functions of the psychologist in industry?" If psychologists in industry are to gain professional status, the question must be answered. In view of the tremendous impetus among psychologists for this professional recognition, the author believes it important to identify their duties, the tools and techniques they use, the relative positions they hold in their organizations, etc. Having this basic job-analysis-type data, then an intelligent approach could be made to the problems of training, professional status, and duties in the psychologist's job in industry.
Shartle, in the December, 1946 issue of *The American Psychologist* reported descriptions of "Occupations in Psychology". (29) The data from which his descriptions were developed was collected in 1944 by the Office of Psychological Personnel of the National Research Council and included about 600 psychologists in the sample. From this data, collected by job-analysis type questionnaires, and from other existing occupational descriptions and definitions, descriptions of twenty-eight psychological occupations were prepared. Included were seven principle titles which could be classified as being in the industrial field.

They were as follows:

*18. Personnel psychologist, Industry or Industrial Consulting Firm

*19. Personnel Technician, Industry

*20. Public Opinion Survey Psychologist

*21. Consulting Psychologist

*22. Psychometrist

*24. Employment Interviewer

*26. Occupational Analyst

Quoting Shartle, "The descriptions are necessarily general; they in no way replace information about specific positions in any locality. ... Moreover, the stipulated duties are not necessarily what they should be..."

Following this lead, the author believed that a very pertinent and detailed study could be made which would include only those psychologists coming under the above titles.

*Same as the descriptions numbers listed in the article.*
Consequently, a study was planned which would gather sufficient data to enable a clear and yet comprehensive picture of the psychologists' jobs in industry at the present time. This latter point is significant.

During the war considerable overlapping of duties took place in the jobs of psychologist. One reported to the author that he even worked in cost accounting for his company—and that was only one of the many extraneous functions he had to perform. Shartle's data was from that period and it is remarkable that he was able to sift out the real psychological elements of the jobs. In this study it seemed important to attempt to discover as many of the psychological work elements as possible in the industrial jobs as of 1947. The significance here is that the war brought to industry new uses for psychological techniques and methods. If these are permanent and lasting, they certainly should be reflected in the psychologists' jobs.

Furthermore, it was deemed important to obtain as much information about the job as possible. A job analysis approach similar to the questionnaire used by the Office of Psychological Personnel (reproduced by Shartle) (30) and meeting the specifications set up by Shartle, Dvorak and Heinz et al. (31) was considered desirable, even necessary.

Using the OPP questionnaire concerning psychologists jobs as a basic guide, a first draft of the questionnaire to be used for this study was prepared. It was then evaluated by comparing it with the "Elements of a Complete Job Analysis" reported in the Article "Ten Years of Occupational Research" by Shartle et al. (31) referred to above. Necessary adjustments were made in order to conform with their
standards.

At this time, it became necessary to decide how the information would be gathered. Quoting Shartle, (50, p.33) "In the interest of getting a high rate of returns the questionnaire should be as brief as possible and require the least amount of writing that can be permitted. As far as possible items should be used which can be merely checked or require an answer of a word or two." Consequently, it was decided to present the items in the form of a check list which would be as complete as possible. Some of the sections e.g. identification data, performance requirements, etc., could not be so handled, but were worded so that a minimum written answer could be given. There are several reasons for a check-list type of questioning. First, if the respondents have most of their work functions presented to them, a more complete listing should be made since recognition is more accurate and easier than recall. Second, less time would be consumed in covering the amount of ground desired. Third, the items presented probably will furnish a basis for "aided recall" yielding more functions and elements not listed but existing in their jobs. Fourth, it was felt that more confidence in the study would be given to the respondents if it were apparent that the study was being conducted as comprehensively and accurately as possible.

Likewise, it was attempted to make the questionnaire as brief as possible. First, it is necessary to trace briefly the development of the questionnaire. The major outline, i.e., identification data, work performed (presented in fifteen primary divisions or classifications), performance and educational requirements, worker characteristics,
and comments was drawn up in the summer of 1946. At the September meetings of the American Psychological Association, the author was able to have several psychologists, who had full-time employment in industry, go over the form minutely and make pertinent suggestions, criticisms, etc. Then the task of evaluating all of their additions, suggestions, and revisions in the light of their job was begun. This lengthened the form considerably.

During this developmental period the author was searching the literature for all possible psychological job elements and all other things that psychologists in industry might do while holding a "psychological job". This, too, lengthened the form.

Finally, during the spring of 1947, the preliminary edition of the questionnaire was prepared and two types of evaluations were made of it. The author attended the Midwestern Psychological Association meetings in Chicago and contacted seven psychologists holding full-time positions in industry. They were asked to fill out the questionnaire in terms of their job first, and secondly, to evaluate and criticize the questionnaire. Six of the seven returned the form with very specific and valuable comments.

At approximately the same time, copies of the preliminary edition were given to members of Dr. Shartle's course in Occupational Information (Psychology 689, Department of Psychology, Ohio State University). Each member was requested to prepare a critique of the questionnaire and indicate any suggestions and additions. Several very valuable evaluations were obtained, and some of the ideas were incorporated in
the final edition. These were largely confined to format, arrangement, and specific additions to the check-lists under the divisions.

With regard to brevity, it may be said that the questionnaire is as brief as is possible for the purpose of covering the field of work intensively and for obtaining as much information as possible about the job requirements, identification data, etc. In terms of the work elements, as indicated in the literature, it is felt that the questionnaire is very complete, and could not be reduced further.

One should be cautioned, however, that any job-analysis approach, whether by paper or by physical job study, probably does not "equal the job." There is usually more to a job than the "sum of the job elements" indicates. Consequently, the approach limits analysis to reporting "observations" and probably not complete facts. The population, being trained psychologists, however, gives a belief in the validity in the returns received. After all, most of the respondents probably spend a considerable amount of time studying other jobs, and consequently should be able to perform validly insofar as is possible.

A copy of the final edition of the questionnaire is presented in Appendix II.

Part 2: The Criteria

In order to decide who would be included in the study, it was necessary to establish criteria which would include as many psychologists in industry as possible. Two criteria were used: (1) Membership or associate membership in the American Psychological Association and (2) holding a full-time position in an industrial or business establishment.
It may be argued that there are "industrial psychologists" who do not hold industrial or business positions, e.g., certain psychologists in government work, or those who hold half-time teaching positions and do consulting work, etc., but whose work is sufficiently applied in nature to warrant inclusion in this study. This may well be true, but it seems much more valuable to survey intensively those people who are devoting their full effort to and are consistently working on industrial psychological problems. Their contributions are the ones which will determine the extension and continuation of applied psychology in industry.

Locating the people who fit the criteria proved to be a much larger task than anticipated. The original plan was to make the study in the autumn of 1946 when the 1946 edition of the APA Yearbook was issued. However, it was not published until March of 1947. Furthermore, it was exclusively an address book and did not specify the employment status of the members listed. Thus, the author, who wanted 100 percent coverage, had to go to the 1945 Yearbook (obsolete because of war-displaced addresses) and check back on the majority of the four and half thousand or so members. Fortunately, the 1946-1947 Yearbook did carry some of the industrial and business addresses as reported by some of the members. Probably many full-time psychologists in industry have been omitted from the study for the above reasons. Several were located in the literature by reason of their industrial connections being specified in their articles. Those who had not listed their industrial addresses or who have not published in the past two years have been left out of the study.
In all, 227 psychologists were selected who fell (insofar as it could be determined) within the classification of titles listed on Page 11. The Title "Consulting Psychologist" applied to psychologists operating in many different areas. For this study only those were selected who dealt with industrial problems providing it could be determined from the literature or previous APA Yearbook issues, etc.

This raised a question as to the numbers of psychologists employed in industry over the past year insofar as possible to determine. The APA Yearbooks for four separate years were selected. Psychologists were selected by the same method as above, i.e., having industrial and business addresses, etc. The totals for the years selected are indicated in Figure 1.

Figure 1.

Numbers of Psychologist Employed in Business and Industry in Selected years

![Diagram showing numbers of psychologists employed in business and industry from 1930 to 1946.]

Each of the 227 psychologists listed in the 1946-1947 Yearbook was sent a copy of the questionnaire, a stamped returned envelope, and a covering personal letter. A copy of the letter is presented in
Appendix III.

It should be added that several psychologists were interviewed personally. At the time of most of the interviews the extent of the study had not been determined. Consequently, the data obtained will be added to the general results rather than treated in a separate discussion. Several important and valuable contributions were secured in the interviews, particularly in giving the author familiarity with areas of work of the psychologist in several different fields of specialization within the industrial field.
Chapter IV

THE RESULTS OF THE SURVEY

The returns of the questionnaire are summarized in Table 1.

Table 1

Analysis Of The Returns Of The Questionnaire

A. Analysis of Total Returns

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of questionnaires mailed</td>
<td>227</td>
<td></td>
</tr>
<tr>
<td>Number returned - inadequate address</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>220</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of questionnaires returned</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Incompleted questionnaires</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Received too late for inclusion</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Usable questionnaires</td>
<td>86</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>113</td>
<td>51%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Questionnaires not returned</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>107</td>
<td>49%</td>
</tr>
<tr>
<td>Proportion of usable questionnaires</td>
<td>86</td>
<td>39%</td>
</tr>
</tbody>
</table>

B. Analysis of Usable Returns

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usable questionnaires</td>
<td>86</td>
<td>100%</td>
</tr>
<tr>
<td>Returns by men</td>
<td>81</td>
<td>94%</td>
</tr>
<tr>
<td>Returns by women</td>
<td>5</td>
<td>6%</td>
</tr>
<tr>
<td>Returns by those holding doctorate</td>
<td>59</td>
<td>69%</td>
</tr>
<tr>
<td>Returns by those holding master's or Bachelor's</td>
<td>27</td>
<td>31%</td>
</tr>
</tbody>
</table>

Considering the difficulties (as indicated in Chapter III) of locating the psychologists and determining their eligibility in terms of the criteria, these returns are considered good. It is impossible to tell how many of the persons not responding did not belong in the group in the first place. The 14 questionnaires
returned (Table 1) and judged unsuitable because of job change and associated reasons seems to indicate that the population of psychologists in industry is rather mobile. Consequently, it may be possible by extrapolation to predict that about thirty (14% of 220) psychologists are no longer in industrial work. This would indicate that the real population for this study may actually have been as low as approximately 190. However, as indicated previously, several psychologists were probably omitted due to inability to locate them from the available information.

All of the respondents seemed favorable to the study. Some sent accompanying letters indicating their belief in the need for such a study and for such information. In terms of the extent and adequacy of completion of those judged usable, the cooperation was excellent and the respondents devoted much time to their answers. With few exceptions the answers were brief and succinct indicating that the questions and check-lists apparently were satisfactory to the respondents in terms of their job duties and techniques used.

The early returns seemed logically to fall into three broad areas of classification. Table 2 shows that the respondents were classified into rather broad categories of employment. This was done largely by inspecting the returns on arrival and determining the general characteristics of the jobs. The business and industrial establishments include many diverse industries, businesses and organizations, but the jobs of the psychologists apparently are quite similar as to location within the organization. The same was true of the other two
categories. Consequently, it was decided to group the psychologists in terms of their employers, i.e., the categories appearing in Table 2.

Table 2

General Employment Areas of Respondents and Numbers in Each

Employed by business and industrial establishments 46

Employed as psychological consultants to industry (self-employed and members of industrial consulting firms) 32

Employed by advertising, business research and market research firms 8

Total 56

The complete data are presented in Appendix I in Tables of percentages of responses to the items, or in tables of summary responses and/or verbatim reports. The items are from the questionnaire. Where the respondents were asked to give information concerning certain features of their jobs, summaries of responses are reported or, occasionally, the total responses are given.

In answering the questionnaire, the respondents were directed as follows (See Questionnaire in Appendix II):

"If you use or perform a particular factor or function occasionally or seldom, please check once, e.g. \\

If you use or perform a particular factor or function frequently, please check twice, e.g. /\ /\ \\

If you supervise a particular factor or function, but do not do the actual work yourself, mark the space with an S e.g. S \\

If you do no work listed in a division, please mark the category "none" provided at the end of the division e.g. X"
The returns indicate that the psychologists often do some of the work themselves and supervise some of it in many areas. Consequently, they report both the single or double check and S, viz., S✓ and S✓✓. The possible responses then become ✓, ✓✓, S✓, S✓✓, and S.

In order to account fully for the responses in the tabulation of the data from the returned questionnaires, percentages were calculated in terms of the above combinations. This was done primarily to show the relationship of the item (a work factor or function) to the psychologist's jobs. For example, most of the "TEST ADMINISTRATION" items were marked S by a majority of the Business and Industry Group respondents. However, the items were checked once or twice (occasionally checked twice and marked S) by most of the Consulting Group respondents. It was possible, then, to draw a conclusion that the groups differed significantly in that area, i.e., the respondents in one group supervised more than the other, which in turn did the work themselves. Wherever significant, these differences are indicated in the text of the discussion.

In the table (Table 7, Appendix I) only the item total percentages are reported, however, since the primary purpose of the study is to get a picture of the total functions of the psychologists in industry.

To show further the differences between the jobs of psychologists the percentages of responses are reported in Appendix I for the three categories (Table 2, pp.22). Also, a total percentage of N (86) is reported in the last column of the tables. This is to show the relative
importance of the items in proportion to the total number of psychologists included in the sample.

Though desirable, no differentiation was made in this study of the jobs held by M.A.'s and those held by the Ph.D's. As seen in Table 1 (p. 19) there are 31% holding at least the Master's and 69% holding the doctorate. In other words, the doctorate is favored two to one. If differentiation were attempted, the results would be complicated excessively. No information is available directly as to: the length of time in the job, the age differences of the respondents holding the jobs, how near the doctorate the M.A. respondents were when they left school, and other factors important here. To fill in this area, the author would have to guess as to a lot of the needed information. Simply on the basis of the jobs themselves, it is difficult to do because of the motivation of the respondents, i.e., for administrative work or to stay within a "psychological job". Table 12 (Appendix I) has some comments, however, which throw some light on the problem.

The total picture of psychologists' jobs in industry in terms of this study will be discussed in Chapter V.
Chapter V
ANALYSIS OF THE RESULTS

Comparisons of the three groups of jobs which the psychologists hold are made in this chapter as the discussion proceeds. As indicated previously, the complete data (either as reported in narration or in percentages) are recorded in tables in Appendix I. The tables referred to in this chapter are found in this Appendix.

Each question in the questionnaire has a table designed to present the pertinent results. The questions are numbered the same as those appearing in the questionnaire. In each table the three major groups are indicated by their sub-titles. Furthermore, response groupings are made in order to show trends and patterns under appropriate questions.

*2. Titles of Positions  3. Industries and Departments

Within the Business and Industry Group in Table 1, Appendix I, groupings of titles have been made. This table is designed to show the jobs or positions in terms of the involvement of "pure" psychological job elements as reflected by the titles. It is noted that 35% of the respondents, according to their job titles, are still performing psychological functions. Only 17% retain "Psychologist" as part of their job title, however, and only two (4% of the group) have the title "Industrial Psychologist."

* Numbers refer to corresponding numbers appearing in the questionnaire
The next grouping (under the Business and Industry Group) shows titles which happen to be common to the personnel departments in business and industry. Thus, 39% of the group are in personnel and personnel administration work.

The third grouping shows titles which are associated with high level jobs, but not top administrators. There are 13% of the psychologists in this group.

The final grouping shows titles indicating that another 13% of the respondents are involved in almost pure administrative work.

Totaling the last three response groups - it appears that, on the basis of the titles that 65% of the psychologists have gradually shifted away from psychological research and study activity. However, it should be emphasized that this is only on the basis of the titles.

The Consulting Group, however, using the same technique of sub-grouping of responses, shows that approximately 69% still perform applied psychological work. The others, 31% seem to be administrators. However, as will be evident in the later part of this discussion, all the Consulting Group members perform many psychological work functions.

The Advertising Group, by titles, divide administrative functions and technical functions, 50% being in each group.

With regard to the industries in which the psychologists' positions are located, one is struck with the diversity of industries represented. There seems to be no pattern of industries employing psychologists
within the Business and Industrial Group respondents, i.e., one particular industry does not employ a large number of psychologists.

The publishing industry employs 5, petroleum 3, radio broadcasting 3, while glass manufacturing, gas utility, banking, paper and paper products, automotive, electric utility, and dye industrial each employ 2. Twenty one other industries employ one each. It is obvious that the industries employing psychologists are, in the main, large sized companies and corporations. This is to be expected however, since their problems are very susceptible to solution, and they can afford application of large-scale psychological techniques.

The consultants seem predominantly to work in all types of industries, and in large, medium and small companies. In a few cases, the consultants indicate some specialization of functions, e.g., clinical evaluation, personnel department organization studies, etc.

4. Hours of work and time away from office

In regard to hours of work per week (Table 2, Appendix I) and work time spent away from the psychologists' offices, there is little difference between the groups with the exception of the Consulting Group who spend approximately twice as much time away from their home offices as do the members of the other two groups. In terms of variability (by observation), the consultants spread considerably more about the mean (8.4 days) than do the other groups. The nature of their jobs well explains this fact, and it has been obvious since the time of development of consulting firms in all fields.
5. Titles of Superiors

Table 3 shows the titles of the psychologists' superiors. Half of the Business and Industry Group report to top level management personnel. Thirty-five percent report to division and department heads, while 15% report to supervisory heads. From available information, this last 15% tend to be younger in terms of when they received their degrees, and includes two women respondents. This latter fact has been shown previously by Bryan and Boring (32) in a recent study of women psychologists as compared with men - viz., that women when employed in applied situations tend to be restricted to the lower level psychological jobs.

Probably because of self-employment and the small size of the consulting firms, the Consulting Group reports mainly to the top executives of the firm or under assignment to the top executives of the client company. By the same technique of grouping titles, 75% would be so considered. The others report to division heads and technical workers.

All of the Advertising Group (again probably due to the size of the concerns) report to top level executives in terms of advertising and related companies' organization structure.

6. Titles and Numbers of People Supervised Directly

Table 4 represents an attempt to summarize the data reported by the respondents concerning the titles and numbers of people whom they supervise directly. However, the data are vague and rather incon-
clusive as to the numbers supervised directly and the titles. One respondent reports that he wasn't sure of just how many he did have and who they were. It is hoped that his field of specialization is not organization structure, planning, etc. Most of the respondents have considerable clerical help apparently in the Business and Industrial Group for they furnish a sizeable percentage of the answers, though the totals show that personnel positions constitute about 5% more. To a large extent these answers depended upon the individual respondent as to his willingness to write out the titles. As noted in a footnote to the Business and Industry responses (Table 4, Appendix I), some respondents probably report many more than they directly supervise.

The Consulting Group respondents heavily emphasize their supervision of psychological technicians. It is interesting to note that many respondents report they supervise other psychologists, (some of whom are not covered in this study, it was later determined) while in no case does a psychologist in the Business and Industry Group that he supervises a psychologist. The latter groups' respondents report "Psychometric Technicians" and "Staff Assistants" but not "Psychologists". This probably is further evidence that even psychologists themselves in industrial situations do not think of others as "psychologists" though it is known that in some cases they do supervise people who are APA members.

7. Next Job in Line of Promotion

The data included in Table 5, concerning the next job in line of promotion for the respondents, are also rather inconclusive. In general, about half the respondents have no certain advancement ahead of
then. This being the case, it is interesting to speculate as to how those who report holding top executive jobs got there. It seems fairly clear, considering some of the respondents' comments, that psychologists must move over into the "line organization" to get to the top jobs, at least in the Business and Industry Group. In their specialized jobs, there appears to be no definite plan now in effect to advance them in earning capacity and executive positions. Of course, some who are already at the top level are included, which lessens the value of this prediction from these data. Some respondents indicate that they had received several offers to move into administrative jobs but they had refused them in order to keep closely allied with psychological work.

For the Consulting Group, it is especially evident that they have no place "up the ladder" to go. However, it is obvious that they are largely "self-entities" anyway and can only expand their own functions and services. One respondent answers this question with "Lord knows" which, in the opinion of the author, fairly well describes the futures of many consultants.

8. Salaries

As seen in Table 6, members of the Consulting Group apparently are better paid than those of the other two groups with the possible exception of the upper limit in salary of the Advertising Group. A spurious factor is probably present in that group's responses due to the small sample - or the respondents do not answer in terms of the question exclusively, i.e., going beyond "psychological jobs."
Those holding doctorate degrees can expect about $3600* in
annual salary upon taking an industrial job, according to the
Business and Industry Group members. Those holding Master degrees
will get about $3000 to $3200. The top salary is probably somewhere
around $6500 without going into administrative or other work.

Consultants report that about $4500 is the salary PhD's can
expect, while $3200 is the M.A. salary. The upper limit is probably
somewhere around $7600 to $8000. Many consultants report that they
or their firms do not employ M.A.'s and some indicate that the PhD's
must have experience before they are employed. Profit sharing and
bonuses are frequently mentioned as being available to consultants.

The Advertising Group reports the lowest beginning salaries
but the highest top salaries. These are respectively, PhD's — about
$3500, M.A.'s about $2500, and top — about $10,000.

About one third of all respondents report that they do not have
sufficient information to answer these questions. The questions
were designed to get answers from them without requiring them to give
their own salaries, since this practice is not very popular in indus-
trial situations. However, the author believes that respondents' 
salaries must fall somewhere below the top limit for the majority.
(Those who are top executives, hence no longer "strictly" "psycholo-
gists", are obviously excluded.) In other words, it is felt that the
respondents had to "project" themselves and their salaries into the
framework they establish in order to answer the questions.

*Most of the distributions of salaries were not "normal" hence the
median salaries are reported
It is possible, then, assuming the above, to compare these salaries with Shartle's data. (29) These salaries tend to be higher than those he reported for industrial jobs. But, no doubt it is a reflection of general industrial salary increases rather than more value being attached to the psychologists' jobs by industry in general. More information is necessary to arrive at fundamental conclusions.

However, a comparison with Bryan and Boring's data (32) and Wolfe's report (33) is more interesting in that the salaries in this study compare very favorable with their general salaries. Further, the difference between industrial salaries and teaching salaries (insofar as it can be determined) is not very great. In beginning salary, these industrial salaries are higher, but in terms of staying with psychology full-time, there is not much difference. A more detailed study is necessary to get at the true amounts, but there seems to be a reasonable amount of evidence to support a statement that insofar as salaries are concerned at present, an individual psychologist who desires to stay with psychology for a professional career would generally be as well off financially in large educational institutions as large industrial establishments.

9. Work Analysis of Major Functions

The data obtained under the Division "Work Analysis of Major Functions" is presented in Table 7. As stated earlier, the primary purpose is to determine the work functions and the elements and tools used. The discussion of the results proceeds from general to specific for each section. Comparative summaries are made concerning the three groups at the end.
With regard to "9.1* What are the STATISTICAL METHODS that you use in your job?" it appears that the psychologists use all of them and use them frequently. In terms of the groups, there is little observable difference between them. Ranked in order, over half of the respondents report the use or preparation of the following:

- Graphic charts
- Measures of central tendency
- Summarize results of statistical analyses
- Determine validity
- Measures of variability
- Use correlation methods
- Design tables for presenting data
- Measures of significance or probability
- Determine norms
- Design statistical plans for research
- Sampling methods
- Item analysis
- Trend lines

A larger number of the Business and Industry Group report that they supervise more than do the other groups in this area. Also more of them use IBM plans and procedures. Undoubtedly this is due to their relatively permanent location with installations being more available. This is mentioned sufficiently to indicate that the psychologists going into industry should have a working knowledge of mechanical computational equipment of this nature.

In general, higher percentages of use (i.e., more use them) are reported by the Advertising and Consulting Groups. But as far as the individual items go, they are about equally ranked in terms of within percentages.

*Same number and question as appearing in the questionnaire.*
The respondents report a fair amount of use of "OCCUPATIONAL ANALYSIS TECHNIQUES". (9.2) Ranked in order, half of them report the use of:

Job description
Job analysis
Job specification
Job evaluation

Several items are reported as used by about 40% of the respondents, namely "Personnel survey," "Job definition," Personnel inventory."

"Motion and time study" (hardly a psychological technique now) is reported as used by a fifth of them. This again is evidence that psychologists should familiarize themselves with methods which are not necessarily psychological in nature but useful in their jobs.

In terms of the groups, more respondents in the Consulting Group do work here and do it more often than the other two. Few of the Advertising people apparently have functions in this area. The Business and Industry Group (who it would seem, would have frequent duties here) report that they perform in this area occasionally rather than frequently. Also not many report supervision of these work functions or these techniques.

Relative to "QUESTIONNAIRE SURVEYS" (9.3) less than half the respondents report using them. The kinds reported as used most (45% to 42% of total population) are:

Attitude toward a specific thing
Job analysis questionnaire
Morale surveys
Opinion surveys
It is interesting to note here that the questionnaire approach apparently isn't too much in use by professional psychologists. It is used when needed, but not extensively.

The groups compare somewhat as follows: More Business and Industry Group members are involved with questionnaires for "Attitude toward a specific thing" and "Opinion surveys" than are the Consulting people, more of whom in turn work with them in regard to "Personal adjustment" and "Job adjustment" than do either of the other two groups and also use them frequently. However, a greater percentage of the Advertising Group report use of certain questionnaires than the other two. These are "Opinion surveys" and "Market Research". The questionnaire method is especially applicable for their purpose - various distribution and sales studies. Some of the Business and Industry Group respondents use questionnaires for "Market research" purposes also. These are indicated in Table 7 under the summary of the data from Section 9.3.

"INTERVIEWING" (9.4) has few functions which are performed by the majority of the respondents. Those reported (by half or more of the psychologists) are:

Advisor to interviewers
Do employment interviewing
Interview employees - upgrading and promotion
Administrative interviewing

In regard to whether they perform interviewing functions occasionally or frequently, a large majority report occasionally with the exception of "Administrative interviewing" which most of the respondents, who do any, do frequently.
A larger percentage of Consulting Group members report doing interviewing of some type than the other two groups. More of Advertising and Consulting Groups' respondents report "Evaluate interviewing" more than do the Business and Industry people. This is probably indicative of the general tenor of the jobs of the Consulting and Advertising people. They are concerned with the refinement of the interviewing techniques inasmuch as they often have only the interview to go by or have only a few opportunities to improve the techniques of their clients - this being one area of improvement rather easily achieved.

Both the Business and Industry and Advertising Group members do more "Dismissal and exit interviewing" than the Consultants, and respondents in the first group do more "Disciplinary interviewing" than those of the other groups. No doubt the explanation for both of these conditions is to be found in the relatively permanent day-to-day location of these two groups while the consultants (unless employed specifically for this) are not around when these functions are needed.

The Advertising Group psychologists do much interviewing in connection with market research functions. These mostly are interviews with dealers, jobbers, and manufacture users.

As to criteria for counseling, the respondents on the whole have little to offer. One suggests "vague hunches". Another psychologist (who heads a counseling program) gives some pertinent suggestions as to how counseling is evaluated in his company, (His comments are reproduced in full at the end of section 9.4 in Table 7).
In "CLINICAL AND PERSONAL ANALYSES" (9,5) not many of the psychologists in this study report having many functions so classified. Only one functions, "Personal Consultation," is indicated by half the respondents, and some indicate that this is not in their regular repertoire of duties, only incidental.

In the groups, the Advertising people do not report having much to do in this area. Only one man does anything. More of the Consulting respondents report functions in this area. Also, they report performing the functions frequently while the Business and Industry members, if they have duties here, perform them occasionally or seldom. The Consultants so reporting concern themselves largely, as contrasted with the Business and Industry Group, with "Personality adjustment," "Clinical diagnosis," and "Remedial guidance and instruction."

Only a fifth of the respondents work closely with the plant physician and a tenth have a case worker for their services. Obviously, the Business and Industry Group would have more opportunity to work with these specialists.

In regard to "RATING METHODS AND SCALES" (9,6) half of the psychologists work with the following items:

Devise rating scales
Analyze rating scales
Study results from rating scales
Prepare rating scales for supervisory workers

About 45% report "Use of rating scales for getting criteria"
and "Prepare rating scales for hourly wage workers."

In general, it seems that rating scales are prepared for a
specific need or a specific situation and not necessarily within the confines of the framework set up by this section of the questionnaire.

By groups most of the Consulting respondents are active in this area, and report these items as being used or performed frequently. More of them devise, analyze, and study results than the Business and Industry Group. One interesting difference between the groups is found in the fact that more of the Consultants prepare executive and salesmen rating scales than do the Business and Industry people.

The Advertising Group respondents are not active in many areas here. Half of them devise rating scales and use them in consumer research. Again, this is due to their specialized functions (work in distribution problems).

Many of the psychologists in this study apparently have but few functions in "LABOR RELATIONS." (9.7) The highest percentages are 45% ("Recommend personnel policies"), 33% (Develop personnel policies"), and 32% ("Prepare information"). All the rest are below 21%.

Apparently those who have duties in this section are specialists since, of those who report functions here, more report doing them frequently.

As far as group comparisons are concerned, the Advertising Group respondents have practically no duties here. Few Consulting members report labor relations' functions. The Business and Industry Group has most of the people who do work in this area. But their functions appear to be mainly as incidental to other duties, although half of them recommend personnel policies and 43% report developing personnel
policies. This section will be discussed later.

The same condition hold with "EDUCATION AND TRAINING" (9.8)

Not many respondents report themselves as having duties or functions to any significant extent. Only one item, "Consulting on training methods," appears as done by over half the respondents. The next most important (in terms of total group percentages) are "Preparation of source materials" (37%), "Evaluate results of training" (35%), and "Organize supervisory training programs" (35%). Primarily this indicates that the psychologists, if at all, are concerned with "Training" rather than "Education". A few respondents report themselves as primarily involved with education rather than training however. Again it denotes some specialized rather than generalized functions for many of the psychologists in industrial work areas, for as in this section, the majority who have functions at all, have them principally in training.

By groups, few Advertising people have duties in this area. Consulting has several specialists, however. Comparing Consulting with Business and Industry, the most observable differences by percentages appear to be that more Consulting respondents involved with "Organize training programs - Induction, Supervisory, Executive and Sales."

Otherwise, little differences exist between them.

"TEST ADMINISTRATION" (9.9) however, is another story. The respondents indicate that quite a few of them have duties here. Ranked in order, over half the psychologists report:

"Experimental testing, local constructed tests"
"Individual employment tests"
"Experimental testing, published tests"
"Group employment tests"
At least a third of all respondents also have test administering duties as indicated by the remaining items.

Big differences appear in this division of the questionnaire between the Business and Industry Group and the Consulting Group respondents. About half of the Consultants have functions and duties here, primarily with regard to "Individual employment tests," "Experimental testing," and "Performance tests." The Business and Industry Group respondents are not as well represented by those items. But, the major differences appear in that the Business and Industry members so reporting largely supervise the test administration while the Consulting respondents do the work themselves and do it frequently.

The Advertising Group respondents have practically no functions in test administration.

In "TEST INTERPRETATION" (9,10) the respondents indicate that a goodly number of them do work in this area and do it frequently. Half of the respondents report:

"Interpretation of test results as basis for hiring requirements"
"Interpretation of test results for interviewers and counselors"
"Explanation of test results to individuals"

The respondents report that they generally do test interpretation functions frequently rather than occasionally. Still, however, it should be observed that only about half (percentages range from 51 to 58%) of the respondents have duties in this section. As far as the previous information is concerned, it seems that psychologists in industry (broadly speaking) would have herein numerous duties and perform them frequently. For those, who do, this statement is appar-
ently true. But, according to these data, only half have such duties.

The Consulting respondents indicate that many of them do work in test interpretation. Compared to the Business and Industry Group, they generally report higher percentages to all the items. Especially, is this true in regard to "Interpretation of test results as a basis for clinical counseling" and "... as a basis for training programmes." The Advertising respondents again do not indicate work in this area.

The psychologists in this sample do not include many who do much "TEST CONSTRUCTION" (9:11). The total percentages reported for the general test areas range from 14 to 36%, the latter percentage being for "General Ability tests." The second highest percentage (30%) is reported for the item "Attitude and Morale Tests." There doesn't seem to be a particular pattern with regard to one test area being emphasized more than the others by the respondents. Within the group comparisons, 53% of the Consulting Group people "have constructed" or "are constructing", "General Ability Tests", while 30% of the Business and Industrial People report work in this area. More Consultants have worked, etc., with "Muscular and Motor tests" and "Personality Tests". However, the differences as observed are not large enough to indicate that they are very important. Only one Advertising Group respondent reports working on tests those being only in the area of "Attitude and Morale".

It should be mentioned that the above comparisons are based upon the number of respondents who report a particular item or function. Those who so report usually indicate several tests which they have
constructed. In general then, the test construction people seem to be specialists though it cannot be determined from these data how they came to be that way. This will be discussed later.

The respondents' replies to the column "Designed to Measure" (under 9.11) (in reference to the test or tests constructed) indicate, generally speaking, that the tests are used in specific situations. Few of them report generalizations. A few have written in the names of the test and these mostly are in terms of a specific job or job characteristic. Some of them are quite bizarre. (See "Other under 9.11"

As to the "ADMINISTRATION CHARACTERISTICS" (9.12), the respondents indicate that the tests constructed by them were "Group", "Time limit", "Paper and pencil", "Verbal", and "Hand scored". All the other characteristics are checked by some of the respondents, but the above four are predominant in terms of percentages.

As for group differences there is very little. Higher percentages are presented for the Consulting Group members with a few exceptions. The significance here, however, is that all the items were checked by the same respondents in the two groups indicating that a psychologist in industry probably on occasion would need to be familiar with all possible testing methods, techniques and characteristics.

Of the entire group of respondents, 58% use published tests and only 9% do not (67% response to this question). Seventy-two percent of the Consulting Group respondents use published tests (all who answered).
As far as weighted test batteries are concerned, 56% answered) and half of those indicate "Yes" and half "No". In the group comparisons, there is no observable difference between the groups.

Thirty-three kinds of criteria are reported by the psychologists as being used in their validation of tests. These are reported under 9.12. In general, there appear to be few, if any, which do not appear in standard texts. One rather surprising one is listed, i.e., using the Rorschach as a criterion measure.

In "RESEARCH AND DEVELOPMENT" (9.13) about 60% of the respondents report having duties in all items under the first division, "Administration of Research". The range for the total group is from 57 to 73%. Comparing groups, the Advertising Group members have the highest group total percentages, followed by the Business and Industry Group and Consulting Group in that order. Many of the respondents reporting duties in this area indicate that they perform them frequently. This is true in each group.

In the other division, "Specific Research" the respondents were presented with some problems on which they may do research and make studies of various kinds. There wasn't a problem presented which does not have at least one psychologist checking. One wonders what the situation would have been if more complete listing had been made. However, several other research problems were added under "Other" and are listed at the end of 9.13.

Since the problems were taken from those presented in the literature and from the general information of the author secured in inter-
views with psychologists who spend full time in industry, it is possible that most of the major research problems have been listed.

Only two research problems listed are checked by more than half the respondents. These are "Testing program" and "Interview procedures". All the other problems are checked by 3 to 46% of the respondents. Most of the psychologists indicate performing work on the problems occasionally or seldom.

In general, then, the randomness of the work functions indicated in this section suggests that the psychologist works on problems as they arise and whenever called on.

There is little difference between the Business and Industry Group and the Consulting Groups. The Advertising Group members indicate considerable specialization in this area, however. It is possible that their functions are seen most clearly here. These respondents indicate that they work on "Production planning", "Customer attitudes", "Advertising program", "Market studies", "Sales letter techniques", "Interviewing program" and "Analysis of trends and developments ... in other industries, etc." These are according to the highest percentages reported.

Many of the respondents report frequent "ADMINISTRATIVE DUTIES" (9.14). Those reported by at least half are:

Make reports
Advise on company policies
Handle certain correspondence
Prepare periodical progress reports
Advise other departments
Make speeches
A larger number of the Business and Industry Group (compared to the other groups' respondents) check items in this section.

With regard to committees, representative names of committees are presented in the section 9.14 under the item "Member of Company Committees".

The same method is used with "Make speeches." Representative groups are listed under the item in the table. The psychologists indicate that their speeches are largely concerned with psychological problems, testing, guidance, and psychological techniques. As indicated by comments, the respondents make numerous speeches.

Forty-one percent of the total respondents write research reports. This, then, indicates that research is a major function of the psychologists, though much of it may not be in the form of working on a specific problem. As indicated by comments, a lot of it is drawing together information from many sources and presenting it in the form of a report to top executives.

For "OTHER WORK FUNCTIONS" (9.15) the respondents indicate numerous functions which are peculiar only to their jobs and their companies. There is no observable pattern in their duties. The randomness of their functions is seen in Section 9.15 where summary and verbatim responses are presented. (Some were too extensive and wordy to include verbatim and were summarized as accurately as possible.)

10. Most Important Duties

The "MOST IMPORTANT DUTIES" are presented in Table 8. These
duties are grouped by similarity of functions, and the groups are ranked in order of percentages within the major groupings. Thus, it is possible to see the way the psychologists as a group function in their organizations and work units.

The Industry and Business Group is subdivided in the following order (with percentages listed):

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>30%</td>
</tr>
<tr>
<td>Scientific, Research and Development</td>
<td>28%</td>
</tr>
<tr>
<td>Policy and Management</td>
<td>20%</td>
</tr>
<tr>
<td>Labor Relations</td>
<td>11%</td>
</tr>
<tr>
<td>Education and Training</td>
<td>4%</td>
</tr>
<tr>
<td>(No response)</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The Consulting Group is similarly subdivided:

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>25%</td>
</tr>
<tr>
<td>Policy and Consulting Firm Management</td>
<td>25%</td>
</tr>
<tr>
<td>General Consulting</td>
<td>22%</td>
</tr>
<tr>
<td>Research and Development</td>
<td>13%</td>
</tr>
<tr>
<td>Clinical Evaluation</td>
<td>9%</td>
</tr>
<tr>
<td>Labor Relations</td>
<td>3%</td>
</tr>
<tr>
<td>Market and Opinion Research</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The Advertising Group also is similarly subdivided:

<table>
<thead>
<tr>
<th>Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market and Opinion Research</td>
<td>63%</td>
</tr>
<tr>
<td>Policy and Advertising Firm Management</td>
<td>37%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

From this sample, then, it appears that the psychologists are variable with regard to their most important duties. The particular job, the particular company, and the particular problems will determine his work. From these data it appears that a psychologist should be able to work in several different areas of specialization, because
it is likely that he will not be able to know what duties he may perform.

11. Educational Requirements

In Table 9, the "EDUCATIONAL REQUIREMENTS" are presented according to the data secured from the respondents and are listed as appearing on the questionnaire.

The Business and Industry Group respondents report the bachelor degree is the minimum for 43% of their jobs, Master's for 24% and doctorate for 33%. Comments from these represented in the latter respondents say that the doctorate was necessary to get the job, but has little bearing thereafter. Some reported specifically that they would be better off with a bachelor degree only in their present work, though not much was presented as to the reasoning involved. Several possibilities are: that their work now is so routine and not related to their training that not much specialization was necessary; that they have not attained a satisfactory job; that they have not been able to convince management of their utility, and so on.

As far as "Desirable requirements" are concerned, the respondents indicate, generally that the more academic training the better since higher percentages of respondents favor the doctorate and the master's. However, 27% do not specify any, in other words, they apparently aren't certain as to what is desirable.

For "Required subjects" and "Courses contributing most to their success in the job", the respondents (as a group) recommend the equivalent to a small-sized university catalogue. However, "None
appears quite high on both lists. About all the areas of Psychology are represented. Many areas of Business Organization and Management and most of the Social Sciences also are included.

In regard to the industries represented by the respondents, a check revealed no particular pattern being evident. For example, one respondent reports Chemistry as desirable yet he is involved in Personnel work in a metal manufacturing concern. It probably indicates more than anything else, the need for basic science courses to give technical understanding and vocabulary.

Consultant respondents primarily specify that the doctorate is required, or no 60% report, for their jobs. This depends upon the consulting area and the functions. Again, for "Desirable requirements" the doctorate is heavily emphasized. Some reply that no particular degree is necessarily adequate but that several years experience is mandatory prior to the job.

Approximately the same subjects are listed by this group as are listed by the Business and Industry Group, both as to "Required subjects" and "Courses contributing most to success in your job".

The Advertising Group respondents are very similar to the other groups in this section. Little difference, either in terms of percentages or courses, is observable.

Generally, of all the respondents, 45% think the doctorate is the minimum educational requirement for their jobs. Most of them think Statistics, General Psychology, Tests and Measurements, Clinical Psychology, Business Administration, and the Social Sciences are the sub-
jects and areas in which psychologists should have training. (See Table 9, Appendix 1)

12. Training For Job

In answer to "What kind of training is there for your job?" the respondents emphasize that it is a matter of "on-the-job training" and "self orientation." There is little "formal training" for the respondents. No doubt this is due to the fact the psychologists are specialists and consequently are probably regarded as sufficiently trained already. If a psychologist is heading a program and the program is well established, it is possible that formal training program would be conceived. Psychology in industry is probably not far enough along for that.

By groups, the Consulting Group has the largest percentage who indicate some kind of training. Even so, self-orientation looms large. This again is probably because they are required (in many instances) to be experienced.

With other two groups, the respondents report it is largely a matter of self-orientation.

In answer to "What is the average length of time to become proficient in your job?" several respondents made comments such as "Still learning after 12 years," "God knows," or "I have only been working on this job for fifteen years so I wouldn't know". Those who respond with a specific time indicate that (in regard to the total number of respondents) the median time is about 5 years. It would be interesting to
just why they think it would be this long, i.e., what factors are involved in attaining proficiency on a job. Probably (with this sample) it is because of the number of administrative people who are included. Administrators tend to need several years to become very proficient in their work according to comments of two of the respondents.

The Advertising Group median is located at 10 years, with the mean at 9.4 years. The probable explanation for this is due to the small group and the fact that 3 of the 8 respondents (who happened to be top executives) indicated that 15 years is the needed time to become proficient.

13. Personal Requirements

Table 11 presents the percentages of respondents, for each of the items under "13. What are the PERSONAL REQUIREMENTS for your job?" The following items are selected by at least 75% of the respondents:

Express self well in writing
Express self well orally
Initiative
Ability to make decisions
Adaptability
Able to supervise others
Ability to accept responsibility
Tactful
Cooperative
Sell program or services to others
Alert

Each item has been selected by at least one of the respondents. The items generally are all "favorable" and were selected because of that fact. The author believed that more significance could be given the items selected from a favorable list since the "best" would
therefore be differentiated by the "good".

Some of the respondents specify other items, and these are presented at the end of the group percentages in the table.

Some of the respondents question "Extroversion" and "Introversion". Others make qualifications such as "Converted introversion" or "50-50" or "Ambiversion" or "Modified Extroversion".

Some items have been double, triple and quadruple checked. However they are reported merely as double-checked. Some of these are "Sell program", "Ability to accept responsibility", "Plan program" and "Initiative."

As far as the groups go, there is little difference between them. Chi squares (corrected for percentages) have been computed for some of the items which differ rather significantly by observation between groups in terms of percentages, viz., "Alert", "Dress well," and "Systematic". These are significant to the ten percent level of confidence using a 50-50 hypothesis, favoring the Consulting Group.

14. General Comments

Table 12 presents the respondent's replies to the specific questions asked in "14. What GENERAL COMMENTS do you have to make?"

Throughout, the answers are grouped in order to make meaningful patterns. To some of the questions the respondents are quite in agreement. To others they differ to some extent. Some answers are quite enlightening to the author and should prove interesting to the reader. As far as possible, they have been reproduced in full.
The percentages of responses from each group have been recorded below the group titles. The numbering (in Table 12 and here) still conforms to the questionnaires.

1. Generally, the respondents are specific as to the disagreeable factors in industrial work. Within the Business and Industry Group, five groupings have been made. These may be described as "Specific 'gripes'", "Nothing," "Personal difficulties," "Administrative difficulties," and "General professional difficulties". About 65% of the 86% point out places and areas wherein the psychologist is likely to have conflicts.

   The Consultants emphasize the "personal difficulties" (31%) and the "General professional difficulties" (28%).

   The Advertising Group generally (from other information) has the problem of "deadlines" which here is evidenced by one respondent's comment of "pressure".

   In summary, the psychologists apparently have as much difficulty as any other work group, but generally these are professional problems rather than job insecurity, competition, lack of satisfaction, lack of promotional opportunities, etc. The bulk of the comments probably covers all the various phases of difficulty in an industrial "Psychological job".

2. In regard to "Travel", the respondents do not indicate that they have to be away from their offices more than they prefer. The Consultants, however, are evenly divided on this point, (See page 26)
3. Again the Consulting Group members differ from the other groups in their replies to "travel" as presented in this question. A slight majority of these answering the question indicate that travel is important in most of the psychologists' jobs.

4. In regard to the PhD requirements, the respondents are quite specific in their comments. The comments (some are commentaries!) have been grouped in terms of "unfavorable," "slightly unfavorable," and "favorable." Of the Business and Industry Group respondents, out of 78% answering, 63% are generally unfavorable toward them using such adjectives as "Terrible," "Stinks," etc.

In the Consulting Group, 91% have responded and about 76% are unfavorable and gave quite similar comments.

The Advertising respondents point out an interesting thing. One writes "Thoroughly inadequate for work in Advertising" while another reports "Insofar as advertising is concerned, I believe requirements are adequate." The only explanations (without data) that are probable are their respective jobs and/or the schools they attended.

5. The majority of the respondents believe that the Master degree would be sufficient to get a responsible job in industry. In the broad view, the question is rather "off-center" because it doesn't take into account the individual holding the degree. However, the respondents with few exceptions interpret it narrowly as intended. The comment "Yes, but not for long" is a significant one in terms of the other data, comments, etc.

6. The respondents who answer this question have specific suggestions
in the main. In the Business and Industry Group, 37% advise experience, 24% advise some specific educational courses, and 15% respond with advice in regard to personal qualifications.

The Consulting Group's replies are approximately the same with about the same percentages. Fifty percent of the Advertising Group respondents emphasize personal experience and requirements for the psychologist.

7. A large majority of respondents indicate that design of equipment and apparatus is not an important prerequisite. A few consultants specified that it may be "on highly specialized assignments".

8. With regard to consulting firms the replies have been grouped as "favorable," "slightly unfavorable," and "unfavorable." In the Business and Industry Group, 85% replied. Over half the total group of respondents believe that consulting firms do not constitute the best solution to industrial "psychological problems." Twenty-six percent were favorable. One comment is especially pertinent. It is "Not much. They don't have to live with their solutions." For industry, this probably is a good statement of the problem.

The Consulting Group respondents (94%) are all favorable (some wrote "naturally"), but a few had qualifications. To some of the respondents to this study, other respondents would be classed as "quacks" because some were "lone operators" and had very small organizations. However, from the data, there is little evidence that all the Consulting Group respondents are not entirely professional and competent in their work.
The Advertising Group respondents generally are favorable to consulting firms.

9. The respondents are generally favorable to the idea of credit toward PhD given for work in an industrial situation. However, such comments as "Unimportant" probably express the basic reasoning of those who are in the negative. And since there are quite a few, such a program probably should be carefully evaluated in terms of the situation and value obtained.

10. The uselessness of the foreign language requirement is emphasized by the great majority of the respondents. One respondent reported that they are very useful. His position is one involving (by his own expression) "promotion of the scientific method..." and his comment is in relation to this function. In the opinion of the writer, there seems to be no relationship between the scientific method and foreign languages, and this in part is borne out by the comments of the other respondents who emphasize the scientific method as important but who still want the universities to be rid of the "academic hangover" of foreign language requirements.

The Consulting Group has two respondents who specify that Spanish is useful. However, this is one type of situation (i.e., work with illiterate Mexican and Cuban laborers) and cannot be generalized, except to say the utility there is hardly academic.

11. As to satisfaction in an industrial job there apparently is much in terms of these respondents. Some tend to regard the academician's life as desirable but not sufficiently well paid as far as they are concerned.
12. The great majority of the respondents believe that their services make considerable difference in company policies. A few said "Practically none" and "Not much ... yet". As far as could be determined these respondents have just recently taken their present jobs, which probably accounts for it. Otherwise, the nature of the psychologist's job may explain it.

13. In regard to advice most of the respondents think that it is neither "more nor less." Only the Consultants (for whom the question was primarily designed) indicate proportionately larger amounts of advice given than they prefer. And the comment "Transfers to things I know little about" is particularly significant. The author has believed that this is the area where consulting group people get "into hot water" and help destroy the effectiveness of psychology in industry. However, the question was rather literally translated and consequently, in terms of the data, no special conclusions can be reached.

14. Top executives apparently are becoming satisfactorily "psychologically minded" as far as the group is concerned. Such comments as "Yes (naively)," or "Yes, each in his own foggy, uncritical way," or "Yes, slowly," probably are indicative of the true progress they, as a group, are making.

15. Except for changes in business conditions and easing of taxes (because of the deductions a "psychological program" is made possible) the respondents are almost without exception optimistic about the future of psychologists in industrial areas. The respondents occasionally become very verbose regarding this point, some to the point of mailing separate letters further stating their points. Insofar as
possible representative comments have been listed. Two things stand out: the personal qualifications and the need for adequate training facilities. A majority about (75%) of the respondents, in some part of the questionnaire, indicate the inadequacy of the present training in the graduate schools. These points are discussed in Chapter VI.

Summary Of Work Functions and Duties

It is necessary to summarize the most important section of the questionnaire, i.e., the major work areas and functions of the psychologists in this study. The other sections are considered to be self-explanatory or adequately covered in the discussion of the results. Some of the more obscure points will be covered in Chapter VI.

In general, the duties of the respondents fall into about all of the work divisions or classifications presented in the questionnaire. Their other functions appear to be incidental for the majority of the psychologists.

It is apparent that most of the respondents use the bulk of these psychological tools, techniques and methods or perform the functions and duties occasionally, although a few are used or performed frequently. Supervision is reported by some respondents in all the work areas, primarily in "STATISTICAL METHODS" and "TEST ADMINISTRATION." However, supervision is not frequently reported. Those who supervise, tend to supervise in most areas, but these respondents are few in number.

In regard to the relative importance of the various work areas,
according to the total group of respondents, quite a few of the areas are significant.

To show this best for the total group of respondents, the author believes that two different methods can be used, each presenting the relative importance of the work divisions or classifications in a different way. (A work division actually is a classification of tools, techniques, functions or methods, as the case may be.)

The first method was used to determine the percentages shown in Figure 2. This figure presents the range and mean of the percentages of respondents supervising and/or performing the work functions in each classification or division under "9. Work Analysis of Major Functions." (See Table 7 for the item percentages from which the range and mean percentages were derived.) The mean percent of the respondents (from their responses saying that they use, perform, or supervise a factor or function) was calculated from the grand total item percentages in each division or classification simply by summing these percentages and dividing by the number of items. This procedure is valid since the N is constant and the grand total percentages were computed directly from the total number of respondents to an item and not by averaging the percentages of the three groups. As seen later, this procedure was used for each of the sub-groups also.

The second method was used to determine the percentages shown in Figure 3. In this case, the percent of work functions in each classification or division performed and/or supervised by 50% or more of respondents was calculated. That is, the number of items which have grand total percentages of 50 or more were summed and divided by the number of items in the particular classification or division. Again, this
method was used for each of the sub-groups.

Returning to Figure 2, it can be seen that the majority (65%) of the respondents have responsibilities and duties in "Administration of Research". As a group, these psychologists appear to be technical administrators using the various factors and functions to assist them in this primary work area.

Statistical methods and techniques are very important in their jobs. So are the others in decreasing degree. The various combinations will make up the various jobs of the respondents. This is an important point. The psychologists, are not primarily one kind of specialist, or do one thing in regard to the applied psychological jobs they hold. Generally speaking, they use a method or technique when it is needed, or they perform a special kind of duty when needed, but they are not restricted to applying psychology in specific ways using specific things. In other words, they are not necessarily "specialists" within their specialized profession. It apparently is still too dynamic for that.

In Figure 3 the divisions, which have the greatest number of items indicated by at least 50% of the respondents, are ranked quite similarly to those in Figure 2. It is possible to see the relative importance of the divisions by this method.

The respondents, as a group, are primarily involved with research administration, statistical methods, test interpretation and administration, occupational analyses methods, rating scales, interviewing, and administrative duties.
Figure 2.

THE RANGE AND MEAN OF PERCENTAGES OF RESPONDENTS SUPERVISING AND/OR PERFORMING WORK FUNCTIONS IN EACH CLASSIFICATION
(TOTAL GROUP = N 86)

*Note: "Administration of Research" and "Specific Research" are here presented separately rather than summed under "Research and Development" in order to show the relative importance of each in the psychologist's jobs.
Figure 3

The percent of work functions in each classification performed and/or supervised by 50% or more of respondents
(Total group - N 86)

Administration of Research
Statistical Methods
Test Interpretation
Test Administration
Occupational Analysis
Rating Scales
Interviewing
Administrative Duties
Clinical and Personal
Analyses
Education and Training
Specific Research
Questionnaire Surveys
Labor Relations
Test Construction
Figure 4

THE RANGE AND MEAN OF PERCENTAGES OF RESPONDENTS SUPERVISING AND/OR PERFORMING WORK FUNCTIONS IN EACH CLASSIFICATION (BY GROUPS)

LEGEND: Business and Industry Group (N 46)  
Consulting Group (N 32)  
Advertising Group (N 8)
Figure 5

THE PERCENT OF WORK FUNCTIONS IN EACH CLASSIFICATION PERFORMED AND/OR SUPERVISED BY 50% OR MORE OF RESPONDENTS (BY GROUPS)

LEGEND: Business and Industry Group (N 46)  
Consulting Group (N 32)  
Advertising Group (N 8)
By using the same two methods for analyzing the sub-groups, the major work areas and their relative importance is shown. (See Figures 4 and 5)

The Business and Industry Group (Figure 4) follows the pattern of the total group very closely, both as to order and percentages. Administrative duties are more important here, however.

The Consulting Group, however, differs from the total group and the Business and Industry Group somewhat as to the rank of the major work areas. Six areas are especially important in their work: test interpretation, statistical methods, occupational analysis methods, test administration, research administration and rating scales (according to the average percent of responses.) The percentage differences are small however.

The Advertising Group confines their work to four areas: research administration, statistical methods, questionnaire surveys, and interviewing. These seem to comprise their major functions.

In Figure 5 the relative importance of the work areas by groups within the divisions may be seen (as calculated by the second method described on P. 58).

The Business and Industry Group is more concerned with clinical and personal analyses than the total group, but is apparently less concerned with occupational analysis techniques. Otherwise, this group compares very favorable with the total group.

The Consulting Group has some surprising shifts, however, in
relative importance of the work areas as compared with the total group and the two sub-groups. High percentages are recorded for several areas, namely test interpretation, administration of research, test administration, rating scales, occupational analysis methods, and statistical methods. The rank in order of the above items is the interesting thing plus the fact that all are relatively very important in the Consulting Group's work.

The Advertising Group emphasizes research administration, statistical methods, interviewing, and questionnaire surveys, the latter two areas differing greatly from the total group and the other two sub-groups.

In general summary, the Business and Industry Group and the Consulting Group are quite similar. The Advertising Group tends to use about all of the same techniques but emphasizes some of them much more than do the other groups.
Chapter VI

GENERAL CONCLUSIONS

In the writer's opinion this study offers evidence which tends to cast doubt upon many of the commonly expressed ideas about what psychologists are doing in industry. For example, specific research problems such as "Morale problems," "Communication between management and workers," problems of "Attitude" and "Adjustment" are being worked on but there is no "mobilization" or "all out effort" as would be supposed. The Consultants appear to be doing less here than the Business and Industry Group. "Labor Relations" is another area in which it has been presumed by many that psychologists are hard at work. These data offer little evidence in support of that, even in "Specific research for labor relations," and item within the "LABOR RELATIONS" work division in the questionnaire. Only 16% of the respondents report work in re this item. In "TEST CONSTRUCTION" some respondents are at work on "Attitude and Morale" tests and inventories, but again, in terms of the total respondents, it has little significance.

Before going much further, it is necessary to add that two modifying factors may be operating to explain the above. For one thing, the sample is undoubtedly biased. Many of the psychologists have been in the field for several years. Consequently many of them are not strictly "psychologists" as of now but have become executives and administrators. (See Page 25) This would tend to modify the results in some unknown degree. If 100% coverage had been possible, and if
the 1946 APA Yearbook had listed the members taken into the organization at the September, 1946 meeting (many of whom are younger psychologists who may be working in industry on the very things which are here described as "not significant"), perhaps the data would have been altered by their inclusion.

The other factor (to which the writer would like very much to subscribe) may be that the firms and organizations employing psychologists are sufficiently aware of the value of "psychology" that there are no real "morale" and "labor relations" problems. In this sense, the managements of the companies would probably have the foresight and sufficient information to be able to meet and solve the problems before they're in trouble. In that case the psychologists may be likened to "inspectors" or "quality control analysts" or "trouble shooters", present to help keep the situation routinely in hand. There is some evidence for this in the data, by little that is clearly tangible.

In regard to "TEST CONSTRUCTION" the data do not support the belief that most psychologists in business and industry construct tests as a main job function. Of those who do it, they tend to do it a lot. They are essentially specialists. But they do many other things also. The "average" psychologist in industry doesn't do a lot of test construction work. He relies on published tests to a large extent.

Generally speaking, "testing" for the personnel program is still the order of the times. But one must not overlook the importance of the data in regard to "Statistical Methods," "Administration of Research,"
"Occupational Analysis Methods," etc. These latter items show the importance of mastering of both specialized tools and techniques and broad, general information.

"Administration of Research" brings into play an organized scientific background constructed of methodology, design, controls, technique, and whatever else composes the "scientific method in psychology." This point, if acceptable, stresses "General and Experimental Psychology." In order to conceive, direct and evaluate research, it is obvious that the basic scientific psychological background is necessary. But from these data (e.g., the wide variation of work in "Specific Research") it appears that the methods, tools and techniques, if they are to be applied well, must be within the working, practical knowledge of the applying psychologists.

The author feels that this is the basic reasoning behind the complaints of the psychologists in this study. Psychologists leave graduate school without having had experience enough in doing research on a variety of small problems which would give versatility, adaptability, and practical knowledge of the limitations and the extent to which psychological methods can be applied. In regard to their university training, then, this appears to demand inclusion, i.e., wide applied work and research experience, not necessarily on a large scale problem, but a variety of small problems in many areas of psychology.

Several general conclusions are as follows:

1. The respondents are generally critical of the existing doctoral requirements now in universities, especially in regard to the foreign language requirements. Few say the requirements are satisfactory.
The criticisms also include the lack of practical experience. They are not very explicit however, as to what to do about it - as far as the universities are concerned.

2. In order to rectify the inadequate training the suggestions seem to be that the psychologists should obtain a broad training in fields other than psychology. Some of the respondents suggest such specific things as "30 units of Business Administration courses" or "Take Law, Accounting, and Industrial Engineering". Breadth of general academic training seems especially desirable along with breadth of academic and applied training within the confines of psychology.

3. As far as psychological training is concerned the psychologists should have or obtain training which would enable them primarily to do work in (or with) Research Administration, Statistical Methods, Test Interpretation and Administration, Occupational Analysis Methods, Rating Scales, Interviewing, and general administrative duties. In terms of the respondent's present jobs, these are the areas of primary importance. This does not say that the other academic areas are not important, they probably are less so. No doubt the other training and academic areas mean the difference between resounding and mediocre success on the job, for the respondents indicate that general knowledge, knowledge of industry, etc., are very important to good achievement in an industrial job.

4. Then, too, though not directly concerned with training, certain personal requirements are essential. "Ability to sell," "Use your technical vocabulary with extreme restraint," "Ability to express self well orally and in writing" etc., are some of the most important
factors contributing to success. (See pages 49 and 50, and Tables 11, and 12)

5. The future of psychology applied to industry appears to be very bright, with certain qualifications. The respondents believe that the best results will come when the universities are able to train the psychologists more in line with the actual jobs as they exist in industrial areas.

6. Lastly, the author believes that at present there is no real profession of "Industrial Psychology." The data obtained in this study shows the utilization of many of the methods and techniques. However, there seems to be no systematic, specific, organized relationship existing between the psychologists and the company, firm, etc., which employs them. The titles of the jobs vary considerably yet they regard themselves as "psychologists." Their background and training are quite similar, but that does not carry over into their duties in the job necessarily. Consequently, the only real basis for comparing them is still in terms of their academic training, not their present employed status. When "Psychologist" means the same thing to all employers and employees, then a profession of "Industrial Psychology" may be said to exist. Probably a definition recently given is at the heart of the matter. One well-known psychologist said: "An Industrial Psychologist is a psychologist who teaches a course called 'Industrial Psychology' in a university." The title of the study, then, seems to be justified from the results.

Though not entirely within the data, the author believes certain suggestions arise from this study for universities training psycholo-
gists. These are: (1) Have the student perform a series of small research studies requiring the application of many varied and different techniques. This will give the student an opportunity to get "experience" comparable to that required by industry. (2) Have the major research problems approached by "pooled research." By "pooled research" the author means a psychological research project in which the student works in collaboration with professors and other students, each of whom contributes by means of a specialized approach or area of investigation. By this method the individual can enter into the large over-all planning and get the benefit of many points of view, both as to methodology and the relative significance of the various aspects of the project. (3) Have courses and/or seminars approaching the area called "Administration of Research" in this study. This would aid greatly in giving information as to planning, costs, controls and variables, criteria, coordination, etc. This information is practically unobtainable at present.

There are other suggestions which could be made, but these seem to be the most practical in terms of what the psychologists in industry want and need.
APPENDIX I

TABLES OF DATA
APPENDIX I

SUMMARY TABLES OF DATA COLLECTED FROM THE QUESTIONNAIRE "SURVEY OF TRAINED PSYCHOLOGISTS IN INDUSTRY"

Note: In accordance with Table 2, Chapter IV, the categories will be presented as:

- Business and Industry Group
- Consulting Group
- Advertising Group

Table 1

<table>
<thead>
<tr>
<th>2. Title of Position</th>
<th>3. Industry</th>
<th>4. Department</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(Business and Industry Group N 46)</td>
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**Titles showing "psychological" job functions**

<table>
<thead>
<tr>
<th>Position</th>
<th>Industry</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Psychologist</td>
<td>Glass Manufacturing</td>
<td>Personnel</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>Rubber</td>
<td>Training Division</td>
</tr>
<tr>
<td>Research</td>
<td>Brewing</td>
<td>Research</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>Radio Broadcasting</td>
<td>&quot;</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>Electric Utility</td>
<td>Employment &amp; Records</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>Paper Products</td>
<td>Industrial Relations</td>
</tr>
<tr>
<td>Staff</td>
<td>Automotive</td>
<td>Employee Relations</td>
</tr>
<tr>
<td>Staff Consulting</td>
<td>Chemical</td>
<td>Research</td>
</tr>
<tr>
<td>Head of Research Dept.</td>
<td>(In Industrial Relations Division)</td>
<td></td>
</tr>
<tr>
<td>Director of Research</td>
<td></td>
<td>&quot;</td>
</tr>
<tr>
<td>Research Assistant</td>
<td>Radio Broadcasting</td>
<td>&quot;</td>
</tr>
<tr>
<td>Personnel Research Assistant</td>
<td>Petroleum</td>
<td>Industrial Relations</td>
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<tr>
<td>Personnel Research Analyst</td>
<td>Electrical</td>
<td>Personal</td>
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<td>Personnel Research Associate</td>
<td>Electronic Mfg.</td>
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<tr>
<td>Research Associate</td>
<td>Publishing</td>
<td>Research</td>
</tr>
<tr>
<td>Assistant Staff Supervisor</td>
<td>Insurance</td>
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**Titles showing Administrative personnel functions**

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<tr>
<th>Position</th>
<th>Industry</th>
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<tbody>
<tr>
<td>Director of Personnel</td>
<td>Auto Accessories</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>Office Machine Mfg.</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>Gas Utility</td>
</tr>
<tr>
<td>Personnel Officer</td>
<td>Banking</td>
</tr>
<tr>
<td>Personnel Manager</td>
<td>Publishing</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>Petroleum</td>
</tr>
<tr>
<td>Employment Manager</td>
<td>Glass Manufacturing</td>
</tr>
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*Corresponds to number and question appearing in the questionnaire.*
Table 1 (continued)

<table>
<thead>
<tr>
<th>Position</th>
<th>Function</th>
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</thead>
<tbody>
<tr>
<td>Director of Supervisory Development</td>
<td>Shoe</td>
</tr>
<tr>
<td>Supervisor of Selection and Placement</td>
<td>Industrial Relations</td>
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<tr>
<td>Supervisor of Selection and Guidance</td>
<td>Surgical Dressings</td>
</tr>
<tr>
<td>Administrator, Testing and Placement</td>
<td>Automotive</td>
</tr>
<tr>
<td>Assistant to Administrator, Testing and Placement</td>
<td>Dye &amp; Chemical</td>
</tr>
<tr>
<td>Training Supervisor</td>
<td>Dye &amp; Chemical</td>
</tr>
<tr>
<td>Salary Program Administrator</td>
<td>Steel Castings</td>
</tr>
<tr>
<td>Counseling Supervisor</td>
<td>Farm Implement Mfg.</td>
</tr>
<tr>
<td>Assistant, Personnel and training</td>
<td>Personnel</td>
</tr>
<tr>
<td>Testing Assistant</td>
<td>Administrative</td>
</tr>
<tr>
<td>Executive Personnel Ass't</td>
<td>Industrial Relations</td>
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<tr>
<td>Gas Utility</td>
<td>Personel</td>
</tr>
<tr>
<td></td>
<td>Office of Ass't to</td>
</tr>
<tr>
<td></td>
<td>Vice-President in</td>
</tr>
<tr>
<td></td>
<td>charge of Finance &amp;</td>
</tr>
<tr>
<td></td>
<td>Personnel</td>
</tr>
</tbody>
</table>

Titles showing technical executive functions: 13%

- Industrial Relations Mgr.
- Mgr., Industrial Relation, Marketing Dept.
- Director of Industrial Relations
- Director of Industrial Relations
- Ass't Director of Repertoire
- Director, Division of Research & Test Service

Titles showing top executives functions: 13%

- President & Director of Research
- President
- Vice President & Director Test Division
- Vice President
- Assistant to the Vice President

Textiles & Clothing Executive
Radio Broadcasting
Test Publishing
Manufacturing
Book Publishing
Distilling
Psychometric Research and control

Total 100%
### Table 1 (continued)

<table>
<thead>
<tr>
<th>2. Title of Position</th>
<th>3. Industry</th>
<th>4. Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Consulting Group N 32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Titles showing &quot;psychological&quot; job functions</strong></td>
<td>69%</td>
<td></td>
</tr>
<tr>
<td>Consulting Psychologist</td>
<td>General Consulting</td>
<td>--</td>
</tr>
<tr>
<td>&quot; &quot; &quot;</td>
<td>All Types</td>
<td>--</td>
</tr>
<tr>
<td>&quot; &quot; &quot;</td>
<td>All Industries</td>
<td>--</td>
</tr>
<tr>
<td>&quot; &quot; &quot;</td>
<td>Psychological Consultants to management</td>
<td>--</td>
</tr>
<tr>
<td>&quot; &quot; &quot;</td>
<td>Psychological Consultants to management</td>
<td>--</td>
</tr>
<tr>
<td>Staff &quot; &quot;</td>
<td>Management Consulting</td>
<td>--</td>
</tr>
<tr>
<td>&quot; &quot; &quot;</td>
<td>Service Research</td>
<td></td>
</tr>
<tr>
<td>&quot; &quot; &quot;</td>
<td>General Consulting</td>
<td>Engineering</td>
</tr>
<tr>
<td>Senior Psychologist and Partner Consulting</td>
<td>Metal Trades &amp; Graphic arts primarily</td>
<td>--</td>
</tr>
<tr>
<td>Consulting Industrial Psychologist</td>
<td>Small &amp; Medium Sized Company’s Diversified Mfg.</td>
<td>--</td>
</tr>
<tr>
<td>Personnel Consultant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Relations Psychologist</td>
<td>Consulting, all types Psychological Division</td>
<td></td>
</tr>
<tr>
<td>Supervisor, Psychological Services</td>
<td>Consulting, Management Engineering Services</td>
<td></td>
</tr>
<tr>
<td>Director of Psychological Services</td>
<td>Personnel Consulting</td>
<td>--</td>
</tr>
<tr>
<td>Director of Psychological Services</td>
<td>Agency</td>
<td></td>
</tr>
<tr>
<td>Director, Division for Sales Personnel Selection</td>
<td>All Types</td>
<td>--</td>
</tr>
<tr>
<td>Director of Research</td>
<td>Psychological Consultants to Management</td>
<td>--</td>
</tr>
<tr>
<td>Ass’t Director, Market Research</td>
<td>Consulting</td>
<td>Market &amp; Social Research</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Title showing executive functions** 31%

| Director | Consulting Biomechanics Div. |
| " " | Testng Service -- |
| " | Consulting Service -- |
| Associate Director | Consulting & Research Biomechanics Div. |
| President | Consulting Firm for Industries -- |
| " | Psychological Service Administrative Service |
(Table 1 continued)

<table>
<thead>
<tr>
<th>Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting &amp; Research</td>
</tr>
<tr>
<td>Consulting</td>
</tr>
<tr>
<td>Consulting to Management</td>
</tr>
</tbody>
</table>

Total 100%

2. Title of Position
3. Industry
4. Department

(Advertising Group N 8)

Titles showing executive functions 50%

| President |
| Business Research Firm |
| Executive |
| Vice President & Director of Research |
| Advertising |
| Administrative & Research |
| Managing Director |
| Commercial Research |
| Administrative |
| Account Executive |
| Advertising |
| Executive |

Titles showing technical functions 50%

| Marketing Director |
| Advertising |
| Research |
| Associate Director of Research |
| " |
| " |
| Account Research Supervisor |
| " |
| " |
| Research Assistant |
| " |

Total 100%
Table 2

<table>
<thead>
<tr>
<th></th>
<th>Average number of work days per month away from office</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2. Hours of Work</strong></td>
<td>(Business and Industry Group N 46)</td>
</tr>
<tr>
<td>Range</td>
<td>0 to 10 days per month</td>
</tr>
<tr>
<td>Median</td>
<td>4 days per month</td>
</tr>
<tr>
<td>Mean</td>
<td>3.8 days per month</td>
</tr>
<tr>
<td>Range</td>
<td>35 to 70 Hrs. per week</td>
</tr>
<tr>
<td>Median</td>
<td>40 hours per week</td>
</tr>
<tr>
<td>Mean</td>
<td>43.8 hours per week</td>
</tr>
</tbody>
</table>

| (Consulting Group N 32)                           |
| Range                | 0 to 20 days per month                               |
| Median               | 8 days per month                                      |
| Mean                 | 8.4 days per month                                    |
| Range                | 28 to 60 hrs. per week                               |
| Median               | 40 hours per week                                     |
| Mean                 | 43.2 hours per week                                   |

| (Advertising Group N 8)                            |
| Range                | 0 to 10 days per month                               |
| Median               | 3 days per month                                      |
| Mean                 | 3 days per month                                      |
| Range                | 36½ to 50 hours per week                             |
| Median               | 40 hours per week                                     |
| Mean                 | 42.2 hours per week                                   |
Table 3

5. Title of Superior who report to (title)

<table>
<thead>
<tr>
<th>Title of Superior</th>
<th>Number of Respondents</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Business and Industry Group N 46)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Titles showing top executive functions**

- President: 8
- Board of Directors: 3
- Vice President (Industrial Relations): 3
  - " " (Personnel): 2
  - " " (Production): 2
  - " " (Sales Manager): 1
  - " " (Not classified): 1
- Executive Vice President: 1
- Assistant Vice President: 1
- Assistant to Vice President: 1/23

Total: 50%

**Titles showing technical executive functions**

- Director of Industrial Relations: 3
- Manager of Industrial Relations: 2
- Director of Personnel: 2
- Manager of Personnel: 1
- Personnel Officer: 1
- Manpower Director: 1
- Director of Employee Relations: 1
- Manager Personnel Policy & Research: 1
- Director of Industrial Education: 1
- Director of Research: 1
- Manager, Development Division: 1
- Director of Repertoire: 1/16

Total: 35%

**Titles showing technical functions**

- Associate Head of Research Department: 1
- Chief Employment Interviewer: 1
- Administrator, Testing & Placement: 1
- Assistant Employment Manager: 1
- Assistant Manager, Industrial Relations: 1
- Personnel Assistant: 1
- Training Supervisor: 1/7

Total: 15%

**Total**: 100%
(Table 3 Continued)

<table>
<thead>
<tr>
<th>Title of Superior</th>
<th>Number of respondents</th>
<th>Percentages who report to (title)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self or none</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Partner</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>President</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Vice President</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Chairman, Board of Directors</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25</td>
<td></td>
</tr>
</tbody>
</table>

*(Consulting Group N 32)*

**Titles showing top executive functions**

<table>
<thead>
<tr>
<th>Title</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Engineering</td>
<td>2</td>
</tr>
<tr>
<td>Director of Division of Biomechanics</td>
<td>1</td>
</tr>
<tr>
<td>Director of Market Research</td>
<td>1</td>
</tr>
<tr>
<td>Manager, Service Research</td>
<td>1</td>
</tr>
<tr>
<td>Executive Director</td>
<td>1</td>
</tr>
<tr>
<td>Chief Psychologist</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
</tr>
</tbody>
</table>

**Total**

100%

*(Advertising Group N 8)*

**Titles showing top executive functions**

<table>
<thead>
<tr>
<th>Title</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Director of Research</td>
<td>3</td>
</tr>
<tr>
<td>President</td>
<td>2</td>
</tr>
<tr>
<td>Board of Directors</td>
<td>1</td>
</tr>
<tr>
<td>Director of Media and Research and Vice president</td>
<td>1</td>
</tr>
<tr>
<td>None (as owner and President)</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
</tr>
</tbody>
</table>

**Total**

100%
<table>
<thead>
<tr>
<th>Range</th>
<th>Title</th>
<th>Approximate Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Range - 0 to 78 people supervised</td>
<td>Position commonly found in personnel departments</td>
<td>35%</td>
</tr>
<tr>
<td>Median - 3 people supervised</td>
<td>Positions clerical in nature</td>
<td>30%</td>
</tr>
<tr>
<td>Mean - 7 people supervised</td>
<td>Positions line supervisory in nature</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Positions found in technical psychological work</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

**(Consulting Group N 32)**

<table>
<thead>
<tr>
<th>Range</th>
<th>Title</th>
<th>Approximate Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range - 0 to 29 people supervised</td>
<td>Positions found in technical psychological work</td>
<td>69%</td>
</tr>
<tr>
<td>Median - 3 people supervised</td>
<td>Positions clerical in nature</td>
<td>22%</td>
</tr>
<tr>
<td>Mean - 5 people supervised</td>
<td>Positions found in other technical fields</td>
<td>9%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

**(Advertising Group N 8)**

<table>
<thead>
<tr>
<th>Range</th>
<th>Title</th>
<th>Approximate Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range - 0 to 60 people supervised</td>
<td>Positions found in technical psychological and advertising</td>
<td>75%</td>
</tr>
<tr>
<td>Median - 5 people supervised</td>
<td>Positions clerical in nature</td>
<td>25%</td>
</tr>
<tr>
<td>Mean - 13 people supervised</td>
<td>Total</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Note: Four respondents reported "people supervised" respectfully as 35, 40, 46 and 78. Probably they misread the question and interpreted it as the over-all number they supervised.*
### Table 5

#### 7. Next job

<table>
<thead>
<tr>
<th>Position</th>
<th>Approximate Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(Business and Industry Group N 46)</strong></td>
<td></td>
</tr>
<tr>
<td>None or not definite</td>
<td>35%</td>
</tr>
<tr>
<td>Top line executive positions</td>
<td>26%</td>
</tr>
<tr>
<td>Department or Division Head positions</td>
<td>24%</td>
</tr>
<tr>
<td>Other technical staff positions</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

| **(Consulting Group N 32)**   |                         |
| None                          | 66%                     |
| Top Executive positions       | 19%                     |
| Other technical positions     | 15%                     |
| **Total**                     | **100%**                |

| **(Advertising Group N 8)**   |                         |
| None                          | 50%                     |
| Top Executive positions       | 25%                     |
| Department head positions     | 25%                     |
| **Total**                     | **100%**                |
Table 6

<table>
<thead>
<tr>
<th>8. Beginning Salary for PhD per year</th>
<th>Salary for M.A. per year</th>
<th>Top without change per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Business and Industry Group N 46)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentages answering:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>67</td>
<td>72</td>
</tr>
<tr>
<td>Range - $3000 to $6000</td>
<td>Range - $2400 to $5000</td>
<td>Range - $3600 to $15,000</td>
</tr>
<tr>
<td>Median - $3600</td>
<td>Median - $3000</td>
<td>Median - $6500</td>
</tr>
<tr>
<td>Mean - $3850</td>
<td>Mean - $3220</td>
<td>Mean - $7325</td>
</tr>
</tbody>
</table>

(Consulting Group N 32)

Percentages answering:

<table>
<thead>
<tr>
<th>78</th>
<th>69</th>
<th>65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range - $2400 to $6000</td>
<td>Range - $2000 to $5000</td>
<td>Range - $4000 to $20,000</td>
</tr>
<tr>
<td>Median - $4500</td>
<td>Median - $3200</td>
<td>Median - $7600</td>
</tr>
<tr>
<td>Mean - $4556</td>
<td>Mean - $3280</td>
<td>Mean - $8965</td>
</tr>
</tbody>
</table>

(Advertising Group N 8)

Percentages answering:

<table>
<thead>
<tr>
<th>67</th>
<th>67</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range - $3000 to $4800</td>
<td>Range - $2400 to $3600</td>
<td>Range - $8000 to $25,000</td>
</tr>
<tr>
<td>Median - $3500</td>
<td>Median - $2500</td>
<td>Median - $10,000</td>
</tr>
<tr>
<td>Mean - $3710</td>
<td>Mean - $2800</td>
<td>Mean - $13,250</td>
</tr>
</tbody>
</table>

* The percentages and salaries reported by this group probably are spurious to some unknown extent because of the small N, especially in regard to the top salaries.
The following table (Table 7) is designed to present the total percentages of responses to the check list items included under the major divisions or classifications of the section in the questionnaire entitled "9. Work Analysis of Major Functions." The group total percentages are reported for each items. (an item is again defined as a work factor or function.) Also, the total percentages (for all respondents) are presented in the last column to the right.

It should be added that in all cases the percentages have been calculated directly from the frequencies. In other words, the total percentages have not been determined from summing the group total percentages and finding the average; they have been calculated from the total frequencies (summing the group frequencies) directly.
**Table 7**

2.1 What are the STATISTICAL METHODS that you use in your job?

<table>
<thead>
<tr>
<th></th>
<th>Business &amp; Industry N 46</th>
<th>Consulting N 32</th>
<th>Advertising N 8</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphic Chart Construction</td>
<td>80%</td>
<td>88%</td>
<td>100%</td>
<td>85%</td>
</tr>
<tr>
<td>Measures of Central tendency</td>
<td>77</td>
<td>88</td>
<td>100</td>
<td>82</td>
</tr>
<tr>
<td>Measures of variability</td>
<td>70</td>
<td>84</td>
<td>100</td>
<td>78</td>
</tr>
<tr>
<td>Determine validity</td>
<td>76</td>
<td>81</td>
<td>87</td>
<td>80</td>
</tr>
<tr>
<td>Determine reliability</td>
<td>74</td>
<td>78</td>
<td>87</td>
<td>78</td>
</tr>
<tr>
<td>Use correlation methods</td>
<td>76</td>
<td>81</td>
<td>75</td>
<td>78</td>
</tr>
</tbody>
</table>

(Correlation methods mentioned most frequently)

1. Pearson r
2. Rho
3. Biserial
4. Tetrachoric
5. Partial r
6. Multiple r
7. Doolittle
8. Simple curvilinear
9. Scattergrams
10. Graphic

<table>
<thead>
<tr>
<th>Determine Norms</th>
<th>72</th>
<th>81</th>
<th>37</th>
<th>71</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item Analysis</td>
<td>63</td>
<td>72</td>
<td>25</td>
<td>64</td>
</tr>
<tr>
<td>Factor Analysis</td>
<td>35</td>
<td>31</td>
<td>25</td>
<td>34</td>
</tr>
<tr>
<td>Analysis of variance</td>
<td>39</td>
<td>25</td>
<td>25</td>
<td>34</td>
</tr>
<tr>
<td>Sampling methods</td>
<td>67</td>
<td>56</td>
<td>87</td>
<td>65</td>
</tr>
<tr>
<td>Measures of significance or probability</td>
<td>72</td>
<td>75</td>
<td>75</td>
<td>73</td>
</tr>
<tr>
<td>Trend lines</td>
<td>56</td>
<td>44</td>
<td>37</td>
<td>50</td>
</tr>
<tr>
<td>Quality control analysis</td>
<td>26</td>
<td>15</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>Design table for presenting data</td>
<td>76</td>
<td>75</td>
<td>100</td>
<td>77</td>
</tr>
<tr>
<td>Summarize results of statistical analyses</td>
<td>78</td>
<td>84</td>
<td>100</td>
<td>82</td>
</tr>
<tr>
<td>Design statistical plans for research projects</td>
<td>65</td>
<td>75</td>
<td>37</td>
<td>71</td>
</tr>
<tr>
<td>Design layout for IBM cards</td>
<td>50</td>
<td>31</td>
<td>75</td>
<td>45</td>
</tr>
<tr>
<td>Work out special wiring diagrams for use by IBM</td>
<td>15</td>
<td>9</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Use IBM procedures</td>
<td>43</td>
<td>25</td>
<td>50</td>
<td>37</td>
</tr>
<tr>
<td>Develop calculation formulae to simplify calculation procedures</td>
<td>28</td>
<td>22</td>
<td>50</td>
<td>28</td>
</tr>
</tbody>
</table>

**OTHER:**

- Nomographs
- Speed-sort cards
- Electric calculators
- Other mathematical devices
- Regression lines
- Electronic devices
- Setting up tests on machine
- Answer sheets for analysis
Table 7 (continued)

9.2 What OCCUPATIONAL ANALYSIS TECHNIQUES do you use in your work?

<table>
<thead>
<tr>
<th></th>
<th>Business &amp; Industry</th>
<th>Consulting</th>
<th>Advertising</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N 46</td>
<td>N 32</td>
<td>N 8</td>
<td></td>
</tr>
<tr>
<td>Motion and Time study</td>
<td>20%</td>
<td>25%</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>Job analysis</td>
<td>61</td>
<td>69</td>
<td>25</td>
<td>60</td>
</tr>
<tr>
<td>Job description</td>
<td>61</td>
<td>73</td>
<td>37</td>
<td>69</td>
</tr>
<tr>
<td>Job specification</td>
<td>48</td>
<td>66</td>
<td>37</td>
<td>53</td>
</tr>
<tr>
<td>Job definition</td>
<td>37</td>
<td>59</td>
<td>25</td>
<td>44</td>
</tr>
<tr>
<td>Job classification</td>
<td>37</td>
<td>47</td>
<td>12</td>
<td>38</td>
</tr>
<tr>
<td>Job evaluation</td>
<td>43</td>
<td>66</td>
<td>12</td>
<td>49</td>
</tr>
<tr>
<td>Personnel inventory</td>
<td>39</td>
<td>47</td>
<td>25</td>
<td>41</td>
</tr>
<tr>
<td>Personnel survey</td>
<td>39</td>
<td>63</td>
<td>12</td>
<td>45</td>
</tr>
<tr>
<td>Personnel audit</td>
<td>33</td>
<td>50</td>
<td>-</td>
<td>36</td>
</tr>
<tr>
<td>Job inventory</td>
<td>15</td>
<td>28</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Worker characteristics</td>
<td>37</td>
<td>63</td>
<td>-</td>
<td>43</td>
</tr>
</tbody>
</table>

OTHER:
- Work simplification
- Staffing Schedules
- Area and trade associations comparisons
- Job content analysis
- Clinical evaluation of Key personnel
- Wage survey methods

9.3 What QUESTIONNAIRE SURVEYS do you prepare or use in your job?

<table>
<thead>
<tr>
<th></th>
<th>Business &amp; Industry</th>
<th>Consulting</th>
<th>Advertising</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N 46</td>
<td>N 32</td>
<td>N 8</td>
<td></td>
</tr>
<tr>
<td>Job analysis questionnaire</td>
<td>45</td>
<td>53</td>
<td>25</td>
<td>46</td>
</tr>
<tr>
<td>Attitude toward a specific thing</td>
<td>59</td>
<td>54</td>
<td>50</td>
<td>48</td>
</tr>
<tr>
<td>Opinion surveys</td>
<td>45</td>
<td>25</td>
<td>75</td>
<td>42</td>
</tr>
<tr>
<td>Morale surveys</td>
<td>41</td>
<td>47</td>
<td>37</td>
<td>43</td>
</tr>
<tr>
<td>Job adjustment</td>
<td>24</td>
<td>41</td>
<td>-</td>
<td>28</td>
</tr>
<tr>
<td>Personal adjustment</td>
<td>22</td>
<td>38</td>
<td>-</td>
<td>25</td>
</tr>
<tr>
<td>Market research</td>
<td>15</td>
<td>25</td>
<td>75</td>
<td>24</td>
</tr>
</tbody>
</table>

(For market research):
- Advertising surveys
- Taste testing
- Readership surveys
- Retail sales, Buying habits, listening habits
- Vital statistics (for distilling company)
- Customer surveys
- Product acceptance
- Copy testing
- Sales effectiveness
- Readership ratings
- Radio listening habits
- Effectiveness of social and civic agencies
- Distribution
- Housing & transportation

OTHER: For wage and salary; For personnel policies; for accident surveys
Table 7 (continued)

9.4 What are your functions in INTERVIEWING?

<table>
<thead>
<tr>
<th>Function</th>
<th>Business &amp; Industry N=46</th>
<th>Consulting N=32</th>
<th>Advertising N=8</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advisor to interviewers</td>
<td>63%</td>
<td>69%</td>
<td>62%</td>
<td>65%</td>
</tr>
<tr>
<td>Evaluate interviewing</td>
<td>39</td>
<td>53</td>
<td>62</td>
<td>46</td>
</tr>
<tr>
<td>Do employment interviewing</td>
<td>52</td>
<td>56</td>
<td>37</td>
<td>52</td>
</tr>
<tr>
<td>Do dismissal and exit interviewing</td>
<td>37</td>
<td>19</td>
<td>37</td>
<td>31</td>
</tr>
<tr>
<td>Interview employees - attitude</td>
<td>41</td>
<td>44</td>
<td>12</td>
<td>39</td>
</tr>
<tr>
<td>Interview employees - opinion</td>
<td>37</td>
<td>38</td>
<td>12</td>
<td>35</td>
</tr>
<tr>
<td>Interview employees - disciplinary</td>
<td>37</td>
<td>199</td>
<td>25</td>
<td>29</td>
</tr>
<tr>
<td>Interview - employees - upgrading and promotion</td>
<td>50</td>
<td>53</td>
<td>50</td>
<td>51</td>
</tr>
<tr>
<td>Interview employees - follow-up and adjustment</td>
<td>45</td>
<td>56</td>
<td>25</td>
<td>48</td>
</tr>
<tr>
<td>Interview employees - in employee counseling program</td>
<td>41</td>
<td>38</td>
<td>-</td>
<td>36</td>
</tr>
<tr>
<td>Market research interviewing consumer</td>
<td>9</td>
<td>22</td>
<td>75</td>
<td>20</td>
</tr>
<tr>
<td>Market research interviewing other</td>
<td>6</td>
<td>12</td>
<td>37</td>
<td>15</td>
</tr>
<tr>
<td>Administrative interviewing</td>
<td>45</td>
<td>50</td>
<td>62</td>
<td>50</td>
</tr>
</tbody>
</table>

(For Administrative interviewing):
- To gather data for records, opinion, attitudes
- To determine needs and plans in Industrial Relations
- To determine training needs

(For job evaluation, merit rating, up-grading)
- To gather research data
- To develop programs with Boards of Directors
- For promotion and demotion
- Market research - distribution dealers, jobbers

(Market Research other):
- Dealers, manufacturer, users

OTHER:
- Interviewing clients and prospective in their problems requiring research techniques, presenting and interpreting results of market and social research.
Table 7 (continued)

WHAT CRITERIA DO YOU USE FOR EVALUATING COUNSELING:

Business and Industry:
"Supervisory and employee comments and behavior, increased use and requests for counseling, assessments of freedom of talk increased self-acceptance in counselor."
"Comments of department heads who observe".

Consulting:
"Periodic checks by interview".
"Vague hunches"
"Follow-up"

9.5 Do you work in CLINICAL AND PERSONAL ANALYSIS?

<table>
<thead>
<tr>
<th></th>
<th>Business &amp; Industry</th>
<th>Consulting</th>
<th>Advertising</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=46</td>
<td>N=32</td>
<td>N=8</td>
<td></td>
</tr>
<tr>
<td>Personal consultation</td>
<td>52%</td>
<td>63%</td>
<td>12%</td>
<td>52%</td>
</tr>
<tr>
<td>Personality adjustment</td>
<td>37</td>
<td>63</td>
<td>12</td>
<td>44</td>
</tr>
<tr>
<td>Clinical diagnoses</td>
<td>17</td>
<td>44</td>
<td>12</td>
<td>27</td>
</tr>
<tr>
<td>Remedial guidance and instruction</td>
<td>24</td>
<td>44</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>Vocational guidance</td>
<td>50</td>
<td>50</td>
<td>12</td>
<td>46</td>
</tr>
<tr>
<td>Incentive and motivation</td>
<td>33</td>
<td>31</td>
<td>12</td>
<td>30</td>
</tr>
<tr>
<td>Fatigue analysis</td>
<td>9</td>
<td>19</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Accident proneness analysis</td>
<td>28</td>
<td>19</td>
<td>-</td>
<td>22</td>
</tr>
<tr>
<td>Transfer recommendation</td>
<td>41</td>
<td>53</td>
<td>12</td>
<td>43</td>
</tr>
<tr>
<td>Veterans rehabilitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>counseling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you work closely with the plant physician</td>
<td>26 YES</td>
<td>19</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td>Do you have a social case worker available for your use</td>
<td>15 NO</td>
<td>15</td>
<td>-</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>15 YES</td>
<td>6</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>33 NO</td>
<td>28</td>
<td>-</td>
<td>28</td>
</tr>
<tr>
<td>OTHER:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct studies to improve selection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical evaluation of top management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.6 What do you do with RATING METHODS AND SCALES?

Devise rating scales         67%  84%  50%  72%

(Other kinds of rating scales):

Graphic
Description
Check lists
Multiple choice scales
"Yes - No" scales
Performance
Table 7 (continued)

<table>
<thead>
<tr>
<th>Absolute Judgment scales</th>
<th>Pair-comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>(for odor and taste)</td>
<td>Ranking</td>
</tr>
<tr>
<td>Linear</td>
<td>Equal appearing intervals</td>
</tr>
<tr>
<td>Factor</td>
<td>Successive intervals</td>
</tr>
<tr>
<td>Z-scores</td>
<td></td>
</tr>
</tbody>
</table>

|                                | Business & Industry | Consulting | Advertising | Grand Total |
|                                | N 46    | N 32      | N 8         |             |
| Analyze rating scales          | 52%     | 69%       | 25%         | 56%         |
| Study results from rating scales| 50      | 75        | 12          | 56          |
| Do you prepare rating scales   |          |           |             |             |
| For hourly wage employees      | 50      | 53        | 12          | 46          |
| For supervisory employees      | 54      | 56        | 6           | 50          |
| For executive employees        | 26      | 56        | -           | 35          |
| For sales employees            | 22      | 50        | -           | 30          |
| For use by employment interviewers | 35  | 44        | -           | 35          |
| For use in consumer research   | 2       | 22        | 25          | 11          |
| Use rating scales in getting criteria for test validity studies | 50 | 50 | - | 45 |
| Use rating scales in interviewing | 43 | 34 | 12 | 37 |
| Use rating scales in consumer research | 6 | 19 | 50 | 15 |

**IS YOUR PROGRAM CALLED "MERIT RATING" OR WHAT?**

Also called:

- Field Review of Performance
- Incentive merit rating and appraisals
- Employee Evaluation
- Merit Review
- Employee Performance Record

**OTHER:**

- For upgrading and promotion

### 2.7 What are your functions in LABOR RELATIONS?

- Attend bargaining conferences 28 15 - 21
- Attend arbitration conferences 13 9 - 10
- Introduce facts in bargaining 22 15 - 17
- Introduce facts in arbitration 11 15 - 11
- Contract preparation 17 3 - 10
- Contract recommendations 26 3 - 15
- Recommend personnel policies 50 47 12 45
- Develop personnel policies 43 38 25 38
- Analyze union contracts 22 12 - 16
- Develop grievance plans 22 19 - 19
Table 7 (continued)

<table>
<thead>
<tr>
<th></th>
<th>Business &amp; Industry</th>
<th>Consulting</th>
<th>Advertising</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervise grievance plans</td>
<td>13%</td>
<td>6%</td>
<td>-</td>
<td>9%</td>
</tr>
<tr>
<td>Handle disciplinary cases</td>
<td>24</td>
<td>9</td>
<td>-</td>
<td>16%</td>
</tr>
<tr>
<td>Develop disciplinary methods</td>
<td>20</td>
<td>9</td>
<td>-</td>
<td>14%</td>
</tr>
<tr>
<td>Teach training classes for</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wage workers</td>
<td>2</td>
<td>3</td>
<td>-</td>
<td>2%</td>
</tr>
<tr>
<td>Supervisors</td>
<td>22</td>
<td>22</td>
<td>-</td>
<td>20%</td>
</tr>
<tr>
<td>Interviewers</td>
<td>20</td>
<td>15</td>
<td>-</td>
<td>16%</td>
</tr>
<tr>
<td>Clerical workers</td>
<td>4</td>
<td>3</td>
<td>-</td>
<td>3%</td>
</tr>
<tr>
<td>Salesmen</td>
<td>6</td>
<td>9</td>
<td>-</td>
<td>7%</td>
</tr>
<tr>
<td>Executives</td>
<td>11</td>
<td>19</td>
<td>-</td>
<td>13%</td>
</tr>
<tr>
<td>Organize company educational courses</td>
<td>22</td>
<td>12</td>
<td>12</td>
<td>17%</td>
</tr>
</tbody>
</table>

(Courses taught):
- English, Mathematics, Public speaking
- Electrical engineering, conference leading
- Management development conferences
- Interviewing, Work simplification
- Machine calculation
- Supervisory training, contract interpretation
- Personnel Policy Management
- Adult and Citizenship, Industrial Psychology
- Banking, Mental Hygiene and ability
- Selecting, Salesmen, "Group therapy with top executives"
- Leadership, Guidance Relations
- Art, Copy, Layout Media, Radio Advertising Research

Arrange cooperative education & training with local schools 12 - 17
Develop special training techniques 26 19 - 21

(Special training techniques developed):
- Conference methods
- Models, charts, exploded diagrams, sketches, and other visual aids
- Testing techniques

Use special training techniques 11 9 - 9

(Special training techniques used):
- Use films
- Baloptican
- Slide film projectors
Table 7 (continued)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Business &amp; Industry</th>
<th>Consulting</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N 46</td>
<td>N 32</td>
<td>N 8</td>
</tr>
<tr>
<td>Attend Labor-management meeting for grievances</td>
<td>22%</td>
<td>9%</td>
<td>15%</td>
</tr>
<tr>
<td>Prepare information for release to employees, public etc., through house organ press etc.</td>
<td>39</td>
<td>28</td>
<td>12</td>
</tr>
<tr>
<td>Attend other labor-management meetings</td>
<td>24</td>
<td>15</td>
<td>-</td>
</tr>
</tbody>
</table>

(Other kinds of labor-management meetings)
Business and Industry:
- For training
- Joint Job Evaluation
- For communication on Company problems and policies
Consulting:
- Represent companies in proceedings before government agencies
- Connections with selection of union on time study stewards

Specific research for labor relations: 22 12 - 16

(Other specific research indicated)
Business and Industry:
- Surveys of wages and working conditions
- Wage standards in industry and community levels
- Bonus and welfare
Consulting:
- Studies of personnel policies in relations to grievances
- Attitude and morale studies
- Community surveys in re people's attitudes towards plants located therein - with specific attention to client's plant or plants.

9.8 What is your work in connection with EDUCATION AND TRAINING?

<table>
<thead>
<tr>
<th>Training Program</th>
<th>Business &amp; Industry</th>
<th>Consulting</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N 46</td>
<td>N 32</td>
<td>N 8</td>
</tr>
<tr>
<td>Induction</td>
<td>30</td>
<td>47</td>
<td>-</td>
</tr>
<tr>
<td>Apprenticeship</td>
<td>28</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>On-the-job</td>
<td>28</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Executive</td>
<td>28</td>
<td>44</td>
<td>-</td>
</tr>
<tr>
<td>Sales</td>
<td>15</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>Interviewer</td>
<td>28</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td>Clerical</td>
<td>20</td>
<td>15</td>
<td>-</td>
</tr>
</tbody>
</table>
Table 7 (Continued)

<table>
<thead>
<tr>
<th>Supervisory</th>
<th>Business &amp; Industry N 46</th>
<th>Consulting N 32</th>
<th>Advertising N 8</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organize training conferences</td>
<td>57%</td>
<td>47%</td>
<td>-</td>
<td>35%</td>
</tr>
<tr>
<td>Lead training conferences</td>
<td>35%</td>
<td>28%</td>
<td>25%</td>
<td>31%</td>
</tr>
<tr>
<td>Attend training conferences</td>
<td>33%</td>
<td>25%</td>
<td>-</td>
<td>27%</td>
</tr>
<tr>
<td>Preparation of training lectures</td>
<td>35%</td>
<td>47%</td>
<td>25%</td>
<td>32%</td>
</tr>
<tr>
<td>Preparation of source material</td>
<td>59%</td>
<td>41%</td>
<td>12%</td>
<td>37%</td>
</tr>
<tr>
<td>Evaluation of results of training</td>
<td>39%</td>
<td>38%</td>
<td>-</td>
<td>35%</td>
</tr>
<tr>
<td>Consulting on training methods</td>
<td>59%</td>
<td>66%</td>
<td>12%</td>
<td>57%</td>
</tr>
<tr>
<td>Arrange training demonstrations</td>
<td>15%</td>
<td>-</td>
<td>-</td>
<td>13%</td>
</tr>
<tr>
<td>Give instructions in IBM operation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Give instructions in calculation machine operation</td>
<td>2%</td>
<td>-</td>
<td>-</td>
<td>1%</td>
</tr>
<tr>
<td>Training aids preparations</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Charts and diagrams</td>
<td>30%</td>
<td>31%</td>
<td>12%</td>
<td>29%</td>
</tr>
<tr>
<td>Slides for projection</td>
<td>26%</td>
<td>12%</td>
<td>12%</td>
<td>20%</td>
</tr>
<tr>
<td>Motion picture making</td>
<td>15%</td>
<td>9%</td>
<td>12%</td>
<td>13%</td>
</tr>
</tbody>
</table>
| OTHER: Booklets, new tests, supervisory manuals

2.9 What TEST ADMINISTRATION do you do in your job?

| Individual employment tests | 56% | 66% | 12% | 56% |
| Group employment tests | 52% | 56% | - | 49% |
| Experimental testing, local constructed tests | 52% | 75% | 12% | 57% |
| Experimental testing, published tests | 52% | 59% | - | 50% |
| Training program tests | 45% | 38% | 12% | 38% |
| Clinical and adjustment tests | 39% | 56% | 12% | 43% |
| Performance tests | 30% | 50% | - | 35% |
| Do scoring and grading of tests | 41% | 50% | - | 41% |
| Attitude and Morale tests | 35% | 34% | 12% | 32% |
| OTHER: Visual tests
Auditory tests
Cardiovascular and respiratory

2.10 What TEST INTERPRETATION do you do in your job?

| Interpretation of test results for interviewers and counselor | 65% | 56% | 12% | 51% |
Table 7 (continued)

<table>
<thead>
<tr>
<th>Business &amp; Industry</th>
<th>Consulting</th>
<th>Advertising</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N 46</td>
<td>N 32</td>
<td>N 8</td>
<td></td>
</tr>
</tbody>
</table>

Interpretation of tests as basis for clinical counseling 35% 63% 12% 43%
Interpretation of tests as basis for development of training program 35 50 - 37
Interpretation of tests to determine hiring requirements 61 66 - 58
Explanation of test results to individuals 50 59 25 51

(Functins and to whom explained)
Persons referring and persons referred
Supervisors concerned
Applicants
Executives
Key personnel
Executive personnel for explaining adjustment capacities
Interviewers
Employees in developmental sessions
Counselors
All clients

OTHER:
Interpretation of results for publication
Train in test interpretation

9.11 What TEST CONSTRUCTION do you do?

General ability 30 53 - 36
Mechanical comprehension 20 25 - 20
Muscular and Motor coordination 17 34 - 22
Physical and sensory capacity 9 25 - 14
Achievement 26 28 - 24
Personality 26 38 - 28
Attitude and Morale 33 25 37 30
Interest 20 15 - 16
Clerical 35 28 - 29

(Test designed to measure):

General ability:
Judgment
Factory intelligence
Over-all ability

Vocabulary
Number fluency
intelligence
Table 7 (continued)

General alertness, and
special ability
Problem solving ability
and comprehension of
simple directions
General factory ability
Reasoning

Mechanical Comprehension
Differentiating between good
and poor drafts men and de-
signers

Muscular and Motor coordination:
Motor and finger dexterity
Winding and packaging ability
Automotive work skill
Strength of leg muscles used
in climbing
For specific jobs
Accident proneness (resistance
to taking short cuts)

Physical and sensory capacity
Odor and taste thresholds
Odor and taste differences
(trained panel reaction
to beverages)

Achievement
Various training courses
success
Union contract knowledge
Math
Proficiency in accounting
Typing ability
Supervisory performance

Personality
Cooperation and social skills
of factory employees
Appraisal of adjustment
Creativity
Occupational group differences
Supervisor qualities

Attitude and Morale
Attitude to company policies,
services, and specific practi-
ces

General adaptability
Probably ceiling and optimum
in several job families
Industrial work ability
Verbal intelligence
Estimating ability
Learning capacity
Aptitudes
Mechanical ability
Mechanical insight
For industrial work ability
Muscular coordination for riveters
Finger dexterity
Eye-hand coordination
Key punch and stenographic dexterity
Gross coordination
Ability to match and finely discri-
minate colors
Visual discrimination
Computational ability
Job knowledge
General information
Arithmetic
Vocabulary level
Spelling
Emotional stability
Characteristics and job aspects
Temperament
Attitude toward selling
Table 7 (continued)

<table>
<thead>
<tr>
<th>Public opinion toward radio</th>
<th>Attitude toward clients products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compensation treatment of radio engineers, announcers, talent and salesmen</td>
<td>Special attitudes in connection with documentary broadcasts</td>
</tr>
<tr>
<td>Worker and supervisory attitudes</td>
<td>Factory morale</td>
</tr>
</tbody>
</table>

Interest
- Job interest
- Job satisfaction
- Factory work (females)
- Sales work

Clerical
- Sales clerical skill
- Clerical ability
- Filing speed and accuracy
- Number and name perception
- Dictation and transcription
- Aptitude
- Office operations
- Number recognition
- Number facility
- Punctuation
- English usage
- Spatial visualization
- Perceptual clerical speed
- Reasoning

OTHER:
- Test
  - Knowledge of people inventory
  - Industrial knowledge
  - Self-scoring supervisor test
  - Telephonic
  - Sales
  - Understanding of people
  - Reading
  - Background knowledge
  - Judgment in sales
  - Selling experience
- Measure
  - Fatalism in human relations
  - Anti-capitalism attitude
  - Educational
  - Telephone voice
  - Sales ability
  - Social knowledge
  - Reading comprehension
  - General and business knowledge
  - Situational judgment
  - Breadth of experience

9.12 In terms of ADMINISTRATION CHARACTERISTICS, what types of tests were included in those which you wrote above?

<table>
<thead>
<tr>
<th>Business &amp; Industry</th>
<th>Consulting</th>
<th>Advertising</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>N 46 N 32 N 8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Group
- 54%
- 66%
- -
- 53%

Individual
- 39
- 41
- 12
- 37

Time limit
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- 56
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- 43

Work limit
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- 38
- -
- 35

Paper and pencil
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- 59
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- 51

Apparatus
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- 31
- -
- 23

Oral
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- 9
- -
- 8

Picture
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Verbal
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- 59
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- 45

Non-verbal
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Criteria used: (Ranked in order of frequency of mention)

Ratings
Production records
Accident records
Grievances
Spoilage
Efficiency
Personnel data
Turnover
Internal consistency
Merit ratings
Absence
Training time
Costs
Disciplinary records
Customer complaints

Sales
Job tenure
Standard error
Compare with experienced performers
Job analysis
Multiple r vs. Rank
Special purpose ratings
Health records
Promotions
Pay increases
Personality data
"Satisfaction of clients"
"Agreement of executives with interpretation"
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### 2.13 What are your functions in RESEARCH AND DEVELOPMENT?

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**OTHER:**
"Advising on research programs"

### 2. SPECIFIC RESEARCH

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(Sales personnel selection)
Exit interview procedures
Personnel evaluation procedures
Organization analysis
Leadership studies

(To whom do you explain and interpret your research results?):

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KINDS OF MATERIAL INTERPRETED: Ranked in order of frequency mentioned:

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9.14 What are your ADMINISTRATIVE DUTIES?

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<td>57%</td>
</tr>
<tr>
<td>Advising on company policies</td>
<td>63</td>
<td>66</td>
<td>62</td>
<td>64</td>
</tr>
<tr>
<td>Advising other departments</td>
<td>67</td>
<td>29</td>
<td>62</td>
<td>52</td>
</tr>
<tr>
<td>Handling certain correspondence</td>
<td>76</td>
<td>50</td>
<td>50</td>
<td>64</td>
</tr>
<tr>
<td>Preparing governmental reports</td>
<td>6</td>
<td>9</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Studying governmental regulations</td>
<td>28</td>
<td>19</td>
<td>25</td>
<td>24</td>
</tr>
<tr>
<td>Interpret government regulations</td>
<td>33</td>
<td>9</td>
<td>25</td>
<td>23</td>
</tr>
<tr>
<td>Member of company committees</td>
<td>43</td>
<td>12</td>
<td>37</td>
<td>31</td>
</tr>
</tbody>
</table>

(Names of company committees)

<table>
<thead>
<tr>
<th>Business and Industry</th>
<th>Consulting Committees made up of client companies</th>
<th>Advertising Copy testing Account executives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Executive planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production planning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College recruiting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veteran</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up-grading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial relations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal publications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant publication and editing</td>
<td>28</td>
<td>9</td>
</tr>
<tr>
<td>Plant publication supervision</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td>Supervise suggestion system</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>Advising on welfare and recreation</td>
<td>24</td>
<td>9</td>
</tr>
<tr>
<td>Supervise promotion system</td>
<td>24</td>
<td>9</td>
</tr>
<tr>
<td>Prepare budgets</td>
<td>26</td>
<td>12</td>
</tr>
<tr>
<td>Office manager</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Personnel manager</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>Sales manager</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>Makes speeches</td>
<td>56</td>
<td>38</td>
</tr>
</tbody>
</table>

(Make speeches to the following):
Table 7 (continued)

<table>
<thead>
<tr>
<th>Business and Industry</th>
<th>Consulting</th>
<th>Advertising</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company groups</td>
<td>Business and Civic groups</td>
<td>Client management groups</td>
</tr>
<tr>
<td>Community organizations</td>
<td>Personnel groups</td>
<td>Sales groups</td>
</tr>
<tr>
<td>Business groups</td>
<td>Sales groups</td>
<td>Technical and professional organizations</td>
</tr>
<tr>
<td>Technical and professional organizations</td>
<td>Technical and professional organizations</td>
<td></td>
</tr>
<tr>
<td>Preparations of printed forms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make reports of various kinds</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Make reports) Ranked in order of frequency of mention

- Summaries of results of research studies
- Plans and progress
- Labor trends and turnover
- Wage data
- Personnel data
- Training data
- Contract analyses

OTHER ADMINISTRATIVE DUTIES:

- Program improvement
- Visit other plants
- Maintain test files and register
- Public relations

9.15 Other work functions

"General assistant to the assistant to the Vice President"
"Locate, interview and screen applicants for high-level jobs. Arrange loan details with bank when company assists employees with debts or to purchase housing, perform any duties relative to assisting employees or families at direction of president. Cooperate with local organizations in wage surveys, assist president with certain of his outside interests."
"Advisor on services of consultants, supervise labor supply of new areas for new plant construction; coordinate public school courses and position demands of company."

"Meet regularly with Sales Manager’s Staff where general sales policies are determined. Meet with the Division Managers to plan and coordinate industrial relations policies and programs. Meet regularly with overall company industrial relations staff to formulate policies."

-Consulted by sales Research Department on market and Product problems. Supervision and coordination of employment and promotion testing on corporation wide basis. 9 mills in U.S. and Canada.

"Total of functions corresponds closely to assistant Manager of Industrial Relations in comparable manufacturing organizations." (Respondent’s title is "Training Supervisor")

"As Director of Industrial Relations on level with Vice-President."

-Inter-industrial Research and Sponsorship of Research in various universities.

"Consumer polling, market research on beverages."

"Supervise company librarian – Suggest reading courses."

"Vice-President of firm but entails no significant amount of time."

-Evaluate proposed test manuscripts; planning state wide testing programs and other large programs; coordinating with other department heads on testing manufacturing and distribution problems, publicity."

-Direct consulting role to section heads and Vice-President in charge of employee Relations on any pertinent subject matter of concern to them.

-Corporation President

"Control album cover art, control preparation of label copy for records, control all artist contracts, control all cost records pertaining to artists and recordings, maintain personnel contracts with artists and agents, handle auditions for new talent."

(Consulting Group N 32)

-Financial consulting

-Testing consumer acceptance of clients products

-Departmental and/or organizational evaluation and development

-General manager of own business

-Organization planning, consulting with executives, Sales promotion, install personnel programs

-Counselling workers in plants

-Consulting with President and Vice Presidents.

(Advertising Group N 8)

-Vice-President – Director of Executive Committee, Direct market research for Advertising, Public Opinion Polling, consumer polling, coordination and direction of media and Radio departments over Vice Presidents in charge.
All types of market research problems therefore defining markets, evaluating market methods channels of distribution, product and advertising tests, public opinion studies, dealer studies.
10. Most Important Duties

(Business and Industry Group N 46)

Duties involving Personnel functions

-Coordination of personnel scheduling with fluctuating production requirements, involving procurement, transfer and special assignment of laid-off personnel. Make recommendations for company policies and procedures related to this function. Validation of tests for employment and up-grading. Clinical testing.
-Interviewing each employee obtaining detailed data; building up personnel records; selection of applicants for certain positions; anything directed by President.
-Planning and direction of up grading of personnel of organization and motivation of employees.
-Getting right person in right job.
-Standardization of testing procedures throughout corporation. Selling psychological program.
-Coordination of salary program in all plants (15) for purposes of uniformity of treatment of employees – i.e., Classification of jobs, rate ranges, promotional policies.
-Employee counseling; research projects with various occupational groups to determine characteristics which might be important in future selective programs.
-Create unified atmosphere where counselors can develop and spreading counseling viewpoints throughout all levels.
-Supervision of the testing program in all its phases. Inaugurating new test services and getting them in operation.
-Technical supervision of company plant testing programs, development of personnel policies and procedures.
-Supervision of Supervisory Development - includes selection, development, transfer.
-Supervising employment, training, safety, morale and attitude surveys, suggestion system, management committee, transfers.
-Advise on any psychological problems that arise; work on improving selection and upgrading procedures, job analysis, interviewer check list, use of tests.
-Consultation with personnel officers concerning testing programs.

Duties involving Scientific, Research and Development functions 28%

Promotion of the scientific method in all phases of industrial activities. Development of quality products. Maintenance of quality.
-Supervision of research (personnel)
-Research (general)
-Technical research
Table 8 (continued)

- Establishing taste preference of consumers; determining taste characteristics of beverages.
- Supervise and conduct research in application of psychological principles and procedures to industrial personnel problems.
- Development of research and appraisal procedures.
- Planning, supervising, conducting, analyzing, and interpreting research. Consulting on radio programs.
- Problems of group and individual productivity.
- Conceiving, organizing and directing personnel research.
- Follow-up to evaluate results of selection procedures.
- Coordination between research projects; selling program to others.
- Planning research projects on employee attitude surveys.

Duties involving Policy and Management Functions 20%

- Determination of industrial relations policies, needs, programs procedures for marketing department. Member of overall company industrial relations staff for general policy formation.
- Preparation and recommendation of policies governing wage and salary administration; union relations, personnel matters.
- Learning and voting on executive staff decisions on matters with which I am relatively unfamiliar.
- Preparing and advising and approving personnel and training policies. Directing activities of committees responsible for determination of policy and attendant research on personnel and training. Advising Vice President on personnel and training aspects.
- Advising top management.
- Direction of the division; Test sales, research, publication.
- Formulate company policies, increasing efficiency of machines and workers; development of new products.
- Planning research, assigning work to subordinates in accordance with their qualifications, checking on the progress of the work; editing manuals, and in general seeing to it that the program of the division moves ahead according to schedule.
- Long range planning; government regulations; sales; general operating responsibility.
- Planning, supervising, assigning work of various departments in the company.

Duties involving Labor Relations functions 11%

- Union negotiation and developing personnel policies.
- Labor relations and contract writing.
- Maintenance of good labor relations.
- Over-all administration of company's Industrial Relations program.

Duties involving Education and Training functions 4%

- Proposing and securing statements of basic company policy re training, education and development and administration of programs to effectuate these policies.
Table 8 (continued)

- Designing of Guidance and Supervisory educational material including tests, and research on relationships to be found, particularly problems involving semantic confusions, psychological assumptions, and evaluate attitudes.

<table>
<thead>
<tr>
<th>No Response</th>
<th>7%</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

(Consulting Group N 32)

Duties involving Personnel functions 25%

- Examination of applicants and employees for supervisory and technical positions. Developing personnel departments, gradually adding on acceptable functions.
- Consulting and assisting various with regard to wage and salary programs, employment policies and practices, personnel mgmt.
- All phases of personnel consultation.
- Preparation of personnel materials.
- Writing reports on test results, consulting with executives of client companies, establishing company norms, general executive duties.
- Counseling of workers in plants.

Duties involving General Consulting functions 22%

- Interpreting my various findings to my various clients in such a way that proper action will be taken.
- Developing psychological services for clients, supervise such psychological work done for clients, promote sales for services, appraise top management personnel for clients, advise on handling additional problems with such personnel, function as general consultant.
- Vocational counseling (based on battery of tests, analysis of qualifications of men for jobs, validation of test batteries to be used in selection; attitude or morale scores. Analysis of job responsibilities and job relations and organization plans.

Duties involving Policy and Management functions 25%

- Supervising staff, promoting activities, reporting to Board of Directors, maintaining public and professional relations.
- Selling the practicality of modern management techniques to suspicious top executives.
- Evaluation and selection of engineers and psychologists - own organization.
- Administration of division, research supervision.
- Establish policies and procedures for own organization. Promote
Table 8 (continued)

sales before clubs. Organize work, develop ideas.
- Public relations and policy.
- Director of consulting service firm.

Duties involving Research and Development functions 13%
- Experimental design, supervision of research consulting with staff and clients.
- Direction, plan and analysis of all research.
- Supervisory - research plans, Contact with top management, Planning for division.
- Library research in government agencies and libraries in Washington.

Duties involving Clinical functions 9%
- Interviewing maladjusted individuals. Recommending program of therapy counseling. Follow thru via consultation with subjects and psychiatrists.
- Function as Clinical Psychologist retained as professional consultant by industry. Always begin with clinical evaluation of the President followed by series of therapeutic "developmental sessions" - gradually move down through echelons of organization to supervisory level - all personal and company problems - clinically treated, including company organization itself.

Duties involving Labor Relations functions 3%
- Negotiate collective bargaining agreements. Advising on all matters relating to industrial labor relations - (1) financial (2) wage control (3) handling of grievances (4) represent companies before government agencies.

Duties involving Market Research functions 3%
- Supervisory functions in market and opinion research on a variety of problems and consulting with top executives in business and industry.

Total 100%

(Advertising Group N 8)

Duties involving Market Research functions 63%
- Search for, assemble, evaluate, and present information on
Table 8 (continued)

- Supervision of research on market research, advertising, public opinion polling, consumer polling.
- Directing general and research activities of organization and report to Board of Directors.
- Planning, supervising, and interpreting market research studies.

<table>
<thead>
<tr>
<th>Duties involving Policy and Management functions</th>
<th>37%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct and supervise work in market research, advertising, public opinion polling, and coordination and direction of division of Media and Radio Departments.</td>
<td></td>
</tr>
<tr>
<td>Creating new projects and methods. Supervising their execution. Providing drive and leadership for our business.</td>
<td></td>
</tr>
<tr>
<td>Account executive.</td>
<td></td>
</tr>
</tbody>
</table>

Total 100%
Table 9

11. Educational Requirements

(Business and Industry Group N 46)

Minimum Requirements for job

<table>
<thead>
<tr>
<th>Degree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor degree</td>
<td>43%</td>
</tr>
<tr>
<td>Master degree</td>
<td>24%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>33%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Desirable Requirements for job

<table>
<thead>
<tr>
<th>Degree</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor</td>
<td>4%</td>
</tr>
<tr>
<td>Master degree</td>
<td>24%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>45%</td>
</tr>
<tr>
<td>Not specified</td>
<td>27%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Required subjects: (Ranked in order of frequency of mention)

1. General Psychology
2. Statistics
3. Tests and Measurement
4. None
5. Business Administration and Management
6. Personnel Administration
7. Economics
8. Clinical Psychology
9. Experimental Psychology
10. Social Science
11. Educational Psychology
12. Labor Relations
13. Labor Law
14. Industrial Engineering
15. Mathematics
16. Psychophysics
17. Physics
18. Guidance and Counseling
19. Personnel Psychology
20. Industrial Psychology
21. Abnormal Psychology
22. Social Psychology
23. Accounting
24. Law
25. Personality
26. Adjustment
27. Social Case Work
28. Logic
29. Attitude Psychology
30. Chemistry
31. Biology

Courses Contributing Most to Success in Job: (Ranked in order of frequency of mention)

1. Statistics
2. Tests and Measurement
3. General Psychology
4. Clinical Psychology
5. Experimental Psychology
6. None
7. Research Methods
8. Personnel Administration
9. All
10. Psychometrics
11. Educational Psychology
12. Business Organization and Administration
13. Psychopathology
14. Social Psychology
15. Psychophysics
16. Accounting
17. Personality
Table 9 (continued)

18. Mathematics 27. Physics
19. Physiology 28. Chemistry
20. Logic 29. History of Philosophy
22. Industrial Engineering 31. Ethics
23. Practice teaching 32. Dynamic Psychology
24. Guidance and Counseling 33. Public Speaking
25. Labor Law 34. English Composition
26. Literature 35. Journalism

(Consulting Group N 32)

Minimum Requirements
for job:
Bachelor degree 9%
Master degree 31%
Doctorate 60%

Desirable Requirements
for job:
Bachelor degree 6%
Master degree 6%
Doctorate 47%
Not specified 47%

Required Subjects: (Ranked in order of frequency of mention)
1. Statistics
2. General psychology
3. Tests and Measurements
4. Clinical psychology
5. Experimental psychology
6. Research Design
7. Personality
8. Sociology
9. None
10. Economics
11. Industrial Psychology
12. Collective Bargaining
13. Law
14. Job Evaluation
15. Incentive Systems
16. Education Subjects
17. Business Administration
18. Psychometrics
19. Guidance Counseling
20. "Lord knows"

Courses contributing Most to Success in Job: (Ranked in order of frequency of mention)
1. Clinical Psychology
2. Unknown
3. Statistics
4. Tests and Measurements
5. General Psychology
6. Experimental Psychology
7. Industrial and Business Management
8. Philosophy
9. Social Psychology
10. Counseling and Guidance
11. Research Methods
12. Personality
13. Abnormal Psychology
14. English
15. Speech
16. Animal Psychology
17. Time and Motion Study
18. Psychophysics
19. Psychometrics
20. Economics
21. Education Courses
22. Sociology
23. Dynamic Psychology
24. Engineering
25. Math
26. Merchandising
27. Mechanical Drafting
28. Physics
29. Physiology

(Advertising Group N 8)

Minimum Requirements for job:
Bachelor degree 37%
Doctorate 63%
100%

Desirable Requirements for job:
Bachelor degree 12%
Doctorate 26%
Not specified 13%
100%

Required Courses: (Ranked in order of frequency of mention)
1. Statistics
2. Economics
3. Business Administration
4. None
5. General Psychology
6. Journalism
7. Sociology
8. All

Courses Contributing Most to Success in Job: (Ranked in order of frequency of mention)
1. Statistics
2. Experimental Psychology
3. Scientific Method
4. Economics
5. General Psychology
6. Social Psychology
7. Sociology
8. Systematic Psychology
9. History
10. Literature
11. None
12. None - academic experience more important
Table 10

12. Training for Job  
(Business and Industry Group N 46)

<table>
<thead>
<tr>
<th>Training Method</th>
<th>Yes</th>
<th>No</th>
<th>Not specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal Training Program</td>
<td>4%</td>
<td>87%</td>
<td>9%</td>
</tr>
<tr>
<td>On-the-job Training</td>
<td>45%</td>
<td>45%</td>
<td>12%</td>
</tr>
<tr>
<td>Self-Orientation</td>
<td>82%</td>
<td>6%</td>
<td>12%</td>
</tr>
</tbody>
</table>

Average Time To Become Proficient

<table>
<thead>
<tr>
<th>Range</th>
<th>3 mos. to 20 years</th>
<th>Based on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>4 years</td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>4.4 years</td>
<td></td>
</tr>
<tr>
<td>Doubtful or unknown</td>
<td>33%</td>
<td>100%</td>
</tr>
</tbody>
</table>

(Consulting Group N 32)

<table>
<thead>
<tr>
<th>Training Method</th>
<th>Yes</th>
<th>No</th>
<th>Not specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formal Training Program</td>
<td>3%</td>
<td>81%</td>
<td>16%</td>
</tr>
<tr>
<td>On-the-job Training</td>
<td>53%</td>
<td>38%</td>
<td>9%</td>
</tr>
<tr>
<td>Self-Orientation</td>
<td>63%</td>
<td>19%</td>
<td>18%</td>
</tr>
</tbody>
</table>
Table 10 (continued)

Average Time To Become Proficient

Range - 6 mos to 15 years
Median - 2 years Based on 66%
Mean - 5 years

Unknown and no response 34%
100%

(Advertising Group N 8)

<table>
<thead>
<tr>
<th>Formal Training Program</th>
<th>Yes</th>
<th>No</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>On-the-job Training</th>
<th>Yes</th>
<th>No</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self-Orientation</th>
<th>Yes</th>
<th>No</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>

Average Time To Become Proficient

Range - 2 to 15 years
Median - 10 years Based on 88%
Mean - 9.4 years

Unknown 12%
100%
Table 11

What are the PERSONAL REQUIREMENTS for your job?

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Business &amp; Industry N 46</th>
<th>Consulting N 32</th>
<th>Advertising N 8</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Aptitude</td>
<td>65%</td>
<td>59%</td>
<td>75%</td>
<td>64%</td>
</tr>
<tr>
<td>Mathematical ability</td>
<td>56</td>
<td>50</td>
<td>62</td>
<td>52</td>
</tr>
<tr>
<td>Mechanical aptitude</td>
<td>19</td>
<td>31</td>
<td>-</td>
<td>22</td>
</tr>
<tr>
<td>Understand mechanical devices</td>
<td>32</td>
<td>38</td>
<td>-</td>
<td>31</td>
</tr>
<tr>
<td>Introversion</td>
<td>6</td>
<td>3</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>Extroversion</td>
<td>45</td>
<td>47</td>
<td>62</td>
<td>48</td>
</tr>
<tr>
<td>Attention to many items</td>
<td>68</td>
<td>53</td>
<td>75</td>
<td>63</td>
</tr>
<tr>
<td>Memory for details</td>
<td>52</td>
<td>47</td>
<td>75</td>
<td>52</td>
</tr>
<tr>
<td>Memory for ideas</td>
<td>65</td>
<td>44</td>
<td>75</td>
<td>58</td>
</tr>
<tr>
<td>Memory for oral directions</td>
<td>30</td>
<td>31</td>
<td>62</td>
<td>34</td>
</tr>
<tr>
<td>Memory for names and persons</td>
<td>44</td>
<td>38</td>
<td>62</td>
<td>49</td>
</tr>
<tr>
<td>Plan long term programs</td>
<td>78</td>
<td>59</td>
<td>62</td>
<td>69</td>
</tr>
<tr>
<td>Adaptability</td>
<td>85</td>
<td>81</td>
<td>75</td>
<td>82</td>
</tr>
<tr>
<td>Able to supervise others</td>
<td>87</td>
<td>69</td>
<td>100</td>
<td>81</td>
</tr>
<tr>
<td>Initiative</td>
<td>84</td>
<td>78</td>
<td>87</td>
<td>82</td>
</tr>
<tr>
<td>Sell program or service to others</td>
<td>78</td>
<td>78</td>
<td>100</td>
<td>77</td>
</tr>
<tr>
<td>Express self well in writing</td>
<td>86</td>
<td>88</td>
<td>87</td>
<td>87</td>
</tr>
<tr>
<td>Express self well orally</td>
<td>84</td>
<td>88</td>
<td>100</td>
<td>87</td>
</tr>
<tr>
<td>Make good first impression</td>
<td>65</td>
<td>78</td>
<td>87</td>
<td>72</td>
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<tr>
<td>Ability to make decisions</td>
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<td>84</td>
<td>87</td>
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<td>Concentration amid distraction</td>
<td>48</td>
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<tr>
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<td>75</td>
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<td>Tactful</td>
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<td>Dress well</td>
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<td>Accept criticism</td>
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<td>Control temper</td>
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<td>Smile easily</td>
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<td>Prompt</td>
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<td>Do more than necessary</td>
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<td>56</td>
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Table 11 (continued)

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<th>Consulting N 32</th>
<th>Advertising N 8</th>
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<td>50%</td>
<td>75%</td>
<td>54%</td>
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<tr>
<td>Ability to accept</td>
<td></td>
<td></td>
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<td>80</td>
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<td>50</td>
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</tr>
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<td>hours</td>
<td></td>
<td></td>
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<td></td>
</tr>
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<td>Loyalty</td>
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<td>44</td>
<td>62</td>
<td>54</td>
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<td>Social knowledge</td>
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<td>75</td>
<td>58</td>
</tr>
<tr>
<td>Inspire confidence</td>
<td>61</td>
<td>72</td>
<td>87</td>
<td>67</td>
</tr>
<tr>
<td>Ability to delegate</td>
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<td>59</td>
<td>75</td>
<td>63</td>
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<tr>
<td>authority</td>
<td>59</td>
<td>63</td>
<td>75</td>
<td>62</td>
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</tbody>
</table>

**OTHER:**

- **Business and Industry**
  - Character
  - Integrity
  - Stability
  - Respect for others
  - Technical knowledge of labor law, economics, personnel
  - Ability to organize ideas for common understanding

- **Consulting**
  - Insight
  - Imagination
  - "Think up"
  - Persistence to follow through
  - Capacity to improvise
  - Capacity to keep large objectives in mind
  - Apply fundamental psychological concepts
  - High professional ethics
  - Well balanced personality
  - Critical thinking
  - Discretion
  - Objective personality
  - Skill as teacher
  - Resourceful
  - Intellectually honest
  - Scientifically curious
  - Organizational and executive aptitude
  - "Know languages, especially German and French"

- **Advertising**
  - Creative
  - Very high mental ability
  - Wide range of knowledge and experience
Table 12

14. General Comments

1. As a psychologist, what is disagreeable about an industrial job?

(Business and Industry Group N 46)
Responses from 86%

Specific "gripes" 22%
"Attitude of Management"
"Unrecognized profession"
"Making all or most of research and consulting PAY"
"Suspicion of academic or professional training"
"Indifference of education toward industry and industry toward education"
"Lack of appreciation on part of industry of scientific approach to human affairs."
"Difficulties of selling management on use of your abilities in psychological field"
"Selling a testing program to those prejudiced against it"
"Constant selling required"
"Limited too much be executives and colleagues who have been attending lectures (A.M.A., etc.) for many years and who therefore think they have all the answers in Industrial Psychology"

None 21%
"Nothing"

Personal difficulties 11%
"Rigid hours and routines"
"Short vacations"
"Not your own boss"
"Constant pressure, no sabbatical"
"Frustration common to all jobs"

Administrative difficulties 9%
"Budgetary control limiting research"
"Lack of time for theoretical research"
"Lack of control over experiments"
"Necessary to make decisions without adequate data"

General professional difficulties 8%
"Overcoming misinformation about psychological methods"
"Little except too much faith put in psychology by people with whom one has to deal"
"Others do not understand"

Total 86%
Table 12 (continued)

(Consulting Group N 32)
Responses from 78%

General professional difficulties

"Complete emphasis on immediate profits and immediate lower costs"
"Lack of time for thorough job because of cost"
"Ignorance of top executives"
"Operation in a stifling framework of top management philosophy"
"Executive dominance"
"Personal problems of cantakerous union stewards"
"Selling"
"Pioneering necessary"

Personal difficulties

"Travel"
"Salary ceiling, little independence"
"Insecurity"
"Pace preventing intellectual growth"
"Work too damn hard"
"Lack of time to identify with community life"

None

"Nothing" 78%

(Advertising Group N 8)
Responses from 50%

None

"Nothing" 25%

Personal difficulties

"Necessary to satisfy a person rather than make a valid solution"
"Pressure"

2. Do you have to travel away from your home office more than you prefer?

(Business and Industry Group N 46)
Table 12 (continued)

Responses from 87%

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>9%</td>
<td>78%</td>
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</table>

(Consulting Group N: 32)

Responses from 94%

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>47%</td>
<td>47%</td>
</tr>
</tbody>
</table>

(Advertising Group N: 8)

Responses from 75%

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>75%</td>
</tr>
</tbody>
</table>

3. Is travel an important factor in most psychologist's jobs in industry?

(Business and Industry Group N: 46)

Responses from 83%

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Doubt it</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17%</td>
<td>54%</td>
<td>32%</td>
</tr>
</tbody>
</table>

(Consulting Group N: 32)

Responses from 90%

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Doubt it</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>47%</td>
<td>34%</td>
<td>9%</td>
</tr>
</tbody>
</table>

(Advertising Group N: 8)

Responses from 62%

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Doubt it</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>25%</td>
<td>37%</td>
</tr>
</tbody>
</table>
Table 12 (continued)

4. What is your opinion of the present PhD requirements now existing in most universities?

(Business and Industry Group N 46)
Responses from 78%  

Unfavorable 46%

"Terrible"
"Too unrelated"
"Too academic"
"Unsatisfactory"
"Inadequate for applied work"
"A lot of ridiculous requirements"
"Some unrealistic"
"Too general - should be geared for specific vocational area"
"Stinks"
"Not practical and little use to industry except for prestige value"
"Too rigid for business world"
"They require a large amount of unrelated training"
"Not suitable to prepare administrators or executives"
"Needs definite revision - but applies to educational institutions in general"

Slightly unfavorable 17%

"Short on practical experience"
"Unprepared except in Testing, Training and Interviewing"
"Need to make PhD dissertation and research meaningful"
"Not enough internship experience"
"Do not believe a thesis and experiment on running rats in a maze help in a practical fashion in industry"

Favorable 15%

"O.K. except for languages"
"O.K."

Total 78%

(Consulting Group N 32)
Responses from 91%  

Unfavorable 44%

"Stink"
"Pathetically inadequate"
"Too impractical"
"Too variable"
Table 12 (continued)

"Outmoded, outdated"
"Too narrow"
"Too academic"
"No good"
"Bad for industrial"
"No opportunity to apply training on a practical basis"
"Crazy - get some training in Business Administration and Engineering Principles"
"Don't give adequate background"
"Not enough professional and practical emphasis"

Slightly unfavorable 32%

"Not enough clinical - should require internship"
"Field experience needed"
"More math, natural science should be required and languages forgotten"
"More Business Administration and Accounting"
"Industrial Engineering and Factory Economics more valuable than languages"
"Not heavily enough weighted in Statistics including evalua-
ing of interviewing procedures"
"Omit languages"
"Should be supplemented by internships in industry"

Favorable 15%

"O.K."
"O.K., could be better"
"Adequate"
"Reasonably good"
"Fair"

Total 91%

(Advertising Group N 8)
Responses from 87%

Unfavorable 37%

"Thoroughly inadequate for work in advertising"
"Terrible"
"Language requirement obsolete"

Favorable 50%

"O.K."
"O.K. - should emphasize ability to make sound analyses of problems and initiate new ways to solve problems"
"Insofar as advertising is concerned, I believe requirements are adequate"

Total 87%
Table 12 (continued)

5. Is the M.A. sufficient now to get into industry and hold down a responsible job?

(Business and Industry N 46)
 Responses from 95%

<table>
<thead>
<tr>
<th>Favorable</th>
<th>78%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Yes&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Yes, if in Psychology and can prove value&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Yes, with good scientific training&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Sure&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Unfortunately, yes&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;For positions other than research&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;With experience, yes&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Sometimes best&quot;</td>
<td></td>
</tr>
<tr>
<td>Unfavorable</td>
<td>17%</td>
</tr>
<tr>
<td>&quot;No&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;No, too many questions arising requiring new explanations verified techniques for specific application are too rare&quot;</td>
<td>95%</td>
</tr>
</tbody>
</table>

(Consulting Group N 32)
 Responses from 88%

<table>
<thead>
<tr>
<th>Favorable</th>
<th>53%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Yes&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Yes, but not for long&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Occasionally&quot;</td>
<td></td>
</tr>
<tr>
<td>Unfavorable</td>
<td>35%</td>
</tr>
<tr>
<td>&quot;No&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Rarely&quot;</td>
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</tr>
<tr>
<td>Total</td>
<td>88%</td>
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</table>

(Advertising Group N 8)
 Responses from 62%

<table>
<thead>
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<tr>
<td>&quot;Yes&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;In advertising, yes&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;For some jobs&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Table 12 (continued)

Unfavorable

"No"

Total 62%

6. What recommendations do you have for psychologists preparing for industrial jobs*

(Business and Industry Group N 46)
Responses from 78%

Advising experience 33%

"Get experience in industry"
"More field experience"
"Get practical, get out of ivy covered palaces, publish practical studies and get experience"

Advise specific educational course work 24%

"Get sufficient training in Business Administration along with psychology"
"Don't limit to Psychology"
"Get better background in physical sciences and mathematics"
"Get courses in Sales Management, Labor Relations, Accounting, Industrial Management, Law, Office Management, Personnel Management"
"Get statistics, clinical, Education, Measurement courses"

Advise personal qualifying experience 21%

"Work as laborer for a few jobs"
"Have answers for all psychological problems, all intelligent laymen can bring up"
"Learn tolerance and be able to get along with others"
"Acquire PhD while working"
"Consulting experience desirable"
"Get experience in committee work"
"Never refer to self as "Dr."
"Minimize academic attainment"

Total 78%

(Consulting Group N 32)
Responses from 84%

Advise experience 36%

"Get experience in industry"
"Get practical experience in a company, then move to another"
Table 12 (continued)

"Get more clinical and industrial experience"
"Get some experience in work other than psychological"
"Obtain knowledge of business and business men"
"Get experience in Job Evaluation, setting job standards, and interviewing"
"Secure summer job"

Advise educational course work 26%

"Forget academic requirements and broaden field of study"
"Fair amount of training in general business field"
"Apprentice or pre-doctoral experience under supervision of both school and applied psychologist in field"
"Get fundamental psychological principles, and develop a philosophy"
"Broaden with real clinical insights"

Advise personal qualifying experience 20%

"Read everything in the field except text books"
"Get statistics, experimental background, test, Personality, courses and 'gadgets'"
"Learn research techniques - be prepared to defend and sell them"
"Study collective bargaining contracts, read economic theories and practices, read union literature"

Total 84%

(Advertising Group N 8)
Responses from 62%

Advise experience 50%

"Get practical experience from ground up"
"Get in contact with actual business problems"
"Forget PhD and learn job. Training may be valuable 5 years or so later"
"Use technical vocabulary with extreme restraint on the job"

Advise educational course work 12%

"Get courses in Experimental Psychology, Sociology, Statistics, and Economics"

Total 62%
Table 12 (continued)

<table>
<thead>
<tr>
<th>Question</th>
<th>(Business and Industry Group N 46)</th>
<th>Responses from 78%</th>
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<tbody>
<tr>
<td>7. Is design of equipment and apparatus an important prerequisite?</td>
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<td>&quot;Only on highly specialized assign-</td>
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<tr>
<td></td>
<td>(Advertising Group N 8)</td>
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<tr>
<td></td>
<td>Unfavorable</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;No&quot;</td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>62%</td>
</tr>
</tbody>
</table>

8. What do you think of consulting firms as the best solution to industrial "psychological problems"?

<table>
<thead>
<tr>
<th>(Business and Industry Group N 46)</th>
<th>Responses from 83%</th>
<th></th>
</tr>
</thead>
<tbody>
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<td>Unfavorable</td>
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<td>48%</td>
</tr>
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<td></td>
</tr>
<tr>
<td>&quot;No!&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 12 (continued)

"No"
"No, enough consulting "experts" at present, I believe the
psychologist should know the company intimately as an employee"
"Poor"
"Inadequate"
"Not practical"
"Not much. They don't have to live with their solutions"
"Rarely good"
"Too much opportunism"
"Too many and too weak. They are just snoopers trying to get
experience"
"Too poorly staffed"
"Consulting firms have too many kids"
"Few are ethical and competent"

Favorable 26%

"Yes"
"It's a good one"
"Excellent if ethical"
"Very good in some cases"
"Good for smaller ones"
"Good if carefully selected"
"Helpful but never have used one"
"Have their place"
"probably are the answer if psychologists can stand working
for them"
"Specialized forms in the sense that staff has specialists
for work is O.K. Lawyers do lawyer's work"

Slightly favorable 11%

"Perhaps on a short term basis, reputable competent
consultants can earn fee. Danger from overselling without
knowledge of job requirements and validity of techniques"
"Not the entire answer"
"Should have two years in a private firm before going into
consulting"
"Depends on circumstances"

Total 85%

(Consulting Group N 32)
Responses from 94%

Favorable 63%

"Yes"
"Excellent"
"Uniquely favorable position"
"Very highly"
"Only solution with present shortage of personnel"
"I'm prejudiced"
Table 12 (continued)

"Can work more objectively"
"We believe in them (naturally)"
"Far better for certain problems requiring broad background"
"Growing in size and importance"
"Small companies can now afford psychological services"

Favorable with qualifications
   "Yes, if they work with engineers"
   "Fairly good"
   "Often beat"
   "O.K. for small companies and special jobs"
   "Offer promise"
   "Probably yes, depending on the size of the organization"
   "Some good, others plainly feeling their way"
   "O.K. but often consultants are bleeding clients"
   Total
(Advertising Group N 8)
Responses from 75%
Favorable
   "Excellent for small firms or those having few problems"
   "Good"
   "Have a place"
   "O.K. if honest"
Unknown
   "Don't know"
   Total
94%

9. Should credit be given toward a PhD degree for work in an industrial situation?
(Business and Industry Group N 46)
Responses from 82%
Favorable
   "Yes"
   "Mandatory"
   "Required -credit or no"
   "If educational"
Unfavorable
   "No"
54%
28%
Table 12 (continued)

"Unimportant"
"Depends"
"Never, What next?"

Total 82%

(Consulting Group N 32)
Responses from 90%

Favorable

"Yes"
"Certainly"
"Some"
"Possible"
"Enables learning to think through a problem"

59%

Unfavorable

"No"
"Depends on work"

Total 90%

(Advertising Group N 8)
Responses from 62%

Favorable

"Yes"

12%

Unfavorable

"No"

50%

Total 62%

10. How about the usefulness of foreign languages?

(Business and Industry Group N 46)
Responses from 82%

Unfavorable

"No!!!"
"No!!"
"Nonsense"
"Stupid"
"No value"

76%
Table 12 (continued)

Favorable

"Very useful"
"Useful in a previous job"
"One is O.K."

Total 82%

(Consulting Group N 32)

Unfavorable

"No"
"Not useful"
"Definitely NO! I have spoken French all my life. PhD from abroad. Taught Latin, French and Spanish 8 years. Feel that they waste valuable time needed for other things..."
"Worthless"
"Damn the French"

Favorable

"French useful in one situation"
"Helpful, especially in certain foreign language groups of employees"
"Spanish for work with illiterate Mexican laborers is useful in our work"
"If firm has foreign subsidiaries"

Total 97%

(Advertising Group N 32)
Responses from 75%

Unfavorable

"None"
"Useless"
"No good"
"Academic hangover"

Total 75%

11. Is there much satisfaction in an industrial job?

(Business and Industry Group N 46)
Responses from 88%

Favorable

"Yes"
Table 12 (continued)

"Considerable"
"Enormous"
"Tremendous, I love it"
"Absolutely"
"Yes and great opportunity to render service - background commands respect"
"Yes, but not like teaching if pay was better."

Favorable with qualifications 6%

"If given proper incentives"
"Depend on individual and situation - no easy answer"

Total 88%

(Consulting Group N 32)
Responses from 97%

Favorable 94%

"Yes"
"Tremendous"
"Very much"

Unfavorable 3%

"Not too much"

Total 97%

(Advertising Group N 8)
Responses from 75%

Favorable 75%

"Very great deal"
"Yes"
"There can be"

Total 75%

12. What extent do your services make a difference in company policies?

(Business and Industry Group N 46)
Responses from 63%

Make a difference 63%

"Considerable"
"Extensive"
Table 12 (continued)

"Great difference"
"Substantial degree"
"Enormous"
"Decided weight"
"Marked effect on union agreements regarding superiority competency; some effect on upgrading selection of management personnel"
"Major"
"Influence them to make changes for benefit of employees"
"Make them more employee-minded"
"Beginning to"
"Not much now, but beginning to"
"Some"
"Helps morale" (through counseling program)
"Direct effect in long term way"

Total 63%
(Consulting Group N 32)
Responses from 78%

Make a difference 72%

"Considerable"
"Great"
"Great extent"
"Frequently results in marked changes"
"Shape company policies"
"Almost all recommendations accepted"
"Marked"
"Little to great deal"

No or little difference 6%

"Practically none"
"Only to minor degree"

Total 78%
(Advertising Group N 8)
Responses from 62%

Make a difference 37%

"Important"
"Great deal"
"Considerable"

No or little difference 25%

"None"
Table 12 (continued)

"Not much ... yet"  
Total 62%

13. Do you give advice more or less than you prefer?  
(Business and Industry Group N 46)  
Responses from 48%

<table>
<thead>
<tr>
<th>More than prefer</th>
<th>13%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;More&quot;</td>
<td></td>
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</tbody>
</table>

Sufficient  
Total 24%

| "About right"           |
| "Neither"              |
| "Do lots of it - and don't have time for more" |
| "Lot - but enjoy it"   |
| "O.K."                 |
| "No"                   |

<table>
<thead>
<tr>
<th>Less than prefer</th>
<th>11%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Less&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Less (naturally)&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Less, but improving&quot;</td>
<td></td>
</tr>
</tbody>
</table>

Total 48%

(Consulting Group N 32)  
Results from 69%

<table>
<thead>
<tr>
<th>More than prefer</th>
<th>22%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;More&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Too damn often&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Transfers to things I know little about&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Full time job&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;No limit here&quot;</td>
<td></td>
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</tbody>
</table>

Sufficient  
Total 38%

| "Neither" |
| "No" |
| "O.K." |
| "Seldom give advice" |
| "Try not to" |
Table 12 (continued)

Less than prefer

"Less" 9%

Total 69%

(Advertising Group N 8)
Responses from 62%

Sufficient

"O.K." 50%

"No"

Less than prefer

"Much less" 12%

Total 62%

14. Do you find top executives becoming more "psychologically minded?"

(Business and Industry Group N 46)
Responses from 80%

Favorable 69%

"Yes"

"Yes, slowly"

"Definitely"

"Yes (but not under that phraseology)"

"Yes, but not always because of competent psychologists. Many quacks sell test idea, etc."

"Some"

"Slightly"

"Very slowly indeed"

Unfavorable 11%

"No"

"No, more interested in 'what' than 'how'"

"No, too busy with other problems" 80%

(Consulting Group N 32)
Responses from 91%

Favorable 91%
Table 12 (continued)

"Yes"
"Definitely"
"Yes (slowly)"
"Yes (naively)"
"Probably"
"In conversation much, in practice some"

Total 91%

(Advertising Group N 8)
Response from 75%

Favorable

"Yes"
"Definitely"
"Yes, each in his own foggy, uncritical way"

Unfavorable

"No"

15. What predictions do you have of the opportunities for industrial psychologists?

(Business and Industry Group N 46)
Responses from 76%

Favorable

"More and more important"
"Good"
"Growing opportunities"
"Unlimited"
"Vast"
"Very great - especially for good men"
"Excellent"
"On increase in numbers and opportunity"
"Good if not exploited by incompetents"
"Good if properly trained"
"Tremendous need for 'practical ones'"
"Good but not under that title"
"Favorable, but it will take a long time to gain recognition, and experience must be gained in industry first"
"Great future for those who can adapt to industrial conditions"
"Poor in small companies, good in large"
"With present training, will be technicians and back in laboratories in a few years."
Table 12 (continued)

"When become more practical and show definite advantage and 'profit', opportunities, unlimited"
"If not salesmen, if continue as esoteric technicians no good opportunities. Appear non-academic and can sell-good"
"Demand will increase - not so much for 'psychologist' - more for men who have psychological understanding, who can advise and deal with practical industrial relations problems"  
Total 76%

(Consulting Group N 32)  
Responses from 94%

Favorable 84%

"Vastly promising"
"Definitely increasing"
"Many areas barely scratched"
"Excellent"
"Unlimited"
"Good"
"Remarkable opportunity for well adjusted socially skilled, professionally competent psychologists"
"Subject to economic conditions, great expansion in opportunities"
"Many areas barely scratched"
"If properly trained they should eventually assume much of the work now handled by attorneys, etc., who rarely have any knowledge of human or industrial engineering"
"Good future if he can think in terms of production costs, and services, and not become "long-hair" or live in academic haze of theory and become only a social welfare worker"
"Industrial psychology can become the outstanding professional field for psychologists"
"Good if psychologists get smart"

Slightly unfavorable 10%

"Limited"
"Extremely competitive, many will enter, few will survive"
"Not much - the academic work must be geared to the requirements of specialized knowledge and techniques called for by industry. The present lag is so overwhelming that a monumental dark lies ahead."

Total 94%
Table 12 (continued)

(Advertising Group No. 8)  
Responses from 62%

<table>
<thead>
<tr>
<th>Favorable</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Great&quot;</td>
<td>62%</td>
</tr>
<tr>
<td>&quot;Growing. Industry needs a lot of conservative selling or missionary work&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Good for persons of adequate training, ability and personality&quot;</td>
<td></td>
</tr>
<tr>
<td>&quot;Business and industry first, psychology second&quot;</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>62%</strong></td>
</tr>
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</table>
APPENDIX II

THE QUESTIONNAIRE
1. DATE -  
2. TITLE OF YOUR POSITION - ANY ALTERNATIVE TITLE -
3. WHAT IS THE TYPE OF INDUSTRY? - (e.g., clothing, consulting for specific industry, etc.)
4. WHAT DEPARTMENT ARE YOU LOCATED IN? -
5. WHAT IS THE TITLE OF YOUR IMMEDIATE SUPERVISOR? -
6. WHO DO YOU REPORT DIRECTLY TO? - WHAT ARE THEIR TITLES? -
7. WHAT IS THE NEXT JOB IN LINE OF PROMOTION FOR YOU? -
8. WHAT BEGINNING SALARY DO YOU ASK OF THIS JOB IN AN AVERAGE WEEK? -
9. WHAT IS THE AVERAGE UPPER LIMIT IN SALARY FOR THE WITHOUT A CHANGE TO A NON-PSYCHOLOGICAL JOB? -
10. WHAT IS THE TYPE OF INDUSTRY YOU ARE LOCATED? -
11. WHAT DEPARTMENT ARE YOU LOCATED? -
12. WHAT ARE YOUR FUNCTIONS IN YOUR JOB? -
13. WHAT IS THE AVERAGE UPPER LIMIT IN SALARY FOR THIS JOB WITHOUT A CHANGE TO A NON-PSYCHOLOGICAL JOB?

9. WORK ANALYSIS OF MAJOR FUNCTIONS

This division of functions is an arbitrary one made for purposes of tally and data organization. Under each division are listed, in the form of a check list, the tools and techniques which you might use in your job. The main purpose is to obtain a clear understanding of what you do in performing your job. Please indicate any modifications and all omitted job factors, tools, and techniques by writing them in beside the item or under "OTHER" as provided.

THIS IS A PRIMARILY A CHECK LIST:
IF YOU USE OR PERFORM A PARTICULAR FACTOR OR FUNCTION OCCASIONALLY OR SOMETIMES, PLEASE CHECK O.K.,
IF YOU USE OR PERFORM A PARTICULAR FACTOR OR FUNCTION FREQUENTLY, PLEASE CHECK THREE TIMES.
IF YOU USE OR PERFORM A PARTICULAR FACTOR OR FUNCTION, BUT DUE TO THE ACTUAL WORK YOURSELF, MARK THE SPACE WITH AN X, E.G.,
IF YOU DO NOT USE LISTED IN A CATEGORY, PLEASE MARK THE CATEGORY "NONE" PROVIDED AT THE END OF THE DIVISION, E.G., NONE

9.1 What are the STATISTICAL METHODS that you use in your job?

This refers to the graphic and quantitative measurement methods of psychological statistics which you use in your work. For example, run correlations, construct graphic charts, determine simple, factorial analyses, etc.

9.2 What OCCUPATIONAL ANALYSIS TECHNIQUES do you use in your job?

This refers to the tools and methods which you may use in identifying and classifying jobs or occupations or their factors. It is realized that many different titles and methods are applied to the same thing. Please check those that you use in your work, or if an adequate descriptive title is missing, add it under "OTHER:"

9.3 What QUESTIONNAIRES do you prepare or use in your job?

This refers to the preparation and use of questionnaires for gathering information and data of various sorts.

9.4 What are your functions in INTERVIEWING?

This refers to all interviews which you conduct including such things as employment, counseling, interviews of executives and supervisors, or your functions as an advisor or evaluator or interviewing. (Note excluding Clinical and Diagnostic Interviewing.)

9.5 What CRITERIA do you USE for EVALUATING COUNSELING (if you have such a program)? -

OTHER (Please specify):
9.5 Do you do work in CLINICAL AND PERSONAL ANALYSIS?

(This refers to your work with individuals in all adjustment situations and other situations where individual analysis is required.)

- Personal consultation
  - Vocational guidance
  - Incentive and motivation
- Personality adjustment
  - Fatigue analysis
- Clinical diagnosis
  - Accidental proneness analysis
- Remedial guidance and instruction
  - Veterans rehabilitation counseling

Do you work closely with the plant physician?

Do you have a social case worker (for home contacts, etc.) available for your use?

OTHER (Please specify)

9.6 What do you do with RATING METHODS AND SCALES?

(This division refers to your preparation and use of rating methods and scales for gathering information and data of various kinds in employee evaluation, counseling, or other studies.)

- devise rating scales
  - (e.g., Check lists, rankings, etc., Please indicate kinds.)
- analyze rating scales
  - (e.g., Study those in use.)
- study results from rating scales

TO YOUR PROPOSED "MERIT RATING" OR U.I.T.T.

9.7 What are your functions in LABOR RELATIONS?

(This division has reference to your duties in the management-worker relations program. This may be as an advisory, consultant, or participant in framing policies, contract terms, personnel and psychological factors, and any other related factors. Any type of worker organization would be included.)

- attend bargaining conferences
- attend arbitration conferences
- introduce facts in bargaining
- introduce facts in arbitration
- contract preparation
- contract negotiations
- recommend personal policies
- develop personal policies
- analyze union contracts

Do you prepare rating scales
- (e.g., Check lists, rankings, etc., Please indicate kinds.)

Do you use rating scales inputting criteria
- for test validity studies

Do you use rating scales in interviewing?

Do you use rating scales in consumer research

OTHER (Specify)

9.8 What is your work in connection with EDUCATION AND TRAINING?

(This refers to your duties in work on or in Education and Training programs. This would be as a consultant, as an advisor, or teacher, etc.)

Organize training programs
- induction
- apprenticeship
- supervisory
- on-the-job
- executive
- sales
- interviewer
- clerical
- other (Please specify)

Teach training classes for
- new workers
- supervisors
- interviewers
- clerical workers
- subordinates
- executives
- other (Please specify)

Organize company educational courses
- (e.g., Courses in English, Math, etc.)

Please specify

Organize training conferences
- attend training conferences
- preparation of training lectures
- preparation of course materials
- evaluation of results of training
- consulting on training methods
- arrange training conferences

Give instruction: In IBM operation

Give instruction: In calculation machine operation

Training aids preparation
- charts and diagrams
- slides for projection

Motion picture making

OTHER (Specify)

9.9 What test administration do you do in your job?

(This refers to giving tests of all kinds to applicants, employees, and others for various reasons.)

- individual employment tests
- group employment tests
- experimental testing, local constructed tests
- experimental testing, published tests
- others (Please specify)

Training program tests
- (e.g., Appraisals, promotion, sales, etc.)

OTHER (Specify)

Attitude and morale tests
- Performance tests
- others (Please specify)

9.10 What test administration do you do in your job?

If you use or perform a particular factor or function occasionally or seldom, please check once.

If you use or perform a particular factor or function frequently, please check twice.

If you supervise a particular factor or function, but do not do the actual work yourself, mark the space with an X.

If you do no work listed in a subdivision, please mark the category "NONE" provided at the end of the division.
9.10 What test interpretation do you do in your job?
   (This division refers to analysis and explanation of the results of tests to others.)

   Interpretation of test results for interviewers
   Interpretation of tests as basis for clinical counseling
   Interpretation of tests as basis for development of training program

   OTHER (Please specify) -

9.11 What test construction do you do?
   (This division refers to the actual test construction you do in your job. Included would be the preparation of the test items, apparatus, validation, etc.)

   Under the appropriate areas listed below, please list the tests which you have constructed, are constructing, or plan to construct in your job. Please check the appropriate column to indicate its status of completion. Then please indicate what it is designed to measure. Please be as complete as possible in listing the tests.

   GENERAL ABILITY
   -
   MECHANICAL COMPREHENSION
   -
   MUSCULAR AND MOTOR COORDINATION
   -
   PHYSICAL AND SENSORY CAPACITY
   -
   ACHIEVEMENT
   -
   PERSONALITY
   -
   ATTITUDE AND MORALE
   -
   INTEREST
   -
   CLERICAL
   -
   OTHER

9.12 In terms of ADMINISTRATION CHARACTERISTICS, what types of tests were included in those which you wrote in above?
   (Please mark the below-listed items which apply to any of the above tests which you indicated as having constructed, etc.

   This is to identify the administration characteristics you use in your test construction.

   Group
   Individual
   Time limit
   Work limit
   Paper and pencil
   Apparatus
   Oral
   Picture

   _____ Verbal
   _____ Non-verbal
   _____ Numerical
   _____ Power
   _____ Breadth
   _____ Speed
   _____ Essay
   _____ True-False

   _____ Completion
   _____ Matching
   _____ Checking
   _____ Forced-choice items
   _____ Make product
   _____ Make specified movements
   _____ or adjustments
   _____ Oral identification to examiner

   Scoring
   _____ Hand scored
   _____ Machine scored
   _____ Observation
   _____ Self-scoring during administration

   OTHER (Please specify) -

NONE

9.13 Do you use any published tests in your work?
   -

9.14 Do you use weighted test batteries?
   -

9.15 In general, what kinds of criteria for validation of tests do you use?
   -
1. Administration of Research

- Determination of areas of research investigation
- Determination of specific problems for research
- Assignment of research projects
- Coordination of your research with other departments, firms, etc.
- Direction of research (e.g., scheduling, controlling)
- Supervision of research
- Consulting on research projects
- Initiating and staffing for a research project
- Arranging for research
- Advising
- Preparing
- Supervising governmental reports
- Studying governmental regulations
- Interpreting governmental regulations
- Number of company committees

2. Specific Research

- Employment procedures
- Interviewing procedures
- Induction procedures
- Qualifications for job
- Discharge procedures
- Placement follow-up
- Testing program
- Education program
- Veterans Rehabilitation
- Training program
- Sales program
- Marketing studies
- Promotion system
- Transfer procedures
- Work methods (Please specify what)
- Ages and salary
- Printed forms
- Advertising program
- Sales letter techniques
- Complied and adjustment techniques
- Customer attitudes
- Product planning
- Process planning
- Incentive plans (financial)
- Incentive plans (non-financial)
- Morale
- Anatomy
- Economic studies of employees
- Personnel unit cost
- Plant lighting
- Plant layout

- Plant ventilation and temperature
- Plant noise
- Most personnel
- Visual problems
- Auditory problems
- Taste and affection
- Textile and cutaneous
- Sensory acuity
- Sensory acuity

- Insurance and compensation
- Analysis of new developments and progress in methods, standards and trends in other industries, firms, etc.
- Library research in any of the above problems

3. Other (Please specify)

To whom do you explain and interpret your research results?
- What is the nature of your explanations for your research results?
- What kinds of reports are interpreted?
- (e.g., Statistical, etc.)

4. What are your Administrative Duties?

- Advising on company policies
- Advising other departments
- Handling certain correspondence
- Preparing periodic progress reports
- Preparing governmental reports
- Studying governmental regulations
- Interpreting governmental regulations
- Number of company committees

- Plant publication writing and editing
- Plant publication supervision
- Supervise suggestion system
- Advising on welfare and recreation
- Supervise promotion system
- Prepare budgets
- Office manager
- Personnel manager
- Sales manager

- Preparation of printed forms
- Plant publication supervision
- Analysis of new developments
- Preparation of reports
- Write research reports for publication

- NONE

5. OTHER WORK FUNCTIONS that you perform in your job but which may have been omitted above.

- NONE

6. Please write a brief statement of your most Important duties. Time is not a criterion. In other words, what is the most important phase of your work in your job and within your organization? Is it supervision of research, interviewing psychomotorics, working out correlations, consulting with various companies, or what?

- NONE
11. What are the entrance EDUCATIONAL REQUIREMENTS for your job? (e.g., A.B., M.A., etc.)
   a. Minimum requirements -
   b. Desirable requirements -
   c. What are the required subjects?
   d. What courses have contributed most to success in your job?

12. What kind of TRAINING is there for your job? (e.g., trained by your supervisor, etc.)
   (This refers to the preliminary or induction training for this job.)
   a. Is there a formal training program?
   b. Is it on-the-job training?
   c. Is it a matter of "self-orientation" or learning this job?
   d. What is the average length of time necessary to become proficient in this job?

13. What are the PERSONAL REQUIREMENTS for your job?
   (Please check the significant personal factors relative to your job. Check the most important factors below. Add any omitted factors)
   a. Academic ability - Can you complete a college course of study?
   b. Mathematical ability - Can you solve basic mathematical problems?
   c. Mechanical ability - Can you operate basic equipment?
   d. Understanding mechanical devices - Do you understand mechanical devices?
   e. Introversion - Are you able to make decisions on your own?
   f. Extroversion - Do you enjoy concentration and distraction?
   g. Attention to many items - Are you able to concentrate on many items?
   h. Memory for details - Can you remember important details?
   i. Memory for ideas - Are you able to recall ideas?
   j. Memory for oral directions - Can you remember oral instructions?
   k. Memory for names of persons - Are you able to remember names of persons?
   l. Plan long term programs - Can you plan long-range projects?
   m. Adaptability - Are you able to adapt to new situations?
   n. Ability to supervise others - Are you able to supervise others?
   o. Initiative - Are you able to take the initiative?
   p. Capacity for leadership - Are you a leader type of person?

14. What GENERAL CONSIDERATIONS do you have to make? Some questions about which you may have an opinion are as follows:

1. As a psychologist, what is disagreeable about an industrial job?
2. Do you have to travel away from your home office more than you prefer?
3. Is travel an important factor in most psychologists' jobs in industry?
4. Do you have any opinions on the present Ph.D. requirements now existing in most universities?
5. Is the M.A. sufficient now to get into industry and hold down a responsible job?
6. What recommendations do you have for psychologists preparing for industrial jobs?
7. What design of equipment and apparatus is important to you?
8. What do you think of consulting firms as the best solution to industrial "psychological problems?"
9. Should credit be given toward a Ph.D. degree for work in an industrial situation?
10. How about the usefulness of foreign language?
11. Is there much satisfaction in an industrial job?
12. What extent do your services make a difference in company policies?
13. Do you find top executives becoming more "psychologically minded?"
14. What predictions do you have for the opportunities for industrial psychologists?

OTHER GENERAL COMMENTS

PLEASE CHECK HERE ______ IF YOU WOULD LIKE TO RECEIVE A COPY OF A GENERAL SUMMARY OF THE RESULTS OF THIS STUDY.

Signature __________________________
Address ___________________________
APPENDIX III

THE COVERING LETTER
Enclosed is a questionnaire which is an integral part of a survey of the general field of Industrial Psychology, and specifically of the duties of trained psychologists in industry. Your help is greatly needed and will be sincerely appreciated by the undersigned.

As you are probably well aware, the terms "Industrial Psychology" and "Industrial Psychologist" are used without a clear definition of their scope. The plan of this study is to arrive at a clear understanding of the major functions of psychologists in business and industry, going beyond the survey reported in the December, 1946 issue of American Psychologist.

The results will be used in determining the implications for training psychologists for industrial work. A summary of the results will be made available to you if you will please so indicate on the bottom of the questionnaire.

The criteria for selecting the psychologists are their membership in the APA and holding a position in an industrial or business establishment.

Please fill out the form and return it at your earliest opportunity. It is realized that psychologists have many diversified duties, some of which are not within the field of psychology. Please do not hesitate to fill out the form with as complete listing of your duties as possible since it will assist in clarifying the duties in the final tabulation.

Thanking you,
Very sincerely yours,

Ralph R. Canter

Approved:

C. L. Shartle
Executive Secretary and
Professor of Psychology
BIBLIOGRAPHY


6. Industrial Psychology, January, 1926 - December, 1928. (Donald A. Laird, Editor)


Bibliography (continued)


Bibliography (continued)